

Bridgeton Landfill, LLC

Monthly Data Submittals

September 2016

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

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Provided Separately:

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

October 20, 2016

Commentary on Data

October 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 2,334 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 29 GEW wells that are experiencing low or restricted flows, and six (6) 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. Two (2) vertical wells (excluding GIW wells) decreased by 30°F during this reporting period. Additionally, six (6) vertical wells (excluding GIW wells) increased by 30°F or more. All wells that exhibited changes greater than 30 degrees are all within the historical gas temperature norms for these wells or within the range of temperatures of nearby vertical wells.
- A detailed review of the gas extraction wells in the neck area was conducted. Well GEW-161 exhibited a wellhead temperature decrease greater than 30°F. This well was installed in December 2015 within the south quarry area/neck area and vacuum has been adjusted over time as part of normal GCCS operations.
- 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 148.4°F which is consistent with historic readings.

Carbon monoxide (CO) results showed non-detect (ND) for North quarry wells, with the exception of GEW-053 (61 ppm) and GEW-1A (43 ppm).

- Review of weekly gas quality in Attachment E reveals that all of the active North Quarry gas wells, with the exception of GEW-1A, continue to have low, if any, oxygen and healthy methane and carbon dioxide levels. These levels indicate normal wellfield conditions for aged waste and are consistent with GCCS wellfield conditions observed in the North Quarry for some time. The dewatering sump near GEW-1A is expected to improve gas collection and reduce ambient air intrusion from the wellhead. The laboratory gas quality data for GEW-48 indicated elevated levels of oxygen and nitrogen, however based on the oxygen verification readings, taken with an Envision meter, it was determined to have a possible sample train leak.

Settlement

- The South Quarry exhibited monthly maximum settlement up to 1.27 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 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. Enclosed is the fill volume figure for November 2015 to April 2016 which depicts that approximately 7,101 cubic yards of fill material was used during this time frame.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in September 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.
- Completed 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.
- Installed and began operating permanent soda ash system equipment.
- Continued testing of new polymer to improve flocculation.

Other Projects

- Continued acceptance of clean fill. conducted 30 day performance audit of ambient air sulfur dioxide monitoring stations per the USEPA Administrative Settlement Agreement and Order on Consent (ASAO) for Removal Actions related to the North Quarry, EPA Docket No. CERCLA-07-2016-0005.
- Continued work on response to EPA comments on the 6/27/15 Ethylene Vinyl Alcohol (EVOH) Work Plan submittal.

Work Planned for October 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.
- Begin bringing HEB system online.

Leachate Management System

- Continue routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Continue ongoing operation of facility.
- Continue to optimize operation efficiency of pre-treatment facility.
- Continue to discharge permeate directly to St. Louis Metropolitan Sewer District (MSD) – Bissell Point Facility or other approved disposal facilities as determined by MSD.
- Begin installation of new cationic polymer system equipment.
- Continue to operate 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.
- Begin installation of Temperature Monitoring Probes (TMPs) per ASAOC.
- Begin North Quarry EVOH installation per ASAOC.
- Continue planning and design of the North Quarry EVOH capping project.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
September 2016

Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	EP14 NQ Utility Flare***	
9/1/2016	2,260	0	0	307	2,566
9/2/2016	2,228	0	0	304	2,532
9/3/2016	2,245	0	0	308	2,554
9/4/2016	2,263	0	0	310	2,572
9/5/2016	2,272	0	0	312	2,584
9/6/2016	2,060	0	0	318	2,379
9/7/2016	1,917	0	0	323	2,240
9/8/2016	1,993	0	0	312	2,305
9/9/2016	2,063	0	0	317	2,380
9/10/2016	1,988	0	0	299	2,287
9/11/2016	2,023	0	0	311	2,334
9/12/2016	1,993	0	0	323	2,315
9/13/2016	1,986	0	0	328	2,314
9/14/2016	1,964	0	0	333	2,297
9/15/2016	1,938	0	0	354	2,292
9/16/2016	1,884	0	0	376	2,261
9/17/2016	1,917	0	0	374	2,291
9/18/2016	1,919	0	0	377	2,295
9/19/2016	1,925	0	0	380	2,305
9/20/2016	1,939	0	0	380	2,319
9/21/2016	1,932	0	0	380	2,312
9/22/2016	1,925	0	0	376	2,301
9/23/2016	1,921	0	0	364	2,285
9/24/2016	1,899	0	0	376	2,275
9/25/2016	1,880	0	0	373	2,253
9/26/2016	1,856	0	0	358	2,214
9/27/2016	1,921	0	0	362	2,283
9/28/2016	1,987	0	0	334	2,321
9/29/2016	1,912	0	0	320	2,232
9/30/2016	1,813	0	0	303	2,116
				Average	2,334

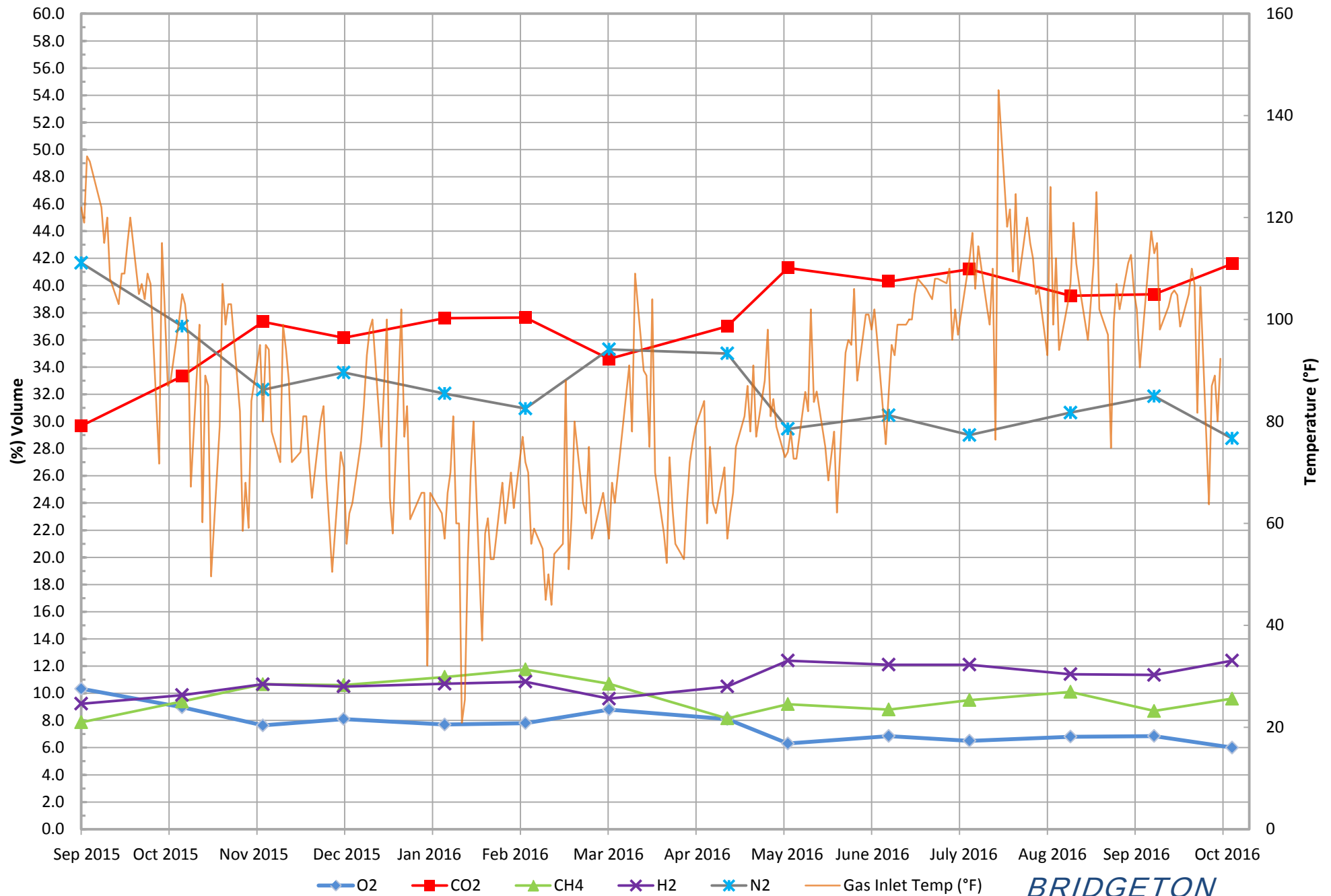
* Flows normalized to **Blower Outlet Flowmeter - EPA Method 2 measurement verified

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

ATTACHMENT B-2

FLOW DATA GRAPHS

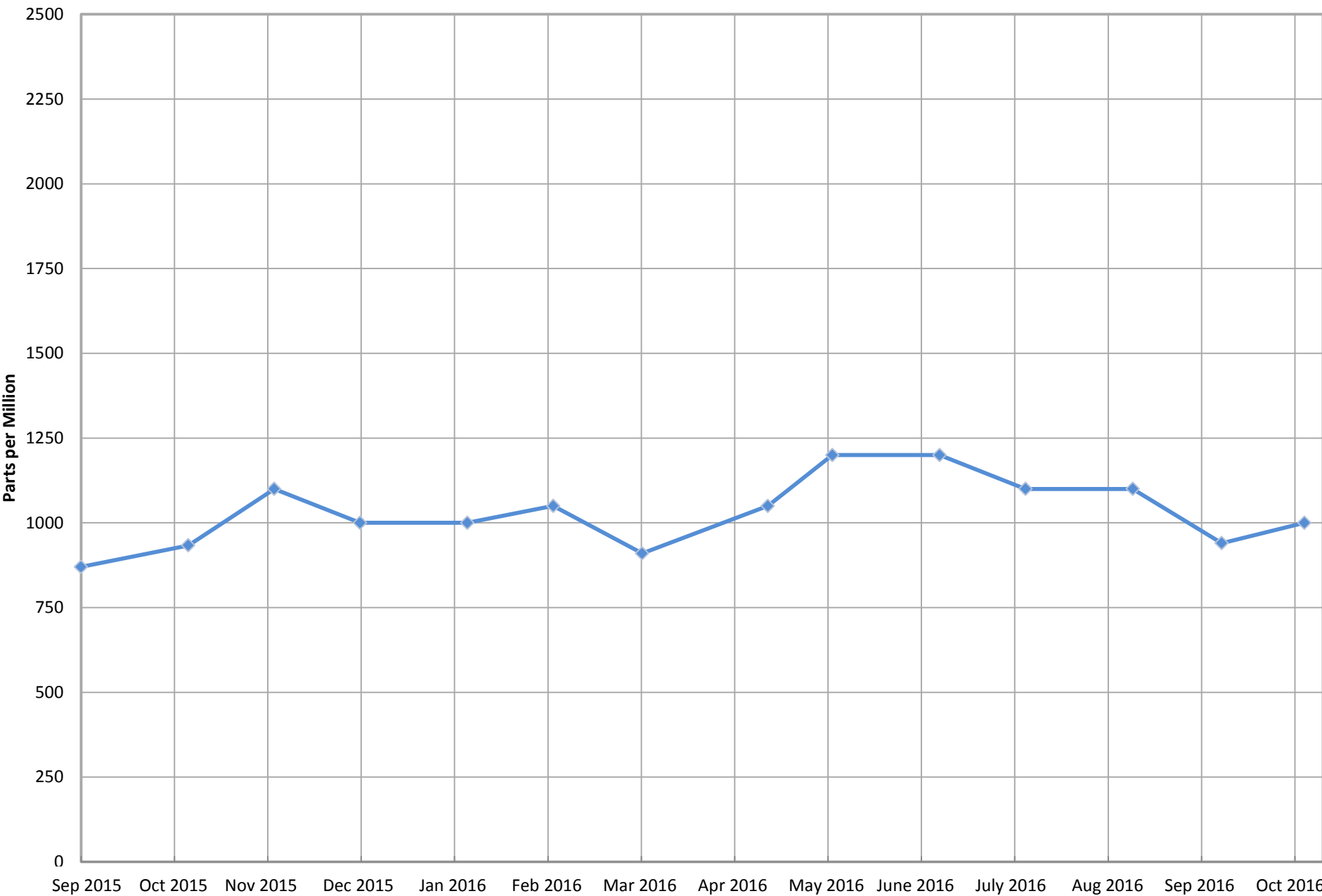
South Quarry Inlet Gas and Temperature*



**BRIDGETON
LANDFILL**

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

South Quarry Inlet Carbon Monoxide*

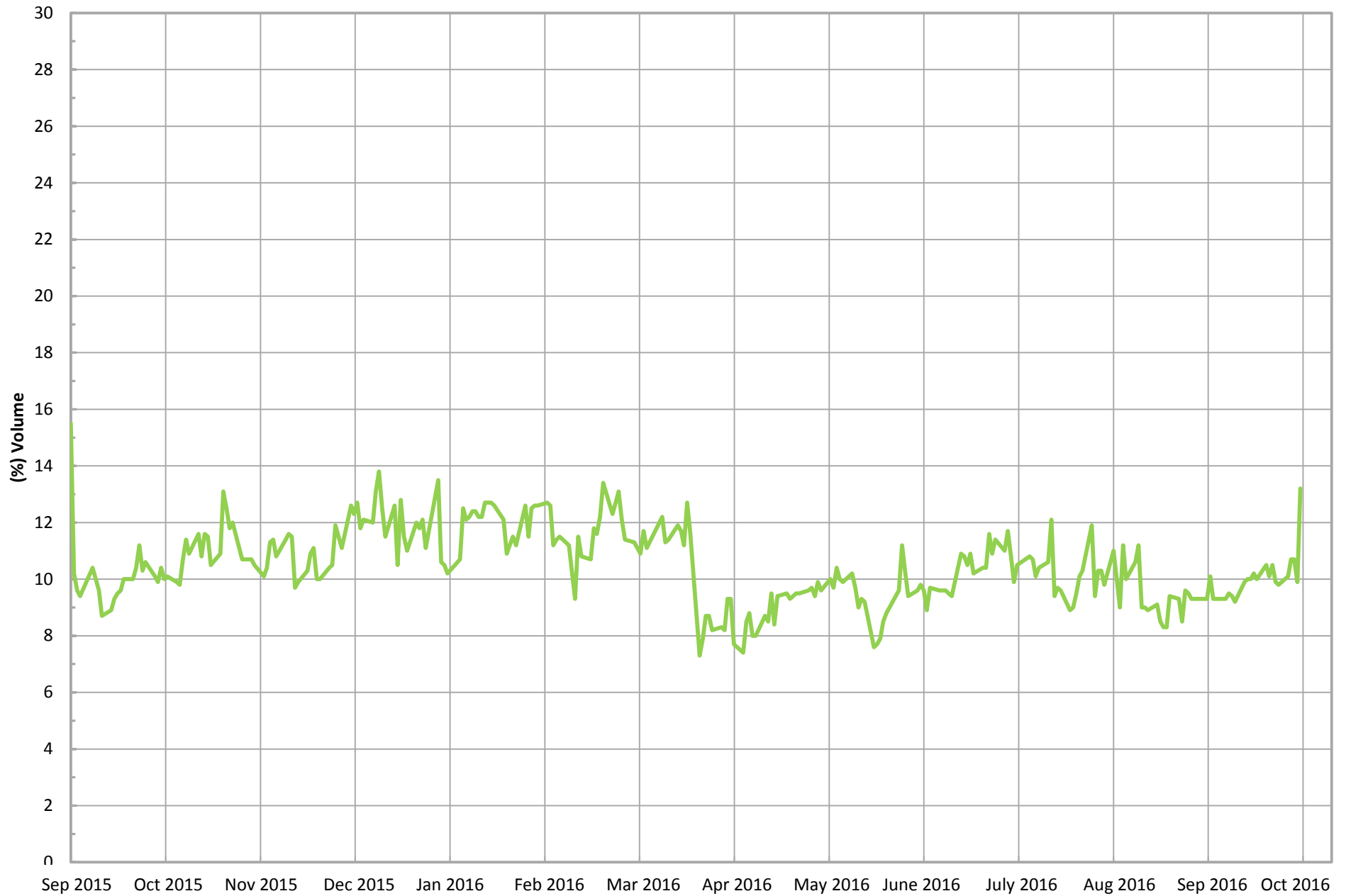


—◆— Inlet Carbon Monoxide*

*Data collected from Laboratory Reports for the South Quarry.

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LANDFILL*

South Quarry Inlet Methane (Field Data)*

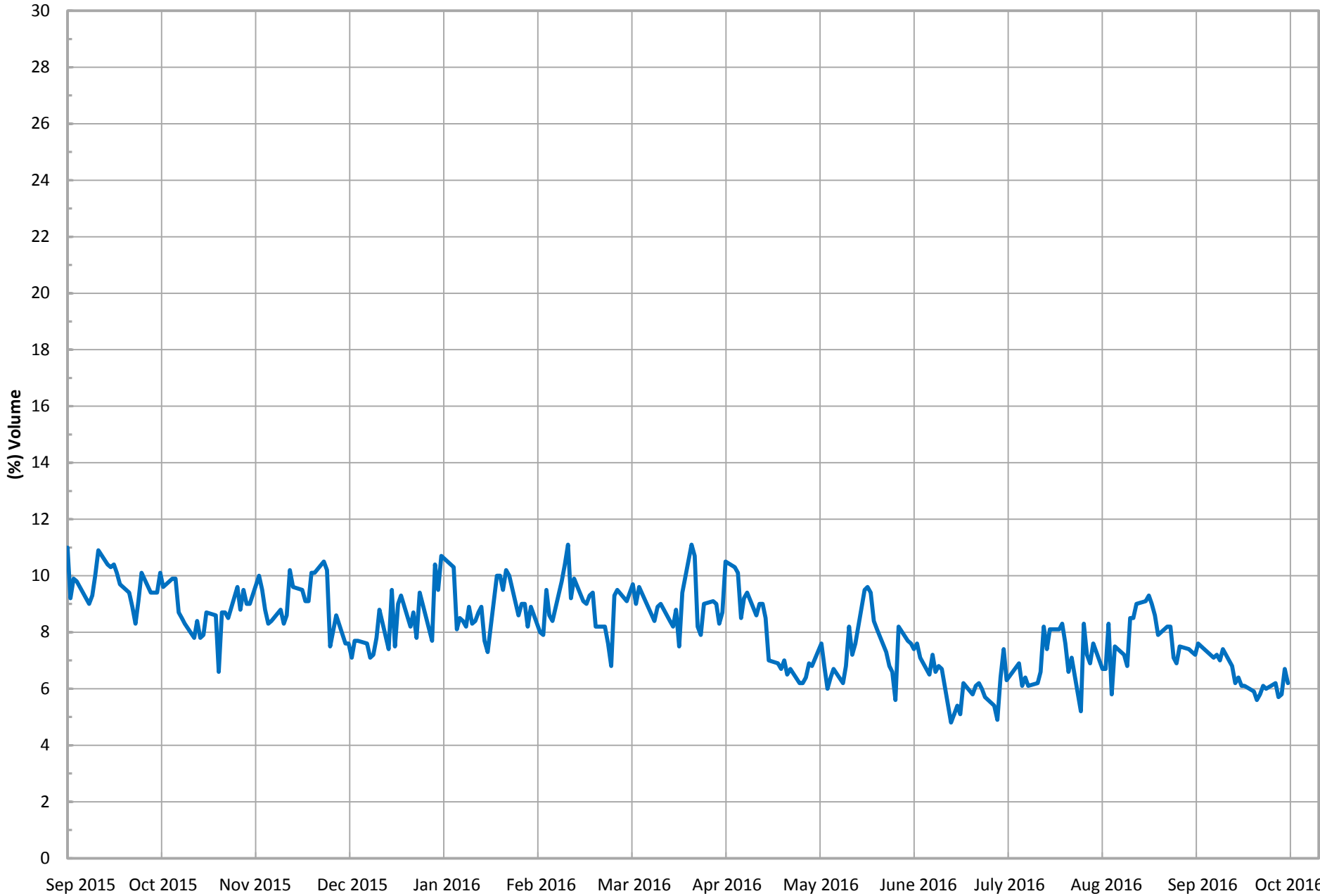


*Gas data collected from field monitoring data in the South Quarry.

Combined Inlet Methane (Field Data)*

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South Quarry Inlet Oxygen (Field Data)*

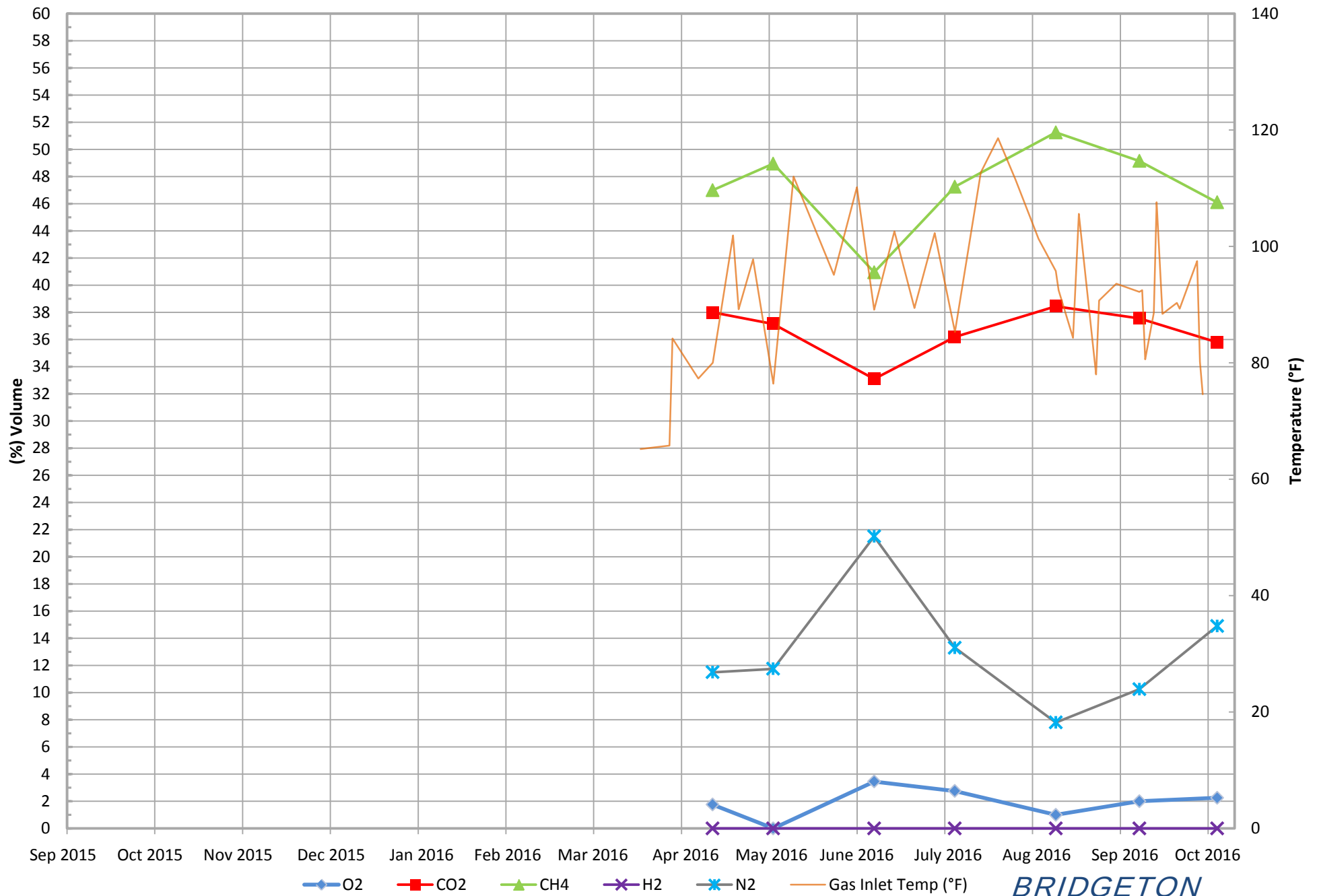


*Gas data collected from field monitoring data in the South Quarry.

— Combined Inlet Oxygen (Field Data)*

*BRIDGETON
LANDFILL*

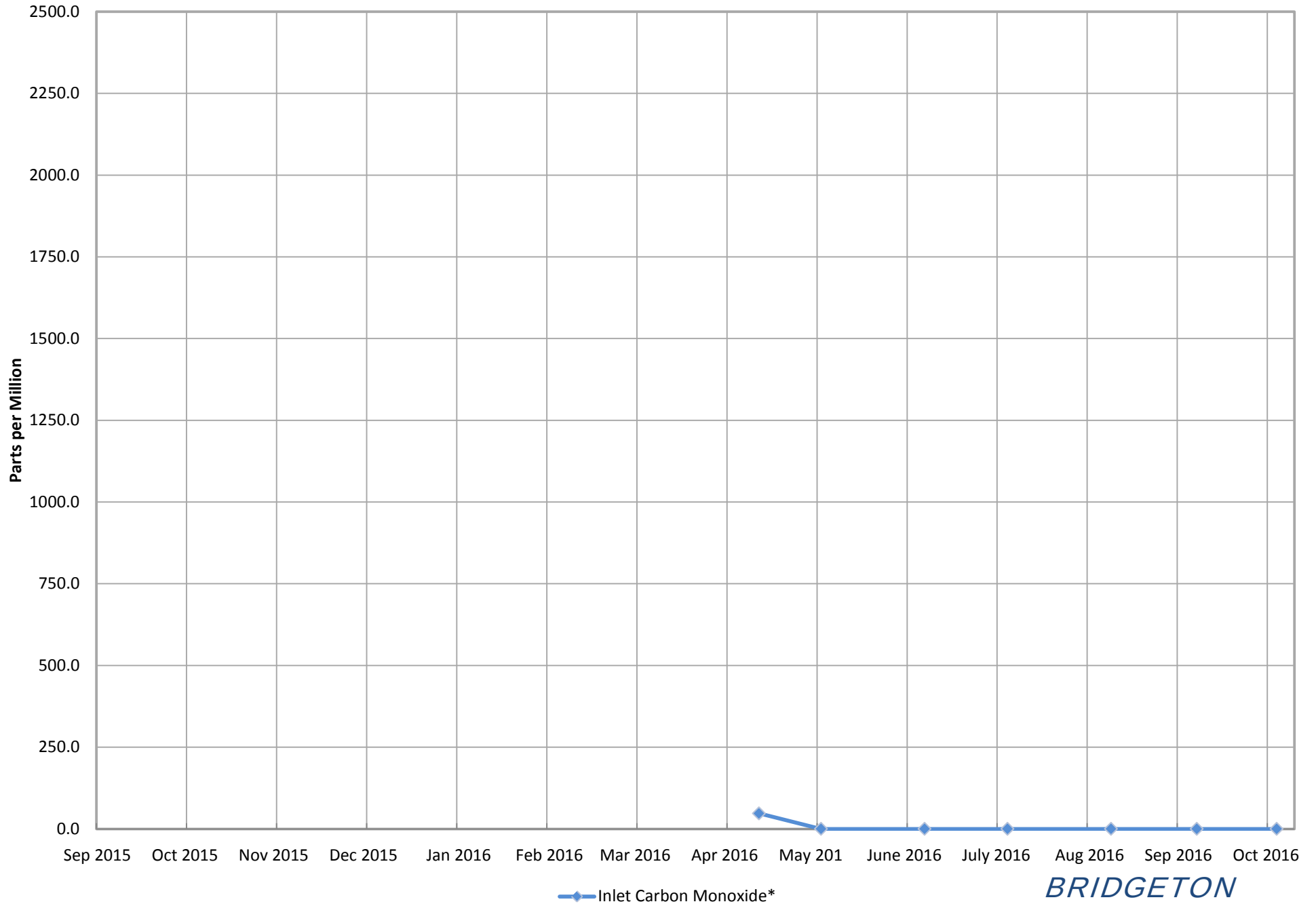
North Quarry Inlet Gas and Temperature*



**BRIDGETON
LANDFILL**

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

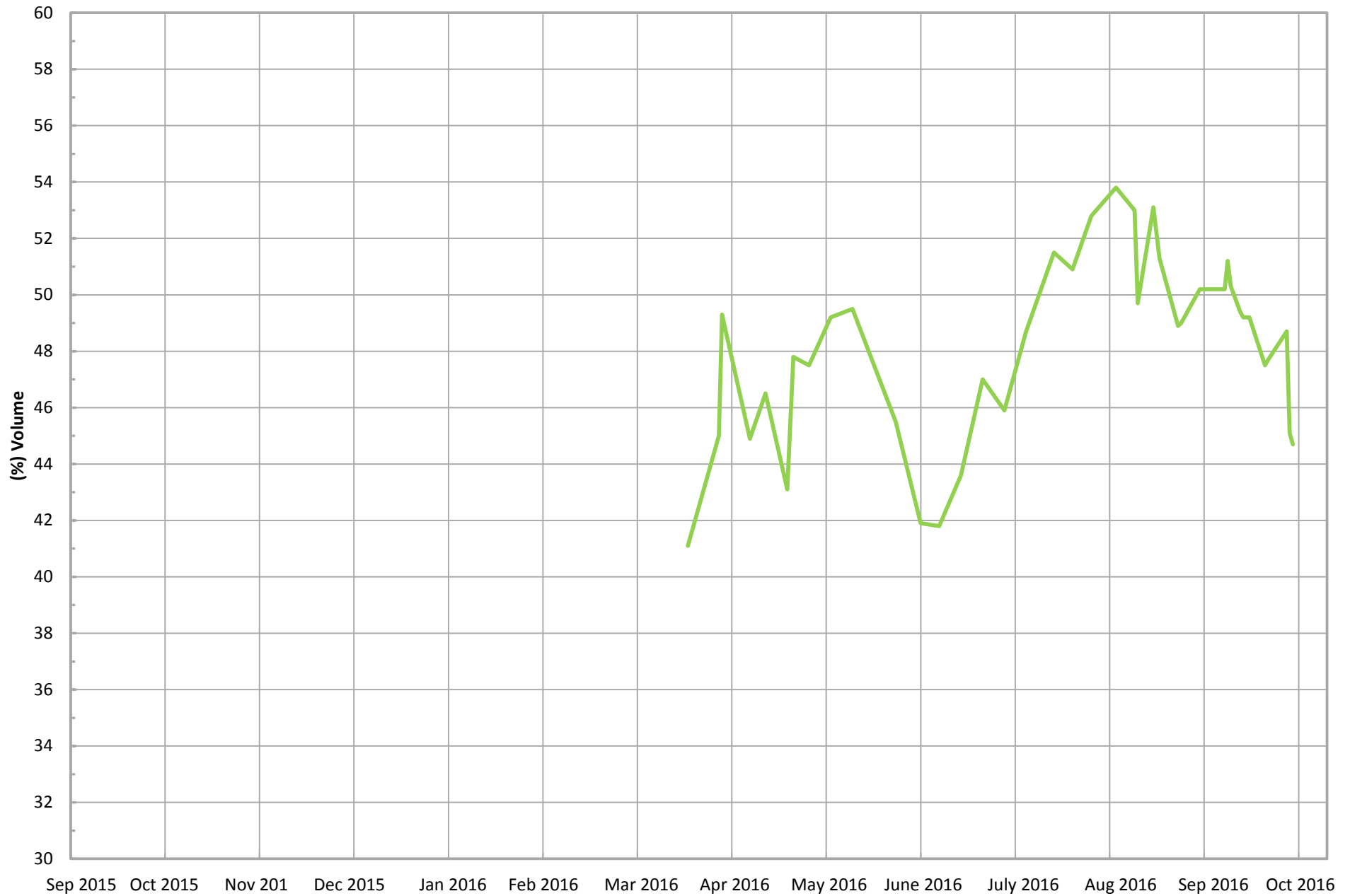
North Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the North Quarry.

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LANDFILL*

North Quarry Inlet Methane (Field Data)*

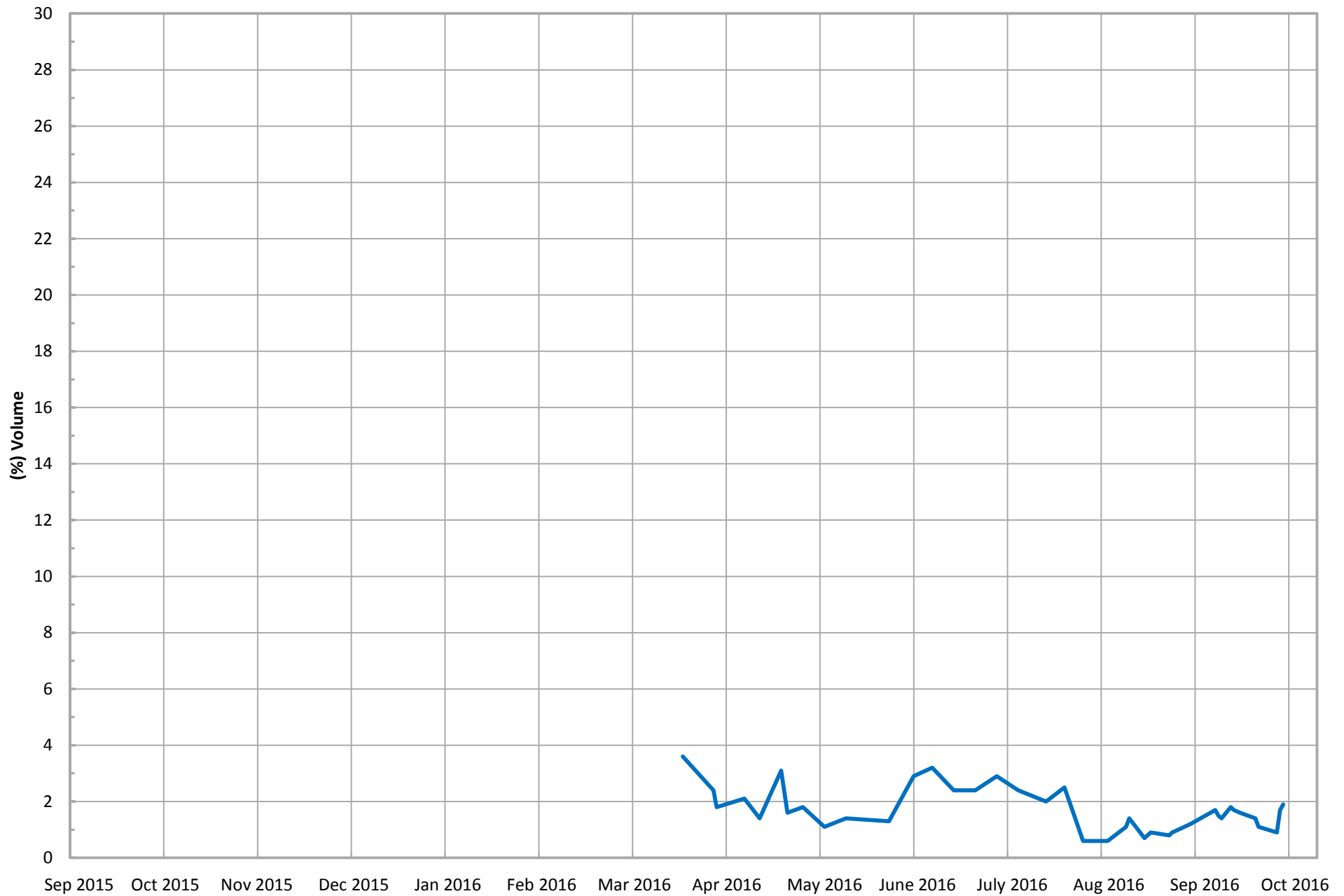


*Gas data collected from field monitoring data in the North Quarry.

Combined Inlet Methane (Field Data)*

**BRIDGETON
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North Quarry Inlet Oxygen (Field Data)*

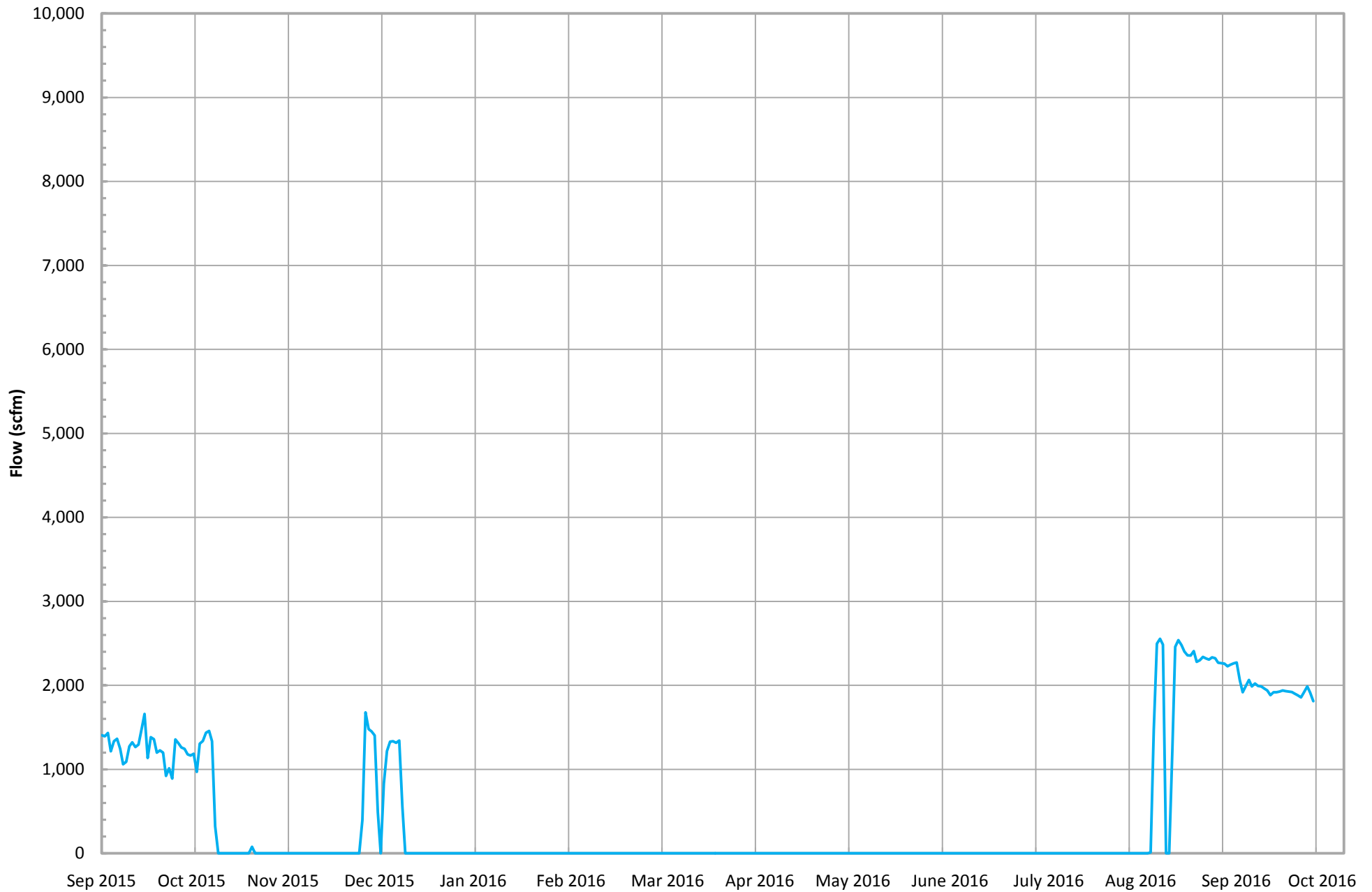


*Gas data collected from field monitoring data in the North Quarry.

— Combined Inlet Oxygen (Field Data)*

*BRIDGETON
LANDFILL*

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

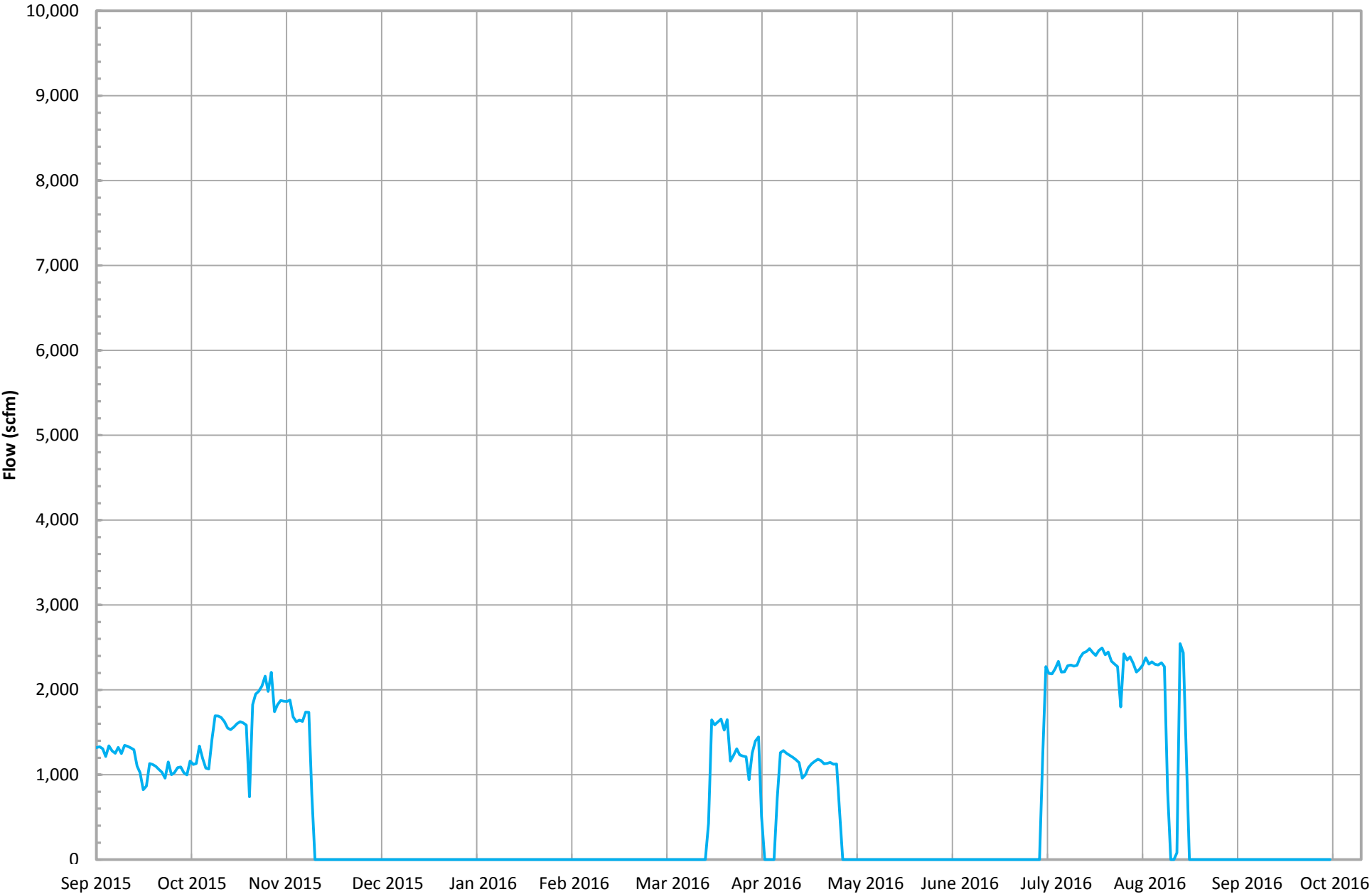


*Flow is based on tabulated flow data collected daily in the South Quarry.

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

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

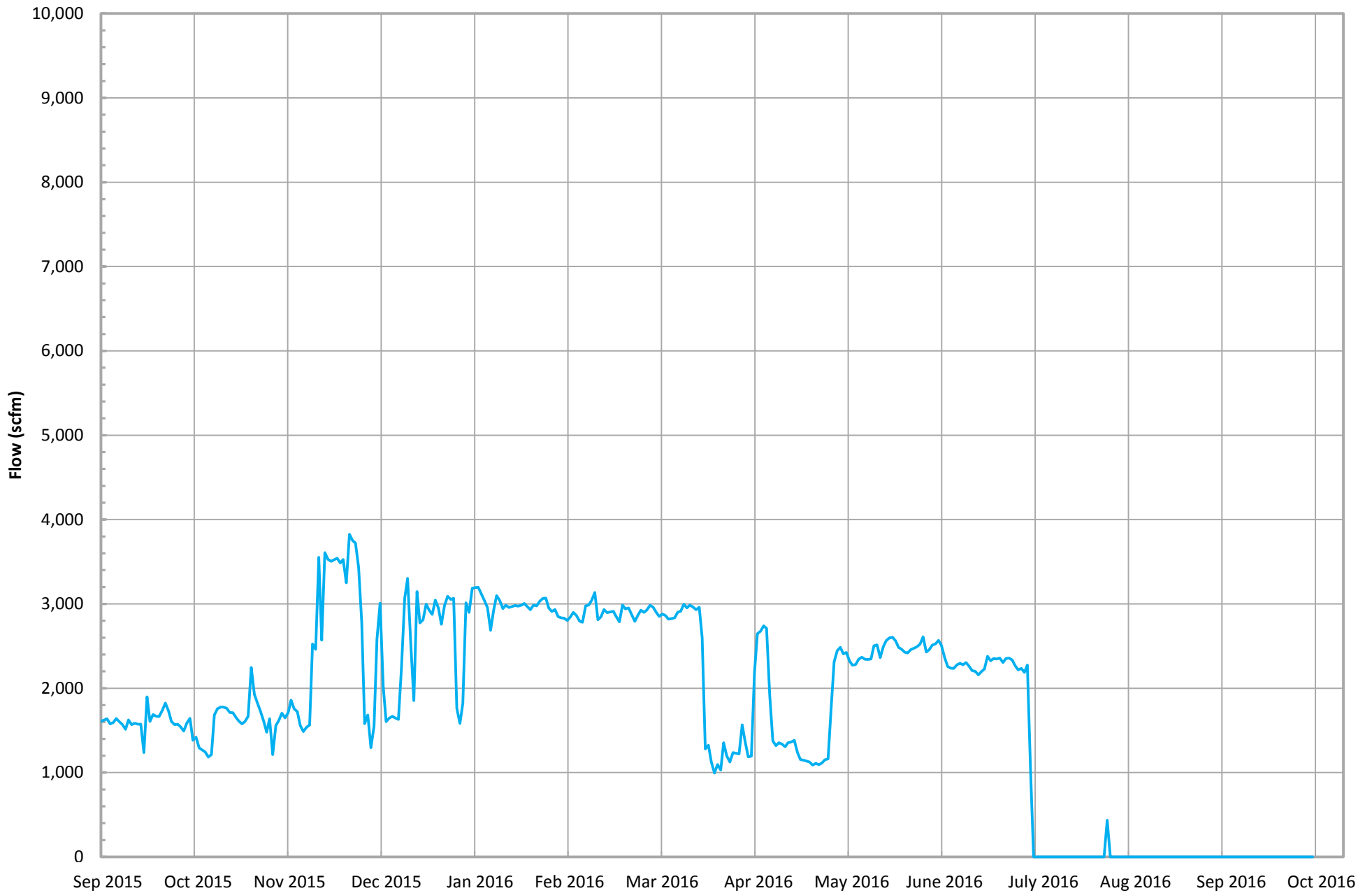


*Flow is based on tabulated flow data collected daily in the South Quarry.

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

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

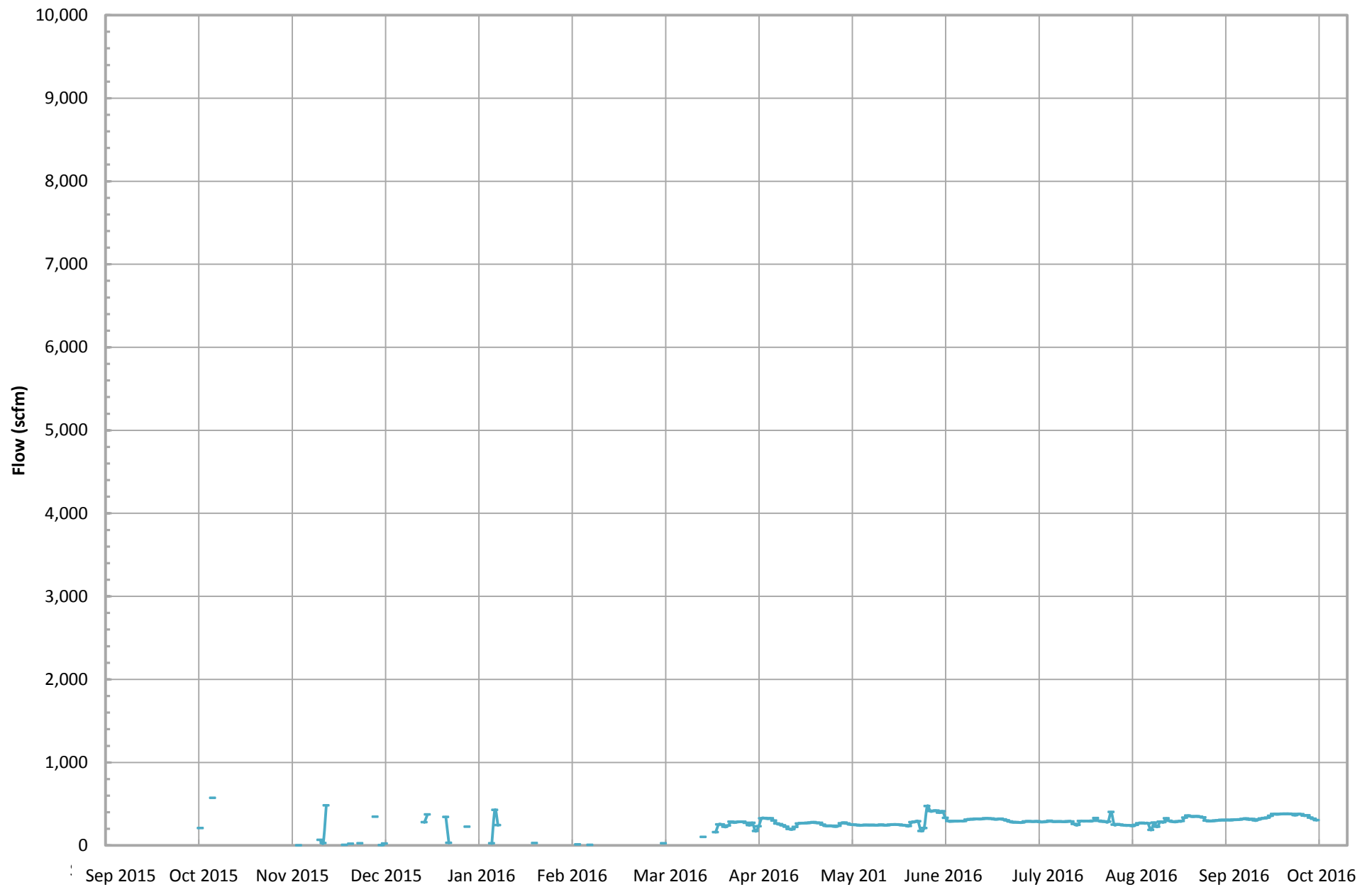


*Flow is based on tabulated flow data collected daily in the South Quarry.

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

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Auxiliary Candlestick Flare Flow (scfm)*

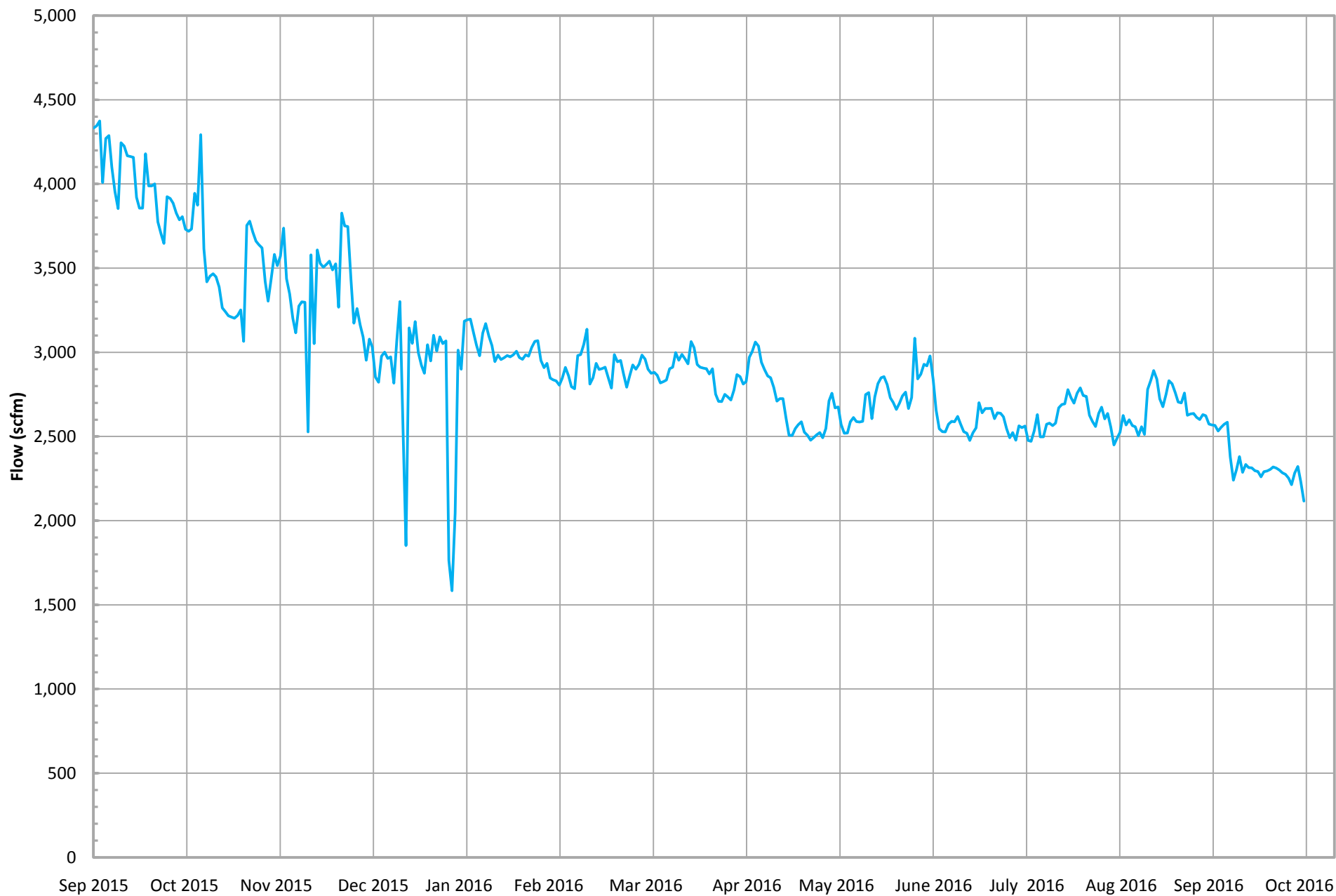


*Flow is based on tabulated flow data collected daily in the North Quarry.

— Auxiliary Candlestick Flare Flow (scfm)*

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Total Combined Flow (scfm)*



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

— Total Combined Flow (scfm)*

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ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW

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

Bridgeton Landfill, LLC.
September 7, 2016 to October 4, 2016

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm _{vd}
83-40 ¹	10/4/2016	19.32	1565	1600
				1700
82-39 ²	9/27/2016	23.43	1898	1800
				1800
81-38 ²	9/20/2016	22.21	1799	1500
				1700
80-37 ²	9/13/2016	24.37	1974	1900
				1700
79-36 ¹	9/7/2016	26.41	1913	1800
				1700

Notes:

¹ Indicates velocity/flow determined by EPA Method 2

² Indicates velocity/flow determined by KURZ

PARAMETER		Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)		
Date	Test Date	10/4/16
Start	Run Start Time	10:11
	Run Finish Time	11:23
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:12:33
C _p	Pitot Tube Coefficient	0.99
P _{Br}	Barometric Pressure, inches of Mercury	29.55
% H ₂ O	Moisture Content of LFG, %	3.65
% RH	Relative Humidity, %	63.90
M _{fd}	Dry Mole Fraction	0.964
%CH ₄	Methane, %	9.60
%CO ₂	Carbon Dioxide, %	41.60
%O ₂	Oxygen, %	6.00
%Balance	Assumed as Nitrogen, %	28.75
%H ₂	Hydrogen, %	12.40
%CO	Carbon Monoxide, %	0.10
M _d	Dry Molecular Weight, lb/lb-Mole	30.71
M _s	Wet Molecular weight, lb/lb-Mole	30.25
P _g	Flue Gas Static Pressure, inches of H ₂ O	27.06
P _s	Absolute Flue Gas Pressure, inches of Mercury	31.54
t _s	Average Stack Gas Temperature, °F	98
ΔP _{avg}	Average Velocity Head, inches of H ₂ O	0.096
v _s	Average LFG Velocity, feet/second	20.05
A _s	Stack Crosssectional Area, square feet	1.35
Q _{sd}	Dry Volumetric Flow Rate, dry scfm	1,565
Q _s	Standard Volumetric Flow Rate, scfm	1,622
Q _{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,628
Q _{lb/hr}	Dry Air Flow Rate at Standard Conditions, lb/hr	7,484
NHV	Net Heating Value, Btu/scf	157
LFG _{CH4}	Methane, lb/hr	375.4
	Methane, grains/dscf	27.99
LFG _{CO2}	Carbon Dioxide, lb/hr	4,463.2
	Carbon Dioxide, grains/dscf	332.72
LFG _{O2}	Oxygen, lb/hr	468.1
	Oxygen, grains/dscf	34.89
LFG _{N2}	Balance gas as Nitrogen, lb/hr	1,963.4
	Balance gas as Nitrogen, grains/dscf	146.37
LFG _{H4}	Hydrogen, lb/hr	60.9
	Hydrogen, grains/dscf	4.54
LFG _{CO}	Carbon Monoxide, lb/hr	6.8
	Carbon Monoxide, grains/dscf	0.51

		Outlet A	Outlet B
H ₂ S	Hydrogen Sulfide Concentration, ppmv	25.00	17.00
	Hydrogen Sulfide Rate, lb/hr	0.21	0.14
	Hydrogen Sulfide Rate, grains/dscf	0.015	0.011
COS	Carbonyl Sulfide Concentration, ppmv	0.56	0.56
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₃ S	Methyl Mercaptan Concentration, ppmv	240.00	220.00
	Methyl Mercaptan Rate, lb/hr	2.81	2.58
	Methyl Mercaptan Rate, grains/dscf	0.210	0.192
C ₂ H ₅ S	Ethyl Mercaptan Concentration, ppmv	2.80	2.70
	Ethyl Mercaptan Rate, lb/hr	0.04	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmv	1,200.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	18.18	18.18
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS ₂	Carbon Disulfide Concentration, ppmv	1.30	1.40
	Carbon Disulfide Rate, lb/hr	0.02	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmv	93.00	85.00
	Dimethyl Disulfide Rate, lb/hr	2.14	1.58
	Dimethyl Disulfide Rate, grains/dscf	0.159	0.118
①E _{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmv	1,600.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	24.99	26.55
	TRS-->SO2 Emission Rate, grains/dscf	1.863	1.979

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

Tuesday, October 04, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	10:11	1,622	1,714	1,796	-5.7%	-10.7%	4.6%

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

Fleetzoom Total = 317 scfm

PARAMETER		EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		10/4/16
Time	Start	8:40	9:03
*%CH ₄	Methane, %	46.00	46.20
*%CO ₂	Carbon Dioxide, %	35.70	35.90
*%O ₂	Oxygen, %	2.30	2.20
*%Balance	Assumed as Nitrogen, %	15.00	14.80
P _g	Flue Gas Static Pressure, inches of H ₂ O	0.82	0.82
t _s	Blower Outlet LFG Temperature, °F	86.00	86.00
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	301	
Q _s	Fleetzoom Standard Volumetric Flow Rate, scfm	317	
LFG _{CH4}	Methane, lb/hr	346.0	347.5
	Methane, grains/dscf	134.11	134.69
LFG _{CO2}	Carbon Dioxide, lb/hr	736.6	740.7
	Carbon Dioxide, grains/dscf	285.53	287.13
LFG _{O2}	Oxygen, lb/hr	34.5	33.0
	Oxygen, grains/dscf	13.38	12.79
LFG _{N2}	Balance gas as Nitrogen, lb/hr	197.0	194.4
	Balance gas as Nitrogen, grains/dscf	76.36	75.35
* Fixed gas results based on field parameter data collection at the time of sampling, via Enviroscan Landfill Gas Analyzer			
		EP14 NQ	EP14 NQ-2
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	57.00	0.56
	Hydrogen Sulfide Rate, lb/hr	0.09	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.035	0.000
COS	Carbonyl Sulfide Concentration, ppmvd	0.56	0.56
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	3.60	2.20
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.003	0.002
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	0.56	0.56
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	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, ppmvd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
①E _{TRS-SO2}	TRS-->SO ₂ Emission Concentration, ppmvd	74.00	15.00
	TRS-->SO ₂ Emission Rate, lb/hr	0.22	0.05
	TRS-->SO ₂ Emission Rate, grains/dscf	0.086	0.017
TPY =		0.97	0.20
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

October 10, 2016

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H100502-01/04

Enclosed are results for sample(s) received 10/05/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 10/10/16.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark Johnson".

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/Ryan Ayers/David Randall

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone& Fax: 314-683-3921

e-mail: NBauer@republicservices.com

BILLING

P.O. No.: PO5881099

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

ANALYSIS REQUEST

EPA 15/16 + TRS

ASTM 1946 + H2 + CO & BTU/SCF

ASTM 1946 + H2 + CO & BTU/SCF (by CH4 ONLY)

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

H100502-01	7126	-20.8	-2.7	-3	SG 001 Blower Outlet A-20	10/4/2016	1018	C-6L	LFG	He	X	X				
-02	5950	-20.6	-2.6	-3	SG 002 Blower Outlet B-20	10/4/2016	1040	C-6L	LFG	He	X	X				
-03	6062	-20.9	-3.1	-3	NQ EP14 A	10/4/2016	840	C-6L	LFG	He	X			X		
-04	5196	-21	-3	-3	NQ EP14 B	10/4/2016	903	C-6L	LFG	He	X			X		

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

COMPANY: Republic Services

DATE/TIME:

SAMPLED BY: Ryan Ayers

COMPANY: Republic Services

DATE/TIME

RELINQUISHED BY

DATE/RECEIVED BY

DATE/TIME

RELINQUISHED BY

DATE/RECEIVED BY

DATE/TIME

RELINQUISHED BY

DATE/RECEIVED BY

DATE/TIME

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

COMMENTS:

ID correction per BA 10/5/1690

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

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

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

Page 2 of 6
 H100502

EPA Methods 15/16

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

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date: 10/11/16

The cover letter is an integral part of this analytical report



QC Batch No.: 161006GC3A1
Matrix: Air
Units: ppmv

Page 3 of 6
H100502

QC for Sulfur Compounds by EPA 15/16

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

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


Mark J. Johnson
Operations Manager

Date: _____


10/10/16

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



AirTECHNOLOGY Laboratories, Inc.

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

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

Page 4 of 6
 H100502

ASTM D1946								
Lab No.:	H100502-01	H100502-02						
Client Sample I.D.:	SQ OU 1	SQ OU 2						
Date/Time Sampled:	10/4/16 10:18	10/4/16 10:40						
Date/Time Analyzed:	10/5/16 13:45	10/5/16 13:59						
QC Batch No.:	161005GC8A1	161005GC8A1						
Analyst Initials:	AS	AS						
Dilution Factor:	2.8	2.8						
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	12.1	2.8	12.7	2.8				
Carbon Dioxide	41.4	0.028	41.8	0.028				
Oxygen/Argon	6.1	1.4	5.9	1.4				
Nitrogen	29.2	2.8	28.3	2.8				
Methane	9.6	0.0028	9.6	0.0028				
Carbon Monoxide	0.10	0.0028	0.10	0.0028				
Net Heating Value (BTU/ft3)	155.2	2.8	158.2	2.8				
Gross Heating Value (BTU/ft3)	176.2	2.8	179.7	2.8				

Results normalized including non-methane hydrocarbons

BTU values based on D1946 analysis and non-methane analysis assumed as propane

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 10/10/16

The cover letter is an integral part of this analytical report



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

Page 5 of 6
 H100502

ASTM D1946

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

Results normalized including non-methane hydrocarbons

BTU values based on D1946 analysis methane only

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
 Operations Manager

Date 10/10/16

The cover letter is an integral part of this analytical report



QC Batch No.: 161005GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

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

ND = Not Detected (Below RL)

Reviewed/Approved By:

Mark J. Johnson
Operations Manager

Date:

10/10/16

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 82-39
09/27/2016

Kurz FM = 1,998 scfm
Fleetzoom Total = 1,850 scfm $\Delta = -8.0\%$

PARAMETER		Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		9/27/16
Time	Start	13:59	14:07
*%CH ₄	Methane, %	11.60	16.50
*%CO ₂	Carbon Dioxide, %	43.90	45.30
*%O ₂	Oxygen, %	5.00	5.00
*%Balance	Assumed as Nitrogen, %	39.50	33.20
P _g	Flue Gas Static Pressure, inches of H ₂ O	27.78	27.57
t _s	Blower Outlet LFG Temperature, °F	133	84
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	1,898	
Q _s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,998	
LFG _{CH₄}	Methane, lb/hr	550.1	782.5
	Methane, grains/dscf	33.82	48.11
LFG _{CO₂}	Carbon Dioxide, lb/hr	5,711.5	5,893.7
	Carbon Dioxide, grains/dscf	351.11	362.31
LFG _{O₂}	Oxygen, lb/hr	473.0	473.0
	Oxygen, grains/dscf	29.08	29.08
LFG _{N₂}	Balance gas as Nitrogen, lb/hr	3,271.2	2,749.4
	Balance gas as Nitrogen, grains/dscf	201.09	169.02
<i>* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer</i>			
		Outlet A	Outlet B
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	20.00	29.00
	Hydrogen Sulfide Rate, lb/hr	0.20	0.29
	Hydrogen Sulfide Rate, grains/dscf	0.012	0.018
COS	Carbonyl Sulfide Concentration, ppmvd	0.59	0.59
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₃ S	Methyl Mercaptan Concentration, ppmvd	240.00	250.00
	Methyl Mercaptan Rate, lb/hr	3.41	3.56
	Methyl Mercaptan Rate, grains/dscf	0.210	0.219
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	2.70	3.20
	Ethyl Mercaptan Rate, lb/hr	0.05	0.06
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.004
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	1,300.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	23.88	23.88
	Dimethyl Sulfide Rate, grains/dscf	1.468	1.468
CS ₂	Carbon Disulfide Concentration, ppmvd	1.40	1.50
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	90.00	93.00
	Dimethyl Disulfide Rate, lb/hr	2.51	2.59
	Dimethyl Disulfide Rate, grains/dscf	0.154	0.159
①E _{TRS-SO₂}	TRS-->SO ₂ Emission Concentration, ppmvd	1,800.00	1,800.00
	TRS-->SO ₂ Emission Rate, lb/hr	34.09	34.09
	TRS-->SO ₂ Emission Rate, grains/dscf	2.096	2.096
		TPY =	
		149.31	149.31
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 82-39
09/27/2016

Fleetzoom Total = 374 scfm

PARAMETER		EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		9/27/16
Time	Start	13:22	13:32
*%CH ₄	Methane, %	48.70	47.80
*%CO ₂	Carbon Dioxide, %	37.30	38.10
*%O ₂	Oxygen, %	0.90	0.90
*%Balance	Assumed as Nitrogen, %	13.10	13.20
P _g	Flue Gas Static Pressure, inches of H ₂ O	1.47	1.15
t _s	Blower Outlet LFG Temperature, °F	97.50	98.10
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	355	
Q _s	Fleetzoom Standard Volumetric Flow Rate, scfm	374	
LFG _{CH4}	Methane, lb/hr	432.3	424.3
	Methane, grains/dscf	141.98	139.36
LFG _{CO2}	Carbon Dioxide, lb/hr	908.3	927.8
	Carbon Dioxide, grains/dscf	298.33	304.72
LFG _{O2}	Oxygen, lb/hr	15.9	15.9
	Oxygen, grains/dscf	5.23	5.23
LFG _{N2}	Balance gas as Nitrogen, lb/hr	203.1	204.6
	Balance gas as Nitrogen, grains/dscf	66.69	67.20
* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer			
		EP14 NQ	EP14 NQ-2
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	45.00	47.00
	Hydrogen Sulfide Rate, lb/hr	0.08	0.09
	Hydrogen Sulfide Rate, grains/dscf	0.028	0.029
COS	Carbonyl Sulfide Concentration, ppmvd	0.61	0.59
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	2.60	2.80
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.002	0.002
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	0.61	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	9.40	9.60
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.011	0.011
CS ₂	Carbon Disulfide Concentration, ppmvd	0.61	0.59
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	0.61	0.59
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
①E _{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	57.00	60.00
	TRS-->SO2 Emission Rate, lb/hr	0.20	0.21
	TRS-->SO2 Emission Rate, grains/dscf	0.066	0.070
TPY =		0.89	0.93
① TRS assumed molecular mass = SO2, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack			

October 6, 2016

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H092802-01/04

Enclosed are results for sample(s) received 9/28/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 10/05/16.

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.



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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD ☐
EDF ☐
Level 3 ☐
Level 4 ☐

PAGE: 1 OF 1

Condition upon receipt:

Sealed Yes ☐ No ☐

Intact Yes ☐ No ☐

Chilled _____ deg C

Project No.:

Project Name: Bridgeton Landfill

Report To: Nick Bauer

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone& Fax: 314-683-3921

e-mail: Nbauer@republicservices.com

BILLING

P.O. No.: PO4862452 5881099

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

ANALYSIS REQUEST

EPA 15/16 + TRS

LAB USE ONLY

Canister Pressures ("hg)

Canister ID Sample Start Sample End Lab Receive

SAMPLE IDENTIFICATION

SAMPLE
DATE

SAMPLE
TIME

CONTAINER
QTY/TYPE

MATRIX

PRESERVA-
TION

HD92802-01	R1163	-20.6	-3.5	-4.5	NQ OU A	9/27/2016	1322	C	LFG	NA	X						
-02	R1157	-20.2	-3.5	-4	NQ OU B	9/27/2016	1332	C	LFG	NA	X						
-03	R1161	-20.5	-3.5	-4	SQ OU A	9/27/2016	1359	C	LFG	NA	X						
-04	R1155	-20.8	-3.5	-4	SQ OU B	9/27/2016	1407	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: *Ry Ayers* 9-27-16 1500

DATE/RECEIVED BY

DATE/TIME

RELINQUISHED BY: *TEH*

DATE/RECEIVED BY: *TEH* 9/28/16 1113

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: 09/28/16
Matrix: Air
Reporting Units: ppmv

Page 2 of 3
 H092802

EPA 15/16

Lab No.:	H092802-01	H092802-02	H092802-03	H092802-04				
Client Sample I.D.:	NQ OU A	NQ OU B	SQ OU A	SQ OU B				
Date/Time Sampled:	9/27/16 13:22	9/27/16 13:32	9/27/16 13:59	9/27/16 14:07				
Date/Time Analyzed:	10/3/16 9:06	10/3/16 9:31	10/3/16 9:56	10/3/16 11:12				
QC Batch No.:	161003GC3A1	161003GC3A1	161003GC3A1	161003GC3A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.1	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	45 d 6.1	47 d 5.9	20 0.59	29 0.59			
	Carbonyl Sulfide	ND 0.61	ND 0.59	ND 0.59	ND 0.59			
	Methyl Mercaptan	2.6 0.61	2.8 0.59	240 d 5.9	250 d 5.9			
	Ethyl Mercaptan	ND 0.61	ND 0.59	2.7 0.59	3.2 0.59			
	Dimethyl Sulfide	9.4 0.61	9.6 0.59	1,300 d 59.0	1,300 d 59.0			
	Carbon Disulfide	ND 0.61	ND 0.59	1.4 0.59	1.5 0.59			
	Dimethyl Disulfide	ND 0.61	ND 0.59	90 d 5.9	93 d 5.9			
	Total Reduced Sulfur	57 0.61	60 0.59	1,800 0.59	1,800 0.59			

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

10/5/16

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

page 1 of 1

QC Batch No.: 161003GC3A1
Matrix: Air
Units: ppmv

Page 3 of 3
H092802

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/2/16 22:51		10/3/16 8:35		10/3/16 8:48			
Analyst Initials:	AS		AS		AS			
Datafile:	02oct058		03oct		03oct001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	87	70-130%	92	70-130%	5.5	<30
Carbonyl Sulfide	ND	0.20	81	70-130%	85	70-130%	4.1	<30
Methyl Mercaptan	ND	0.20	84	70-130%	88	70-130%	5.3	<30
Ethyl Mercaptan	ND	0.20	85	70-130%	89	70-130%	5.6	<30
Dimethyl Sulfide	ND	0.20	85	70-130%	88	70-130%	2.5	<30
Carbon Disulfide	ND	0.20	88	70-130%	91	70-130%	2.3	<30
Dimethyl Disulfide	ND	0.20	71	70-130%	72	70-130%	1.2	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark J. Johnson
Operations Manager

Date:

10/5/16

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 81-38
09/20/2016

Kurz FM = 1,893 scfm
Fleetzoom Total = 1,828 scfm $\Delta = -3.6\%$

PARAMETER		Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		9/20/16
Time	Start	9:27	9:59
*%CH ₄	Methane, %	10.10	10.40
*%CO ₂	Carbon Dioxide, %	40.40	41.20
*%O ₂	Oxygen, %	5.60	5.60
*%Balance	Assumed as Nitrogen, %	43.90	42.80
P _g	Flue Gas Static Pressure, inches of H ₂ O	28.54	30.43
t _s	Blower Outlet LFG Temperature, °F	110	111
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	1,799	
Q _s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,893	
LFG _{CH4}	Methane, lb/hr	454.0	467.5
	Methane, grains/dscf	29.45	30.32
LFG _{CO2}	Carbon Dioxide, lb/hr	4,981.7	5,080.4
	Carbon Dioxide, grains/dscf	323.12	329.52
LFG _{O2}	Oxygen, lb/hr	502.1	502.1
	Oxygen, grains/dscf	32.57	32.57
LFG _{N2}	Balance gas as Nitrogen, lb/hr	3,445.7	3,359.4
	Balance gas as Nitrogen, grains/dscf	223.49	217.89
<i>* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer</i>			
		Outlet A	Outlet B
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	5.40	18.00
	Hydrogen Sulfide Rate, lb/hr	0.05	0.17
	Hydrogen Sulfide Rate, grains/dscf	0.003	0.011
COS	Carbonyl Sulfide Concentration, ppmvd	0.65	0.67
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	190.00	220.00
	Methyl Mercaptan Rate, lb/hr	2.56	2.97
	Methyl Mercaptan Rate, grains/dscf	0.166	0.192
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	6.50	6.70
	Ethyl Mercaptan Rate, lb/hr	0.11	0.12
	Ethyl Mercaptan Rate, grains/dscf	0.007	0.008
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	1,200.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	20.89	20.89
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS ₂	Carbon Disulfide Concentration, ppmvd	1.30	1.40
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	86.00	90.00
	Dimethyl Disulfide Rate, lb/hr	2.27	2.38
	Dimethyl Disulfide Rate, grains/dscf	0.147	0.154
①E _{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	1,500.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	26.92	30.51
	TRS-->SO2 Emission Rate, grains/dscf	1.746	1.979
		TPY =	
		117.93	133.66
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 81-38
09/20/2016

Fleetzoom Total = 377 scfm

PARAMETER		EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		9/20/16
Time	Start	8:59	9:07
*%CH ₄	Methane, %	47.50	47.60
*%CO ₂	Carbon Dioxide, %	35.50	34.60
*%O ₂	Oxygen, %	1.40	1.40
*%Balance	Assumed as Nitrogen, %	15.60	16.40
P _g	Flue Gas Static Pressure, inches of H ₂ O	1.41	1.33
t _s	Blower Outlet LFG Temperature, °F	90.30	93.10
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	359	
Q _s	Fleetzoom Standard Volumetric Flow Rate, scfm	377	
LFG _{CH4}	Methane, lb/hr	425.6	426.4
	Methane, grains/dscf	138.48	138.78
LFG _{CO2}	Carbon Dioxide, lb/hr	872.5	850.4
	Carbon Dioxide, grains/dscf	283.93	276.73
LFG _{O2}	Oxygen, lb/hr	25.0	25.0
	Oxygen, grains/dscf	8.14	8.14
LFG _{N2}	Balance gas as Nitrogen, lb/hr	244.0	256.6
	Balance gas as Nitrogen, grains/dscf	79.42	83.49
* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer			
		EP14 NQ	EP14 NQ-2
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	52.00	53.00
	Hydrogen Sulfide Rate, lb/hr	0.10	0.10
	Hydrogen Sulfide Rate, grains/dscf	0.032	0.033
COS	Carbonyl Sulfide Concentration, ppmvd	0.58	0.58
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	3.00	3.00
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.003	0.003
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	0.58	0.58
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	10.00	10.00
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.011	0.011
CS ₂	Carbon Disulfide Concentration, ppmvd	0.58	0.58
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	0.58	0.58
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
①E _{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	66.00	68.00
	TRS-->SO2 Emission Rate, lb/hr	0.24	0.24
	TRS-->SO2 Emission Rate, grains/dscf	0.077	0.079
TPY =		1.03	1.07
① TRS assumed molecular mass = SO2, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack			

September 28, 2016

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H092104-01/04

Enclosed are results for sample(s) received 9/21/16 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 9/28/16.

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

EPA 15/16 + TRS

LAB USE ONLY**Canister Pressures ("hg)**

Canister ID Sample Start Sample End Lab Receive

SAMPLE IDENTIFICATIONSAMPLE
DATESAMPLE
TIMECONTAINER
QTY/TYPE

MATRIX

PRESERVA-
TION

H092104-01

R1160

-19.9

-3.5

-3.5

NQ OU A

9/20/2016

859

C

LFG

NA

X

-02

R1162

-19.7

-3.5

-3.5

NQ OU B

9/20/2016

907

C

LFG

NA

X

-03

R1156

-19.8

-5

-5.9

SQ OU A

9/20/2016

927

C

LFG

NA

X

-04

R1159

-19.7

-5

-6

SQ OU B

9/20/2016

959

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

RELINQUISHED BY

RELINQUISHED BY

DATE/RECEIVED BY

DATE/RECEIVED BY

DATE/RECEIVED BY

DATE/TIME

DATE/TIME

DATE/TIME

COMMENTS

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

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/21/16
Matrix: Air
Reporting Units: ppmv

Page 2 of 3
 H092104

EPA 15/16									
Lab No.:	H092104-01		H092104-02		H092104-03		H092104-04		
Client Sample I.D.:	NQ OU A		NQ OU B		SQ OU A		SQ OU B		
Date/Time Sampled:	9/20/16 8:59		9/20/16 9:07		9/20/16 9:27		9/20/16 9:59		
Date/Time Analyzed:	9/26/16 15:14		9/26/16 15:41		9/26/16 16:06		9/27/16 8:48		
QC Batch No.:	160926GC3A1		160926GC3A1		160926GC3A1		160926GC3A1		
Analyst Initials:	AS		AS		AS		AS		
Dilution Factor:	2.9		2.9		3.3		3.4		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv
Hydrogen Sulfide	52 d	5.8	53 d	5.8	5.4	0.65	18	0.67	
Carbonyl Sulfide	ND	0.58	ND	0.58	ND	0.65	ND	0.67	
Methyl Mercaptan	3.0	0.58	3.0	0.58	190 d	6.5	220 d	6.7	
Ethyl Mercaptan	ND	0.58	ND	0.58	ND	6.5	ND	6.7	
Dimethyl Sulfide	10	0.58	10	0.58	1,200 d	65.0	1,200 d	67.0	
Carbon Disulfide	ND	0.58	ND	0.58	1.3	0.65	1.4	0.67	
Dimethyl Disulfide	ND	0.58	ND	0.58	86 d	6.5	90 d	6.7	
Total Reduced Sulfur	66	0.58	68	0.58	1,500	0.65	1,700	0.67	

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: _____

Mark Johnson
 Operations Manager

Date

9-28-16

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

page 1 of 1

QC Batch No.: 160926GC3A1
Matrix: Air
Units: ppmv

Page 3 of 3
H092104

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/26/16 14:24		9/26/16 13:59		9/26/16 14:12			
Analyst Initials:	AS		AS		AS			
Datafile:	26sep012		26sep010		26sep011			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	119	70-130%	119	70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	105	70-130%	0.3	<30
Methyl Mercaptan	ND	0.20	112	70-130%	113	70-130%	0.7	<30
Ethyl Mercaptan	ND	0.20	115	70-130%	114	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	100	70-130%	1.1	<30
Carbon Disulfide	ND	0.20	113	70-130%	113	70-130%	0.5	<30
Dimethyl Disulfide	ND	0.20	87	70-130%	88	70-130%	0.9	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:


Mark J. Johnson
Operations Manager

Date: 9-28-16

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 80-37
09/13/2016

Kurz FM = 2,078 scfm
Fleetzoom Total = 2,133 scfm $\Delta = 2.6\%$

PARAMETER		Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		9/13/16
Time	Start	13:57	14:22
*%CH ₄	Methane, %	9.80	10.30
*%CO ₂	Carbon Dioxide, %	44.60	44.60
*%O ₂	Oxygen, %	5.50	5.50
*%Balance	Assumed as Nitrogen, %	40.10	39.60
P _g	Flue Gas Static Pressure, inches of H ₂ O	30.11	32.81
t _s	Blower Outlet LFG Temperature, °F	127	130
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	1,974	
Q _s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,078	
LFG _{CH4}	Methane, lb/hr	483.4	508.1
	Methane, grains/dscf	28.57	30.03
LFG _{CO2}	Carbon Dioxide, lb/hr	6,035.8	6,035.8
	Carbon Dioxide, grains/dscf	356.71	356.71
LFG _{O2}	Oxygen, lb/hr	541.2	541.2
	Oxygen, grains/dscf	31.98	31.98
LFG _{N2}	Balance gas as Nitrogen, lb/hr	3,454.3	3,411.2
	Balance gas as Nitrogen, grains/dscf	204.15	201.60
* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer			
		Outlet A	Outlet B
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	9.00	11.00
	Hydrogen Sulfide Rate, lb/hr	0.09	0.12
	Hydrogen Sulfide Rate, grains/dscf	0.006	0.007
COS	Carbonyl Sulfide Concentration, ppmvd	0.72	0.72
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	240.00	220.00
	Methyl Mercaptan Rate, lb/hr	3.55	3.25
	Methyl Mercaptan Rate, grains/dscf	0.210	0.192
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	3.00	2.80
	Ethyl Mercaptan Rate, lb/hr	0.06	0.05
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	1,400.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	26.75	24.84
	Dimethyl Sulfide Rate, grains/dscf	1.581	1.468
CS ₂	Carbon Disulfide Concentration, ppmvd	1.60	1.50
	Carbon Disulfide Rate, lb/hr	0.04	0.04
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	110.00	100.00
	Dimethyl Disulfide Rate, lb/hr	3.19	2.90
	Dimethyl Disulfide Rate, grains/dscf	0.188	0.171
①E _{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	1,900.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	37.43	33.49
	TRS-->SO2 Emission Rate, grains/dscf	2.212	1.979
TPY =		163.94	146.69
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 80-37
09/13/2016

Fleetzoom Total = 344 scfm

PARAMETER		EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		9/13/16
Time	Start	13:30	13:38
*%CH ₄	Methane, %	49.20	48.90
*%CO ₂	Carbon Dioxide, %	37.40	37.40
*%O ₂	Oxygen, %	1.70	1.60
*%Balance	Assumed as Nitrogen, %	11.70	12.10
P _g	Flue Gas Static Pressure, inches of H ₂ O	1.23	1.06
t _s	Blower Outlet LFG Temperature, °F	107.60	108.40
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	327	
Q _s	Fleetzoom Standard Volumetric Flow Rate, scfm	344	
LFG _{CH4}	Methane, lb/hr	402.0	399.5
	Methane, grains/dscf	143.44	142.57
LFG _{CO2}	Carbon Dioxide, lb/hr	838.3	838.3
	Carbon Dioxide, grains/dscf	299.13	299.13
LFG _{O2}	Oxygen, lb/hr	27.7	26.1
	Oxygen, grains/dscf	9.89	9.30
LFG _{N2}	Balance gas as Nitrogen, lb/hr	166.9	172.6
	Balance gas as Nitrogen, grains/dscf	59.56	61.60
<i>* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer</i>			
		EP14 NQ	EP14 NQ-2
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	60.00	68.00
	Hydrogen Sulfide Rate, lb/hr	0.10	0.12
	Hydrogen Sulfide Rate, grains/dscf	0.037	0.042
COS	Carbonyl Sulfide Concentration, ppmvd	0.63	0.63
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	3.00	3.30
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.003	0.003
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	0.63	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	9.50	10.00
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.011	0.011
CS ₂	Carbon Disulfide Concentration, ppmvd	0.63	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	0.63	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
①E _{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	73.00	82.00
	TRS-->SO2 Emission Rate, lb/hr	0.24	0.27
	TRS-->SO2 Emission Rate, grains/dscf	0.085	0.095
TPY =		1.04	1.17
① TRS assumed molecular mass = SO2, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack			

September 22, 2016

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H091401-01/04

Enclosed are results for sample(s) received 9/14/16 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 9/21/16.

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.



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

EPA 15/16 + TRS

LAB USE ONLY

Canister Pressures ("hg)

Canister ID R1161 Sample Start Sample End Lab Receive

SAMPLE IDENTIFICATION

SAMPLE
DATE

SAMPLE
TIME

CONTAINER
QTY/TPE

MATRIX

PRESERVA-
TION

H091401-01
-02
-03
-04

R1161 -19.6 -3.5 -5
R1163 -21 -3.5 -5
R1157 -20.4 -5 -7
R1155 -18.8 -5 -7

NQ OU A
NQ OU B
SQ OU A
SQ OU B

9/13/2016
9/13/2016
9/13/2016
9/13/2016

1330
1338
1357
1422

C
C
C
C

LFG
LFG
LFG
LFG

NA
NA
NA
NA

X
X
X
X

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

COMPANY: Republic Services

DATE/TIME:

SAMPLED BY: Ryan Ayers

COMPANY: Republic Services

DATE/TIME:

RELINQUISHED BY

DATE/RECEIVED BY

DATE/TIME

RELINQUISHED BY

DATE/RECEIVED BY

DATE/TIME

RELINQUISHED BY

DATE/RECEIVED BY

DATE/TIME

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

COMMENTS

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/14/16
Matrix: Air
Reporting Units: ppmv

Page 2 of 3
 H091401

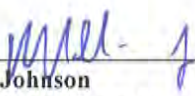
EPA 15/16								
Lab No.:	H091401-01		H091401-02		H091401-03		H091401-04	
Client Sample I.D.:	NQ OU A		NQ OU B		SQ OU A		SQ OU B	
Date/Time Sampled:	9/13/16 13:30		9/13/16 13:38		9/13/16 13:57		9/13/16 14:22	
Date/Time Analyzed:	9/14/16 11:37		9/14/16 12:48		9/14/16 13:14		9/14/16 14:02	
QC Batch No.:	160914GC3A1		160914GC3A1		160914GC3A1		160914GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.6		3.6	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	60 d	6.3	68 d	6.3	9.0	0.72	11	0.72
Carbonyl Sulfide	ND	0.63	ND	0.63	ND	0.72	ND	0.72
Methyl Mercaptan	3.0	0.63	3.3	0.63	240 d	7.2	220 d	7.2
Ethyl Mercaptan	ND	0.63	ND	0.63	3.0	0.72	2.8	0.72
Dimethyl Sulfide	9.5	0.63	10	0.63	1,400 d	72.0	1,300 d	72.0
Carbon Disulfide	ND	0.63	ND	0.63	1.6	0.72	1.5	0.72
Dimethyl Disulfide	ND	0.63	ND	0.63	110 d	7.2	100 d	7.2
Total Reduced Sulfur	73	0.63	82	0.63	1,900	0.72	1,700	0.72

ND = Not Detected (below RL)

RL = Reporting Limit

d= reported from a secondary dilution

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

9/20/16

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

page 1 of 1

QC Batch No.: 160914GC3A1
Matrix: Air
Units: ppmv

Page 3 of 3
H091401

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/14/16 10:55		9/14/16 9:26		9/14/16 9:39			
Analyst Initials:	AS		AS		AS			
Datafile:	14sep005		14sep003		14sep004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	127	70-130%	127	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	115	70-130%	114	70-130%	1.1	<30
Methyl Mercaptan	ND	0.20	121	70-130%	122	70-130%	0.0	<30
Ethyl Mercaptan	ND	0.20	125	70-130%	124	70-130%	0.7	<30
Dimethyl Sulfide	ND	0.20	107	70-130%	105	70-130%	2.1	<30
Carbon Disulfide	ND	0.20	125	70-130%	121	70-130%	2.6	<30
Dimethyl Disulfide	ND	0.20	94	70-130%	90	70-130%	4.2	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark J. Johnson
Operations Manager

Date: _____

9/20/16

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

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)
	Net Run Time, minutes	1:19:30
C_p	Pitot Tube Coefficient	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
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_3S	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_5S	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
$\textcircled{1} E_{\text{TRS-SO}_2}$	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

① TRS assumed molecular 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%

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 Coefficient	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 Crosssectional 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, ppmvd	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, ppmvd	0.63	0.63
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmvd	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, ppmvd	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, ppmvd	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, ppmvd	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, ppmvd	0.63	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
$\textcircled{1} E_{\text{TRS-SO}_2}$	TRS-->SO2 Emission Concentration, ppmvd	79.00	66.00
	TRS-->SO2 Emission Rate, lb/hr	0.23	0.20
	TRS-->SO2 Emission Rate, grains/dscf	0.092	0.077

① TRS assumed molecular 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%

September 9, 2016

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



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

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,

A handwritten signature in blue ink, appearing to read "Mark Johnson".

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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



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

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

EPA 15/16 + TRS

ASTM 1946 +H2 + CO &
BTU/SCF

ASTM 1946 +H2 + CO &
BTU/SCF (by CH4 ONLY)

LAB USE ONLY

Canister Pressures ("hg)

Canister ID Sample Start Sample End Lab Receive

SAMPLE IDENTIFICATION

SAMPLE
DATE

SAMPLE
TIME

CONTAINER
QTY/TYPE

MATRIX

PRESERVA-
TION

#090802-01	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	300	X		
-04	5962	-20.81	-3.51	-5	NQ EP14 B	9/7/2016	904	C-6L	LFG	He	X	X	7/15/16	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: *[Signature]* 9-7-16 1200

DATE/RECEIVED BY

DATE/TIME

RELINQUISHED BY: *[Signature]* 9-7-16 1200

DATE/RECEIVED BY

DATE/TIME

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

COMMENTS:

TEST INST CONF'D VIA TELECON WITH SUPPLIER 9/16/16

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

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

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

Page 2 of 6
 H090802

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:



Mark Johnson
 Operations Manager

Date

9-9-16

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

page 1 of 1

QC Batch No.: 160908GC3A2
Matrix: Air
Units: ppmv

Page 3 of 6
H090802

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:


Mark J. Johnson
Operations Manager

Date:

9-9-16

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

Page 4 of 6
 H090802

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: 
 Mark Johnson
 Operations Manager

Date 9-9-16

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

Page 5 of 6
 H090802

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: 
 Mark Johnson
 Operations Manager

Date 9-9-16

The cover letter is an integral part of this analytical report



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:



Mark J. Johnson
Operations Manager

Date:

9-9-16

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

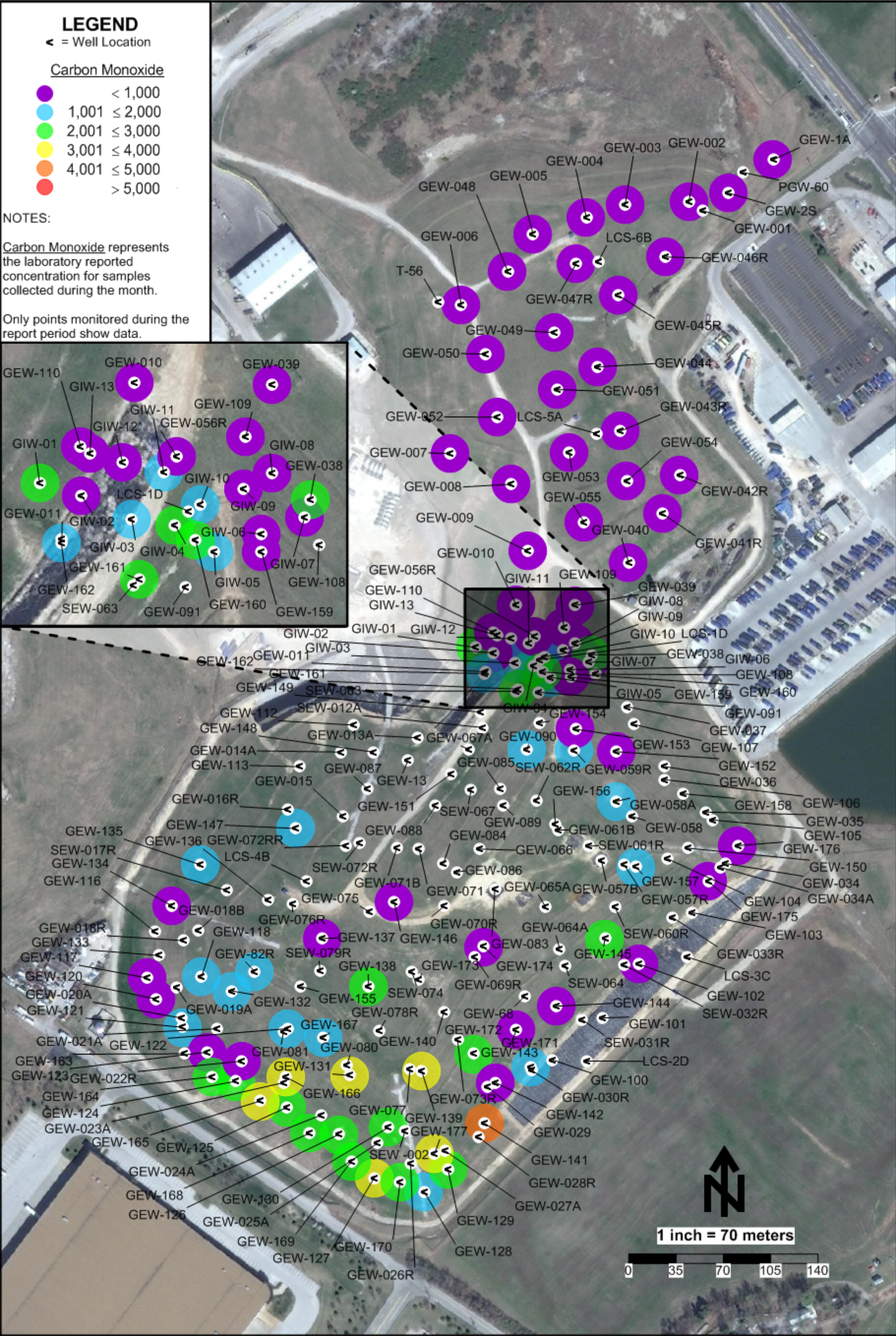


AirTECHNOLOGY Laboratories, Inc.

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

ATTACHMENT C

GAS WELL ANALYSIS MAPS



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
		North Quarry					(ppm)	
GEW-01A	9/12/2016	2.9	2.3	21	74	ND	43	See Note 4
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-002	9/7/2016	55	40	ND	4.1	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-02S	9/12/2016	49	33	4	14	ND	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-003	9/7/2016	53	40	ND	5.8	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-004	9/7/2016	54	41	ND	4.3	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-005	9/8/2016	51	36	ND	12	ND	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-006	9/8/2016	56	39	ND	4.5	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-007	9/12/2016	54	38	1.8	6.2	ND	ND	See Note 3
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-008	9/12/2016	49	42	1.8	6.1	1.1	ND	See Note 3
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-009	9/12/2016	51	41	ND	6.4	0.5	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-040	9/7/2016	57	40	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-041R	9/7/2016	53	37	2.1	8.1	ND	ND	See Note 3
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-042R	9/7/2016	55	42	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-043R	9/7/2016	54	42	ND	3.5	0.2	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-044	5/9/2016	51	35	2.8	11	ND	ND	See Note 3
GEW-044	7/11/2016	57	40	ND	ND	ND	ND	
GEW-044	9/7/2016	57	40	ND	ND	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	
GEW-045R	9/7/2016	55	43	ND	ND	ND	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-046R	9/7/2016	55	41	ND	3.1	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-047R	9/8/2016	50	39	ND	10	0.1	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-048	9/8/2016	12	8.1	18	63	ND	ND	See Note 1 and 3
GEW-049	5/13/2016	48	36	ND	15	0.05	ND	
GEW-049	6/8/2016	51	37	ND	11	0.1	ND	
GEW-049	7/12/2016	46	36	ND	16	ND	ND	
GEW-049	8/10/2016	56.1	39.7	ND	3.6	0.1	ND	
GEW-049	9/8/2016	52	38	ND	9.1	ND	ND	
GEW-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-050	9/12/2016	56	39	ND	3.4	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-051	9/8/2016	54	41	ND	ND	1	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-052	9/12/2016	54	40	ND	4.5	0.03	ND	
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-053	9/8/2016	49	43	ND	ND	4.6	61	
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-054	9/12/2016	50	40	ND	5.6	2.2	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	
GEW-055	9/12/2016	53	42	ND	ND	1.6	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
Flare Station ²	5/3/2016	49.0	37.2	ND	11.8	ND	ND	See Note 5
Flare Station ²	6/7/2016	41.0	33.1	3.5	21.5	ND	ND	See Note 5
Flare Station ²	7/5/2016	47.3	36.2	2.8	13.3	ND	ND	See Note 5
Flare Station ²	8/9/2016	51.3	38.5	1	7.8	ND	ND	See Note 5
Flare Station ²	9/7/2016	49.2	37.6	2	10.3	ND	ND	See Note 5
Flare Station	10/4/2016	46.1	35.8	2.3	14.9	ND	ND	See Note 5

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 Envirovision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envirovision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of NQ EP14 A (or 1) and NQ EP14 B (or 2), located in the North Quarry.

ND = Analyte not detected in sample.

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

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
South Quarry								
GEW-010	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-010	9/6/2016	56	41	ND	ND	0.2	ND	
GEW-022R	5/10/2016	0.4	56	3.4	12	26	4,000	See Note 3
GEW-022R	9/14/2016	0.02	0.1	22	78	ND	ND	See Note 3
GEW-028R	5/10/2016	0.1	45	4.6	17	31	3,800	See Note 4
GEW-028R	7/14/2016	0.2	50	2.5	9.2	33	3,800	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-038	9/6/2016	0.8	58	2.1	7.4	30	2,800	See Note 4
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-039	9/6/2016	43	55	ND	ND	0.2	ND	
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-056R	9/6/2016	20	47	ND	22	10	430	
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-058A	9/14/2016	22	45	1.9	6.7	23	1,400	See Note 3
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-059R	9/14/2016	4.2	45	3.1	11	36	1,400	See Note 4
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-082R	9/14/2016	4.7	50	ND	5.6	37	1,700	
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-090	9/14/2016	14	46	ND	5.6	31	1,500	
GEW-102	5/9/2016	2.4	54	1.7	6	33	1,300	See Note 3
GEW-102	9/13/2016	5	59	ND	ND	30	980	
GEW-107	5/10/2016	0.4	60	ND	3.8	33	3,000	
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-109	9/6/2016	20	52	ND	9.7	16	610	
GEW-110	5/12/2016	1	12	16	67	4.6	340	See Note 4
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

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-110	8/10/2016	1.5	10.8	17.5	64.3	5.8	380	See Note 4
GEW-110	9/6/2016	1.1	4.9	20	73	1.5	120	See Note 4
GEW-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-117	9/14/2016	16	55	1.9	20	5.9	290	See Note 3
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-118	9/14/2016	1.8	51	3	13	30	1,400	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-120	9/13/2016	15	52	3	24	5.6	280	See Note 3
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-121	9/13/2016	8.2	52	2.4	11	25	1,600	See Note 3
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-122	9/13/2016	16	53	ND	ND	27	2,000	
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-123	9/13/2016	21	58	2.7	9.8	7.5	770	See Note 3
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-124	9/13/2016	9	60	ND	5.4	22	2,100	
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-125	9/13/2016	0.9	59	ND	ND	35	2,700	
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-126	9/13/2016	12	48	2.7	11	24	2,500	See Note 3
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-127	9/13/2016	3.9	67	ND	ND	24	3,400	
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-128	9/12/2016	5	47	7	25	16	1,800	See Note 4
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-129	9/12/2016	1.6	63	ND	ND	30	3,000	
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-130	9/13/2016	6.3	52	4.4	17	18	2,400	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-131	9/14/2016	0.3	52	ND	ND	43	3,200	
GEW-132	5/11/2016	8.7	45	4.3	29	12	880	See Note 4
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-133	9/13/2016	3	57	2.7	9.5	27	2,000	See Note 3
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-134	9/13/2016	7.4	38	4.9	47	2.2	340	See Note 3
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-135	9/13/2016	3.4	48	3.2	11	33	1,700	See Note 3

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-137	9/13/2016	38	41	ND	19	0.1	ND	
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
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-139	9/13/2016	5.5	56	1.9	8.5	26	2,600	See Note 4
GEW-140	5/12/2016	7.6	39	6.8	29	17	1,600	See Note 4
GEW-140	9/13/2016	0.3	56	ND	3.9	36	3,200	
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-141	9/13/2016	0.2	60	ND	ND	35	4,100	
GEW-142	9/13/2016	0.03	2	21	76	0.5	98	See Note 3
GEW-143	5/18/2016	0.2	37	7.3	27	28	2,800	See Note 4
GEW-143	9/14/2016	0.01	1	22	77	0.4	65	See Note 3
GEW-144	5/18/2016	0.7	51	3.3	12	31	2,900	See Note 4
GEW-144	9/14/2016	ND	0.04	22	78	ND	ND	See Note 3
GEW-145	5/18/2016	1.3	54	ND	4.6	37	2,900	
GEW-145	9/13/2016	1.6	53	2.1	7.4	33	2,100	See Note 4
GEW-146	5/12/2016	2.8	14	13	69	0.6	97	See Note 4
GEW-146	9/12/2016	6.4	27	6.1	58	2	120	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-147	9/13/2016	11	48	2.9	10	27	1,400	See Note 3
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-152	9/14/2016	0.1	0.4	22	78	0.1	ND	See Note 3
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-153	9/14/2016	20	30	6.5	34	8.5	280	See Note 3
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-157	9/14/2016	9.8	52	2.3	8.3	27	1,900	See Note 3
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-159	9/14/2016	22	50	ND	25	2	91	
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-160	9/12/2016	4.1	56	ND	5.8	31	2,100	
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-161	9/12/2016	0.5	51	2.1	7.4	37	2,500	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-162	9/12/2016	7.1	61	1.9	6.9	22	1,600	See Note 3
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-164	9/13/2016	3.8	70	ND	5.3	18	2,400	
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-165	9/13/2016	1.3	66	ND	3.4	26	3,200	
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-166	9/13/2016	0.3	60	ND	ND	35	3,500	
GEW-167	5/11/2016	4.2	35	7.9	34	18	1,600	See Note 4
GEW-167	7/13/2016	5.3	38	5.4	34	17	1,300	See Note 4
GEW-167	9/14/2016	5	36	6.2	35	17	1,300	See Note 4
GEW-168	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-168	9/13/2016	3.1	61	ND	3.8	29	2,900	
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-169	9/13/2016	5.5	61	2.1	7.7	22	2,900	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-170	9/13/2016	7.5	59	2.6	11	18	2,600	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-171	9/13/2016	4.1	42	7.5	27	18	1,700	See Note 3
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-172	9/13/2016	5.3	55	ND	3.2	34	2,600	
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-174	9/13/2016	5.5	34	5.5	42	12	910	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-175	9/14/2016	ND	0.1	22	78	ND	ND	See Note 3
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	
GEW-176	9/14/2016	0.9	3.3	21	74	0.5	64	See Note 3
GEW-177	9/13/2016	1.2	63	ND	ND	31	3,900	
GIW-01	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-01	9/6/2016	3.2	63	1.9	10	20	2,100	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-02	9/6/2016	3.9	29	12	50	4.4	280	See Note 4
GIW-03	5/10/2016	0.5	58	3.1	11	26	3,300	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-03	6/6/2016	0.5	66	ND	ND	31	4,000	
GIW-03	7/11/2016	0.6	57	3.5	12	26	2,500	See Note 4
GIW-03	8/8/2016	0.7	60.7	2.3	8.2	26.8	2,600	See Note 4
GIW-03	9/6/2016	1	49	6.2	22	21	1,900	See Note 4
GIW-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-04	9/6/2016	0.7	56	2	6.9	34	2,400	See Note 4
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-05	9/12/2016	1.9	60	ND	ND	34	1,400	
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-06	9/6/2016	4.1	52	ND	19	23	740	
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-07	9/6/2016	1.4	15	18	64	2.4	190	See Note 4
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-08	9/6/2016	16	63	ND	18	1.8	220	
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-09	9/6/2016	2.2	16	12	67	2.3	150	See Note 4
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-10	9/6/2016	0.6	50	2.6	10	36	2,000	See Note 3
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-11	9/6/2016	6.9	61	1.9	11	18	1,900	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-12	9/6/2016	6.2	32	9.6	45	7	470	See Note 4
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	
GIW-13	9/6/2016	12	63	ND	5.9	17	1,000	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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	7/5/2016	9.5	41.2	6.5	29	12.1	1,100	See Note 7
Flare Station ²	8/9/2016	10.1	39.3	6.8	30.7	11.4	1,100	See Note 6
Flare Station ²	9/7/2016	8.7	39.4	6.9	31.9	11.4	940	See Note 6
Flare Station ²	10/4/2016	9.6	41.6	6.0	28.8	12.4	1,000	See Note 6

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 NQ EP14 A (or 1) and NQ EP14 B (or 2), located in the North Quarry. (6) Flare station gas concentration data is an average of Outlets 1 and 2 (A & B) or SQ OU 1 and OU 2, located in the South Quarry. (7) Flare station gas concentration based on data from Outlet B in the South Quarry.

ND = Analyte not detected in sample.

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

ATTACHMENT D-2
LAB ANALYSIS REPORTS

September 23, 2016

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H091501-01/98

Enclosed are results for sample(s) received 9/15/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 9/22/16.

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,

A handwritten signature in blue ink, appearing to read "M. Johnson".

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

Project No.: _____

Project Name: Bridgeton Landfill

Report To: Nick Bauer

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone & Fax: 314-683-3921

e-mail: Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD

TURNAROUND TIME		DELIVERABLES		PAGE: 1 OF 11	
Standard	☐ 48 hours	☐ EDD	☐	Condition upon receipt:	
Same Day	☐ 72 hours	☐ EDF	☐	Sealed Yes ☐ No ☐	
24 hours	☐ 96 hours	☐ Level 3	☐	Intact Yes ☐ No ☐	
Other:	5 day ☒	☐ Level 4	☐	Chilled _____ deg C	

BILLING

P.O. No.: PO4862452 588109 270

Bill to: Republic Services 412/114

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

ANALYSIS REQUEST

SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYP	MATRIX	PRESERVATION
9/6/2016	908	C	LFG	NA
9/6/2016	938	C	LFG	NA
9/6/2016	948	C	LFG	NA
9/6/2016	957	C	LFG	NA
9/6/2016	1008	C	LFG	NA
9/6/2016	1018	C	LFG	NA
9/6/2016	1029	C	LFG	NA
9/6/2016	1111	C	LFG	NA
9/6/2016	1123	C	LFG	NA

SAMPLE IDENTIFICATION

Canister ID	Canister Pressures ("hg)		Lab Receive
	Sample Start	Sample End	
A8073	-20.4	-5	-6
5929	-21	-5	-6
5921	-20.8	-5	-5
A7815	-20.9	-5	-6
A7808	-20.3	-5	-4.5
5322	-20.1	-5	-5
5825	-20.3	-5	-5
A7648	-20.5	-5	-3
5815	-21	-5	-5

LAB USE ONLY

Handwritten notes in blue ink: 4091501-01, -02, -03, -04, -05, -06, -07, -08, -09

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

SAMPLED BY: Ryan Ayers

RELINQUISHED BY: [Signature]

DATE RECEIVED BY: 9-14-16 1630

DATE RECEIVED BY: 9/15/16 0847

DATE RECEIVED BY: [Signature]

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

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

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

Rev. 03 - 5/7/09



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

Project No.:

Project Name:

Report To:

Company:

Street:

City/State/Zip:

Phone & Fax:

e-mail:

Bridgeton Landfill

Nick Bauer

Republic Services

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

314-683-3921

Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD

TURNAROUND TIME	DELIVERABLES	PAGE: 13 OF 11
Standard ☐ 48 hours ☐	EDD ☐	Condition upon receipt: ☒ Sealed ☐ Yes ☐ No ☐
Same Day ☐ 72 hours ☐	EDF ☐	Intact ☐ Yes ☐ No ☐
24 hours ☐ 96 hours ☐	Level 3 ☐	Chilled ☐ Yes ☐ No ☐
Other: ☐ 5 day ☐	Level 4 ☐	deg C _____

BILLING		ANALYSIS REQUEST	
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				PRESERVA-TION
	Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	
4091581-19	A7794	-20.5	-5	-4	9/7/2016	821	C	LFG	NA
-20	4657	-20.1	-5	-4	9/7/2016	847	C	LFG	NA
-21	A7798	-20.6	-5	-4	9/7/2016	904	C	LFG	NA
-22	4658	-20.5	-5	-4	9/7/2016	924	C	LFG	NA
-23	3128	-20.6	-5	-4	9/7/2016	940	C	LFG	NA
-24	A7803	-20.5	-5	-4	9/7/2016	1000	C	LFG	NA
-25	3837	-20.4	-5	-4.5	9/7/2016	1045	C	LFG	NA
-26	3162	-20.4	-5	-4	9/7/2016	1102	C	LFG	NA
-27	6144	-20.6	-5	-4	9/7/2016	1119	C	LFG	NA

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		DATE/TIME:	
COMPANY: Republic Services		DATE/TIME:	
SAMPLED BY: Ryan Ayers		DATE/TIME:	
RELINQUISHED BY: [Signature]		DATE/TIME: 9/15/16 0847	
RELINQUISHED BY: [Signature]		DATE/TIME: 9/15/16 0847	
RELINQUISHED BY: [Signature]		DATE/TIME: 9/15/16 0847	
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



AIR TECHNOLOGY
 Laboratories, Inc.

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

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

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

CHAIN OF CUSTODY RECORD
 TURNAROUND TIME
 Standard ☐ 48 hours
 Same Day ☐ 72 hours
 24 hours ☐ 96 hours
 Other: 5 day

DELIVERABLES
 EDD ☐
 EDF ☐
 Level 3 ☐
 Level 4 ☐

PAGE: 4 OF 11
 Condition upon receipt: 8D
 Sealed Yes ☐ No ☐
 Intact Yes ☐ No ☐
 Chilled _____ deg C

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			PRESERVATION				
Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYP	MATRIX	PRESERVATION				
5813	-21	-5	-4	9/7/2016	1140	C	LFG	NA	X			
A8064	-20.4	-5	-4	9/8/2016	803	C	LFG	NA	X			
A8072	-20.8	-5	-4	9/8/2016	823	C	LFG	NA	X			
3126	-20.4	-5	-0	9/8/2016	839	C	LFG	NA	X			
4644	-20.7	-5	-5.5	9/8/2016	855	C	LFG	NA	X			
4656	-20.1	-5	-5	9/8/2016	912	C	LFG	NA	X			
A8086	-20.6	-5	-5	9/8/2016	926	C	LFG	NA	X			
6158	-20.4	-5	-5	9/8/2016	943	C	LFG	NA	X			
A7761	-20.7	-5	-6	9/12/2016	1401	C	LFG	NA	X			

AUTHORIZATION TO PERFORM WORK:
 Dave Penoyer

COMPANY: Republic Services
 DATE/TIME:

SAMPLED BY: Ryan Ayers
 RELINQUISHED BY: [Signature]
 RELINQUISHED BY: [Signature]
 RELINQUISHED BY: [Signature]

DATE/TIME: 9-14-16 1630
 DATE/TIME: 9/15/16 0847
 DATE/TIME:

COMPANY: Republic Services
 DATE/TIME:

DATE/RECEIVED BY: [Signature]
 DATE/RECEIVED BY: [Signature]
 DATE/RECEIVED BY: [Signature]

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

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

 AIR TECHNOLOGY Laboratories, Inc.		CHAIN OF CUSTODY RECORD											
		TURNAROUND TIME Standard ☐ 48 hours ☐ 72 hours ☐ 96 hours ☐ 5 day Other: _____					DELIVERABLES EDD ☐ EDF ☐ Level 3 ☐ Level 4 ☐					PAGE: <u>15</u> OF <u>11</u>	
18501 E. Gale Ave., Suite 130 City of Industry, CA 91748 Ph: 626-964-4032 Fax: 626-964-5832		Project No.: _____ Project Name: _____ Report To: _____ Company: _____ Street: _____ City/State/Zip: _____ Phone & Fax: _____ e-mail: _____											
Bridgeton Landfill Nick Bauer Republic Services 13570 St. Charles Rock Rd. Bridgeton, MO 63044 314-683-3921 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				ANALYSIS REQUEST			
		Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX				
4091501-37		4648	-20.9	-5	-6	9/12/2016	1417	C	LFG	NA	X	D1946 + CO, H2	
-38		5308	-20.8	-5	-5	9/12/2016	9053	C	LFG	NA	X		
-39		3130	-20.6	-5	-5	9/12/2016	914	C	LFG	NA	X		
-40		5916	-18.7	-5	-5	9/12/2016	936	C	LFG	NA	X		
-41		5306	-21	-5	-5	9/12/2016	948	C	LFG	NA	X		
-42		A7646	-20.7	-5	-5	9/12/2016	1017	C	LFG	NA	X		
-43		5309	-20.7	-5	-5	9/12/2016	1027	C	LFG	NA	X		
-44		A7773	-20.8	-5	-4.5	9/12/2016	1038	C	LFG	NA	X		
-45		A7813	-20.3	-5	-5	9/12/2016	1048	C	LFG	NA	X		

COMMENTS	
AUTHORIZATION TO PERFORM WORK: Dave Penoyer SAMPLED BY: Ryan Ayers RELINQUISHED BY: <u>Ryan Ayers</u> 9-14-16 1630 RELINQUISHED BY: <u>Red</u> 9/15/16 0847 RELINQUISHED BY: _____ 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



AIR TECHNOLOGY
 Laboratories, Inc.

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

Project No.:
 Report Name:
 Report To:
 Company:
 Street:
 City/State/Zip:
 Phone & Fax:
 e-mail:

Bridgeton Landfill
 Nick Bauer
 Republic Services
 13570 St. Charles Rock Rd.
 Bridgeton, MO 63044
 314-683-3921
 Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD
 TURNAROUND TIME
 Standard ☐ 48 hours ☐ EDD ☐
 Same Day ☐ 72 hours ☐ EDF ☐
 24 hours ☐ 96 hours ☐ Level 3 ☐
 Other: ☐ 5 day ☐ Level 4 ☐

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

ANALYSIS REQUEST

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

SAMPLE IDENTIFICATION

LAB USE ONLY	Canister Pressures ("hg)			SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYP	MATRIX	PRESERVATION
	Canister ID	Sample Start	Sample End					
1091501-46	3440	-20.5	-5	9/12/2016	1058	C	LFG	NA
-47	A7670	-21	-5	9/12/2016	1140	C	LFG	NA
-48	A7805	-20.9	-5	9/12/2016	1323	C	LFG	NA
-49	3826	-20.6	-5	9/12/2016	1332	C	LFG	NA
-50	A7819	-20.3	-5	9/12/2016	1350	C	LFG	NA
-51	5818	-20.6	-5	9/12/2016	1446	C	LFG	NA
-52	6141	-20.3	-5	9/13/2016	820	C	LFG	NA
-53	5268	-20.4	-5	9/13/2016	839	C	LFG	NA
-54	5319	-20.1	-5	9/13/2016	852	C	LFG	NA

AUTHORIZATION TO PERFORM WORK:
 SAMPLED BY: Ryan Ayers
 RELINQUISHED BY: [Signature]
 RELINQUISHED BY: [Signature]
 RELINQUISHED BY: [Signature]

COMPANY: Republic Services
 DATE/TIME:

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

COMMENTS
 DATE/TIME:

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



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

Project No.:

Project Name:

Report To:

Company:

Street:

City/State/Zip:

Phone & Fax:

e-mail:

Bridgeton Landfill

Nick Bauer

Republic Services

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

314-683-3921

Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD

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

BILLING

P.O. No.: PO4862452

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

ANALYSIS REQUEST

D1946 + CO, H2

Canister Pressures ("hg)

LAB USE ONLY	Canister ID	Canister Pressures ("hg)			SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION
		Sample Start	Sample End	Lab Receive						
4091501-55	A7769	-20.3	-5	-6	GEW-134	9/13/2016	904	C	LFG	NA
-56	A8071	-20.4	-5	-6	GEW-133	9/13/2016	917	C	LFG	NA
-57	A8066	-20.8	-5	-5	GEW-120	9/13/2016	928	C	LFG	NA
-58	5305	-20.8	-5	-5	GEW-121	9/13/2016	1039	C	LFG	NA
-59	5928	-20.8	-5	-5	GEW-123	9/13/2016	1056	C	LFG	NA
-60	A7793	-20.7	-5	-4.5	GEW-164	9/13/2016	1126	C	LFG	NA
-61	A8099	-20.3	-5	-5	GEW-124	9/13/2016	1135	C	LFG	NA
-62	5320	-20.4	-5	-5	GEW-165	9/13/2016	1340	C	LFG	NA
-63	A7651	-20.4	-5	-5	GEW-166	9/13/2016	1355	C	LFG	NA

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME:
RELINQUISHED BY: [Signature]	DATE RECEIVED BY: 9-14-16 1630	DATE/TIME:
RELINQUISHED BY: [Signature]	DATE RECEIVED BY: 9/15/16 0847	DATE/TIME:
RELINQUISHED BY: [Signature]	DATE RECEIVED BY: [Signature]	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



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



AIR TECHNOLOGY

Laboratories, Inc.

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

Project No.: _____

Project Name: Bridgeton Landfill

Report To: Nick Bauer

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone & Fax: 314-683-3921

e-mail: Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD

TURNAROUND TIME		DELIVERABLES		PAGE: 11 OF 11	
Standard	☐ 48 hours	☐ EDD	☐	Condition upon receipt:	
Same Day	☐ 72 hours	☐ EDF	☐	Sealed Yes ☐ No ☐	
24 hours	☐ 96 hours	☐ Level 3	☐	Intact Yes ☐ No ☐	
Other:	5 day	☐ Level 4	☐	Chilled _____ deg C	

BILLING

P.O. No.: PO4862452

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

ANALYSIS REQUEST

SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION
9/13/2016	1142	C	LFG	NA
9/13/2016	1155	C	LFG	NA
9/13/2016	1430	C	LFG	NA
9/13/2016	1448	C	LFG	NA
9/13/2016	1507	C	LFG	NA
9/13/2016	1523	C	LFG	NA
9/13/2016	1611	C	LFG	NA
9/13/2016	1627	C	LFG	NA
9/13/2016	1650	C	LFG	NA

LAB USE ONLY

Canister ID	Canister Pressures ("hg)			SAMPLE IDENTIFICATION
	Sample Start	Sample End	Lab Receive	
A7776	-20.8	-5	-5	GEW-169
6137	-19.6	-5	-5	GEW-126
5313	-20.9	-5	-5	GEW-140
A7663	-20.8	-5	-5	GEW-174
A8068	-20.8	-5	-5	GEW-145
A8090	-20.7	-5	-5	GEW-102
A7762	-20.7	-5	-5	GEW-172
5831	-21	-5	-5	GEW-142
A8055	-20.6	-5	-5	GEW-171

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

SAMPLED BY: Ryan Ayers

RELINQUISHED BY: [Signature]

DATE RECEIVED BY: 9-14-16 1630

DATE RECEIVED BY: 9/15/16 0847

DATE RECEIVED BY: [Signature]

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

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

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

Rev. 03 - 5/7/09



AIR TECHNOLOGY
Laboratories, Inc.

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

Project No.: _____

Project Name: Bridgeton Landfill

Report To: Nick Bauer

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone & Fax: 314-683-3921

e-mail: Nbauer@republicservices.com

TURNAROUND TIME

Standard ☐ 48 hours ☐ EDD ☐ Condition upon receipt: ☒ Sealed ☐ Yes ☐ No ☐
Same Day ☐ 72 hours ☐ EDF ☐ Intact ☐ Yes ☐ No ☐
24 hours ☐ 96 hours ☐ Level 3 ☐ Chilled ☐ _____ deg C
Other: ☐ 5 day ☐ Level 4 ☐

DELIVERABLES

PAGE: 11 OF 11

CHAIN OF CUSTODY RECORD

ANALYSIS REQUEST

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/TYP	MATRIX	PRESERVATION	D1946 + CO, H2
	Canister ID	Sample Start	Sample End	Lab Receive							
1091501-82	A7792	-20.2	-5	-5	GEW-117	9/14/2016	859	C	LFG	NA	X
83	3839	-20	-5	-5	GEW-118	9/14/2016	911	C	LFG	NA	X
84	A8097	-20.1	-5	-6	GEW-82R	9/14/2016	936	C	LFG	NA	X
85	A7816	-20.6	-5	-6	GEW-90	9/14/2016	1030	C	LFG	NA	X
86	A7818	-20.5	-5	-6	GEW-59R	9/14/2016	1044	C	LFG	NA	X
87	5833	-20.3	-5	-5.5	GEW-58A	9/14/2016	1058	C	LFG	NA	X
88	6146	-20	-5	-6	GEW-159	9/14/2016	1317	C	LFG	NA	X
89	6160	-20.5	-5	-5	GEW-131	9/14/2016	1328	C	LFG	NA	X
90	A7665	-20.1	-5	-6	GEW-167	9/14/2016	1340	C	LFG	NA	X

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

SAMPLED BY: Ryan Ayers

RELINQUISHED BY: [Signature] 9-14-16 1630

RELINQUISHED BY: [Signature] 9/15/16 0847

RELINQUISHED BY: [Signature]

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

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

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



AIR TECHNOLOGY
Laboratories, Inc.

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

Project No.: _____

Project Name: Bridgeton Landfill

Report To: Nick Bauer

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone & Fax: 314-683-3921

e-mail: Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD

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

BILLING

P.O. No.: PO4862452

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

ANALYSIS REQUEST

SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYP	MATRIX	PRESERVATION
9/14/2016	928	C	LFG	NA
9/14/2016	956	C	LFG	NA
9/14/2016	1026	C	LFG	NA
9/14/2016	1043	C	LFG	NA
9/14/2016	1115	C	LFG	NA
9/14/2016	1131	C	LFG	NA
9/14/2016	1323	C	LFG	NA
9/14/2016	1345	C	LFG	NA

LAB USE ONLY

Canister ID	Canister Pressures ("hg)			SAMPLE IDENTIFICATION
	Sample Start	Sample End	Lab Receive	
A7764	-20.9	-5	-5	GEW-143
5829	-20.3	-5	-5	GEW-157
A8065	-21.1	-5	-5	GEW-176
5934	-21.1	-5	-5	GEW-175
A7807	-20.5	-5	-5	GEW-152
3834	-20.6	-5	-5.5	GEW-153
A7770	-20.4	-5	-6	GEW-22R
5905	-20.6	-5	-6	GEW-144

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

SAMPLED BY: Ryan Ayers

RELINQUISHED BY: Ryan Ayers

DATE RECEIVED BY: 9-14-16 1630

DATE RECEIVED BY: 9/15/16 0847

DATE RECEIVED BY: 9/15/16 0847

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

Page 2 of 35
 H091501

ASTM D1946

Lab No.:	H091501-01	H091501-02	H091501-03	H091501-04				
Client Sample I.D.:	GIW-6	GIW-7	GIW-8	GEW-38				
Date/Time Sampled:	9/6/16 9:08	9/6/16 9:38	9/6/16 9:48	9/6/16 9:57				
Date/Time Analyzed:	9/16/16 15:04	9/16/16 15:19	9/16/16 15:33	9/16/16 15:48				
QC Batch No.:	160916GC8A1	160916GC8A1	160916GC8A1	160916GC8A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.2	3.4				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	23	3.4	2.4	d 0.034	1.8	d 0.032	30	3.4
Carbon Dioxide	52	0.034	15	0.034	63	0.032	58	0.034
Oxygen/Argon	ND	1.7	18	1.7	ND	1.6	2.1	1.7
Nitrogen	19	3.4	64	3.4	18	3.2	7.4	3.4
Methane	4.1	0.0034	1.4	0.0034	16	0.0032	0.84	0.0034
Carbon Monoxide	0.074	0.0034	0.019	0.0034	0.022	0.0032	0.28	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch 160921GC8A1

Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
Operations Manager

Date _____

9/22/16

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

Page 3 of 35
 H091501

ASTM D1946

Lab No.:	H091501-05	H091501-06	H091501-07	H091501-08					
Client Sample I.D.:	GEW-109	GEW-39	GIW-9	GIW-10					
Date/Time Sampled:	9/6/16 10:08	9/6/16 10:18	9/6/16 10:29	9/6/16 11:11					
Date/Time Analyzed:	9/16/16 16:02	9/16/16 16:17	9/16/16 16:32	9/16/16 16:46					
QC Batch No.:	160916GC8A1	160916GC8A1	160916GC8A1	160916GC8A1					
Analyst Initials:	AS	AS	AS	AS					
Dilution Factor:	3.1	3.2	3.2	2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	
	Hydrogen	16	3.1	0.18	0.032	2.3	0.032	36	2.8
	Carbon Dioxide	52	0.031	55	0.032	16	0.032	50	0.028
	Oxygen/Argon	ND	1.5	ND	1.6	12	1.6	2.6	1.4
	Nitrogen	9.7	3.1	ND	3.2	67	3.2	10	2.8
	Methane	20	0.0031	43	0.0032	2.2	0.0032	0.62	0.0028
	Carbon Monoxide	0.061	0.0031	ND	0.0032	0.015	0.0032	0.20	0.0028

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch 160921GC8A1

Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
 Operations Manager

Date _____

9/22/16

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H091501-09	H091501-10	H091501-11	H091501-12				
Client Sample I.D.:	GIW-11	GIW-12	GIW-13	GIW-1				
Date/Time Sampled:	9/6/16 11:23	9/6/16 11:33	9/6/16 11:45	9/6/16 13:19				
Date/Time Analyzed:	9/16/16 17:01	9/16/16 17:16	9/16/16 17:30	9/16/16 17:45				
QC Batch No.:	160916GC8A1	160916GC8A1	160916GC8A1	160916GC8A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.2	3.2	3.2	3.0				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	18	3.2	7.0	3.2	17	3.2	20	3.0
Carbon Dioxide	61	0.032	32	0.032	63	0.032	63	0.030
Oxygen/Argon	1.9	1.6	9.6	1.6	ND	1.6	1.9	1.5
Nitrogen	11	3.2	45	3.2	5.9	3.2	10	3.0
Methane	6.9	0.0032	6.2	0.0032	12	0.0032	3.2	0.0030
Carbon Monoxide	0.19	0.0032	0.047	0.0032	0.10	0.0032	0.21	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson
Mark Johnson
Operations Manager

Date 9/22/16

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-13	H091501-14	H091501-15	H091501-16				
Client Sample I.D.:	GIW-2	GIW-3	GIW-4	GEW-56R				
Date/Time Sampled:	9/6/16 13:30	9/6/16 13:42	9/6/16 13:54	9/6/16 14:06				
Date/Time Analyzed:	9/16/16 17:59	9/17/16 11:12	9/17/16 11:27	9/17/16 11:42				
QC Batch No.:	160916GC8A1	160917GC8A1	160917GC8A1	160917GC8A1				
Analyst Initials:	AS	MJ	MJ	MJ				
Dilution Factor:	3.0	3.0	3.1	3.2				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	4.4	3.0	21	3.0	34	3.1	10	3.2
Carbon Dioxide	29	0.030	49	0.030	56	0.031	47	0.032
Oxygen/Argon	12	1.5	6.2	1.5	2.0	1.5	ND	1.6
Nitrogen	50	3.0	22	3.0	6.9	3.1	22	3.2
Methane	3.9	0.0030	0.97	0.0030	0.74	0.0031	20	0.0032
Carbon Monoxide	0.028	0.0030	0.19	0.0030	0.24	0.0031	0.043	0.0032

Results normalized including non-methane hydrocarbons

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 Mark Johnson
 Operations Manager

Date 9/22/16

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Attn: Nick Bauer
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Project No.: NA
Date Received: 09/15/16
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Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-17		H091501-18		H091501-19		H091501-20	
Client Sample I.D.:	GEW-110		GEW-10		GEW-40		GEW-41R	
Date/Time Sampled:	9/6/16 14:18		9/6/16 14:28		9/7/16 8:21		9/7/16 8:47	
Date/Time Analyzed:	9/17/16 11:56		9/17/16 12:11		9/17/16 12:26		9/17/16 12:40	
QC Batch No.:	160917GC8A1		160917GC8A1		160917GC8A1		160917GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.1		3.0		3.0		3.0	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
	Hydrogen	1.5 d 0.031	0.24 d 0.030	ND d 0.030	ND d 0.030	ND d 0.030		
	Carbon Dioxide	4.9 0.031	41 0.030	40 0.030	37 0.030			
	Oxygen/Argon	20 1.5	ND 1.5	ND 1.5	2.1 1.5			
	Nitrogen	73 3.1	ND 3.0	ND 3.0	8.1 3.0			
	Methane	1.1 0.0031	56 0.0030	57 0.0030	53 0.0030			
	Carbon Monoxide	0.012 0.0031	ND 0.0030	ND 0.0030	ND 0.0030			

Results normalized including non-methane hydrocarbons

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RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch 160921GC8A1

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-21		H091501-22		H091501-23		H091501-24	
Client Sample I.D.:	GEW-42R		GEW-43R		GEW-44		GEW-45R	
Date/Time Sampled:	9/7/16 9:04		9/7/16 9:24		9/7/16 9:40		9/7/16 10:00	
Date/Time Analyzed:	9/17/16 12:55		9/17/16 13:10		9/17/16 13:24		9/17/16 13:39	
QC Batch No.:	160917GC8A1		160917GC8A1		160917GC8A1		160917GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
	Hydrogen	ND d 0.030	0.22 d 0.030	ND d 0.030	ND d 0.030	ND d 0.030	ND d 0.030	
	Carbon Dioxide	42 0.030	42 0.030	40 0.030	43 0.030			
	Oxygen/Argon	ND 1.5	ND 1.5	ND 1.5	ND 1.5			
	Nitrogen	ND 3.0	3.5 3.0	ND 3.0	ND 3.0			
	Methane	55 0.0030	54 0.0030	57 0.0030	55 0.0030			
	Carbon Monoxide	ND 0.0030	ND 0.0030	ND 0.0030	ND 0.0030			

Results normalized including non-methane hydrocarbons

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RL = Reporting Limit

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Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

9/22/16

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Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-25		H091501-26		H091501-27		H091501-28	
Client Sample I.D.:	GEW-46R		GEW-2		GEW-3		GEW-4	
Date/Time Sampled:	9/7/16 10:45		9/7/16 11:02		9/7/16 11:19		9/7/16 11:40	
Date/Time Analyzed:	9/17/16 13:53		9/17/16 14:08		9/17/16 14:23		9/17/16 14:38	
QC Batch No.:	160917GC8A1		160917GC8A1		160917GC8A1		160917GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.1		3.0		3.0		3.0	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	0.074 d	0.031	ND d	0.030	0.11 d	0.030	0.088 d	0.030
Carbon Dioxide	41	0.031	40	0.030	40	0.030	41	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	3.1	3.1	4.1	3.0	5.8	3.0	4.3	3.0
Methane	55	0.0031	55	0.0030	53	0.0030	54	0.0030
Carbon Monoxide	ND	0.0031	ND	0.0030	ND	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
 Operations Manager

Date _____

9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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ASTM D1946

Lab No.:	H091501-29		H091501-30		H091501-31		H091501-32	
Client Sample I.D.:	GEW-47R		GEW-5		GEW-48		GEW-6	
Date/Time Sampled:	9/8/16 8:03		9/8/16 8:23		9/8/16 8:39		9/8/16 8:55	
Date/Time Analyzed:	9/17/16 14:52		9/19/16 10:20		9/19/16 10:34		9/19/16 10:49	
QC Batch No.:	160917GC8A1		160919GC8A1		160919GC8A1		160919GC8A1	
Analyst Initials:	MJ		AS		AS		AS	
Dilution Factor:	3.0		3.0		2.4		3.3	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	0.057 d	0.030	ND d	0.030	ND d	0.024	ND d	0.033
Carbon Dioxide	39	0.030	36	0.030	8.1	0.024	39	0.033
Oxygen/Argon	ND	1.5	ND	1.5	18	1.2	ND	1.6
Nitrogen	10	3.0	12	3.0	63	2.4	4.5	3.3
Methane	50	0.0030	51	0.0030	12	0.0024	56	0.0033
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0024	ND	0.0033

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 7/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-33		H091501-34		H091501-35		H091501-36	
Client Sample I.D.:	GEW-49		GEW-51		GEW-53		GEW-128	
Date/Time Sampled:	9/8/16 9:12		9/8/16 9:26		9/8/16 9:43		9/12/16 14:01	
Date/Time Analyzed:	9/19/16 11:03		9/19/16 11:30		9/19/16 11:45		9/19/16 11:59	
QC Batch No.:	160919GC8A1		160919GC8A1		160919GC8A1		160919GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.4	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
	Hydrogen	ND d 0.032	0.98 d 0.032	4.6	3.2	16	3.4	
	Carbon Dioxide	38 0.032	41 0.032	43	0.032	47	0.034	
	Oxygen/Argon	ND 1.6	ND 1.6	ND	1.6	7.0	1.7	
	Nitrogen	9.1 3.2	ND 3.2	ND	3.2	25	3.4	
	Methane	52 0.0032	54 0.0032	49	0.0032	5.0	0.0034	
	Carbon Monoxide	ND 0.0032	ND 0.0032	0.0061	0.0032	0.18	0.0034	

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
 Operations Manager

Date _____

9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-37	H091501-38	H091501-39	H091501-40					
Client Sample I.D.:	GEW-129	GEW-54	GEW-55	GEW-2S					
Date/Time Sampled:	9/12/16 14:17	9/12/16 9:03	9/12/16 9:14	9/12/16 9:36					
Date/Time Analyzed:	9/19/16 12:14	9/19/16 12:28	9/19/16 12:43	9/19/16 12:58					
QC Batch No.:	160919GC8A1	160919GC8A1	160919GC8A1	160919GC8A1					
Analyst Initials:	AS	AS	AS	AS					
Dilution Factor:	3.4	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	30	3.4	2.2 d	0.032	1.6 d	0.032	ND d	0.032
	Carbon Dioxide	63	0.034	40	0.032	42	0.032	33	0.032
	Oxygen/Argon	ND	1.7	ND	1.6	ND	1.6	4.0	1.6
	Nitrogen	ND	3.4	5.6	3.2	ND	3.2	14	3.2
	Methane	1.6	0.0034	50	0.0032	53	0.0032	49	0.0032
	Carbon Monoxide	0.30	0.0034	ND	0.0032	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
Operations Manager

Date _____

9/22/16

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-41		H091501-42		H091501-43		H091501-44	
Client Sample I.D.:	GEW-1A		GEW-50		GEW-52		GEW-7	
Date/Time Sampled:	9/12/16 9:48		9/12/16 10:17		9/12/16 10:27		9/12/16 10:38	
Date/Time Analyzed:	9/19/16 13:12		9/19/16 13:27		9/19/16 13:42		9/19/16 13:56	
QC Batch No.:	160919GC8A1		160919GC8A1		160919GC8A1		160919GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.1	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
	Hydrogen	ND d 0.032	0.069 d 0.032	0.033 d 0.032	ND d 0.031			
	Carbon Dioxide	2.3 0.032	39 0.032	40 0.032	38 0.031			
	Oxygen/Argon	21 1.6	ND 1.6	ND 1.6	1.8 1.5			
	Nitrogen	74 3.2	3.4 3.2	4.5 3.2	6.2 3.1			
	Methane	2.9 0.0032	56 0.0032	54 0.0032	54 0.0031			
	Carbon Monoxide	0.0043 0.0032	ND 0.0032	ND 0.0032	ND 0.0031			

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: Mark Johnson

Mark Johnson
 Operations Manager

Date 9/22/16

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-45		H091501-46		H091501-47		H091501-48	
Client Sample I.D.:	GEW-8		GEW-9		GIW-5		GEW-160	
Date/Time Sampled:	9/12/16 10:48		9/12/16 10:58		9/12/16 11:40		9/12/16 13:23	
Date/Time Analyzed:	9/19/16 14:11		9/19/16 16:10		9/19/16 16:24		9/19/16 16:39	
QC Batch No.:	160919GC8A1		160919GC8A2		160919GC8A2		160919GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.3		3.2		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	1.1 d	0.032	0.52 d	0.033	34	3.2	31	3.4
Carbon Dioxide	42	0.032	41	0.033	60	0.032	56	0.034
Oxygen/Argon	1.8	1.6	ND	1.6	ND	1.6	ND	1.7
Nitrogen	6.1	3.2	6.4	3.3	ND	3.2	5.8	3.4
Methane	49	0.0032	51	0.0033	1.9	0.0032	4.1	0.0034
Carbon Monoxide	ND	0.0032	ND	0.0033	0.14	0.0032	0.21	0.0034

Results normalized including non-methane hydrocarbons

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d = Reported from a secondary analysis. QC Batch 160921GC8A2

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H091501-49	H091501-50	H091501-51	H091501-52				
Client Sample I.D.:	GEW-161	GEW-162	GEW-146	GEW-137				
Date/Time Sampled:	9/12/16 13:32	9/12/16 13:50	9/12/16 14:46	9/13/16 8:20				
Date/Time Analyzed:	9/19/16 16:53	9/19/16 17:08	9/19/16 17:23	9/19/16 17:37				
QC Batch No.:	160919GC8A2	160919GC8A2	160919GC8A2	160919GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.4	3.2				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	37	3.4	22	3.4	2.0	d 0.034	0.12	d 0.320
Carbon Dioxide	51	0.034	61	0.034	27	0.034	41	0.032
Oxygen/Argon	2.1	1.7	1.9	1.7	6.1	1.7	ND	1.6
Nitrogen	7.4	3.4	6.9	3.4	58	3.4	19	3.2
Methane	0.48	0.0034	7.1	0.0034	6.4	0.0034	38	0.0032
Carbon Monoxide	0.25	0.0034	0.16	0.0034	0.012	0.0034	ND	0.0032

Results normalized including non-methane hydrocarbons

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RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch 160921GC8A2, 3

Reviewed/Approved By: _____


 Mark Johnson
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Date 9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-53		H091501-54		H091501-55		H091501-56	
Client Sample I.D.:	GEW-147		GEW-135		GEW-134		GEW-133	
Date/Time Sampled:	9/13/16 8:39		9/13/16 8:52		9/13/16 9:04		9/13/16 9:17	
Date/Time Analyzed:	9/19/16 17:52		9/19/16 18:07		9/19/16 18:21		9/19/16 18:36	
QC Batch No.:	160919GC8A2		160919GC8A2		160919GC8A2		160919GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.4		3.4	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	27	3.2	33	3.2	2.2 d	0.034	27	3.4
Carbon Dioxide	48	0.032	48	0.032	38	0.034	57	0.034
Oxygen/Argon	2.9	1.6	3.2	1.6	4.9	1.7	2.7	1.7
Nitrogen	10	3.2	11	3.2	47	3.4	9.5	3.4
Methane	11	0.0032	3.4	0.0032	7.4	0.0034	3.0	0.0034
Carbon Monoxide	0.14	0.0032	0.17	0.0032	0.034	0.0034	0.20	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

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Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-57		H091501-58		H091501-59		H091501-60	
Client Sample I.D.:	GEW-120		GEW-121		GEW-123		GEW-164	
Date/Time Sampled:	9/13/16 9:28		9/13/16 10:39		9/13/16 10:56		9/13/16 11:26	
Date/Time Analyzed:	9/19/16 18:50		9/19/16 19:05		9/19/16 19:20		9/19/16 19:34	
QC Batch No.:	160919GC8A2		160919GC8A2		160919GC8A2		160919GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.1	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	5.6	3.2	25	3.2	7.5	3.2	18	3.1
Carbon Dioxide	52	0.032	52	0.032	58	0.032	70	0.031
Oxygen/Argon	3.0	1.6	2.4	1.6	2.7	1.6	ND	1.5
Nitrogen	24	3.2	11	3.2	9.8	3.2	5.3	3.1
Methane	15	0.0032	8.2	0.0032	21	0.0032	3.8	0.0031
Carbon Monoxide	0.028	0.0032	0.16	0.0032	0.077	0.0032	0.24	0.0031

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 9/22/16

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-61	H091501-62	H091501-63	H091501-64				
Client Sample I.D.:	GEW-124	GEW-165	GEW-166	GEW-122				
Date/Time Sampled:	9/13/16 11:35	9/13/16 13:40	9/13/16 13:55	9/13/16 14:07				
Date/Time Analyzed:	9/19/16 19:49	9/19/16 20:04	9/19/16 20:19	9/19/16 20:33				
QC Batch No.:	160919GC8A2	160919GC8A2	160919GC8A2	160919GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.2	3.2	3.2	3.2				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	22	3.2	26	3.2	35	3.2	27	3.2
Carbon Dioxide	60	0.032	66	0.032	60	0.032	53	0.032
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	ND	1.6
Nitrogen	5.4	3.2	3.4	3.2	ND	3.2	ND	3.2
Methane	9.0	0.0032	1.3	0.0032	0.26	0.0032	16	0.0032
Carbon Monoxide	0.21	0.0032	0.32	0.0032	0.35	0.0032	0.20	0.0032

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-65	H091501-66	H091501-67	H091501-68				
Client Sample I.D.:	GEW-127	GEW-170	GEW-177	GEW-141				
Date/Time Sampled:	9/13/16 9:23	9/13/16 9:36	9/13/16 9:51	9/13/16 10:12				
Date/Time Analyzed:	9/19/16 20:48	9/20/16 10:26	9/20/16 10:40	9/20/16 10:55				
QC Batch No.:	160919GC8A2	160920GC8A1	160920GC8A1	160920GC8A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.2	3.2	3.2	3.2				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	24	3.2	18	3.2	31	3.2	35	3.2
Carbon Dioxide	67	0.032	59	0.032	63	0.032	60	0.032
Oxygen/Argon	ND	1.6	2.6	1.6	ND	1.6	ND	1.6
Nitrogen	ND	3.2	11	3.2	ND	3.2	ND	3.2
Methane	3.9	0.0032	7.5	0.0032	1.2	0.0032	0.22	0.0032
Carbon Monoxide	0.34	0.0032	0.26	0.0032	0.39	0.0032	0.41	0.0032

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H091501-69	H091501-70	H091501-71	H091501-72					
Client Sample I.D.:	GEW-130	GEW-139	GEW-125	GEW-168					
Date/Time Sampled:	9/13/16 10:30	9/13/16 10:47	9/13/16 11:13	9/13/16 11:30					
Date/Time Analyzed:	9/20/16 11:10	9/20/16 11:24	9/20/16 11:39	9/20/16 11:53					
QC Batch No.:	160920GC8A1	160920GC8A1	160920GC8A1	160920GC8A1					
Analyst Initials:	AS	AS	AS	AS					
Dilution Factor:	3.1	3.1	3.2	3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	
	Hydrogen	18	3.1	26	3.1	35	3.2	29	3.2
	Carbon Dioxide	52	0.031	56	0.031	59	0.032	61	0.032
	Oxygen/Argon	4.4	1.5	1.9	1.5	ND	1.6	ND	1.6
	Nitrogen	17	3.1	8.5	3.1	ND	3.2	3.8	3.2
	Methane	6.3	0.0031	5.5	0.0031	0.94	0.0032	3.1	0.0032
	Carbon Monoxide	0.24	0.0031	0.26	0.0031	0.27	0.0032	0.29	0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____

Mark Johnson
Operations Manager

Date _____

9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-73		H091501-74		H091501-75		H091501-76	
Client Sample I.D.:	GEW-169		GEW-126		GEW-140		GEW-174	
Date/Time Sampled:	9/13/16 11:42		9/13/16 11:55		9/13/16 14:30		9/13/16 14:48	
Date/Time Analyzed:	9/20/16 12:08		9/20/16 12:23		9/20/16 12:37		9/20/16 12:52	
QC Batch No.:	160920GC8A1		160920GC8A1		160920GC8A1		160920GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	22	3.2	24	3.2	36	3.2	12	3.2
Carbon Dioxide	61	0.032	48	0.032	56	0.032	34	0.032
Oxygen/Argon	2.1	1.6	2.7	1.6	ND	1.6	5.5	1.6
Nitrogen	7.7	3.2	11	3.2	3.9	3.2	42	3.2
Methane	5.5	0.0032	12	0.0032	0.28	0.0032	5.5	0.0032
Carbon Monoxide	0.29	0.0032	0.25	0.0032	0.32	0.0032	0.091	0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date 9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H091501-77	H091501-78	H091501-79	H091501-80				
Client Sample I.D.:	GEW-145	GEW-102	GEW-172	GEW-142				
Date/Time Sampled:	9/13/16 15:07	9/13/16 15:23	9/13/16 16:11	9/13/16 16:27				
Date/Time Analyzed:	9/20/16 13:07	9/20/16 13:21	9/20/16 13:36	9/20/16 15:48				
QC Batch No.:	160920GC8A1	160920GC8A1	160920GC8A1	160920GC8A2				
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	33	3.2	30	3.2	34	3.2	0.53 d	0.032
Carbon Dioxide	53	0.032	59	0.032	55	0.032	2.0	0.032
Oxygen/Argon	2.1	1.6	ND	1.6	ND	1.6	21	1.6
Nitrogen	7.4	3.2	ND	3.2	3.2	3.2	76	3.2
Methane	1.6	0.0032	5.0	0.0032	5.3	0.0032	0.028	0.0032
Carbon Monoxide	0.21	0.0032	0.098	0.0032	0.26	0.0032	0.0098	0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

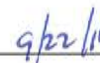
RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch 160921GC8A3

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date _____



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: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

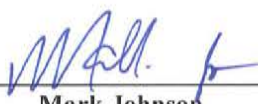
Lab No.:	H091501-81	H091501-82	H091501-83	H091501-84				
Client Sample I.D.:	GEW-171	GEW-117	GEW-118	GEW-82R				
Date/Time Sampled:	9/13/16 16:50	9/14/16 8:59	9/14/16 9:11	9/14/16 9:36				
Date/Time Analyzed:	9/20/16 16:02	9/20/16 16:17	9/20/16 16:31	9/20/16 16:46				
QC Batch No.:	160920GC8A2	160920GC8A2	160920GC8A2	160920GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.2	3.2	3.2	3.4				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	18	3.2	5.9	3.2	30	3.2	37	3.4
Carbon Dioxide	42	0.032	55	0.032	51	0.032	50	0.034
Oxygen/Argon	7.5	1.6	1.9	1.6	3.0	1.6	ND	1.7
Nitrogen	27	3.2	20	3.2	13	3.2	5.6	3.4
Methane	4.1	0.0032	16	0.0032	1.8	0.0032	4.7	0.0034
Carbon Monoxide	0.17	0.0032	0.029	0.0032	0.14	0.0032	0.17	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: _____


Mark Johnson
Operations Manager

Date 9/22/16

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: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H091501-85	H091501-86	H091501-87	H091501-88				
Client Sample I.D.:	GEW-90	GEW-59R	GEW-58A	GEW-159				
Date/Time Sampled:	9/14/16 10:30	9/14/16 10:44	9/14/16 10:58	9/14/16 13:17				
Date/Time Analyzed:	9/20/16 17:01	9/20/16 17:15	9/20/16 17:30	9/20/16 17:45				
QC Batch No.:	160920GC8A2	160920GC8A2	160920GC8A2	160920GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.3	3.4				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	31	3.4	36	3.4	23	3.3	2.0 d	0.034
Carbon Dioxide	46	0.034	45	0.034	45	0.033	50	0.034
Oxygen/Argon	ND	1.7	3.1	1.7	1.9	1.6	ND	1.7
Nitrogen	5.6	3.4	11	3.4	6.7	3.3	25	3.4
Methane	14	0.0034	4.2	0.0034	22	0.0033	22	0.0034
Carbon Monoxide	0.15	0.0034	0.14	0.0034	0.14	0.0033	0.0091	0.0034

Results normalized including non-methane hydrocarbons

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RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch 160921GC8A3

Reviewed/Approved By: _____

Mark Johnson

Mark Johnson
Operations Manager

Date _____

9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H091501-89	H091501-90	H091501-91	H091501-92				
Client Sample I.D.:	GEW-131	GEW-167	GEW-143	GEW-157				
Date/Time Sampled:	9/14/16 13:28	9/14/16 13:40	9/14/16 9:28	9/14/16 9:56				
Date/Time Analyzed:	9/20/16 17:59	9/20/16 18:14	9/20/16 18:28	9/20/16 18:43				
QC Batch No.:	160920GC8A2	160920GC8A2	160920GC8A2	160920GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.2	3.4	3.2	3.2				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	43	3.2	17	3.4	0.39 d	0.032	27	3.2
Carbon Dioxide	52	0.032	36	0.034	1.0	0.032	52	0.032
Oxygen/Argon	ND	1.6	6.2	1.7	22	1.6	2.3	1.6
Nitrogen	ND	3.2	35	3.4	77	3.2	8.3	3.2
Methane	0.30	0.0032	5.0	0.0034	0.0055	0.0032	9.8	0.0032
Carbon Monoxide	0.32	0.0032	0.13	0.0034	0.0065	0.0032	0.19	0.0032

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date _____

9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-93		H091501-94		H091501-95		H091501-96	
Client Sample I.D.:	GEW-176		GEW-175		GEW-152		GEW-153	
Date/Time Sampled:	9/14/16 10:26		9/14/16 10:43		9/14/16 11:15		9/14/16 11:31	
Date/Time Analyzed:	9/20/16 18:58		9/20/16 19:12		9/20/16 19:27		9/20/16 19:42	
QC Batch No.:	160920GC8A2		160920GC8A2		160920GC8A2		160920GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.3	
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	0.49 d 0.032	ND d 0.032	0.13 d 0.032	8.5 3.3			
	Carbon Dioxide	3.3 0.032	0.061 0.032	0.43 0.032	30 0.033			
	Oxygen/Argon	21 1.6	22 1.6	22 1.6	6.5 1.6			
	Nitrogen	74 3.2	78 3.2	78 3.2	34 3.3			
	Methane	0.87 0.0032	ND 0.0032	0.14 0.0032	20 0.0033			
	Carbon Monoxide	0.0064 0.0032	ND 0.0032	ND 0.0032	0.028 0.0033			

Results normalized including non-methane hydrocarbons

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d = Reported from a secondary analysis. QC Batch 160921GC8A3

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 9/22/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 09/15/16
Matrix: Air
Reporting Units: % v/v

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 H091501

ASTM D1946

Lab No.:	H091501-97		H091501-98					
Client Sample I.D.:	GEW-22R		GEW-144					
Date/Time Sampled:	9/14/16 13:23		9/14/16 13:45					
Date/Time Analyzed:	9/20/16 19:56		9/20/16 20:11					
QC Batch No.:	160920GC8A2		160920GC8A2					
Analyst Initials:	AS		AS					
Dilution Factor:	3.4		3.4					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND d	0.034	ND d	0.034				
Carbon Dioxide	0.063	0.034	0.044	0.034				
Oxygen/Argon	22	1.7	22	1.7				
Nitrogen	78	3.4	78	3.4				
Methane	0.017	0.0034	ND	0.0034				
Carbon Monoxide	ND	0.0034	ND	0.0034				

Results normalized including non-methane hydrocarbons

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d = Reported from a secondary analysis. QC Batch 160921GC8A3

Reviewed/Approved By: _____


 Mark Johnson
 Operations Manager

Date 9/22/16

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QC Batch No.: 160916GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/16/16 9:39		9/16/16 10:23		9/16/16 10:38			
Analyst Initials:	AS		AS		AS			
Datafile:	16sep007		16sep010		16sep011			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	102	70-130%	102	70-130%	0.9	<30
Carbon Dioxide	ND	0.010	96	70-130%	96	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	103	70-130%	103	70-130%	0.0	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.1	<30
Methane	ND	0.0010	105	70-130%	104	70-130%	0.9	<30
Carbon Monoxide	ND	0.0010	103	70-130%	102	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Mark J. Johnson
Operations Manager

Date:

9/22/16

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AirTECHNOLOGY Laboratories, Inc.

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

QC Batch No.: 160917GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/17/16 10:58		9/17/16 10:11		9/17/16 10:25			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	17sep003		17sep.ru		17sep001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	109	70-130%	109	70-130%	0.6	<30
Carbon Dioxide	ND	0.010	101	70-130%	102	70-130%	1.1	<30
Oxygen/Argon	ND	0.50	104	70-130%	104	70-130%	0.1	<30
Nitrogen	ND	1.0	101	70-130%	102	70-130%	0.4	<30
Methane	ND	0.0010	106	70-130%	105	70-130%	1.1	<30
Carbon Monoxide	ND	0.0010	107	70-130%	105	70-130%	1.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:


Mark J. Johnson
Operations Manager

Date:

9/22/16

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AirTECHNOLOGY Laboratories, Inc.

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

QC Batch No.: 160919GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/19/16 10:04		9/19/16 9:20		9/19/16 9:35			
Analyst Initials:	AS		AS		AS			
Datafile:	19sep007		19sep004		19sep005			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	82	70-130%	83	70-130%	2.3	<30
Carbon Dioxide	ND	0.010	90	70-130%	90	70-130%	0.1	<30
Oxygen/Argon	ND	0.50	107	70-130%	107	70-130%	0.0	<30
Nitrogen	ND	1.0	103	70-130%	103	70-130%	0.1	<30
Methane	ND	0.0010	105	70-130%	105	70-130%	0.2	<30
Carbon Monoxide	ND	0.0010	103	70-130%	103	70-130%	0.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____

Mark J. Johnson
Operations Manager

Date: _____

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.: 160919GC8A2

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/19/16 15:54		9/19/16 15:10		9/19/16 15:25			
Analyst Initials:	AS		AS		AS			
Datafile:	19sep030		19sep027		19sep028			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	81	70-130%	83	70-130%	2.5	<30
Carbon Dioxide	ND	0.010	88	70-130%	89	70-130%	1.5	<30
Oxygen/Argon	ND	0.50	104	70-130%	106	70-130%	1.6	<30
Nitrogen	ND	1.0	101	70-130%	102	70-130%	1.5	<30
Methane	ND	0.0010	107	70-130%	107	70-130%	0.0	<30
Carbon Monoxide	ND	0.0010	104	70-130%	104	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____

Mark J. Johnson
Operations Manager

Date: _____

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AirTECHNOLOGY Laboratories, Inc.

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

QC Batch No.: 160920GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/20/16 10:10		9/20/16 9:26		9/20/16 9:41			
Analyst Initials:	AS		AS		AS			
Datafile:	20sep007		20sep004		20sep005			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	78	70-130%	80	70-130%	2.6	<30
Carbon Dioxide	ND	0.010	88	70-130%	88	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	107	70-130%	107	70-130%	0.1	<30
Nitrogen	ND	1.0	103	70-130%	103	70-130%	0.1	<30
Methane	ND	0.0010	106	70-130%	106	70-130%	0.4	<30
Carbon Monoxide	ND	0.0010	105	70-130%	104	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____

Mark J. Johnson
Operations Manager

Date: _____

9/22/16

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.: 160920GC8A2

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCS	LCS	LCS	LCS	LCS	LCS
Date/Time Analyzed:	9/20/16 15:33	9/20/16 14:49	9/20/16 15:04					
Analyst Initials:	AS	AS	AS					
Datafile:	20sep029	20sep026	20sep027					
Dilution Factor:	1.0	1.0	1.0					
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	79	70-130%	76	70-130%	3.9	<30
Carbon Dioxide	ND	0.010	87	70-130%	87	70-130%	0.1	<30
Oxygen/Argon	ND	0.50	107	70-130%	107	70-130%	0.2	<30
Nitrogen	ND	1.0	103	70-130%	103	70-130%	0.1	<30
Methane	ND	0.0010	107	70-130%	107	70-130%	0.6	<30
Carbon Monoxide	ND	0.0010	106	70-130%	105	70-130%	0.8	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Mark J. Johnson
Operations Manager

Date:

9/22/16

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AirTECHNOLOGY Laboratories, Inc.

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

QC Batch # 160921GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	9/21/2016 9:42		9/21/2016 9:25		9/21/2016 9:31			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	100	70-130	96	70-130	4.0	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark Johnson
Operations Manager

Date:

9/22/16

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



QC Batch # 160921GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	9/21/2016 11:58		9/21/2016 11:48		9/21/2016 11:53			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	97	70-130	96	70-130	1.4	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark Johnson
Operations Manager

Date:

9/22/16

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



QC Batch # 160921GC8A3
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	9/21/2016 13:49		9/21/2016 13:26		9/21/2016 13:32			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	97	70-130	96	70-130	0.7	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark Johnson
Operations Manager

Date:

9/22/16

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



ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1
WELLFIELD DATA TABLE

September 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 ₂ O		
GEW-002	9/7/2016 10:58	53.9	39.9	0.8	5.4	122.1		27	28	-0.7	-0.8	-12.2
GEW-002	9/7/2016 11:08	56.1	40.2	0.3	3.4	121.2		25	26	-0.6	-0.6	-11.7
GEW-002	9/15/2016 11:11	60.0	39.5	0.5	0.0	121.0		67	67	-0.5	-0.5	-11.9
GEW-002	9/21/2016 11:49	54.1	38.9	0.5	6.5	123.1		39	38	-0.9	-0.9	-10.6
GEW-002	9/21/2016 11:52	53.6	40.0	0.8	5.6	122.7		33	29	-0.7	-0.7	-11.3
GEW-002	9/28/2016 9:22	53.9	40.4	0.4	5.3	120.5		0	0	-0.8	-0.8	-11.1
GEW-002	9/29/2016 10:00	55.4	39.3	0.2	5.1	121.0		31	31	-0.7	-0.7	-12.6
GEW-002	9/29/2016 10:02	55.6	40.6	0.0	3.8	121.0		29	29	-0.5	-0.5	-12.2
GEW-003	9/7/2016 11:15	52.6	39.7	0.3	7.4	115.5		6	12	0.0	0.0	-11.6
GEW-003	9/7/2016 11:27	52.6	39.8	0.3	7.3	115.7		8	8	0.0	0.0	-11.4
GEW-003	9/15/2016 11:15	58.8	38.6	0.2	2.4	115.7		55	55	-0.2	-0.2	-11.3
GEW-003	9/21/2016 13:16	54.3	39.2	0.1	6.4	116.7		17	16	-0.3	-0.3	-10.8
GEW-003	9/28/2016 9:26	54.5	39.4	0.0	6.1	114.4		0	9	-0.9	-1.0	-11.4
GEW-003	9/29/2016 10:06	55.0	40.0	0.0	5.0	114.8		14	7	-0.7	-0.7	-12.2
GEW-003	9/29/2016 10:08	54.9	40.1	0.0	5.0	113.2		0	0	-0.7	-0.7	-12.1
GEW-004	9/7/2016 11:36	53.9	40.0	0.3	5.8	118.6		10	10	0.0	0.0	-11.7
GEW-004	9/7/2016 11:43	54.2	40.5	0.3	5.0	119.9		0	0	-0.1	-0.1	-11.3
GEW-004	9/15/2016 11:17	59.3	39.3	0.1	1.3	119.1		58	58	-0.2	-0.2	-11.4
GEW-004	9/21/2016 13:21	55.1	38.8	0.0	6.1	120.5		17	12	-0.3	-0.3	-10.8
GEW-004	9/28/2016 9:30	55.0	40.2	0.0	4.8	120.0		11	11	-1.0	-1.0	-11.5
GEW-004	9/29/2016 10:13	56.2	38.6	0.0	5.2	118.4		0	10	-0.7	-0.7	-12.4
GEW-004	9/29/2016 10:15	54.6	40.0	0.0	5.4	116.3		11	7	-0.6	-0.6	-12.6
GEW-005	9/8/2016 8:18	52.9	37.4	0.0	9.7	95.3		9	11	-0.3	-0.3	-12.0
GEW-005	9/8/2016 8:25	53.0	36.3	0.0	10.7	95.3		20	20	-0.3	-0.3	-11.7
GEW-005	9/15/2016 11:43	58.2	37.6	0.2	4.0	96.7		56	57	-0.1	-0.1	-11.1
GEW-005	9/21/2016 13:39	52.6	37.2	0.1	10.1	96.5		12	12	-0.2	-0.2	-10.6
GEW-005	9/28/2016 9:47	48.7	36.6	0.0	14.7	91.3		0	0	-0.8	-0.8	-11.2
GEW-005	9/29/2016 10:33	48.1	36.7	0.0	15.2	91.0		12	10	-0.5	-0.5	-12.2
GEW-006	9/8/2016 8:51	57.4	39.4	0.0	3.2	91.2		0	0	-0.4	-0.4	-11.7
GEW-006	9/8/2016 8:58	58.4	38.0	0.0	3.6	91.2		4	7	-0.4	-0.4	-11.3
GEW-006	9/15/2016 13:14	62.0	34.9	0.1	3.0	93.4		7	6	0.2	0.1	-11.6
GEW-006	9/15/2016 13:16	62.9	37.1	0.0	0.0	93.4		0	15	0.1	-0.2	-11.1
GEW-006	9/21/2016 13:50	52.0	36.5	0.1	11.4	91.1		20	20	-0.5	-0.6	-11.1
GEW-006	9/28/2016 9:55	46.8	35.7	0.0	17.5	87.2		22	12	-1.3	-1.2	-11.8
GEW-006	9/28/2016 9:58	46.3	37.1	0.0	16.6	87.2		20	19	-1.2	-1.2	-11.4
GEW-006	9/29/2016 10:43	45.7	37.0	0.0	17.3	87.2		24	14	-0.9	-0.9	-11.4
GEW-006	9/29/2016 10:45	46.1	36.8	0.0	17.1	86.9		6	9	-0.8	-0.8	-12.3
GEW-007	9/9/2016 8:41	57.6	40.4	0.0	2.0	95.2		50	50	-1.1	-1.1	-12.4
GEW-007	9/12/2016 10:35	56.0	41.1	0.0	2.9	98.1		33	32	-0.8	-0.8	-11.8
GEW-007	9/12/2016 10:40	56.6	39.9	0.1	3.4	98.1		38	39	-0.8	-0.8	-11.9
GEW-007	9/21/2016 16:10	56.9	38.8	0.0	4.3	100.6		9	8	-0.6	-0.6	-10.7
GEW-007	9/29/2016 13:11	57.3	39.1	0.0	3.6	95.5		52	50	-1.2	-1.2	-12.2
GEW-007	9/29/2016 13:14	57.6	41.0	0.0	1.4	95.0		6	6	-0.9	-0.9	-12.4

September 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 ₂ O		
GEW-008	9/9/2016 8:45	52.1	44.0	0.0	3.9	111.3		16	13	-0.5	-0.5	-12.5
GEW-008	9/12/2016 10:45	50.9	44.2	0.1	4.8	112.5		14	15	-0.4	-0.4	-11.8
GEW-008	9/12/2016 10:50	51.6	43.6	0.1	4.7	112.5		11	15	-0.4	-0.4	-11.7
GEW-008	9/21/2016 16:15	52.6	42.4	0.1	4.9	115.0		15	16	-0.4	-0.4	-10.5
GEW-008	9/29/2016 13:19	53.2	42.4	0.0	4.4	113.5		10	12	-0.6	-0.6	-12.3
GEW-009	9/9/2016 8:49	53.2	42.6	0.0	4.2	122.9		28	28	-0.2	-0.2	-18.1
GEW-009	9/12/2016 10:54	51.7	42.6	0.1	5.6	124.0		25	24	-0.2	-0.2	-17.5
GEW-009	9/12/2016 11:00	52.0	41.6	0.1	6.3	123.7		25	23	-0.2	-0.2	-18.3
GEW-009	9/21/2016 16:20	50.2	41.4	0.1	8.3	126.4		0	3	-0.2	-0.2	-18.6
GEW-009	9/29/2016 13:23	49.0	42.1	0.0	8.9	123.9		0	0	-0.3	-0.3	-18.7
GEW-010	9/6/2016 14:25	57.6	38.8	0.1	3.5	108.0		4	4	-0.4	-0.3	-17.7
GEW-010	9/6/2016 14:31	55.4	44.2	0.1	0.3	106.5		4	3	-0.2	-0.3	-17.7
GEW-010	9/15/2016 9:41	59.4	40.3	0.3	0.0	91.5		25	25	-0.5	-0.5	-18.0
GEW-010	9/15/2016 9:43	59.1	40.6	0.3	0.0	92.1		27	27	-0.5	-0.5	-17.5
GEW-010	9/21/2016 9:48	54.9	44.6	0.2	0.3	88.4		2	2	-0.3	-0.3	-17.8
GEW-010	9/27/2016 14:40	54.6	44.5	0.1	0.8	89.8		1	1	-0.1	-0.2	-17.6
GEW-013A	9/23/2016 10:05	8.5	31.0	7.2	53.3	172.7		NFD		-0.4	-0.3	-16.9
GEW-013A	9/23/2016 10:05	9.2	41.1	6.9	42.8	172.6		NFD		-0.2	-0.3	-16.2
GEW-022R	9/14/2016 13:19	1.1	58.3	1.6	39.0	180.3		7	7	-13.8	-13.8	-14.2
GEW-022R	9/14/2016 13:26	0.9	58.7	1.6	38.8	178.4		1	1	-14.3	-14.3	-14.5
GEW-028R	9/13/2016 10:02	0.0	0.8	20.5	78.7	92.2		5	22	-9.7	-9.2	-9.6
GEW-028R	9/13/2016 10:04	0.0	0.9	20.3	78.8	91.4		5	7	-9.3	-8.8	-9.4
GEW-038	9/6/2016 9:54	0.9	58.0	2.3	38.8	94.8		3	3	-0.2	-0.2	-8.8
GEW-038	9/6/2016 10:00	0.7	56.4	1.5	41.4	96.2		5	4	-0.1	-0.1	-9.4
GEW-038	9/15/2016 8:16	1.9	51.7	4.7	41.7	83.8		15	15	-4.0	-4.0	-18.3
GEW-038	9/21/2016 8:44	3.0	56.9	2.8	37.3	86.3		1	1	-1.8	-1.8	-8.5
GEW-038	9/27/2016 13:53	6.0	53.8	2.5	37.7	88.2		15	10	-7.7	-7.7	-17.8
GEW-039	9/6/2016 10:15	45.6	53.5	0.4	0.5	125.4		3	4	-0.2	-0.2	-17.1
GEW-039	9/6/2016 10:21	45.2	52.3	0.4	2.1	126.0		18	13	-0.2	-0.2	-16.9
GEW-039	9/15/2016 8:24	43.2	52.7	0.1	4.0	125.1		7	10	-0.3	-0.3	-17.9
GEW-039	9/21/2016 8:59	42.8	51.1	0.2	5.9	126.9		19	13	-0.3	-0.3	-18.5
GEW-039	9/27/2016 14:05	41.7	50.8	0.1	7.4	126.4		10	10	-0.2	-0.2	-18.1
GEW-040	9/7/2016 8:17	57.5	41.5	0.0	1.0	95.2		10	10	-0.6	-0.6	-12.1
GEW-040	9/7/2016 8:27	57.7	41.0	0.0	1.3	95.4		46	45	-0.7	-0.7	-11.9
GEW-040	9/15/2016 10:39	61.3	38.6	0.1	0.0	96.9		71	71	-0.7	-0.7	-11.5
GEW-040	9/21/2016 10:59	58.6	40.1	0.2	1.1	96.5		9	9	-0.7	-0.7	-11.6
GEW-040	9/28/2016 8:16	55.1	41.6	0.6	2.7	91.3		6	7	-0.7	-0.7	-11.7
GEW-040	9/28/2016 8:19	55.2	39.2	0.4	5.2	91.2		41	40	-0.6	-0.6	-11.8
GEW-040	9/29/2016 8:43	56.2	39.1	0.0	4.7	89.8		25	24	-0.6	-0.6	-12.7
GEW-040	9/29/2016 8:45	57.9	40.0	0.0	2.1	89.4		10	11	-0.5	-0.5	-11.9
GEW-041R	9/7/2016 8:43	55.7	39.3	0.4	4.6	105.0		9	7	-0.5	-0.5	-9.6
GEW-041R	9/7/2016 8:51	56.2	39.4	0.4	4.0	105.0		42	43	-0.5	-0.5	-9.2
GEW-041R	9/15/2016 10:45	54.7	34.9	0.4	10.0	107.4		73	59	-2.0	-1.6	-6.5

September 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 ₂ O		
GEW-041R	9/15/2016 10:47	53.4	37.0	0.4	9.2	107.2		61	61	-1.6	-1.6	-7.6
GEW-041R	9/21/2016 11:08	39.8	33.5	0.4	26.3	107.7		27	27	-1.5	-1.5	-6.0
GEW-041R	9/21/2016 11:10	40.1	33.5	0.4	26.0	107.8		20	27	-1.4	-1.5	-6.0
GEW-041R	9/28/2016 8:23	40.4	34.4	0.7	24.5	106.7		28	29	-2.0	-1.9	-7.2
GEW-041R	9/28/2016 8:26	40.8	33.6	0.7	24.9	106.2		20	19	-1.6	-1.6	-8.9
GEW-041R	9/29/2016 8:49	41.9	35.0	0.2	22.9	105.7		22	26	-1.3	-1.3	-9.2
GEW-041R	9/29/2016 8:52	42.1	34.6	0.5	22.8	104.3		0	0	-1.0	-1.0	-9.6
GEW-042R	9/7/2016 9:00	54.6	42.0	0.1	3.3	96.1		0	0	0.7	0.7	0.9
GEW-042R	9/7/2016 9:08	55.6	41.6	0.1	2.7	98.0		9	7	0.7	0.7	1.2
GEW-042R	9/15/2016 10:51	56.5	31.4	0.4	11.7	108.1		41	41	-0.5	-0.5	-8.2
GEW-042R	9/21/2016 11:16	53.5	40.1	0.2	6.2	109.7		4	2	-0.8	-0.8	-7.7
GEW-042R	9/28/2016 8:32	50.4	40.2	0.8	8.6	104.4		30	27	-1.2	-1.2	-9.9
GEW-042R	9/28/2016 8:35	50.8	40.1	0.7	8.4	103.8		0	0	-1.0	-1.1	-9.3
GEW-042R	9/29/2016 8:56	55.0	38.9	0.0	6.1	101.1		23	23	-0.9	-0.9	-10.2
GEW-042R	9/29/2016 8:58	53.7	41.3	0.0	5.0	99.1		0	0	-0.6	-0.6	-11.0
GEW-043R	9/7/2016 9:19	53.9	41.4	0.3	4.4	128.4		21	24	-1.0	-1.0	-12.2
GEW-043R	9/7/2016 9:27	54.4	41.8	0.3	3.5	128.4		22	21	-1.0	-1.0	-11.6
GEW-043R	9/15/2016 10:56	60.0	39.3	0.3	0.4	129.0		52	50	-1.0	-1.0	-11.4
GEW-043R	9/21/2016 11:22	51.4	40.0	0.4	8.2	130.0		23	23	-1.6	-1.6	-10.8
GEW-043R	9/21/2016 11:24	51.2	39.9	0.4	8.5	130.0		18	20	-1.6	-1.6	-11.0
GEW-043R	9/28/2016 8:54	51.6	39.9	0.7	7.8	128.6		27	28	-1.9	-1.9	-11.7
GEW-043R	9/28/2016 8:57	50.4	39.4	0.9	9.3	127.2		23	23	-1.6	-1.6	-11.8
GEW-043R	9/29/2016 9:02	53.3	39.7	0.0	7.0	129.7		19	16	-1.1	-1.1	-12.2
GEW-043R	9/29/2016 9:04	52.6	40.7	0.1	6.6	129.1		20	22	-0.9	-0.9	-12.6
GEW-044	9/7/2016 9:36	56.7	40.4	0.1	2.8	93.7		0	5	-0.4	-0.4	-2.8
GEW-044	9/7/2016 9:44	57.3	40.5	0.1	2.1	93.8		5	0	-0.3	-0.3	-2.2
GEW-044	9/15/2016 11:00	61.9	38.0	0.1	0.0	90.3		54	54	-0.3	-0.3	-1.5
GEW-044	9/21/2016 11:29	52.6	38.4	0.2	8.8	93.6		5	5	-1.9	-2.0	-7.4
GEW-044	9/21/2016 11:33	52.7	38.0	0.2	9.1	93.6		28	28	-1.9	-1.9	-4.1
GEW-044	9/28/2016 9:06	50.5	38.9	0.3	10.3	84.2		0	0	-2.3	-2.2	-6.6
GEW-044	9/29/2016 9:46	51.2	36.7	0.1	12.0	78.8		0	0	-1.5	-1.5	-6.3
GEW-045R	9/7/2016 9:54	54.6	42.1	0.2	3.1	100.4		2	2	-0.1	-0.1	-11.8
GEW-045R	9/7/2016 10:02	54.8	41.8	0.2	3.2	100.6		6	6	-0.2	-0.2	-11.8
GEW-045R	9/15/2016 11:05	60.1	39.3	0.2	0.4	96.9		56	57	0.0	0.0	-11.3
GEW-045R	9/21/2016 11:39	53.5	40.9	0.6	5.0	98.7		3	3	-0.7	-0.7	-10.6
GEW-045R	9/28/2016 9:13	54.6	41.0	0.1	4.3	90.1		3	0	-1.0	-1.0	-11.3
GEW-045R	9/29/2016 9:50	57.0	38.4	0.2	4.4	78.7		7	5	-1.9	-1.9	-12.4
GEW-045R	9/29/2016 9:52	56.0	38.7	0.4	4.9	77.3		4	6	-1.1	-1.1	-12.3
GEW-046R	9/7/2016 10:41	54.7	40.5	0.2	4.6	101.3		36	36	-0.3	-0.2	-12.0
GEW-046R	9/7/2016 10:48	55.4	40.3	0.2	4.1	101.4		12	8	-0.2	-0.2	-11.8
GEW-046R	9/15/2016 11:08	59.8	40.1	0.1	0.0	100.4		59	60	-0.2	-0.2	-11.4
GEW-046R	9/21/2016 11:45	54.6	39.7	0.3	5.4	100.5		8	7	-0.2	-0.2	-11.0
GEW-046R	9/28/2016 9:18	55.9	40.1	0.0	4.0	97.5		0	0	-0.6	-0.6	-11.8

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Well Name	Date Sampled	Methane	CO ₂	O ₂	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H ₂ O		
GEW-046R	9/29/2016 9:56	56.9	38.3	0.0	4.8	97.5		0	0	-0.5	-0.5	-12.4
GEW-047R	9/8/2016 7:58	51.5	39.1	0.0	9.4	116.2		12	10	-0.5	-0.5	-11.9
GEW-047R	9/8/2016 8:06	51.7	38.8	0.0	9.5	116.0		37	39	-0.4	-0.4	-11.3
GEW-047R	9/15/2016 11:41	57.5	38.6	0.2	3.7	113.4		64	67	-0.2	-0.2	-11.3
GEW-047R	9/21/2016 13:33	41.8	36.2	0.1	21.9	115.3		0	0	-0.5	-0.4	-10.8
GEW-047R	9/28/2016 9:39	35.2	35.5	0.0	29.3	112.2		0	0	-1.0	-1.1	-11.3
GEW-047R	9/28/2016 9:43	35.8	34.9	0.0	29.3	109.0		6	5	-0.9	-0.9	-11.3
GEW-047R	9/29/2016 10:21	39.4	36.4	0.0	24.2	103.3		0	0	-0.6	-0.6	-11.9
GEW-047R	9/29/2016 10:29	38.9	34.0	0.0	27.1	99.9		7	5	-0.6	-0.6	-12.1
GEW-048	9/8/2016 8:35	56.7	39.8	0.0	3.5	105.0		0	0	-0.5	-0.5	-8.6
GEW-048	9/8/2016 8:43	57.1	37.5	0.0	5.4	104.8		27	28	-0.5	-0.5	-8.3
GEW-048	9/15/2016 11:47	62.4	37.5	0.2	0.0	105.0		67	68	-0.2	-0.2	-8.5
GEW-048	9/21/2016 13:44	55.5	39.0	0.1	5.4	105.7		12	16	-0.3	-0.3	-5.1
GEW-048	9/28/2016 9:51	54.6	37.3	0.0	8.1	103.4		14	14	-1.0	-1.0	-7.0
GEW-048	9/29/2016 10:37	54.3	39.0	0.0	6.7	102.5		15	16	-0.7	-0.7	-9.6
GEW-048	9/29/2016 10:39	53.8	39.3	0.0	6.9	102.3		11	12	-0.7	-0.7	-6.7
GEW-049	9/8/2016 9:08	53.4	39.2	0.0	7.4	110.2		7	3	-0.3	-0.3	-2.2
GEW-049	9/8/2016 9:15	53.3	38.9	0.0	7.8	109.7		0	0	-0.4	-0.4	-2.6
GEW-049	9/15/2016 13:26	61.5	38.5	0.0	0.0	109.2		50	30	0.3	0.2	-2.0
GEW-049	9/15/2016 13:27	62.3	37.7	0.0	0.0	111.6		36	39	0.1	-0.1	-1.5
GEW-049	9/21/2016 13:58	43.8	34.6	0.9	20.7	110.2		68	73	-3.2	-3.2	-6.7
GEW-049	9/21/2016 14:00	43.1	34.6	0.9	21.4	110.5		38	48	-2.5	-2.8	-4.2
GEW-049	9/29/2016 10:53	39.1	32.7	1.0	27.2	110.6		49	61	-3.3	-3.8	-6.1
GEW-049	9/29/2016 10:56	36.8	34.0	1.3	27.9	108.2		0	0	-1.6	-1.6	-7.2
GEW-050	9/9/2016 9:03	57.0	41.2	0.0	1.8	106.1		10	10	-0.3	-0.3	-6.7
GEW-050	9/12/2016 10:14	56.6	38.7	0.1	4.6	107.2		29	27	-0.2	-0.2	-8.9
GEW-050	9/12/2016 10:20	56.3	40.0	0.0	3.7	107.2		14	10	-0.2	-0.2	-8.6
GEW-050	9/21/2016 16:02	56.4	36.9	0.1	6.6	108.7		14	16	-0.3	-0.3	-5.3
GEW-050	9/29/2016 13:02	54.7	37.7	0.0	7.6	106.8		19	12	-0.3	-0.3	-7.2
GEW-051	9/8/2016 9:22	55.2	40.4	0.0	4.4	127.5		27	28	-0.8	-0.7	-11.3
GEW-051	9/8/2016 9:29	56.2	41.0	0.0	2.8	128.1		22	27	-0.7	-0.8	-11.7
GEW-051	9/15/2016 13:31	61.0	38.9	0.1	0.0	126.4		45	46	0.3	0.3	-10.9
GEW-051	9/15/2016 13:32	60.4	39.5	0.1	0.0	126.9		38	52	0.3	-0.1	-11.0
GEW-051	9/21/2016 14:05	54.2	38.0	0.1	7.7	127.5		23	28	-1.5	-1.5	-10.3
GEW-051	9/21/2016 14:06	54.4	41.1	0.1	4.4	127.5		20	19	-1.3	-1.4	-10.6
GEW-051	9/29/2016 11:02	56.2	39.8	0.0	4.0	126.4		23	23	-1.8	-1.8	-12.1
GEW-051	9/29/2016 11:03	55.0	41.2	0.0	3.8	125.3		15	13	-1.6	-1.5	-13.0
GEW-052	9/9/2016 8:38	56.4	39.7	0.0	3.9	112.0		30	28	-0.4	-0.3	-12.1
GEW-052	9/12/2016 10:24	54.2	41.0	0.0	4.8	112.8		18	15	-0.2	-0.2	-12.2
GEW-052	9/12/2016 10:29	54.9	40.6	0.0	4.5	112.8		7	12	-0.2	-0.2	-11.8
GEW-052	9/21/2016 16:06	54.8	36.7	0.0	8.5	114.5		18	9	-0.3	-0.3	-10.8
GEW-052	9/29/2016 13:07	50.6	40.0	0.0	9.4	112.2		18	13	-0.3	-0.3	-12.1
GEW-053	9/8/2016 9:39	50.6	43.0	0.0	6.4	142.2		36	37	-0.9	-0.9	-12.0

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Well Name	Date Sampled	Methane	CO ₂	O ₂	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H ₂ O		
GEW-053	9/8/2016 9:44	50.0	40.2	0.0	9.8	141.9		0	10	-0.9	-0.9	-12.0
GEW-053	9/15/2016 13:38	58.2	41.7	0.1	0.0	142.9		28	29	0.2	0.2	-11.3
GEW-053	9/15/2016 13:40	57.0	42.9	0.1	0.0	142.9		NR		0.2	-0.1	-11.5
GEW-053	9/21/2016 14:15	51.3	42.2	0.1	6.4	143.5		22	22	-1.1	-1.1	-10.5
GEW-053	9/21/2016 14:16	50.4	42.8	0.1	6.7	143.5		21	25	-1.2	-1.1	-10.5
GEW-053	9/29/2016 11:25	52.5	40.0	0.0	7.5	142.2		21	22	-1.7	-1.7	-12.3
GEW-053	9/29/2016 11:26	51.4	42.2	0.0	6.4	142.2		23	26	-1.7	-1.7	-11.9
GEW-054	9/9/2016 8:57	51.9	42.9	0.0	5.2	145.5		43	52	-4.9	-4.9	-10.2
GEW-054	9/9/2016 8:58	52.0	43.2	0.0	4.8	145.5		51	47	-4.8	-4.9	-9.9
GEW-054	9/12/2016 8:59	53.1	41.2	0.0	5.7	145.8		47	41	-4.8	-4.7	-9.0
GEW-054	9/12/2016 9:05	52.6	42.1	0.0	5.3	147.0		48	48	-4.7	-4.3	-9.3
GEW-054	9/15/2016 13:44	58.8	41.1	0.1	0.0	146.2		61	62	-2.9	-2.9	-6.6
GEW-054	9/15/2016 13:46	58.4	41.5	0.1	0.0	146.2		56	55	-2.8	-3.8	-5.8
GEW-054	9/21/2016 14:22	51.3	41.7	0.1	6.9	146.6		48	43	-4.6	-4.5	-5.9
GEW-054	9/21/2016 14:23	50.4	42.2	0.1	7.3	148.4		59	50	-4.5	-4.5	-6.1
GEW-054	9/29/2016 11:31	51.7	41.1	0.0	7.2	145.2		61	59	-6.6	-6.6	-9.1
GEW-054	9/29/2016 11:32	51.2	41.6	0.0	7.2	145.2		64	61	-6.6	-6.6	-9.1
GEW-055	9/9/2016 8:53	53.4	43.1	0.0	3.5	126.3		7	7	-0.4	-0.4	-9.6
GEW-055	9/12/2016 9:11	53.1	42.7	0.0	4.2	126.3		0	0	-0.4	-0.4	-8.8
GEW-055	9/12/2016 9:16	53.6	42.1	0.0	4.3	126.0		34	34	-0.4	-0.4	-9.0
GEW-055	9/21/2016 14:28	53.0	41.4	0.1	5.5	129.4		16	18	-0.3	-0.3	-7.5
GEW-055	9/29/2016 11:36	53.7	40.6	0.0	5.7	128.3		0	0	-0.8	-0.8	-9.4
GEW-055	9/29/2016 11:39	53.9	41.4	0.0	4.7	128.0		17	14	-0.8	-0.8	-9.4
GEW-056R	9/2/2016 14:01	18.8	56.7	0.3	24.2	174.2		12	11	-4.5	-4.4	-18.0
GEW-056R	9/2/2016 14:03	18.9	57.7	0.3	23.1	174.2		10	11	-4.5	-4.5	-17.4
GEW-056R	9/6/2016 15:59	23.3	45.5	0.4	30.8	159.4		12	10	-5.3	-5.2	-18.2
GEW-056R	9/6/2016 16:01	24.3	46.6	0.5	28.6	159.4		11	10	-5.2	-5.2	-18.4
GEW-056R	9/15/2016 9:27	21.2	45.2	0.3	33.3	153.7		16	16	-5.0	-5.0	-18.0
GEW-056R	9/15/2016 9:29	22.1	43.5	0.3	34.1	154.1		15	15	-5.0	-5.0	-18.8
GEW-056R	9/20/2016 11:37	16.5	44.2	0.3	39.0	154.0		12	16	-4.8	-4.8	-18.0
GEW-056R	9/20/2016 11:40	18.3	41.6	0.2	39.9	146.6		3	3	-0.6	-0.6	-17.6
GEW-056R	9/21/2016 9:45	13.2	51.7	0.2	34.9	130.8		4	2	-0.3	-0.3	-17.5
GEW-056R	9/27/2016 14:55	12.9	49.5	0.2	37.4	124.8		3	2	-0.1	-0.1	-18.0
GEW-057B	9/23/2016 9:00	4.4	35.4	0.4	59.8	102.1		15	13	-13.5	-12.2	-12.6
GEW-057R	9/14/2016 11:13	4.5	14.3	11.5	69.7	127.8		42	37	-11.3	-10.3	-14.2
GEW-057R	9/14/2016 11:15	4.7	14.2	11.1	70.0	125.4		42	42	-1.9	-1.9	-13.1
GEW-058	9/14/2016 11:05	3.1	32.1	9.0	55.8	164.9		48	54	-13.3	-12.2	-17.1
GEW-058	9/14/2016 11:06	3.4	31.6	9.0	56.0	164.6		49	45	-13.7	-12.8	-17.5
GEW-058A	9/14/2016 10:55	22.5	50.4	1.2	25.9	134.6		44	43	-5.9	-5.9	-7.6
GEW-058A	9/14/2016 11:01	29.1	45.2	1.4	24.3	144.0		43	43	-5.9	-5.9	-9.1
GEW-059R	9/14/2016 10:41	6.1	52.7	2.4	38.8	187.4		38	35	-15.0	-16.1	-15.8
GEW-059R	9/14/2016 10:47	6.2	48.3	2.3	43.2	187.4		34	37	-14.2	-14.7	-15.3
GEW-067A	9/23/2016 9:56	5.5	38.7	8.5	47.3	145.9		17	20	-5.8	-5.5	-17.4

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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 ₂ O		
GEW-067A	9/23/2016 9:57	6.7	34.8	8.7	49.8	146.3		14	12	-5.2	-5.5	-17.2
GEW-077	9/23/2016 8:48	1.0	60.8	0.0	38.2	186.8		NFD		-15.9	-15.5	-15.9
GEW-077	9/23/2016 8:50	0.5	58.3	0.0	41.2	187.0		NFD		-15.5	-15.6	-15.4
GEW-078R	9/23/2016 8:36	8.0	51.8	0.0	40.2	186.4		14	22	-12.8	-12.5	-15.6
GEW-078R	9/23/2016 8:37	9.0	54.3	0.0	36.7	186.4		23	23	-13.2	-13.2	-15.4
GEW-080	9/23/2016 8:33	0.5	17.0	2.0	80.5	80.8		8	8	-15.5	-15.5	-15.5
GEW-082R	9/14/2016 9:33	5.5	51.2	0.1	43.2	188.5		9	16	-14.2	-14.4	-14.1
GEW-082R	9/14/2016 9:39	6.3	55.2	0.1	38.4	188.6		11	13	-14.2	-14.3	-13.6
GEW-086	9/14/2016 10:12	4.1	12.5	16.8	66.6	92.7		2	2	-3.5	-3.5	-16.5
GEW-086	9/14/2016 10:18	9.7	22.5	7.8	60.0	105.8		70	68	-13.2	-12.7	-17.1
GEW-086	9/14/2016 10:20	9.0	21.9	8.1	61.0	105.4		31	31	-3.9	-3.9	-18.3
GEW-089	9/23/2016 10:00	4.2	25.0	16.8	54.0	92.9		4	4	-3.2	-3.2	-17.2
GEW-089	9/23/2016 10:01	3.5	17.8	17.0	61.7	93.4		5	4	-3.2	-3.2	-17.0
GEW-090	9/14/2016 10:26	17.4	49.3	0.3	33.0	182.3		7	13	-16.7	-16.2	-16.6
GEW-090	9/14/2016 10:33	17.3	48.7	0.3	33.7	183.0		6	15	-16.6	-16.2	-16.9
GEW-091	9/23/2016 9:51	3.5	54.7	0.0	41.8	196.7		24	21	-13.9	-14.9	-16.1
GEW-091	9/23/2016 9:52	3.8	61.7	0.0	34.5	197.2		26	27	-15.8	-13.9	-17.9
GEW-102	9/13/2016 15:19	6.6	61.4	0.3	31.7	187.6		NFD		-16.2	-16.6	-16.7
GEW-102	9/13/2016 15:28	11.5	58.3	0.3	29.9	188.3		NFD		-16.6	-17.1	-17.0
GEW-104	9/23/2016 9:06	1.5	58.7	0.0	39.8	90.3		5	5	2.2	0.6	1.9
GEW-104	9/23/2016 9:07	0.6	60.7	0.0	38.7	91.3		9	8	1.9	1.9	1.9
GEW-108	9/23/2016 9:44	0.0	19.5	21.2	59.3	89.1		10	10	-14.2	-14.0	-17.7
GEW-108	9/23/2016 9:46	0.0	4.7	22.0	73.3	89.6		4	13	-14.6	-14.6	-16.7
GEW-108	9/27/2016 13:38	3.3	8.9	18.2	69.6	87.0		12	11	-15.2	-15.1	-18.1
GEW-108	9/27/2016 13:40	1.5	2.6	19.6	76.3	89.3		8	9	-15.1	-15.1	-16.2
GEW-109	9/6/2016 10:04	22.5	54.8	0.6	22.1	125.4		4	6	-18.1	-18.0	-17.6
GEW-109	9/6/2016 10:11	22.6	52.0	0.6	24.8	125.7		2	4	-18.6	-18.5	-18.4
GEW-109	9/15/2016 8:19	20.6	55.5	0.4	23.5	133.7		10	14	-18.6	-18.6	-18.8
GEW-109	9/15/2016 8:20	20.8	54.4	0.2	24.6	134.0		12	13	-18.6	-18.6	-18.5
GEW-109	9/21/2016 8:54	18.7	48.8	0.5	32.0	133.3		6	5	-18.6	-18.2	-18.7
GEW-109	9/21/2016 8:56	19.3	51.0	0.3	29.4	133.2		5	5	-18.1	-18.6	-18.2
GEW-109	9/27/2016 14:00	19.7	51.6	0.2	28.5	132.0		5	6	-17.8	-17.7	-18.2
GEW-109	9/27/2016 14:02	20.7	52.0	0.2	27.1	132.0		2	0	-17.8	-18.1	-18.1
GEW-110	9/6/2016 14:12	1.2	4.9	18.4	75.5	117.9		281	277	-0.3	-0.3	-0.6
GEW-110	9/6/2016 14:20	1.3	3.8	18.4	76.5	118.4		49	47	-0.3	-0.3	-18.1
GEW-110	9/15/2016 9:33	1.9	4.1	19.5	74.5	100.2		3	4	-0.4	-0.4	-18.3
GEW-110	9/15/2016 9:35	1.8	3.8	19.5	74.9	100.4		7	8	-0.4	-0.4	-18.6
GEW-110	9/20/2016 11:12	3.2	11.4	17.1	68.3	115.0		49	46	-2.7	-2.7	-18.5
GEW-110	9/20/2016 11:15	3.0	9.7	17.2	70.1	114.0		15	21	-0.5	-0.5	-17.4
GEW-110	9/21/2016 9:27	7.0	22.4	10.9	59.7	110.0		6	3	-0.4	-0.4	-17.4
GEW-110	9/21/2016 9:28	7.1	21.1	11.1	60.7	109.8		7	6	-0.4	-0.4	-17.7
GEW-110	9/27/2016 14:44	6.2	25.4	9.5	58.9	112.7		6	7	-0.3	-0.3	-18.0
GEW-110	9/27/2016 14:45	6.0	25.3	9.6	59.1	112.7		7	6	-0.3	-0.3	-18.1

September 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 ₂ O		
GEW-113	9/23/2016 10:15	9.8	47.8	2.6	39.8	173.7		NFD		-6.1	-6.2	-15.9
GEW-113	9/23/2016 10:16	9.9	49.8	2.5	37.8	173.7		NFD		-6.1	-6.1	-15.6
GEW-117	9/14/2016 8:55	20.9	54.6	0.4	24.1	150.5		NFD		-15.1	-15.1	-15.1
GEW-117	9/14/2016 9:01	20.5	55.9	0.2	23.4	150.9		NFD		-14.9	-15.1	-15.0
GEW-118	9/14/2016 9:08	2.3	53.5	2.3	41.9	193.1		73	70	-8.6	-8.5	-15.4
GEW-118	9/14/2016 9:13	2.5	56.5	1.9	39.1	192.7		68	50	-9.8	-8.3	-14.7
GEW-120	9/13/2016 9:25	18.3	58.3	0.1	23.3	151.7		NFD		-15.0	-14.8	-15.4
GEW-120	9/13/2016 9:31	18.0	57.1	0.1	24.8	153.3		NFD		-14.5	-14.7	-14.7
GEW-120	9/22/2016 10:33	17.8	40.7	0.0	41.5	151.3		NFD		-14.6	-14.6	-15.1
GEW-120	9/22/2016 10:34	18.4	54.9	0.0	26.7	151.7		97	97	-14.9	-14.8	-14.8
GEW-121	9/13/2016 10:35	9.9	57.3	0.1	32.7	175.2		13	17	-12.3	-12.5	-13.0
GEW-121	9/13/2016 10:41	11.0	56.9	0.1	32.0	175.2		12	19	-12.8	-12.2	-13.0
GEW-121	9/22/2016 10:43	9.6	51.8	0.0	38.6	178.6		19	27	-12.9	-13.2	-12.8
GEW-121	9/22/2016 10:45	9.5	56.2	0.0	34.3	178.6		8	32	-12.6	-13.2	-14.4
GEW-122	9/13/2016 14:04	22.1	52.3	0.2	25.4	188.5		19	22	-5.4	-5.4	-15.6
GEW-122	9/13/2016 14:10	22.9	52.8	0.2	24.1	188.5		22	17	-5.7	-5.4	-16.5
GEW-122	9/22/2016 11:20	20.9	51.1	0.0	28.0	188.3		20	24	-5.8	-5.8	-16.0
GEW-122	9/22/2016 11:21	20.9	51.6	0.0	27.5	188.3		12	15	-6.1	-6.1	-15.8
GEW-123	9/13/2016 10:53	27.4	60.9	0.9	10.8	99.0		7	4	-14.7	-14.2	-14.6
GEW-123	9/13/2016 10:59	27.9	61.3	0.6	10.2	100.7		7	11	-14.7	-14.7	-14.6
GEW-123	9/22/2016 10:54	21.0	49.2	0.2	29.6	102.1		1	8	-14.6	-14.5	-14.4
GEW-124	9/13/2016 11:32	11.0	64.6	0.3	24.1	97.7		6	5	-13.7	-13.3	-14.1
GEW-124	9/13/2016 11:37	9.5	59.9	0.3	30.3	97.3		6	7	-14.2	-14.4	-14.5
GEW-124	9/22/2016 11:00	2.7	45.7	10.0	41.6	94.8		2	1	-14.2	-14.2	-14.4
GEW-124	9/22/2016 11:01	1.0	30.1	13.7	55.2	94.8		2	1	-13.9	-12.4	-14.4
GEW-125	9/13/2016 11:09	1.8	60.9	0.1	37.2	193.6		34	35	-10.3	-10.7	-14.8
GEW-125	9/13/2016 11:18	3.0	57.5	0.1	39.4	193.6		31	23	-11.2	-11.2	-14.9
GEW-125	9/22/2016 11:31	2.5	53.7	0.0	43.8	193.6		31	29	-10.6	-11.2	-14.9
GEW-125	9/22/2016 11:32	1.6	58.5	0.0	39.9	193.6		23	33	-11.2	-10.8	-14.2
GEW-126	9/13/2016 11:51	31.2	53.6	0.2	15.0	179.7		10	7	-11.5	-11.5	-12.0
GEW-126	9/13/2016 12:00	35.6	52.9	0.2	11.3	179.2		6	3	-11.7	-11.7	-12.6
GEW-126	9/22/2016 11:44	15.8	52.8	0.0	31.4	180.3		2	6	-11.8	-12.2	-12.8
GEW-126	9/22/2016 11:45	19.6	53.2	0.0	27.2	180.9		4	5	-11.9	-11.8	-12.0
GEW-127	9/13/2016 9:16	4.7	60.1	0.0	35.2	189.6		29	31	-13.5	-14.0	-13.2
GEW-127	9/13/2016 9:26	3.5	58.5	0.0	38.0	189.6		34	38	-13.6	-14.2	-14.1
GEW-128	9/12/2016 13:56	5.5	46.3	6.4	41.8	166.1		26	26	-9.4	-9.4	-14.1
GEW-128	9/12/2016 14:05	5.7	48.3	5.8	40.2	166.6		21	21	-5.0	-5.0	-15.7
GEW-128	9/22/2016 14:58	9.1	59.6	0.2	31.1	176.7		14	16	-4.3	-4.3	-14.4
GEW-128	9/22/2016 14:59	10.9	62.6	0.4	26.1	176.7		17	19	-4.2	-4.2	-14.4
GEW-129	9/12/2016 14:12	1.8	62.3	0.2	35.7	176.9		6	7	-13.4	-12.8	-14.9
GEW-129	9/12/2016 14:21	1.4	59.9	0.2	38.5	175.8		4	13	-12.8	-12.8	-14.2
GEW-129	9/22/2016 14:53	2.5	59.8	0.3	37.4	180.8		6	10	-12.3	-12.3	-13.9
GEW-129	9/22/2016 14:54	2.9	62.2	0.3	34.6	180.9		14	4	-12.3	-12.4	-14.1

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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 ₂ O		
GEW-130	9/13/2016 10:27	7.4	52.7	3.8	36.1	167.6		68	73	-6.3	-6.3	-14.5
GEW-130	9/13/2016 10:34	7.3	48.7	3.8	40.2	167.6		69	75	-6.1	-6.2	-14.1
GEW-130	9/22/2016 14:41	9.4	50.7	3.6	36.3	169.2		35	31	-5.9	-5.9	-13.5
GEW-130	9/22/2016 14:43	9.3	53.0	3.5	34.2	171.7		32	33	-4.4	-4.4	-14.1
GEW-131	9/13/2016 10:58	0.5	50.1	0.0	49.4	99.0		NFD		8.4	8.3	8.6
GEW-131	9/13/2016 10:59	0.4	52.4	0.0	47.2	98.9		NFD		8.4	8.3	8.3
GEW-131	9/14/2016 13:25	0.9	52.6	0.1	46.4	106.8		NFD		8.3	8.3	8.0
GEW-131	9/14/2016 13:30	0.9	47.9	0.1	51.1	107.6		NFD		8.3	8.3	8.3
GEW-132	9/13/2016 10:28	9.2	36.3	5.9	48.6	165.0		NFD		-5.0	-4.9	-14.4
GEW-132	9/13/2016 10:30	9.1	37.2	5.9	47.8	165.0		NFD		-4.8	-4.7	-10.8
GEW-132	9/22/2016 10:39	10.2	44.2	5.4	40.2	165.0		NFD		-4.1	-4.5	-9.1
GEW-132	9/22/2016 10:40	8.9	39.5	5.5	46.1	165.1		NFD		-4.4	-4.5	-14.1
GEW-133	9/13/2016 9:14	3.4	63.9	0.0	32.7	101.3		8	13	-10.7	-11.0	-14.9
GEW-133	9/13/2016 9:19	3.8	60.8	0.1	35.3	103.8		7	3	-11.7	-11.7	-8.3
GEW-133	9/22/2016 10:28	0.3	5.5	21.8	72.4	90.1		8	5	-15.0	-14.9	-14.6
GEW-133	9/22/2016 10:29	0.2	2.2	22.0	75.6	91.7		7	6	-14.9	-14.6	-14.4
GEW-134	9/13/2016 9:01	9.5	44.2	1.0	45.3	141.5		NFD		-13.7	-13.6	-15.5
GEW-134	9/13/2016 9:07	9.4	44.1	1.0	45.5	150.1		NFD		-13.5	-13.5	-15.6
GEW-134	9/22/2016 10:08	7.1	46.0	1.4	45.5	143.9		NFD		-12.9	-13.2	-14.4
GEW-134	9/22/2016 10:11	7.5	41.7	1.4	49.4	144.5		NFD		-13.2	-13.2	-15.1
GEW-135	9/13/2016 8:49	4.1	54.7	1.4	39.8	191.5		33	23	-9.8	-8.9	-11.6
GEW-135	9/13/2016 8:56	4.1	52.6	1.0	42.3	191.5		44	34	-10.6	-9.8	-4.4
GEW-135	9/22/2016 10:04	7.3	55.5	0.1	37.1	178.3		16	15	-8.8	-8.8	-10.1
GEW-135	9/22/2016 10:05	7.3	56.9	0.1	35.7	179.2		31	11	-10.4	-9.4	-14.9
GEW-136	9/13/2016 8:28	4.5	29.2	8.5	57.8	124.6		18	19	-2.5	-2.3	-15.9
GEW-136	9/13/2016 8:29	4.3	29.3	8.6	57.8	124.0		15	15	-1.6	-1.6	-15.0
GEW-136	9/22/2016 9:53	12.0	36.8	8.4	42.8	125.6		NR		-1.7	-1.4	-13.6
GEW-136	9/22/2016 9:54	4.1	30.8	8.6	56.5	126.1		NR		-1.0	-0.9	-11.2
GEW-137	9/13/2016 8:17	39.5	42.2	0.1	18.2	78.2		3	4	-0.8	-0.8	-13.2
GEW-137	9/13/2016 8:23	39.2	42.4	0.0	18.4	79.9		4	4	-0.8	-0.8	-14.6
GEW-137	9/22/2016 9:50	37.0	39.6	0.1	23.3	86.0		NR		-0.6	-0.6	-11.7
GEW-138	9/13/2016 10:14	3.8	22.5	10.0	63.7	157.9		14	15	-1.3	-1.4	-13.2
GEW-138	9/13/2016 10:16	3.7	23.9	9.8	62.6	158.0		12	12	-0.9	-0.8	-14.3
GEW-138	9/22/2016 10:16	4.3	32.2	5.7	57.8	164.7		11	12	-0.6	-0.5	-11.2
GEW-138	9/22/2016 10:17	4.3	34.6	5.7	55.4	164.7		17	12	-0.5	-0.7	-11.1
GEW-139	9/13/2016 10:42	5.5	56.1	1.3	37.1	173.6		29	31	-8.7	-8.8	-15.1
GEW-139	9/13/2016 10:51	6.8	54.7	1.3	37.2	173.6		30	28	-8.7	-8.7	-15.7
GEW-139	9/22/2016 14:34	8.4	56.5	0.4	34.7	176.2		30	28	-8.3	-8.3	-15.2
GEW-139	9/22/2016 14:35	8.8	59.6	0.4	31.2	176.2		29	28	-8.0	-8.3	-15.4
GEW-140	9/13/2016 14:26	0.3	60.6	0.4	38.7	120.0		6	8	-4.9	-4.8	-4.8
GEW-140	9/13/2016 14:33	0.3	56.9	0.4	42.4	127.7		7	9	-4.8	-5.0	-5.1
GEW-140	9/22/2016 14:10	5.6	58.3	0.2	35.9	138.0		18	23	-7.3	-5.9	-7.1
GEW-140	9/22/2016 14:11	7.0	59.2	0.2	33.6	140.0		17	12	-6.5	-6.9	-6.5

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Well Name	Date Sampled	Methane	CO ₂	O ₂	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H ₂ O		
GEW-141	9/13/2016 10:08	0.3	58.2	0.1	41.4	172.1		16	12	-10.2	-9.6	-9.4
GEW-141	9/13/2016 10:17	0.2	56.3	0.2	43.3	172.6		20	11	-9.3	-9.9	-10.2
GEW-141	9/22/2016 13:59	0.5	56.8	0.3	42.4	187.9		6	6	-8.3	-8.5	-8.1
GEW-141	9/22/2016 14:00	0.4	60.9	0.3	38.4	187.9		7	5	-6.0	-7.0	-6.1
GEW-142	9/13/2016 16:22	4.3	47.6	3.9	44.2	128.7		12	6	-7.4	-9.7	-7.4
GEW-142	9/13/2016 16:31	8.5	42.7	4.0	44.8	122.1		2	18	-8.9	-8.8	-8.9
GEW-142	9/22/2016 13:50	2.6	37.9	7.5	52.0	138.7		9	5	-7.4	-7.4	-7.7
GEW-142	9/22/2016 13:53	2.4	49.4	4.3	43.9	150.9		8	7	-7.8	-7.9	-8.0
GEW-143	9/13/2016 16:38	3.0	31.6	8.2	57.2	91.2		6	9	-11.2	-11.2	-11.2
GEW-143	9/13/2016 16:41	11.2	52.8	2.2	33.8	91.2		12	9	-9.7	-10.3	-10.8
GEW-143	9/14/2016 9:24	0.3	53.8	1.4	44.5	82.3		5	3	-10.7	-10.5	-12.1
GEW-143	9/14/2016 9:31	0.2	50.4	2.6	46.8	82.2		3	2	-10.8	-10.4	-11.4
GEW-143	9/22/2016 13:42	0.4	60.5	0.5	38.6	101.5		5	11	-8.8	-8.8	-8.9
GEW-144	9/14/2016 13:38	0.6	44.8	4.3	50.3	99.6		12	12	-7.8	-7.8	-8.4
GEW-144	9/14/2016 13:47	5.0	50.0	4.0	41.0	98.9		10	10	-8.4	-8.4	-8.4
GEW-144	9/22/2016 13:39	5.2	58.7	0.3	35.8	106.6		16	10	-7.0	-6.4	-7.9
GEW-145	9/13/2016 15:02	0.2	51.6	1.2	47.0	169.0		7	3	-16.3	-16.2	-16.7
GEW-145	9/13/2016 15:11	4.3	54.3	1.1	40.3	170.5		6	12	-15.8	-16.2	-16.2
GEW-145	9/22/2016 13:32	3.1	56.4	0.3	40.2	174.6		7	14	-13.8	-13.8	-13.6
GEW-145	9/22/2016 13:33	3.0	57.5	0.3	39.2	175.7		7	11	-11.3	-11.3	-11.7
GEW-146	9/12/2016 14:42	9.1	26.8	4.8	59.3	104.7		18	19	-0.9	-0.9	-16.5
GEW-146	9/12/2016 14:49	9.0	27.5	4.7	58.8	104.8		18	22	-0.8	-0.8	-16.8
GEW-146	9/22/2016 9:45	1.6	22.7	13.2	62.5	104.0		NR		-0.8	-0.8	-16.2
GEW-146	9/22/2016 9:46	1.9	16.9	13.4	67.8	104.0		NR		-0.8	-0.7	-15.7
GEW-147	9/13/2016 8:36	12.5	55.3	0.0	32.2	186.3		NFD		-16.2	-16.2	-16.1
GEW-147	9/13/2016 8:41	11.3	53.0	0.0	35.7	186.3		NFD		-15.9	-16.1	-15.7
GEW-147	9/22/2016 9:58	12.2	44.0	0.0	43.8	186.4		NFD		-14.5	-14.2	-14.6
GEW-147	9/22/2016 9:59	13.1	53.1	0.0	33.8	186.4		NFD		-15.2	-15.3	-15.4
GEW-148	9/12/2016 14:35	0.2	2.0	19.9	77.9	90.9		11	12	-16.1	-16.1	-16.5
GEW-148	9/12/2016 14:36	0.2	1.1	20.1	78.6	92.0		8	7	-16.5	-16.5	-16.0
GEW-148	9/22/2016 9:12	2.4	54.2	0.0	43.4	157.7		2	1	6.1	5.8	-16.4
GEW-148	9/22/2016 9:15	2.2	58.0	0.0	39.8	159.8		5	4	-0.8	-0.9	-16.5
GEW-149	9/12/2016 14:02	12.2	31.6	6.9	49.3	137.0		25	26	-1.1	-1.0	-17.7
GEW-149	9/12/2016 14:04	12.8	31.4	6.9	48.9	136.6		22	26	-1.1	-0.9	-17.3
GEW-149	9/22/2016 9:01	10.9	45.6	4.1	39.4	163.4		23	22	-0.7	-0.9	-18.5
GEW-150	9/14/2016 10:07	4.3	33.8	9.1	52.8	156.5		24	22	-4.1	-3.8	-15.2
GEW-150	9/14/2016 10:10	4.6	36.3	7.9	51.2	154.8		5	6	-1.1	-1.0	-16.0
GEW-150	9/22/2016 11:30	3.0	43.6	5.1	48.3	181.4		5	10	-0.7	-0.7	-16.4
GEW-150	9/22/2016 11:32	2.8	46.9	4.5	45.8	179.8		6	7	-0.5	-0.5	-17.1
GEW-151	9/12/2016 14:27	9.0	28.8	8.3	53.9	140.3		22	15	-6.3	-6.9	-16.1
GEW-151	9/12/2016 14:28	9.6	29.8	8.2	52.4	141.5		21	25	-13.7	-7.3	-15.8
GEW-151	9/22/2016 9:06	11.7	41.2	6.5	40.6	118.4		25	46	-9.4	-12.9	-16.1
GEW-151	9/22/2016 9:07	11.2	39.5	6.6	42.7	119.7		29	20	-13.1	-10.9	-15.3

September 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 ₂ O		
GEW-152	9/14/2016 11:11	19.4	49.6	0.1	30.9	174.7		7	7	-17.0	-16.6	-18.1
GEW-152	9/14/2016 11:18	19.5	49.3	0.1	31.1	174.2		11	16	-16.7	-16.8	-13.8
GEW-152	9/22/2016 11:10	21.5	45.3	0.1	33.1	174.6		11	6	-17.2	-17.0	-18.2
GEW-152	9/22/2016 11:11	20.1	49.2	0.0	30.7	175.2		11	10	-17.5	-17.2	-17.4
GEW-153	9/14/2016 11:28	29.3	42.7	0.0	28.0	144.5		13	12	-9.9	-9.8	-15.7
GEW-153	9/14/2016 11:35	29.3	40.4	0.1	30.2	144.9		14	17	-10.2	-10.3	-16.9
GEW-153	9/22/2016 11:05	30.7	39.6	0.0	29.7	144.4		15	12	-10.0	-10.0	-16.1
GEW-153	9/22/2016 11:07	30.9	40.8	0.0	28.3	145.5		18	17	-10.7	-10.8	-15.7
GEW-154	9/12/2016 13:39	5.1	8.1	15.5	71.3	123.2		8	7	-5.3	-5.3	-17.8
GEW-154	9/12/2016 13:41	6.0	7.0	15.5	71.5	122.1		2	2	-3.7	-3.7	-14.9
GEW-154	9/22/2016 8:50	1.6	13.1	18.9	66.4	88.6		10	12	-4.8	-4.8	-17.8
GEW-154	9/22/2016 8:51	1.6	8.9	19.2	70.3	88.0		16	11	-4.8	-4.9	-18.1
GEW-155	9/13/2016 10:21	1.3	9.6	16.9	72.2	132.7		25	34	-1.4	-1.8	-12.8
GEW-155	9/13/2016 10:23	1.3	8.7	16.9	73.1	131.3		17	12	-0.7	-0.7	-13.3
GEW-155	9/22/2016 10:22	1.7	19.1	16.4	62.8	139.3		15	19	-0.6	-0.5	-9.1
GEW-155	9/22/2016 10:23	1.3	14.1	16.5	68.1	139.6		14	14	-0.5	-0.5	-8.7
GEW-156	9/14/2016 9:40	3.0	10.1	15.7	71.2	114.1		14	14	-1.1	-1.1	-17.6
GEW-156	9/14/2016 9:41	3.1	8.3	15.9	72.7	113.9		15	11	-1.1	-1.1	-18.1
GEW-156	9/22/2016 11:45	3.2	13.2	15.4	68.2	114.5		14	15	-0.9	-0.9	-17.2
GEW-156	9/22/2016 11:47	3.5	8.9	15.7	71.9	114.7		14	15	-0.9	-0.9	-16.8
GEW-157	9/14/2016 9:52	11.2	56.0	0.0	32.8	182.2		10	10	-3.4	-3.5	-3.7
GEW-157	9/14/2016 10:00	11.7	53.3	0.0	35.0	182.7		16	4	-3.3	-2.9	-2.9
GEW-157	9/22/2016 11:37	11.7	53.5	0.0	34.8	183.0		10	12	-3.0	-3.3	-3.1
GEW-157	9/22/2016 11:38	12.7	55.5	0.0	31.8	183.4		4	14	-3.1	-2.9	-2.9
GEW-158	9/23/2016 9:39	0.4	27.1	0.0	72.5	156.9		5	5	4.6	4.6	1.1
GEW-158	9/23/2016 9:41	0.4	60.9	0.0	38.7	152.9		2	2	4.7	4.7	0.9
GEW-159	9/14/2016 13:13	25.7	47.9	0.1	26.3	131.1		11	10	-10.2	-10.3	-10.2
GEW-159	9/14/2016 13:19	26.5	47.8	0.1	25.6	131.9		15	16	-9.8	-9.8	-9.9
GEW-159	9/27/2016 14:30	0.4	54.3	0.6	44.7	87.5		3	7	-0.4	-0.4	-17.9
GEW-160	9/12/2016 13:20	4.9	59.7	0.1	35.3	114.0		14	14	-10.7	-10.7	-10.3
GEW-160	9/12/2016 13:26	4.7	56.5	0.2	38.6	114.3		6	8	-10.7	-10.3	-10.8
GEW-160	9/22/2016 8:38	3.3	54.3	0.0	42.4	187.6		4	4	-8.8	-8.4	-8.7
GEW-160	9/22/2016 8:39	3.1	56.8	0.0	40.1	187.6		8	10	-9.1	-9.1	-9.1
GEW-161	9/12/2016 13:28	0.6	55.3	0.9	43.2	104.3		7	3	-10.7	-10.7	-10.8
GEW-161	9/12/2016 13:34	0.3	53.2	0.9	45.6	105.2		5	4	-11.2	-11.1	-11.3
GEW-162	9/12/2016 13:46	9.9	61.8	0.3	28.0	178.2		12	9	-16.1	-16.1	-17.2
GEW-162	9/12/2016 13:52	9.8	58.2	0.5	31.5	180.1		11	6	-16.6	-16.7	-17.2
GEW-162	9/22/2016 8:56	9.0	60.3	0.0	30.7	169.5		22	8	-16.7	-15.9	-17.0
GEW-162	9/22/2016 8:57	9.1	60.9	0.0	30.0	170.0		14	15	-15.5	-16.1	-17.1
GEW-163	9/13/2016 10:47	5.1	33.0	10.5	51.4	153.3		40	40	-6.4	-6.4	-15.1
GEW-163	9/13/2016 10:49	5.3	32.8	10.6	51.3	153.3		34	34	-6.4	-6.4	-14.7
GEW-163	9/22/2016 10:48	5.9	43.4	9.4	41.3	155.6		38	39	-7.1	-7.1	-14.5
GEW-163	9/22/2016 10:51	5.1	37.7	9.5	47.7	156.0		30	18	-7.1	-4.6	-13.9

September 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 ₂ O		
GEW-164	9/13/2016 11:22	5.0	65.9	0.6	28.5	113.5		12	15	-14.2	-14.2	-14.2
GEW-164	9/13/2016 11:28	4.8	67.0	0.6	27.6	114.5		23	15	-14.3	-14.7	-14.7
GEW-164	9/22/2016 10:56	11.4	60.0	0.6	28.0	103.5		9	6	-14.2	-14.2	-14.4
GEW-165	9/13/2016 13:36	3.2	64.9	0.1	31.8	193.7		12	22	-12.8	-12.8	-14.0
GEW-165	9/13/2016 13:43	2.0	64.4	0.2	33.4	193.7		6	6	-12.7	-12.7	-13.6
GEW-165	9/22/2016 11:05	1.9	46.6	0.0	51.5	191.6		13	13	-13.6	-13.5	-14.4
GEW-165	9/22/2016 11:06	1.8	63.4	0.0	34.8	192.3		22	20	-13.5	-13.6	-14.1
GEW-166	9/13/2016 13:52	0.5	58.1	0.2	41.2	194.8		32	29	1.6	1.4	1.2
GEW-166	9/13/2016 13:58	1.3	54.1	0.2	44.4	194.8		27	32	1.3	1.2	0.5
GEW-166	9/22/2016 11:12	0.5	57.2	0.0	42.3	197.9		14	20	2.8	2.6	2.0
GEW-166	9/22/2016 11:13	0.3	58.8	0.0	40.9	197.9		34	13	2.4	2.3	2.5
GEW-167	9/14/2016 13:37	10.4	38.7	4.9	46.0	162.7		14	12	-1.8	-1.8	-15.9
GEW-167	9/14/2016 13:43	12.8	38.1	4.7	44.4	163.2		45	38	-1.3	-1.3	-16.3
GEW-167	9/22/2016 11:24	8.0	40.8	5.4	45.8	168.5		40	40	-1.1	-1.1	-15.6
GEW-167	9/22/2016 11:25	6.2	38.8	5.4	49.6	167.1		31	33	-1.1	-1.1	-15.4
GEW-168	9/13/2016 11:26	9.8	60.3	0.2	29.7	184.5		26	23	-11.2	-10.8	-11.9
GEW-168	9/13/2016 11:33	14.2	58.9	0.2	26.7	184.5		22	27	-11.3	-11.2	-12.2
GEW-168	9/22/2016 11:36	3.3	55.6	0.0	41.1	184.0		4	14	-12.5	-12.2	-12.8
GEW-168	9/22/2016 11:37	4.6	60.2	0.0	35.2	184.0		7	23	-13.2	-12.5	-14.4
GEW-169	9/13/2016 11:38	16.3	57.7	1.4	24.6	184.5		69	61	-12.2	-12.6	-13.5
GEW-169	9/13/2016 11:46	15.5	59.4	1.4	23.7	184.5		57	61	-12.7	-12.7	-13.7
GEW-169	9/22/2016 11:48	11.5	57.5	0.7	30.3	183.4		59	61	-12.9	-13.2	-13.3
GEW-169	9/22/2016 11:49	11.6	59.4	0.6	28.4	183.4		58	60	-12.9	-13.2	-13.6
GEW-170	9/13/2016 9:32	8.7	58.1	1.9	31.3	160.7		70	88	-9.6	-9.7	-15.0
GEW-170	9/13/2016 9:38	7.5	54.1	1.9	36.5	160.2		72	67	-9.4	-9.4	-14.6
GEW-171	9/13/2016 16:46	27.0	58.7	0.3	14.0	192.2		7	8	-9.9	-10.2	-10.0
GEW-171	9/13/2016 16:53	26.0	55.2	0.4	18.4	191.6		42	20	-8.3	-8.8	-9.3
GEW-171	9/22/2016 13:45	7.3	56.2	0.2	36.3	189.8		15	28	-7.8	-7.9	-7.8
GEW-171	9/22/2016 13:47	7.8	60.5	0.3	31.4	190.8		13	14	-8.4	-8.8	-8.5
GEW-172	9/13/2016 16:07	14.8	54.8	0.2	30.2	191.0		80	82	-3.6	-3.5	-9.9
GEW-172	9/13/2016 16:16	15.0	53.3	0.1	31.6	191.6		86	79	-3.3	-3.3	-9.9
GEW-172	9/22/2016 14:04	4.3	53.3	0.2	42.2	189.7		35	39	-2.5	-2.1	-8.3
GEW-172	9/22/2016 14:06	6.9	57.3	0.2	35.6	190.2		30	35	-2.2	-2.3	-7.3
GEW-173	9/13/2016 14:19	11.5	36.9	6.5	45.1	108.2		52	39	-1.9	-1.9	-16.7
GEW-173	9/13/2016 14:21	11.3	37.2	6.6	44.9	108.7		50	45	-1.9	-2.0	-16.7
GEW-173	9/22/2016 14:15	14.3	44.6	5.1	36.0	114.8		50	46	-1.8	-1.7	-16.4
GEW-173	9/22/2016 14:23	16.0	41.5	5.1	37.4	115.5		45	40	-1.3	-1.3	-16.5
GEW-174	9/13/2016 14:45	6.2	36.4	4.6	52.8	170.0		64	57	-2.0	-2.1	-8.5
GEW-174	9/13/2016 14:52	6.3	35.2	4.6	53.9	170.5		65	62	-2.1	-2.3	-8.6
GEW-174	9/22/2016 13:22	6.5	33.0	4.6	55.9	170.2		70	65	-2.0	-2.0	-9.0
GEW-174	9/22/2016 13:24	6.8	34.7	4.6	53.9	171.2		60	69	-1.7	-1.7	-8.8
GEW-175	9/14/2016 10:37	17.3	49.0	2.5	31.2	145.9		176	164	-9.8	-8.8	-14.0
GEW-175	9/14/2016 10:46	16.8	49.2	2.5	31.5	145.9		188	182	-9.9	-9.8	-14.8

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Well Name	Date Sampled	Methane	CO ₂	O ₂	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H ₂ O		
GEW-175	9/22/2016 11:25	17.9	49.5	2.1	30.5	144.4		186	184	-10.2	-10.0	-15.2
GEW-175	9/22/2016 11:27	17.9	49.0	2.1	31.0	145.1		178	187	-9.8	-9.8	-14.3
GEW-176	9/14/2016 10:22	13.7	46.8	4.0	35.5	141.2		38	39	-7.8	-7.3	-0.6
GEW-176	9/14/2016 10:30	13.5	46.1	4.1	36.3	141.9		36	35	-5.8	-5.3	11.3
GEW-176	9/22/2016 11:18	13.7	47.3	3.5	35.5	144.0		27	31	-4.1	-4.2	-17.1
GEW-176	9/22/2016 11:20	14.0	48.7	3.3	34.0	142.5		13	37	-2.9	-2.5	-18.2
GEW-177	9/13/2016 9:46	1.3	59.6	0.0	39.1	190.9		19	9	-7.0	-7.0	-7.9
GEW-177	9/13/2016 9:55	1.0	58.4	0.0	40.6	190.9		26	26	-6.4	-6.7	-7.8
GEW-177	9/22/2016 14:47	2.1	56.0	0.2	41.7	190.2		24	24	-5.9	-5.9	-7.5
GEW-177	9/22/2016 14:49	3.2	62.4	0.3	34.1	190.2		25	44	-5.9	-5.9	-7.5
GEW-1A	9/9/2016 9:08	1.0	6.1	21.2	71.7	71.4		7	4	-9.8	-10.0	-12.3
GEW-1A	9/9/2016 9:09	2.4	2.4	21.4	73.8	71.4		3	5	-10.7	-10.8	-12.2
GEW-1A	9/12/2016 9:45	1.0	2.4	21.0	75.6	79.4		5	8	-9.5	-9.5	-12.0
GEW-1A	9/12/2016 9:50	1.3	0.5	21.2	77.0	79.8		3	2	-10.6	-10.6	-11.8
GEW-1A	9/21/2016 14:34	1.0	3.4	19.6	76.0	109.7		3	6	-7.0	-7.8	-11.1
GEW-1A	9/21/2016 14:36	0.9	0.8	19.9	78.4	112.0		3	3	-7.8	-7.8	-10.8
GEW-1A	9/29/2016 11:50	1.0	5.1	21.2	72.7	66.9		6	9	-10.0	-10.4	-12.4
GEW-1A	9/29/2016 11:52	1.3	1.6	21.8	75.3	67.5		14	7	-11.0	-11.5	-12.1
GEW-2S	9/9/2016 9:13	59.2	39.3	0.1	1.4	71.1		5	5	0.3	0.3	-12.4
GEW-2S	9/9/2016 9:15	58.7	39.7	0.0	1.6	71.2		3	3	-0.5	-0.5	-9.1
GEW-2S	9/12/2016 9:33	58.2	39.7	0.1	2.0	89.6		2	3	-3.9	-3.9	-11.1
GEW-2S	9/12/2016 9:39	58.3	39.3	0.1	2.3	90.0		4	2	-4.0	-3.9	-9.6
GEW-2S	9/21/2016 14:44	57.9	37.9	0.1	4.1	99.9		3	4	-2.4	-2.6	-6.0
GEW-2S	9/29/2016 11:43	56.9	39.9	0.0	3.2	67.5		3	3	-2.9	-2.8	-9.5
GEW-2S	9/29/2016 11:46	58.2	39.5	0.0	2.3	68.0		1	1	-1.4	-1.4	-10.6
GIW-01	9/6/2016 15:30	4.5	60.0	0.9	34.6	183.3		13	10	-4.1	-3.6	-17.9
GIW-01	9/6/2016 15:31	5.0	63.0	0.8	31.2	182.9		14	10	-4.4	-4.4	-18.0
GIW-01	9/15/2016 9:01	3.2	61.7	2.2	32.9	183.5		0	0	-3.9	-3.9	-18.9
GIW-01	9/15/2016 9:03	3.3	61.8	1.8	33.1	183.6		19	21	-3.7	-3.6	-18.9
GIW-01	9/20/2016 11:19	3.5	58.3	1.2	37.0	183.9		15	10	-3.5	-3.5	-17.8
GIW-01	9/20/2016 11:22	2.6	64.6	0.4	32.4	184.6		9	7	-0.4	-0.4	-17.3
GIW-01	9/21/2016 9:21	2.8	61.9	0.3	35.0	185.7		9	10	0.4	0.3	-18.6
GIW-01	9/21/2016 9:23	2.8	65.6	0.3	31.3	185.7		12	11	-0.9	-0.9	-17.8
GIW-01	9/27/2016 15:27	3.6	60.1	0.3	36.0	185.1		13	11	-0.6	-0.6	-19.6
GIW-01	9/27/2016 15:29	3.9	65.9	0.3	29.9	185.1		10	10	-0.6	-0.6	-18.8
GIW-02	9/6/2016 15:35	5.1	30.8	11.5	52.6	104.5		5	4	-0.5	-0.5	-17.5
GIW-02	9/6/2016 15:37	5.3	29.2	11.5	54.0	104.3		2	4	-0.5	-0.5	-18.5
GIW-02	9/15/2016 8:54	3.3	21.9	14.6	60.2	88.2		13	12	-0.4	-0.4	-17.8
GIW-02	9/15/2016 8:56	3.3	21.5	14.6	60.6	88.6		12	11	-0.4	-0.4	-18.0
GIW-02	9/20/2016 11:27	1.5	19.5	15.0	64.0	106.2		4	3	-0.4	-0.4	-18.2
GIW-02	9/20/2016 11:29	1.5	18.2	15.2	65.1	107.2		2	3	-0.4	-0.4	-16.7
GIW-02	9/21/2016 9:16	3.2	29.5	12.2	55.1	93.4		2	3	-0.3	-0.3	-18.1
GIW-02	9/21/2016 9:17	3.2	27.7	12.2	56.9	94.1		5	4	-0.3	-0.3	-18.7

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		(% vol)				°F		scfm		H ₂ O		
GIW-02	9/27/2016 15:22	5.3	36.5	10.2	48.0	87.0		3	2	-0.3	-0.2	-17.9
GIW-02	9/27/2016 15:23	5.9	33.0	10.3	50.8	87.1		1	1	-0.3	-0.3	-18.4
GIW-03	9/6/2016 15:40	1.8	51.2	5.4	41.6	108.0		3	3	-10.7	-10.7	-11.9
GIW-03	9/6/2016 15:42	2.1	49.8	5.2	42.9	108.0		4	8	-10.4	-10.6	-10.8
GIW-03	9/15/2016 8:47	2.0	49.8	5.7	42.5	99.4		14	10	-15.8	-15.8	-17.5
GIW-03	9/15/2016 8:49	2.1	50.8	6.5	40.6	105.2		6	11	-15.6	-15.8	-16.6
GIW-03	9/20/2016 13:45	2.3	47.2	5.1	45.4	110.0		4	3	-8.4	-8.3	-9.4
GIW-03	9/20/2016 13:47	2.1	45.8	6.0	46.1	110.2		3	1	-3.7	-3.7	-9.4
GIW-03	9/21/2016 9:10	1.3	54.6	4.3	39.8	87.0		2	5	-2.8	-2.8	-10.6
GIW-03	9/21/2016 9:13	1.4	54.9	3.3	40.4	87.6		6	1	-0.6	-0.6	-9.3
GIW-03	9/27/2016 15:19	1.5	58.0	1.9	38.6	91.8		2	1	-0.5	-0.4	-18.5
GIW-04	9/6/2016 15:45	0.9	54.6	1.4	43.1	105.8		2	2	-8.7	-8.8	-11.4
GIW-04	9/6/2016 15:47	1.4	55.7	1.4	41.5	106.5		7	4	-9.1	-9.1	-11.4
GIW-04	9/15/2016 8:40	1.3	58.6	0.8	39.3	88.6		16	17	-13.4	-13.4	-18.8
GIW-04	9/20/2016 13:51	1.7	54.2	0.5	43.6	107.0		2	4	-6.4	-6.4	-9.1
GIW-04	9/20/2016 13:53	1.3	58.3	0.5	39.9	107.5		4	3	-4.0	-4.0	-9.4
GIW-04	9/21/2016 9:07	1.9	58.2	0.5	39.4	91.4		2	2	-3.4	-3.5	-9.4
GIW-04	9/27/2016 15:16	1.5	56.5	0.6	41.4	87.3		1	4	-8.1	-8.1	-18.2
GIW-05	9/6/2016 15:53	2.7	56.7	1.6	39.0	100.9		10	8	-1.7	-1.6	-11.2
GIW-05	9/6/2016 15:54	3.3	59.1	1.6	36.0	101.3		10	11	-1.7	-1.6	-12.2
GIW-05	9/12/2016 11:37	2.3	61.2	0.3	36.2	88.0		0	10	-0.1	-0.1	-10.8
GIW-05	9/12/2016 11:42	1.8	64.2	0.3	33.7	88.9		0	0	-0.2	-0.1	-10.3
GIW-05	9/15/2016 8:32	2.3	61.8	0.2	35.7	83.2		0	0	1.8	1.9	-18.0
GIW-05	9/15/2016 8:34	2.3	62.5	0.2	35.0	82.4		59	43	-15.0	-13.9	-16.5
GIW-05	9/20/2016 13:58	1.9	48.8	4.6	44.7	102.1		35	18	-8.0	-8.3	-9.5
GIW-05	9/20/2016 14:00	1.2	41.1	7.5	50.2	102.5		15	16	-3.5	-3.6	-9.8
GIW-05	9/21/2016 9:03	2.5	55.1	0.2	42.2	87.5		51	26	-1.6	-1.8	-9.0
GIW-05	9/27/2016 15:07	2.1	52.4	1.7	43.8	84.0		205	201	-17.4	-17.6	-18.1
GIW-05	9/27/2016 15:09	2.0	57.0	1.4	39.6	84.0		197	197	-16.7	-16.7	-18.0
GIW-06	9/6/2016 9:04	4.9	55.2	0.5	39.4	92.7		5	7	-9.8	-10.2	-9.6
GIW-06	9/6/2016 9:11	4.7	53.6	0.5	41.2	93.2		3	2	-10.2	-10.2	-9.9
GIW-06	9/15/2016 8:06	6.4	50.5	0.4	42.7	83.8		17	14	-16.6	-18.6	-16.8
GIW-06	9/21/2016 8:35	11.2	54.1	0.4	34.3	86.6		8	8	-10.0	-10.0	-10.0
GIW-06	9/27/2016 13:33	9.5	57.1	0.5	32.9	88.6		5	2	-17.5	-17.6	-17.7
GIW-07	9/6/2016 9:15	1.1	11.3	17.9	69.7	97.3		0	0	-2.4	-2.4	-10.1
GIW-07	9/6/2016 9:16	1.4	13.1	17.3	68.2	97.9		0	0	-2.4	-2.4	-9.9
GIW-07	9/6/2016 9:34	1.4	11.4	17.5	69.7	98.9		0	1	-2.4	-2.4	-9.1
GIW-07	9/6/2016 9:40	1.5	12.2	17.2	69.1	101.1		1	1	-2.3	-2.3	-9.0
GIW-07	9/15/2016 8:09	4.7	45.4	8.0	41.9	85.3		13	13	-0.7	-0.7	-17.5
GIW-07	9/15/2016 8:10	5.3	52.2	6.4	36.1	86.6		14	14	-0.6	-0.6	-17.5
GIW-07	9/21/2016 8:40	8.2	71.3	0.5	20.0	91.7		2	2	0.2	0.2	-8.9
GIW-07	9/21/2016 8:41	8.1	69.9	1.1	20.9	91.9		3	2	-1.8	-1.8	-10.1
GIW-07	9/27/2016 13:43	18.2	53.8	2.1	25.9	90.5		5	5	-4.6	-4.6	-18.1

September 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 ₂ O		
GIW-07	9/27/2016 13:45	17.7	56.3	2.1	23.9	91.5		3	3	-2.8	-2.8	-18.1
GIW-08	9/6/2016 9:44	17.5	60.1	0.3	22.1	99.2		2	2	-5.0	-4.9	-9.1
GIW-08	9/6/2016 9:51	17.4	59.6	0.4	22.6	98.8		5	4	-4.9	-4.9	-9.1
GIW-08	9/15/2016 8:14	18.0	59.9	0.2	21.9	83.6		14	14	-7.1	-7.1	-17.4
GIW-08	9/21/2016 8:47	23.1	60.0	0.3	16.6	88.9		5	5	-3.9	-4.0	-9.1
GIW-08	9/27/2016 13:57	20.9	57.6	0.2	21.3	91.0		2	4	-6.9	-7.0	-17.5
GIW-09	9/6/2016 10:25	2.9	16.5	11.0	69.6	95.6		NFD		-4.2	-4.2	-9.5
GIW-09	9/6/2016 10:32	2.6	15.3	11.1	71.0	96.2		NFD		-4.2	-4.2	-9.6
GIW-09	9/15/2016 8:27	3.7	19.1	10.7	66.5	85.5		NFD		-5.1	-5.1	-16.4
GIW-09	9/15/2016 8:28	3.4	17.0	10.9	68.7	85.7		NFD		-5.1	-5.1	-19.0
GIW-09	9/21/2016 8:50	5.3	22.3	10.6	61.8	88.0		NFD		-3.1	-3.1	-9.9
GIW-09	9/21/2016 8:51	5.4	20.9	10.7	63.0	88.4		NFD		-3.1	-3.0	-9.1
GIW-09	9/27/2016 13:49	9.1	33.0	3.4	54.5	94.6		NFD		-4.5	-4.5	-18.2
GIW-10	9/6/2016 11:07	1.3	57.5	0.3	40.9	99.4		3	5	-1.4	-1.4	-9.4
GIW-10	9/6/2016 11:13	1.1	55.3	0.3	43.3	98.9		3	4	-1.4	-1.4	-10.2
GIW-10	9/15/2016 9:22	3.3	55.5	0.2	41.0	89.7		26	26	-2.2	-2.2	-16.3
GIW-10	9/21/2016 9:42	0.8	56.6	0.2	42.4	93.1		3	3	-0.6	-0.6	-8.3
GIW-10	9/27/2016 15:13	6.4	50.6	0.1	42.9	88.9		2	1	-3.0	-3.0	-18.2
GIW-11	9/6/2016 11:19	9.5	61.6	1.6	27.3	97.3		NFD		-1.8	-1.8	-17.8
GIW-11	9/6/2016 11:25	9.5	58.3	1.7	30.5	97.3		NFD		-1.7	-1.7	-16.4
GIW-11	9/15/2016 9:18	9.0	57.7	1.6	31.7	88.6		NFD		-2.0	-2.0	-17.5
GIW-11	9/20/2016 13:41	7.6	53.7	1.0	37.7	105.5		NFD		-1.5	-1.5	-17.2
GIW-11	9/21/2016 9:39	6.7	55.3	0.9	37.1	89.8		NFD		-1.5	-1.5	-17.3
GIW-11	9/27/2016 14:59	10.0	54.8	0.7	34.5	86.8		NFD		-1.6	-1.6	-18.1
GIW-12	9/6/2016 11:30	8.7	32.4	9.1	49.8	97.7		NFD		-0.5	-0.5	-15.6
GIW-12	9/6/2016 11:36	9.2	31.8	9.2	49.8	98.3		NFD		-0.5	-0.5	-15.6
GIW-12	9/15/2016 9:13	5.8	30.1	10.6	53.5	87.0		NFD		-0.5	-0.5	-17.2
GIW-12	9/15/2016 9:15	5.7	28.8	10.7	54.8	87.4		NFD		-0.6	-0.6	-15.0
GIW-12	9/20/2016 11:43	5.2	25.2	11.2	58.4	95.5		NFD		-0.4	-0.4	-16.7
GIW-12	9/20/2016 11:44	5.3	23.8	11.2	59.7	96.2		NFD		-0.4	-0.4	-15.8
GIW-12	9/21/2016 9:35	7.4	34.6	7.3	50.7	89.1		NFD		-0.4	-0.4	-16.7
GIW-12	9/21/2016 9:36	7.4	32.3	7.3	53.0	89.1		NFD		-0.4	-0.4	-14.9
GIW-12	9/27/2016 14:51	13.5	41.1	5.2	40.2	87.0		NFD		-0.3	-0.3	-16.0
GIW-12	9/27/2016 14:53	13.9	39.1	5.3	41.7	86.5		NFD		-0.4	-0.3	-17.1
GIW-13	9/6/2016 11:42	17.1	63.4	0.5	19.0	98.1		NFD		-2.9	-2.9	-8.3
GIW-13	9/6/2016 11:47	15.8	60.4	0.6	23.2	99.5		NFD		-2.9	-2.9	-8.8
GIW-13	9/15/2016 9:09	15.2	65.0	0.3	19.5	91.3		NFD		-2.9	-2.8	-8.2
GIW-13	9/20/2016 11:33	12.2	60.2	0.3	27.3	98.7		NFD		-2.7	-2.7	-7.8
GIW-13	9/21/2016 9:32	13.3	59.8	0.3	26.6	91.8		NFD		-2.6	-2.6	-7.5
GIW-13	9/27/2016 14:48	16.1	56.2	0.2	27.5	84.0		NFD		-2.5	-2.5	-8.6
LCS-5A	9/8/2016 9:34	59.4	39.2	0.0	1.4	94.8		NFD		-12.1	-11.5	-11.9
LCS-5A	9/15/2016 13:36	61.2	38.8	0.1	0.0	96.2		NFD		-10.9	-10.0	-11.5
LCS-5A	9/21/2016 14:11	56.5	39.5	0.1	3.9	96.2		NFD		-10.4	-10.3	-9.8

September 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 ₂ O		
LCS-5A	9/29/2016 11:07	57.9	39.4	0.0	2.7	92.5		NFD		-12.4	-12.4	-12.4
LCS-6B	9/8/2016 8:11	54.8	41.0	0.0	4.2	97.7		0	3	-1.5	-1.5	-11.5
LCS-6B	9/15/2016 11:37	58.7	40.3	0.3	0.7	104.1		73	73	-1.1	-1.1	-11.2
LCS-6B	9/21/2016 13:27	47.2	39.9	0.2	12.7	110.0		0	0	-1.3	-1.3	-11.0
LCS-6B	9/28/2016 9:34	49.4	39.5	0.1	11.0	90.3		3	NR	-2.0	NR	-11.3
LCS-6B	9/29/2016 10:18	46.9	37.6	0.1	15.4	79.6		2	6	-1.8	-1.8	-12.3
PGW-60	9/9/2016 9:18	57.5	40.1	0.0	2.4	85.5		29	13	-8.2	-11.7	-8.0
PGW-60	9/21/2016 14:39	58.0	38.5	0.1	3.4	91.9		16	19	-7.4	-6.9	-7.5
PGW-60	9/29/2016 11:56	58.4	39.6	0.0	2.0	78.0		15	26	-10.4	-9.9	-10.4
SEW-002	9/23/2016 8:54	0.0	37.1	19.0	43.9	90.1		12	12	-7.1	-7.1	-11.1
SEW-002	9/23/2016 8:55	0.0	16.5	18.9	64.6	96.5		11	13	-10.4	-10.8	-10.1
T-56	9/8/2016 9:01	46.2	36.0	0.3	17.5	82.0		14	15	-0.1	-0.1	-11.9
T-56	9/15/2016 13:19	56.9	35.5	0.0	7.6	83.8		40	40	-0.1	-0.1	-10.8
T-56	9/21/2016 13:53	42.0	33.9	0.4	23.7	80.7		12	21	-0.1	-0.1	-10.7
T-56	9/28/2016 10:01	36.6	33.0	2.3	28.1	76.6		17	19	-0.1	-0.1	-11.0
T-56	9/29/2016 10:49	31.5	31.3	1.1	36.1	75.2		12	16	-0.1	-0.1	-11.8

Notes: NFD = No flow device installed
NR = Flow information was not recorded due to data collection error

ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	June 2016	July 2016	August 2016	September 2016		
GEW-001	--	--	--	--		
GEW-002	127.8	123.9	124.5	123.1		
GEW-003	117.3	117.9	118.9	116.7		
GEW-004	122.6	121.8	121.3	120.5		
GEW-005	98.7	96.7	97.8	96.7		
GEW-006	93.9	91.5	92.1	93.4		
GEW-007	103.4	101.5	101.4	100.6		
GEW-008	114.9	114.8	114.8	115.0		
GEW-009	125.8	125.9	126.7	126.4		
GEW-010	97.5	107.9	109.9	108.0		
GEW-011	--	--	--	--		
GEW-013A	165.5	146.6	147.0	172.7		
GEW-014A	--	--	--	--		
GEW-015	--	--	--	--		
GEW-016R	--	--	--	--		
GEW-018B	--	--	--	--		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	193.7	--	185.7	180.3		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	84.0	96.5	95.8	92.2		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	110.6	103.9	98.1	96.2		
GEW-039	136.0	133.1	134.7	126.9		
GEW-040	97.1	98.9	96.4	96.9		
GEW-041R	108.0	107.6	107.0	107.8		
GEW-042R	114.8	112.8	115.5	109.7		
GEW-043R	124.5	124.1	129.1	130.0		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	June 2016	July 2016	August 2016	September 2016		
GEW-044	97.2	96.5	93.9	93.8		
GEW-045R	105.2	102.9	100.7	100.6		
GEW-046R	102.2	101.1	101.8	101.4		
GEW-047R	118.1	115.9	115.6	116.2		
GEW-048	107.5	106.5	106.5	105.7		
GEW-049	115.0	111.7	112.5	111.6		
GEW-050	110.3	109.5	109.2	108.7		
GEW-051	131.4	128.4	128.9	128.1		
GEW-052	117.0	116.3	116	114.5		
GEW-053	143.0	142.2	142.9	143.5		
GEW-054	154.0	148.6	147.3	148.4		
GEW-055	130.0	129.1	128.9	129.4		
GEW-056R	155.5	164.6	163.6	174.2		
GEW-057B	145.2	130.3	93.9	102.1		
GEW-057R	131.2	125.0	119.0	127.8		
GEW-058	148.0	186.4	152.9	164.9		
GEW-058A	99.8	148.8	122.4	144.0		
GEW-059R	192.9	189.2	182.1	187.4		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	98.4	103.7	--	--		
GEW-066	--	--	--	--		
GEW-067A	193.7	157.0	136.6	146.3		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	120.7	198.9	192.9	187.0		
GEW-078R	190.2	188.5	180.9	186.4		
GEW-080	82.3	98.5	96.2	80.8		
GEW-081	87.6	--	--	--		
GEW-082R	191.6	192.3	184.5	188.6		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	96.2	102.5	82.5	105.8		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	June 2016	July 2016	August 2016	September 2016		
GEW-087	--	--	--	--		
GEW-088	--	--	--	--		
GEW-089	99.2	109.5	85.3	93.4		
GEW-090	189.6	183.3	175.8	183.0		
GEW-091	--	--	195.0	197.2		
GEW-100	--	--	--	--		
GEW-101	--	--	--	--		
GEW-102	192.3	125.4	97.7	188.3		
GEW-103	--	--	--	--		
GEW-104	104.5	112.5	95.6	91.3		
GEW-105	178.7	--	--	--		
GEW-106	--	--	--	--		
GEW-107	92.3	--	--	--		
GEW-108	92.8	110.4	81.5	89.1		
GEW-109	111.8	110.9	137.3	134.0		
GEW-110	111.7	113.7	113.0	118.4		
GEW-112	93.6	110.4	91.5	--		
GEW-113	171.6	173.6	172.6	173.7		
GEW-116	90.8	--	--	--		
GEW-117	95.3	119.7	98.7	150.9		
GEW-118	200.1	195	188.3	193.1		
GEW-120	146.5	152.1	152.5	153.3		
GEW-121	184.6	180.8	175.7	178.6		
GEW-122	180.4	188.8	192.5	188.5		
GEW-123	187.9	185.2	186.3	102.1		
GEW-124	98.9	92.4	107.4	97.7		
GEW-125	196.0	191.3	192.6	193.6		
GEW-126	185.2	154.5	184.7	180.9		
GEW-127	189.0	187.9	188.5	189.6		
GEW-128	174.8	172.2	167.1	176.7		
GEW-129	104.7	147.4	178.0	180.9		
GEW-130	179.2	176.2	170.8	171.7		
GEW-131	187.7	110.2	111.6	107.6		
GEW-132	166.9	166.1	167.3	165.1		
GEW-133	98.1	96.9	99.4	103.8		
GEW-134	139.8	150.5	147.8	150.1		
GEW-135	176.4	175.7	99.0	191.5		
GEW-136	126.9	121.3	124.2	126.1		
GEW-137	107.5	87.0	94.0	86.0		
GEW-138	150.5	153.8	154.9	164.7		
GEW-139	180.8	179.3	178.3	176.2		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	June 2016	July 2016	August 2016	September 2016		
GEW-140	176.2	167.6	147.0	140.0		
GEW-141	152.1	119.7	185.7	187.9		
GEW-142	97.9	95.3	175.2	150.9		
GEW-143	104.0	92.7	103.2	101.5		
GEW-144	94.4	91.7	99.2	106.6		
GEW-145	166.1	97.7	136.8	175.7		
GEW-146	104.7	100.4	106.7	104.8		
GEW-147	190.2	187.4	186.8	186.4		
GEW-148	99.0	79.5	100.2	159.8		
GEW-149	167.2	141.8	144.7	163.4		
GEW-150	150.3	156.9	166.9	181.4		
GEW-151	157.1	147	150.6	141.5		
GEW-152	182.9	183.9	180.8	175.2		
GEW-153	155.6	143.6	147.7	144.9		
GEW-154	186.4	79.1	126.0	123.2		
GEW-155	127.8	124.9	130.5	139.6		
GEW-156	124.8	115.0	124.5	114.7		
GEW-157	164.3	178.6	182.4	183.4		
GEW-158	91.4	96.2	97.3	156.9		
GEW-159	154.3	150.4	159.0	131.9		
GEW-160	171.1	139.0	187.9	187.6		
GEW-161	109.7	155.4	192.1	105.2		
GEW-162	179.8	79.5	175.7	180.1		
GEW-163	169.9	173.4	174.6	156.0		
GEW-164	161.4	100.0	115.7	114.5		
GEW-165	195.7	192.6	192.5	193.7		
GEW-166	188.5	175.2	188.5	197.9		
GEW-167	180.3	178.2	178.2	168.5		
GEW-168	190.8	184.1	186.8	184.5		
GEW-169	193.6	183.5	185.7	184.5		
GEW-170	180.6	172.1	160.1	160.7		
GEW-171	187.4	176.7	189.6	192.2		
GEW-172	192.3	185.1	188.3	191.6		
GEW-173	106.1	120.2	108.6	115.5		
GEW-174	173.1	156.9	170.2	171.2		
GEW-175	163.3	139.6	150.1	145.9		
GEW-176	120.2	169.5	161.1	144.0		
GEW-177	--	193.7	191.9	190.9		
GEW-1A	113.5	109.5	106.3	112.0		
GEW-2S	108.0	115.8	109.6	99.9		
GIW-01	171.6	168.8	158.8	185.7		

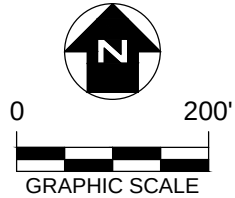
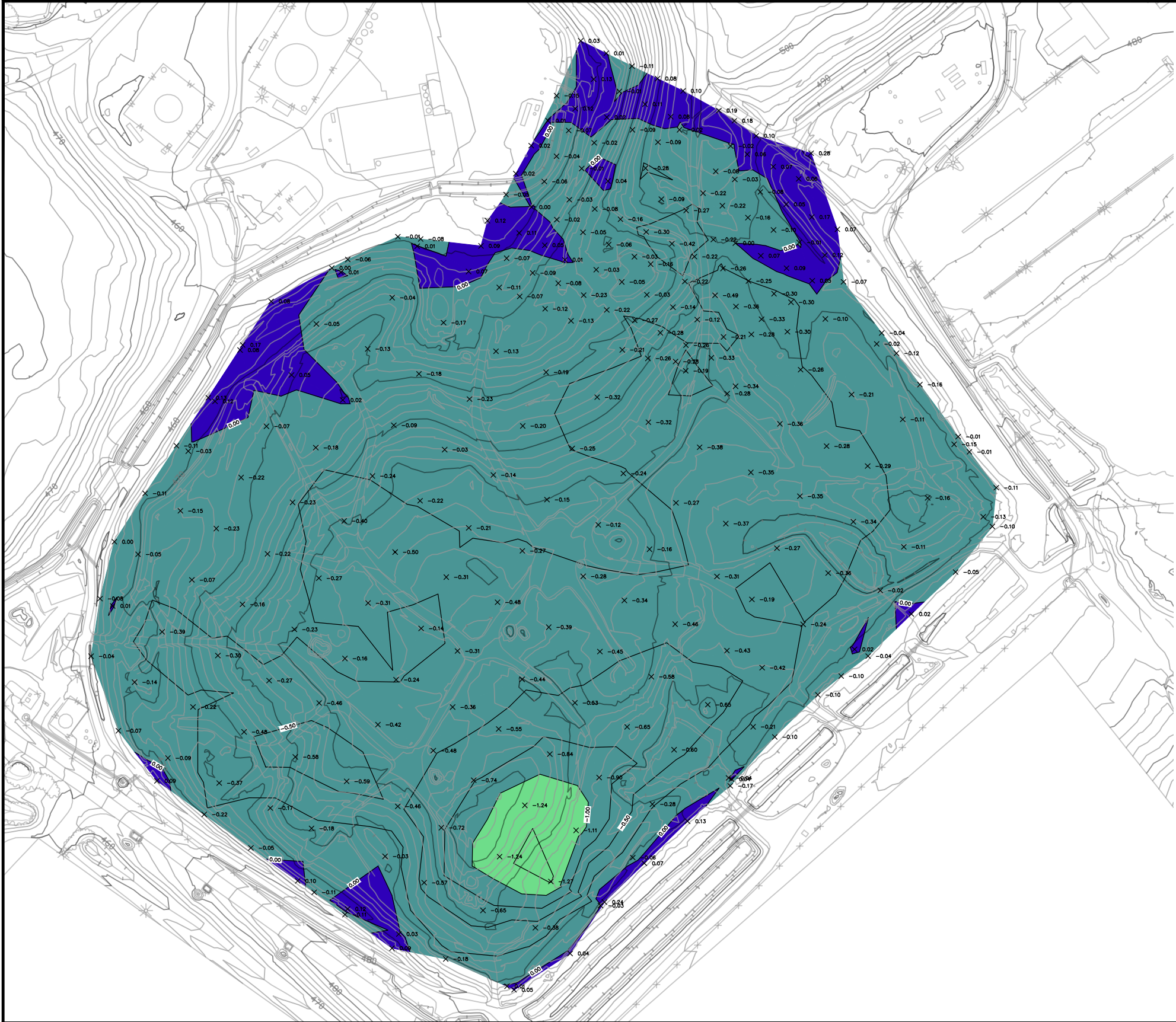
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	June 2016	July 2016	August 2016	September 2016		
GIW-02	103.8	100.2	100.6	107.2		
GIW-03	101.0	96.9	97.9	110.2		
GIW-04	106.5	96.6	101.9	107.5		
GIW-05	105.5	95.8	97.3	102.5		
GIW-06	103.5	91.5	100.7	93.2		
GIW-07	107.7	98.6	100.4	101.1		
GIW-08	108.2	92.9	99.4	99.2		
GIW-09	103.8	91.7	96.4	96.2		
GIW-10	106.9	100.8	102.8	99.4		
GIW-11	104.7	98.9	101.0	105.5		
GIW-12	101.1	98.1	98	98.3		
GIW-13	106.2	98.1	99.6	99.5		
LCS-1D	--	--	--	--		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	98.7	95.5	96.2	96.2		
LCS-6B	110.2	106.7	114.5	110.0		
PGW-60	78.0	86.7	96.0	91.9		
SEW-002	93.2	97.1	100	96.5		
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	72.3	81.7	84.9	83.8		

-- = 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 8-15-16 FROM SPOT ELEVATIONS SURVEYED ON 9-15-16.
- 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

- X -0.42 SPOT ELEVATION DIFFERENCE (9-15-16 TO 8-15-16)
- MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)
- MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)
- 9-15 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	30485.16	
5	-1.00	0.00	1390996.91	
6	0.00	1.00	120178.39	

BRIDGETON LANDFILL



CB&I Environmental & Infrastructure, Inc.
STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

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BRIDGETON LANDFILL
BRIDGETON, MO

SETTLEMENT MAP
AUGUST 15, 2016 THROUGH SEPTEMBER 15, 2016

REV. NO.	DATE	DESCRIPTION

DRAWN BY:	ORC	APPROVED BY:	DJD	PROJ. NO.:	155162	DATE:	OCTOBER 2016
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ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

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

Name: Kirbi Pemberton

Message: Odor logged September 1, 2016, at 6:58 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 within an hour of the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. The concern location cited 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: Kevin Toal

Message: Odor logged September 1, 2016, at 8:11 am strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from nearby trash cans and an unknown smoky odor were observed at this location within an hour of the time cited in this concern. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. 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: Melanie Shedd

Message: Odor logged September 1, 2016, at 7:50 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 concurrently with the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Lynne Scott

Message: Odor logged September 1, 2016, at 8:23 am strength of 1

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 observation points between this location and the Bridgeton Landfill. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Ryan Loraine

Message: Odor logged September 1, 2016, at 3:55 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 before the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a northeastern 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: Steve Commuso

Message: Odor logged September 2, 2016, at 9:30 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. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. At the time of this concern winds were of a north northeastern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kathy Baumann

Message: Odor logged September 2, 2016, at 9:12 pm strength of 8

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. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. At the time of this concern winds were of a north northeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Lisa Sutkus

Message: Odor logged September 3, 2016, at 9:04 pm strength of 10

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

Message: Odor logged September 8, 2016, at 8:36 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location cited in this concern is in southwest Missouri. This was not a Bridgeton Landfill odor.

Name: Rebecca Tobar

Message: Odor logged September 8, 2016, at 6:45 am strength of 7

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 this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southwestern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged September 8, 2016, at 1:25 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odors from another known odor source with frequent off-site odor emissions were observed within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southwestern origin placing this location 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 September 8, 2016, at 7:38 pm strength of 8

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

Name: MB

Message: Odor logged September 8, 2016, at 8:13 pm strength of 10

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

Message: Odor logged September 9, 2016, at 8:43 pm strength of 10

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

Name: N/A

Message: Odor logged September 9, 2016, at 8:51 pm strength of 10

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

Name: Kathy Luther

Message: Odor logged September 9, 2016, at 8:19 pm strength of 5

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 an east southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 9, 2016, at 9:24 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 concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of an east southeastern 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 September 10, 2016, at 7:46 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. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged September 10, 2016, at 7:41 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed 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 northwestern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 10, 2016, at 8:30 pm 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 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 September 10, 2016, at 9:44 pm 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. Bridgeton Landfill staff on-site at the time cited in this concern did not observe Bridgeton Landfill odor between the location cited in this concern and the Bridgeton Landfill. 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: Meghan Rocha

Message: Odor logged September 11, 2016, at 6:43 am strength of 6

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

Message: Odor logged September 11, 2016, at 7:20 am strength of 8

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

Name: Melanie Shedd

Message: Odor logged September 11, 2016, at 7:04 am 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. 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. 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: Ellen Wortham

Message: Odor logged September 11, 2016, at 8:30 am strength of 7

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

Name: David Hinnars

Message: Odor logged September 11, 2016, at 9:06 am strength of 8

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

Name: Kevin Toal

Message: Odor logged September 11, 2016, at 9:30 am strength of 9

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

Name: Kevin Toal

Message: Odor logged September 10, 2016, at 12:05 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 21 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a west northwestern origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Tracy

Message: Odor logged September 11, 2016, at 12:05 pm strength of 8

Follow-up: The following odor concern did not provide specific location data and therefore could not be investigated.

Name: Kathleen

Message: Odor logged September 11, 2016, at 8:30 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 12 hours after the observation time so real time follow-up was not possible. Bridgeton Landfill staff was investigating multiple odor concerns within an hour of the time cited in this concern. No Bridgeton Landfill odor was observed at the other odor concern locations or on the route from the Bridgeton Landfill to those locations. 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: Randa

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

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 47 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged September 14, 2016, at 7:26 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source was detected 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 of this concern winds were of an east northeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Lisa Sutkus

Message: Odor logged September 14, 2016, at 7:40 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 before the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of an east northeastern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This location is immediately adjacent to another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 15, 2016, at 7:00 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 within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 15, 2016, at 7:21 am strength of 10

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

Name: N/A

Message: Odor logged September 16, 2016, at 5:45 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. Odor from another off-site odor source with frequent off-site odor emissions was observed at this location over an hour after the observation time. 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 September 16, 2016, at 7:15 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 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 September 16, 2016, at 7:15 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 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 September 16, 2016, at 7:16 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 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 September 16, 2016, at 7:20 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. Bridgeton Landfill staff observed odor from another known odor source with frequent off-site odor emissions at this location before the time cited in this concern. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 16, 2016, at 7:10 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 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: Emily Jacobi

Message: Odor logged September 16, 2016, at 7:14 pm strength of 7

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

Message: Odor logged September 16, 2016, at 7:19 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 within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 16, 2016, at 8:50 pm strength of 10

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

Message: Odor logged September 16, 2016, at 8:00 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 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Syndi Sills

Message: Odor logged September 16, 2016, at 8:33 pm strength of 10

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

Message: Odor logged September 16, 2016, at 9:00 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 19 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 calm and were from the southwest prior to the time of this concern. Another known odor source with frequent off-site odor emissions is located directly southwest of this location. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged September 17, 2016, at 7:59 pm strength of 10

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

Name: Robert Labeaume

Message: Odor logged September 18, 2016, at 7:26 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 within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a west southwestern origin placing this location 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: Emily Jacobi

Message: Odor logged September 18, 2016, at 8:13 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. 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jay Black

Message: Odor logged September 18, 2016, at 8:45 am strength of 9

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

Name: Kathy Luther

Message: Odor logged September 18, 2016, at 8:20 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 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 19, 2016, at 5:00 am strength of 10

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

Name: Megan Gilmore

Message: Odor logged September 20, 2016, at 8:00 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. 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 south southwestern origin placing this location immediately 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 September 20, 2016, at 7:45 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 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 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: Glen Ferrer

Message: Odor logged September 22, 2016, at 7:20 am strength of 5

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

Name: Greg Wortham

Message: Odor logged September 23, 2016, at 9:30 am 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. At the time of this concern winds were of a southwestern origin placing this location immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Mike Duda

Message: Odor logged September 23, 2016, at 10:45 am strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 7 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 southwestern origin placing this location immediately 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 September 26, 2016, at 12:51 pm strength of 4

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

Name: N/A

Message: Odor logged September 26, 2016, at 9:37 pm strength of 9

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

Name: Amy

Message: Odor logged September 26, 2016, at 10:14 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. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 26, 2016, at 11:37 pm strength of 10

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

Name: Angela Hurst

Message: Odor logged September 27, 2016, at 7:30 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Garbage odor from trash cans and a dead animal odor were observed at this location approximately an hour after the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. This was not a Bridgeton Landfill odor.

Name: William P. Bardley

Message: Odor logged September 4, 2016, at 10:27 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 23 days after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. Bridgeton Landfill staff on-site at the time cited in this concern did not observe Bridgeton Landfill odor between the location cited in this concern and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: William P. Bardley

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

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 17 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 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: N/A

Message: Odor logged September 27, 2016, at 7:16 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a west northwestern origin placing this location 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 September 26, 2016, at 2:46 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 30 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time 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: Kirbi Pemberton

Message: Odor logged September 28, 2016, at 1:18 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. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northwestern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Sheila Gray

Message: Odor logged September 28, 2016, at 8:28 pm strength of 8

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

Name: N/A

Message: Odor logged September 29, 2016, at 9:37 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. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor, including an odor patrol observation point in close proximity to this location. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Gale Thackrey

Message: Odor logged September 29, 2016, at 2:30 pm strength of 8

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

Name: Lisa Surkus

Message: Odor logged September 29, 2016, at 3:49 pm strength of 8

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

Name: Mary Conlon

Message: Odor logged September 28, 2016, at 6:32 pm strength of 7

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. 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: Mary Conlon

Message: Odor logged September 28, 2016, at 6:32 pm strength of 7

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. 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: Mary Conlon

Message: Odor logged September 28, 2016, at 6:32 pm strength of 7

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. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 28, 2016, at 9:45 pm strength of 5

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

Name: Karen Nickel

Message: Odor logged September 30, 2016, at 6:43 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. At the time of this concern winds were of a north northwestern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged September 30, 2016, at 7:53 am strength of 5

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

Message: Odor logged September 30, 2016, at 7:25 am strength of 8

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

Message: Odor logged September 30, 2016, at 7:55 pm strength of 10

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

Name: Jennifer

Message: Odor logged September 30, 2016, at 8:30 pm strength of 8

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

Message: Odor logged September 30, 2016, at 9:16 pm strength of 7

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

Name: N/A

Message: Odor logged September 30, 2016, at 9:20 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northeastern 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 September 30, 2016, at 9:23 pm strength of 10

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

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

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

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
9/1/2016	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	258,516
9/2/2016			255,859
9/3/2016			247,245
9/4/2016			244,781
9/5/2016			246,798
9/6/2016			250,503
9/7/2016			256,710
9/8/2016			260,712
9/9/2016			270,795
9/10/2016			265,189
9/11/2016			249,388
9/12/2016			288,044
9/13/2016			340,121
9/14/2016			345,153
9/15/2016			342,753
9/16/2016			221,606
9/17/2016			221,374
9/18/2016			224,554
9/19/2016			252,202
9/20/2016			249,257
9/21/2016			228,626
9/22/2016			210,110
9/23/2016			212,826
9/24/2016			209,756
9/25/2016			196,251
9/26/2016			200,361
9/27/2016			192,691
9/28/2016			202,734
9/29/2016			274,311
9/30/2016			282,776
Total =			7,502,002

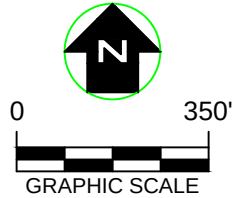
ATTACHMENT I

LOW FILL PROJECT AREA

ATTACHMENT I-1

LOW FILL AREA BOUNDARY

T:\AutoCAD\Projects\Bridgeton LE Settlement Maps\2016\09 - September\Working\September Fill.dwg



NOTES

- 1. SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, CO. ON AUGUST 1, 2015.
- 2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
- 3. SURVEY POINTS WERE PERFORMED USING GPS METHODS.
- 4. NO FILL ADDED BETWEEN SURVEY DATES 8-15-16 AND 9-27-16.

LEGEND

- BOUNDARY OF FILL AREA FOR 8-15-16 THROUGH 9-27-16
- BOUNDARY OF STOCKPILE AREA FOR 8-15-16 THROUGH 9-27-16

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL



CB&I Environmental & Infrastructure, Inc.
STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

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BRIDGETON LANDFILL
BRIDGETON, MO

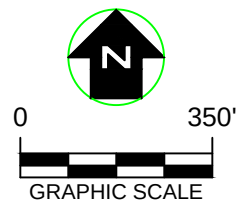
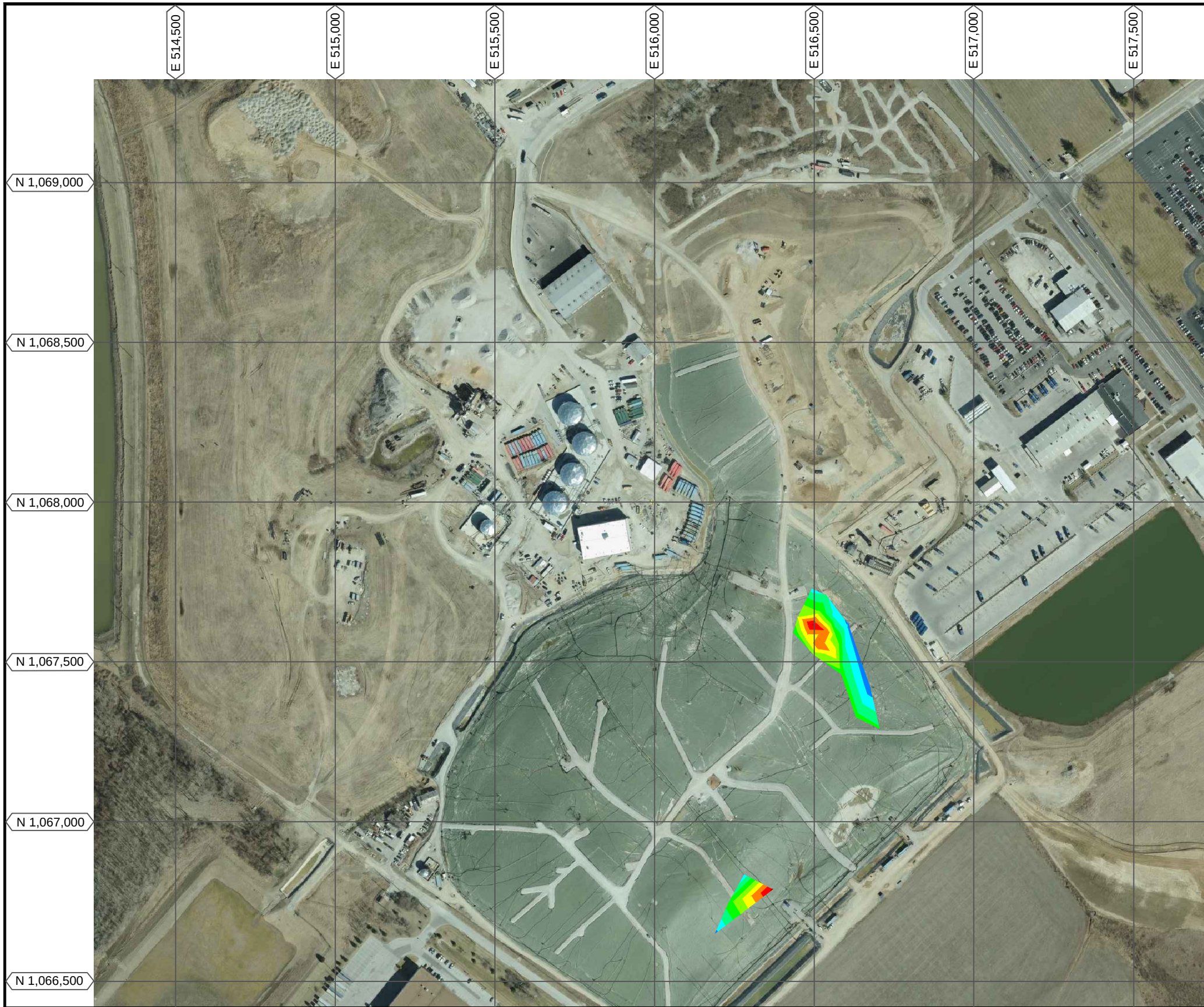
LOW FILL AREA BOUNDARY
SEPTEMBER 2016

DRAWN BY:	ORC	APPROVED BY:	DJD	PROJ. NO.:	155162	DATE:	OCTOBER 2016
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ATTACHMENT I-2

FILL THICKNESS AND VOLUME

T:\AutoCAD\Projects\Bridgeton LF\Settlement Maps\2016\04 - April\Working\Nov2015 - April 2016 Areas of Fill.dwg



THICKNESS (FT.)		
MIN.	MAX.	COLOR
0.0	1.00	Blue
1.00	2.00	Cyan
2.00	3.00	Green
3.00	4.00	Light Green
4.00	5.00	Yellow-Green
5.00	6.00	Yellow
6.00	7.00	Orange
7.00	8.00	Red
8.00	9.00+	Dark Red

NOTES

- 1. SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, CO. ON AUGUST 1, 2015.
- 2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
- 3. ELEVATION DIFFERENCE DETERMINED BY SUBTRACTING SPOT ELEVATIONS SURVEYED ON 11-18-15 FROM SPOT ELEVATIONS SURVEYED ON 4-19-16, THAT WERE CORRECTED FOR ELEVATION LOSS DUE TO SETTLEMENT.
- 4. SURVEY POINTS WERE PERFORMED USING GPS METHODS.
- 5. ANY POINTS THAT ARE NOT A GROUND-TO-GROUND COMPARISON WITH THE PREVIOUS MONTH'S POINTS, OR THAT WERE NOT SURVEYED IN THE SAME LOCATION AS THE PREVIOUS MONTH ARE NOT INCLUDED AND WERE NOT USED IN ANY SURFACE GENERATION.
- 6. THE APPROXIMATE FILL VOLUME WAS 7,101 CUBIC YARDS BETWEEN NOVEMBER 2015 & APRIL 2016.

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.
STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

FILL THICKNESS AND VOLUME
NOVEMBER 2015 - APRIL 2016

DRAWN BY: NV

APPROVED BY: DJD

PROJ. NO.: 155162

DATE: OCT. 2016