

# Bridgeton Landfill, LLC

## Monthly Data Submittals

May 2017

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

### Contents:

#### Commentary on Data

Attachment A      Work Completed and Planned

Attachment B      Daily Flare Monitoring Data

- B-1                  Flow Data Table
- B-2                  Flow Data Graphs
- B-3                  Flare TRS / Flare Station Flow

Attachment C      Gas Well Analyses Maps

Attachment D      Laboratory Data

- D-1                  Lab Analyses Summary
- D-2                  Lab Analyses Reports

Attachment E      Gas Wellfield Data

- E-1                  Wellfield Data Table
- E-2                  Maximum Wellhead Temperature Table

Attachment F      Settlement Front Map

Attachment G      Summary of Odor Complaints

Attachment H      Liquid Characterization Data and Discharge Log

Attachment I      Low Fill Project Area

- I-1                  Low Fill Area Boundary

#### Provided Separately:

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

June 20, 2017

## **Commentary on Data**

June 20, 2017

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

### **Gas Volume**

- As seen in Attachment B-1, the gas collection volumetric rate in for this month averaged 152 SCFM from the North Quarry and 1,546 SCFM from the South Quarry, for a total site flow of 1,704 SCFM, as normalized per the MDNR weekly flow and TRS sampling results.
- Note that the North Quarry flare was offline in May through May 11, due to a lightning strike to the equipment in late April. As per standard operating procedures, header valving was adjusted to route all landfill gas to the main flare station. This resulted in a slightly lower monthly flow average for the North Quarry and a slightly higher monthly flow average for the South Quarry (main flare station). The overall site total flow remained within historical averages.

### **Gas Quality**

- As seen in Attachment B-2, the South Quarry gas quality was effected by the composite of the North Quarry and South Quarry gas flows. This resulted in higher methane concentrations, but correspondingly lower hydrogen, nitrogen, carbon dioxide, and carbon monoxide concentrations. The flow rate within the 60.18 compliance limit at all times FL140 received the composite gas flows. With the North Quarry flare back online in mid-May, and return to normal flaring operations, next month's data is expected to return to previous trends.
- 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 42 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, 24 of the GEW wells and 3 of the GIW wells still exhibited oxygen at the wellhead at or greater than 5%. All of these wells are low-flow/vacuum sensitive wells with valves only slightly open. On-going tuning, maintenance, and pump operation is being performed to manage the oxygen content. With the exception of GEW-1A, all of these wells are in the South Quarry area where the flexible membrane liner cap is in place to prevent atmospheric intrusion into the waste mass.
- Attachment E-1 notes that GEW-1A has an oxygen concentration greater than 5% at one (1) or more weekly monitoring events during the reporting period. This has been the case since it's installation in December 2015. The area in which GEW-1A is installed is very saturated. Bridgeton has installed a sump in the vicinity of GEW-1A and will be increasing the force main capacity during the North Quarry capping projects in an effort

to lower the potentiometric surface in the area to improve gas quality and reduce ambient air intrusion at the well.

- Attachment E-2 contains gas temperatures as measured at the wellheads. Six (6) vertical wells (excluding GIW wells) increased by 30°F during this reporting period. Additionally, 4 vertical wells (excluding GIW wells) decreased by 30°F or more. All wells that exhibited changes greater than 30 degrees are all within the historical gas temperature norms for these wells or within the range of temperatures of nearby vertical wells.
- All wells in the North Quarry during this reporting period exhibited a maximum wellhead temperature under 145°F. Carbon monoxide (CO) results showed non-detect (ND) for North Quarry wells, with the exception of GEW-053 (55 ppm) and GEW-055 (53 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. As mentioned previously, the area in which GEW-1A is installed is very saturated. Bridgeton has installed a sump near GEW-1A and will be increasing the force main capacity during the North Quarry capping projects in an effort to lower the potentiometric surface in the area to improve gas quality and reduce ambient air intrusion at the well.

#### Settlement

- The South Quarry exhibited monthly maximum settlement up to 0.74 feet over 28 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. An increase in waterfowl was noticed from mid to late March due to spring migration, consistent with observations in the surrounding areas. These birds were dispersed using pyrotechnics, a cap gun and vehicles. A remote-control boat was also utilized to disperse birds on the retention basin adjacent to St. Charles Rock Road. The Bridgeton Landfill submitted an updated Bird Hazard Monitoring and Mitigation Plan to the airport on 12/2/16.

#### Low Fill Project Area

- Enclosed is the requested clean fill placement figure in accordance with the June 19, 2015 letter from the Missouri Department of Natural Resources (MDNR) granting modification approval to Permit number 0118912. This modification allows for the

acceptance of clean fill and use thereof as a method of re-establishing positive surface drainage and maintaining structural stability of landfill infrastructure. Condition 4 of this approval is satisfied via the text below and the accompanying figure in Attachment I-1.

- No low fill maintenance activities occurred in May.

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**ATTACHMENT A**

**WORK COMPLETED AND PLANNED**

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**Bridgeton Landfill, LLC**  
**Monthly Summary of Work Completed and Planned**

***Work Completed in May 2017***

**Gas Collection and Control System (GCCS)**

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

**Heat Extraction System (HES)**

- Continued operation and maintenance of the HES (pilot and barrier wells).

**Leachate Management System**

- Continued routine operation of previously installed and upgraded features.
- Began maintenance on LCS-1D and LCS-3D pumps and transducers.

**Pre-Treatment Facility**

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

**Other Projects**

- Continued construction for the North Quarry EVOH capping project as weather allowed.

***Work Planned for June 2017***

**Gas Collection and Control System (GCCS)**

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

**Heat Extraction System (HES)**

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

**Leachate Management System**

- Continue routine operation of previously installed and upgraded features.
- Complete maintenance on LCS-1D and LCS-3D pumps and transducers.

**Pre-Treatment Facility**

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

**Other Projects:**

- Continue acceptance of clean fill materials for future fill projects, as available.
- Continue construction for the North Quarry EVOH capping project contingent upon weather.

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**ATTACHMENT B**

**DAILY FLARE MONITORING DATA**

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**ATTACHMENT B-1**

**FLOW DATA TABLE**

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**Daily Flare Monitoring Data - Bridgeton Landfill**  
**May 2017**

Date	Average Device Flow* (scfm)				<b>Total Avg. Flow** (scfm)</b>
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	EP14 NQ Utility Flare***	
5/1/2017 ****	0	0	1,596	0	1,596
5/2/2017 ****	0	0	1,635	0	1,635
5/3/2017 ****	0	0	1,630	0	1,630
5/4/2017 ****	0	0	1,588	0	1,588
5/5/2017 ****	0	0	1,654	0	1,654
5/6/2017 ****	0	0	1,668	0	1,668
5/7/2017 ****	0	0	1,686	0	1,686
5/8/2017 ****	0	0	1,716	0	1,716
5/9/2017 ****	0	0	1,733	0	1,733
5/10/2017 ****	0	0	1,733	0	1,733
5/11/2017	0	0	1,608	81	1,689
5/12/2017	0	0	1,507	236	1,743
5/13/2017	0	0	1,526	227	1,754
5/14/2017	0	0	1,511	226	1,737
5/15/2017	0	0	1,533	228	1,761
5/16/2017	0	0	1,513	257	1,769
5/17/2017	0	0	1,465	269	1,733
5/18/2017	0	0	1,500	230	1,730
5/19/2017	121	92	1,198	190	1,602
5/20/2017	0	0	1,512	231	1,743
5/21/2017	0	0	1,476	229	1,705
5/22/2017	0	0	1,510	204	1,714
5/23/2017	0	0	1,491	244	1,735
5/24/2017	0	0	1,474	240	1,714
5/25/2017	0	0	1,505	228	1,734
5/26/2017	0	0	1,512	239	1,750
5/27/2017	0	0	1,469	240	1,709
5/28/2017	0	0	1,470	240	1,710
5/29/2017	0	0	1,459	241	1,700
5/30/2017	0	0	1,504	206	1,710
5/31/2017	0	0	1,533	211	1,743
<b>Average</b>	<b>4</b>	<b>3</b>	<b>1,546</b>	<b>152</b>	<b>1,704</b>

\* 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 Aux Flare

\*\*\*\* NQ Aux flare offline, all site LFG routed to Main Flare Station

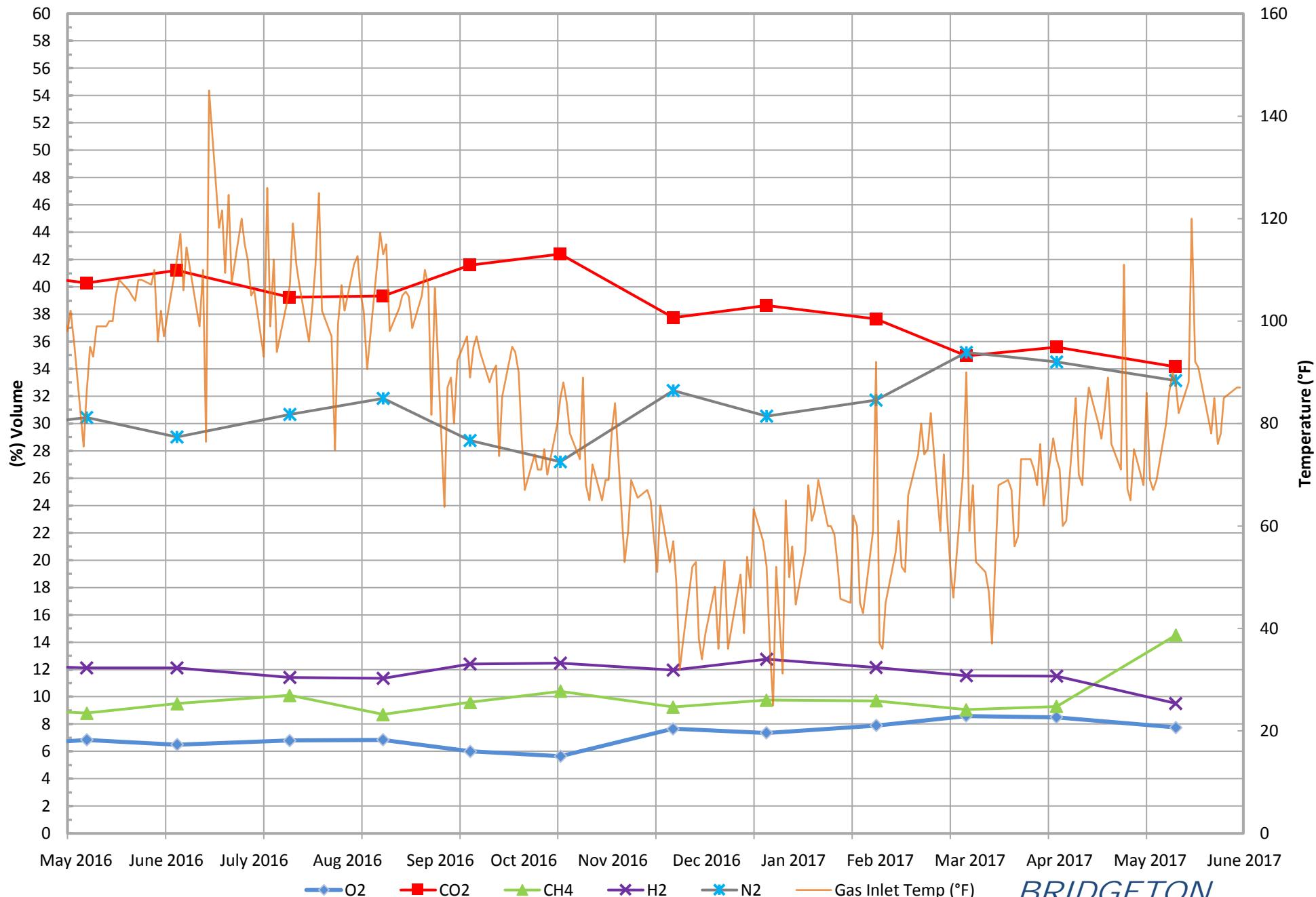
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**ATTACHMENT B-2**

**FLOW DATA GRAPHS**

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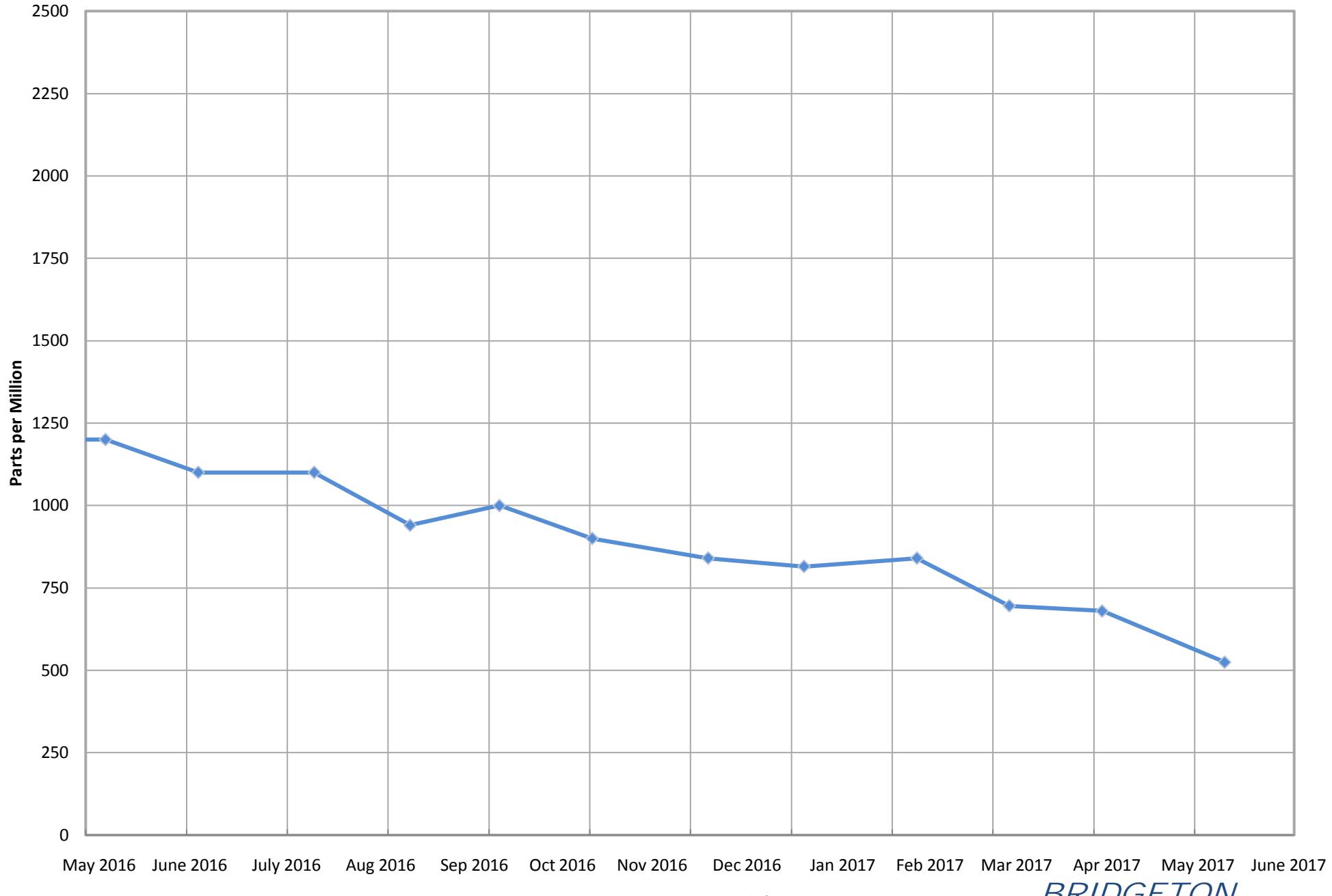
## South Quarry Inlet Gas and Temperature\*



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

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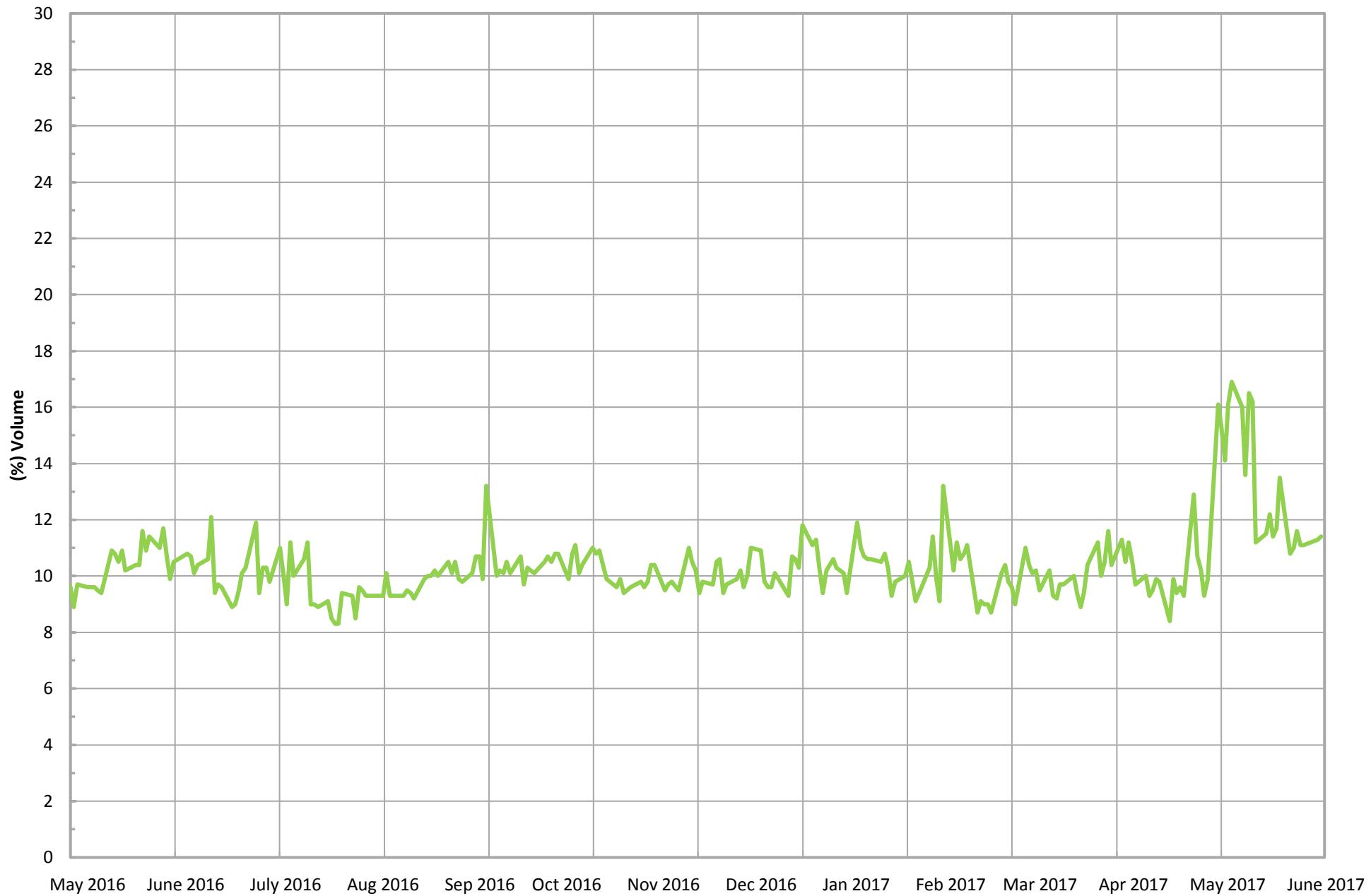
## South Quarry Inlet Carbon Monoxide\*



\*Data collected from Laboratory Reports for the South Quarry.

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## South Quarry Inlet Methane (Field Data)\*

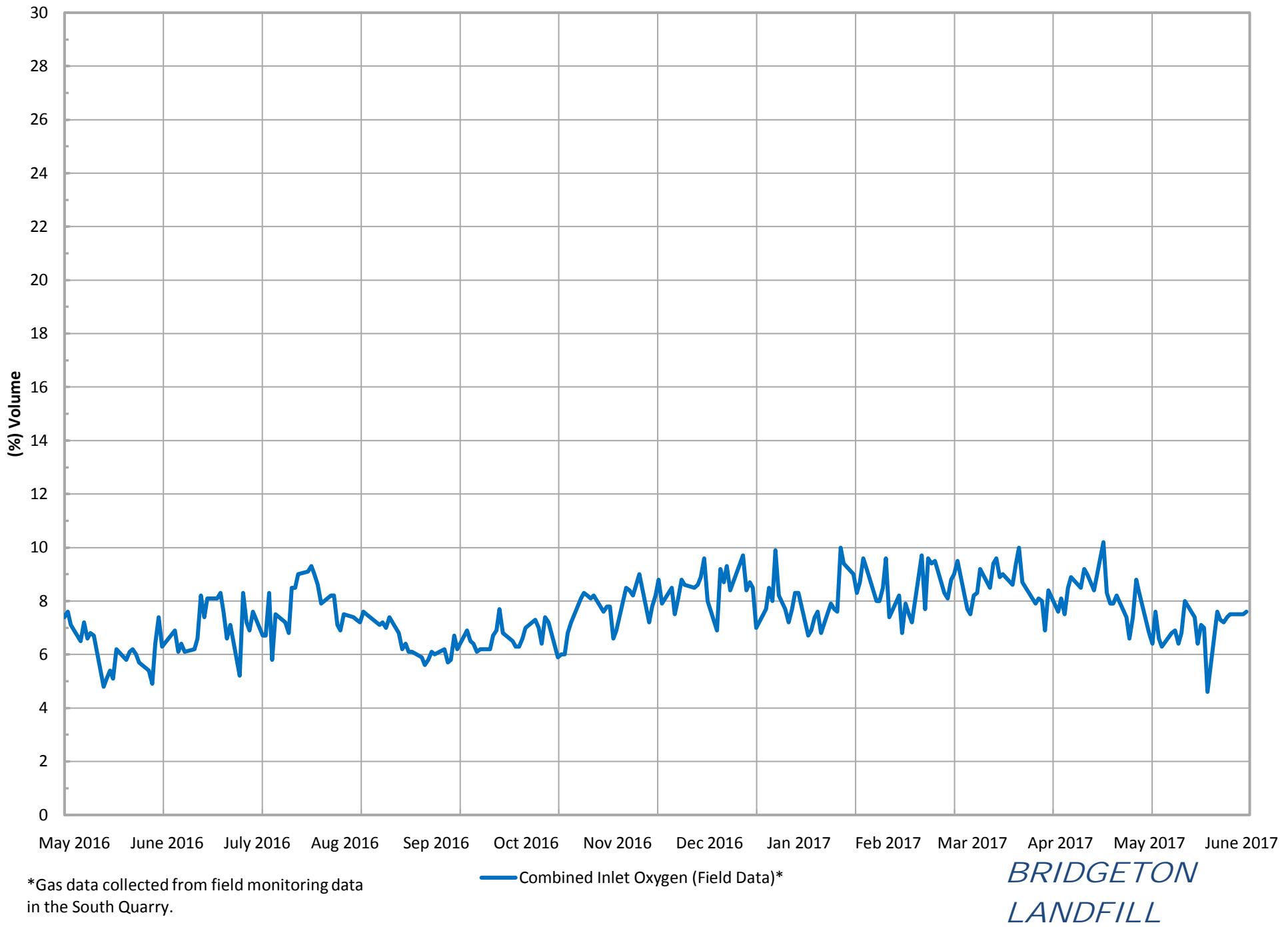


\*Gas data collected from field monitoring data in the South Quarry.

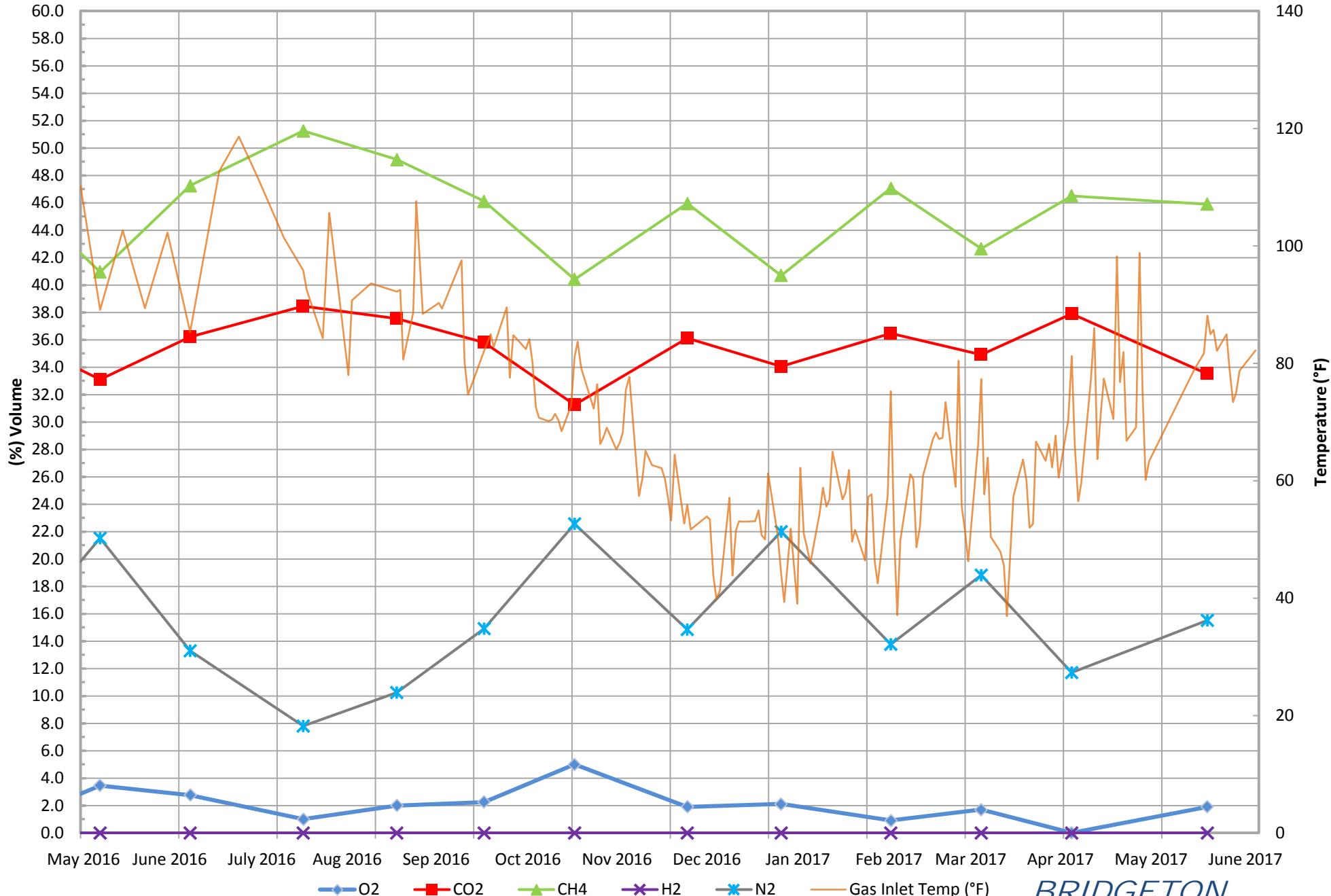
Combined Inlet Methane (Field Data)\*

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## South Quarry Inlet Oxygen (Field Data)\*



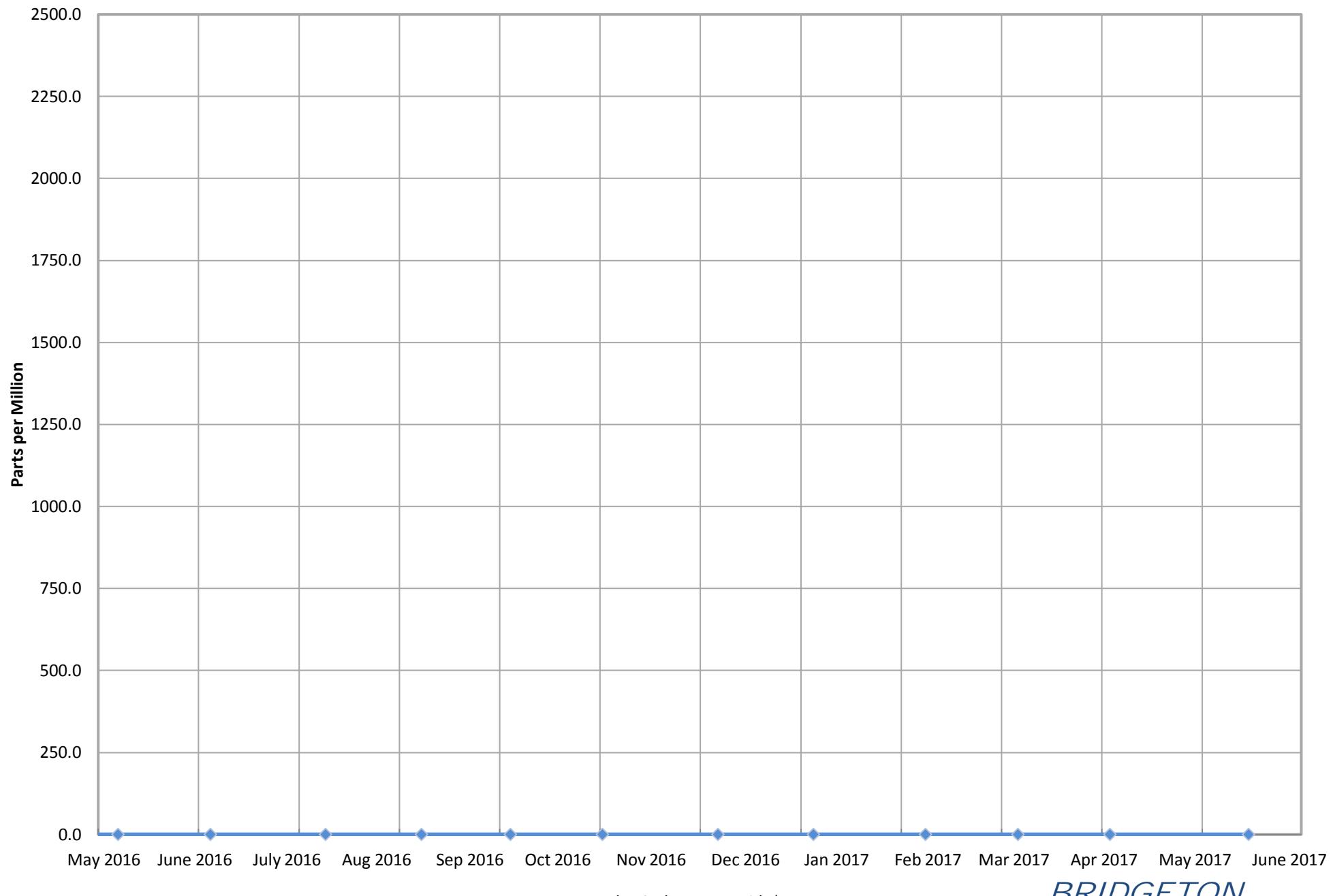
## North Quarry Inlet Gas and Temperature\*



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

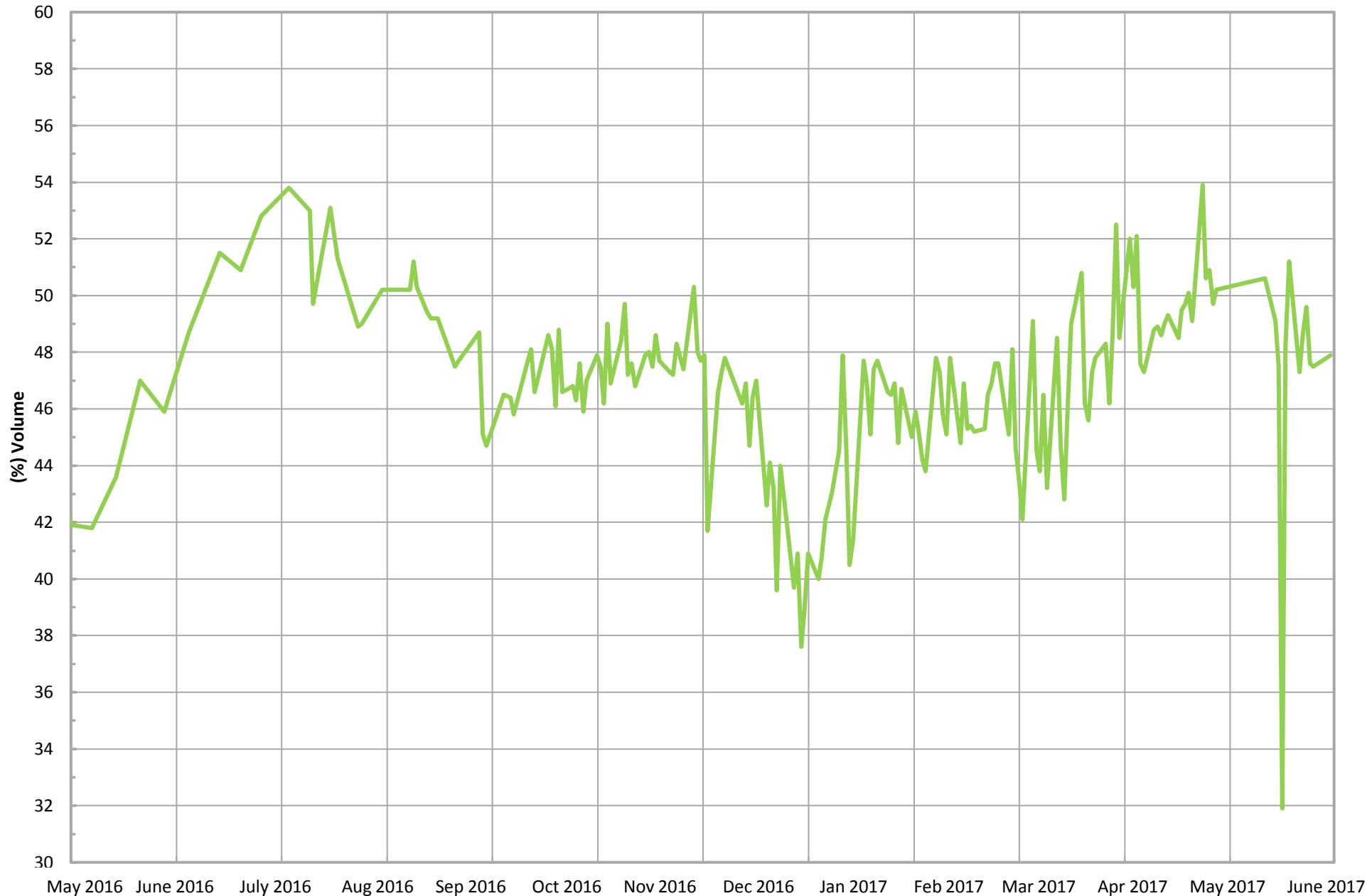
## North Quarry Inlet Carbon Monoxide\*



\*Data collected from Laboratory Reports for the North Quarry.

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## North Quarry Inlet Methane (Field Data)\*

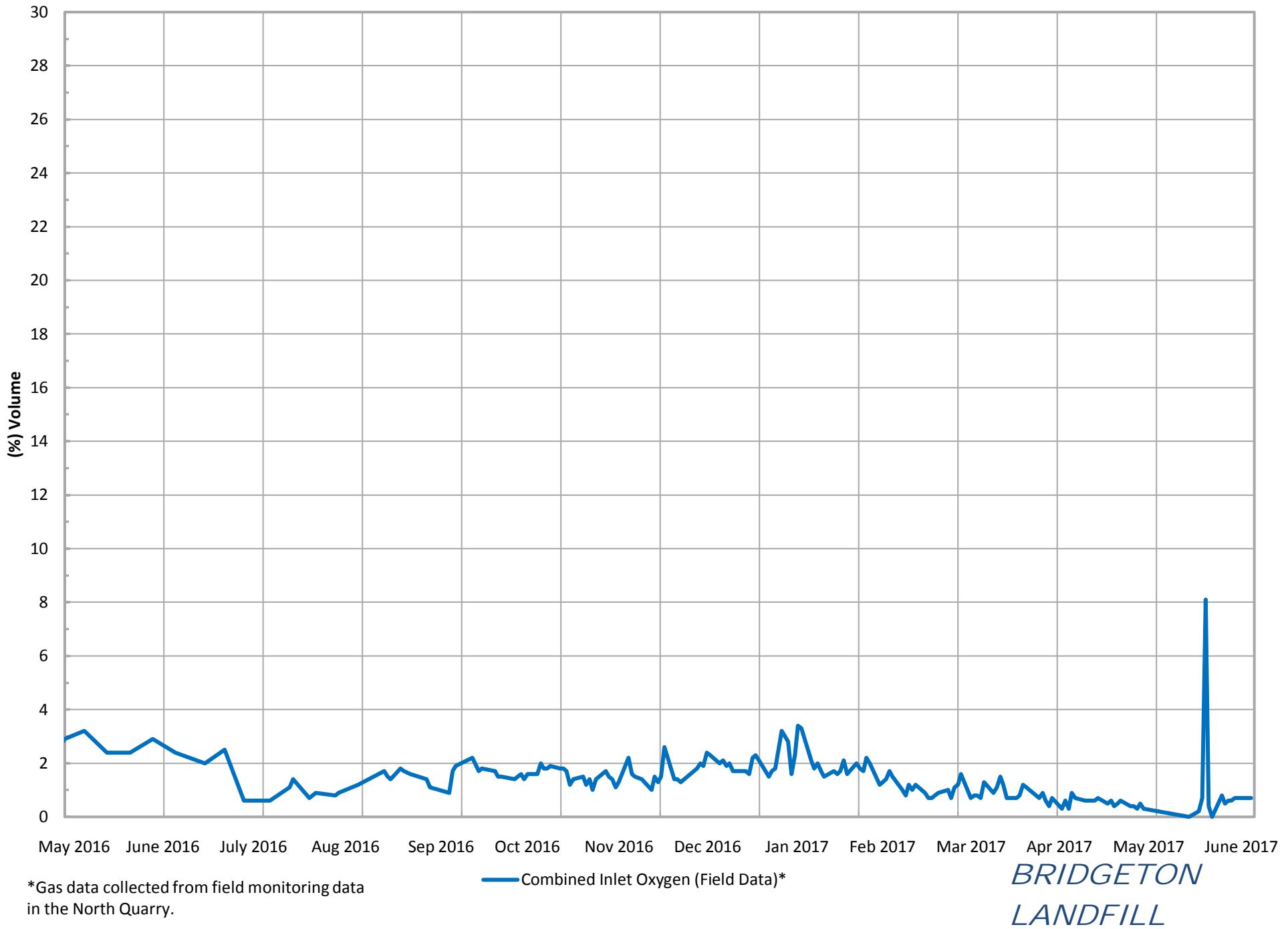


\*Gas data collected from field monitoring data in the North Quarry.

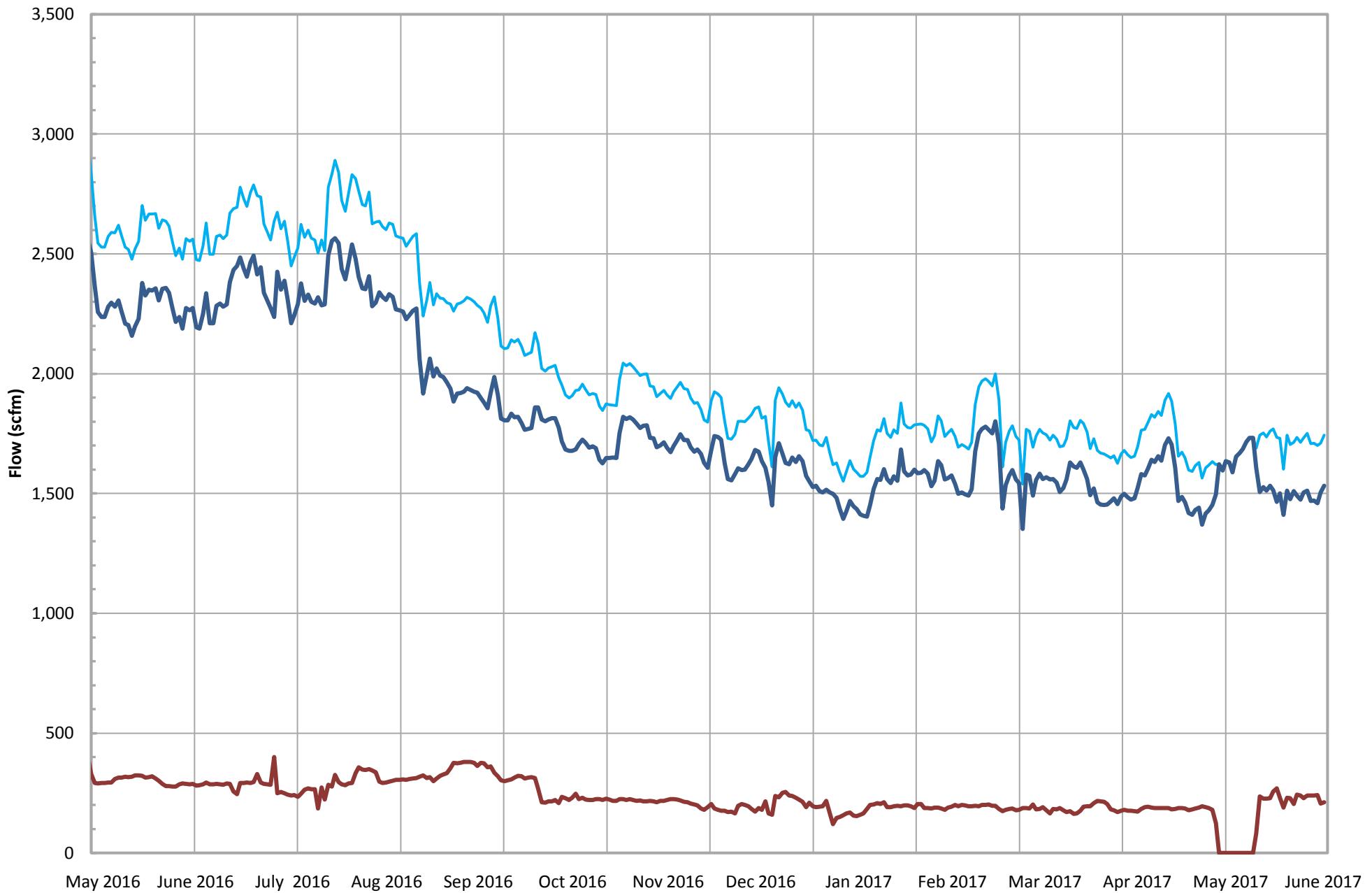
Combined Inlet Methane (Field Data)\*

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## North Quarry Inlet Oxygen (Field Data)\*



## Total Combined Flow (scfm)\*



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

— Total Combined Flow (scfm)\*  
— SQ Flare Station Total Utility Flare Flow  
— NQ Utility Flare

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**ATTACHMENT B-3**

**FLARE TRS / FLARE STATION FLOW**

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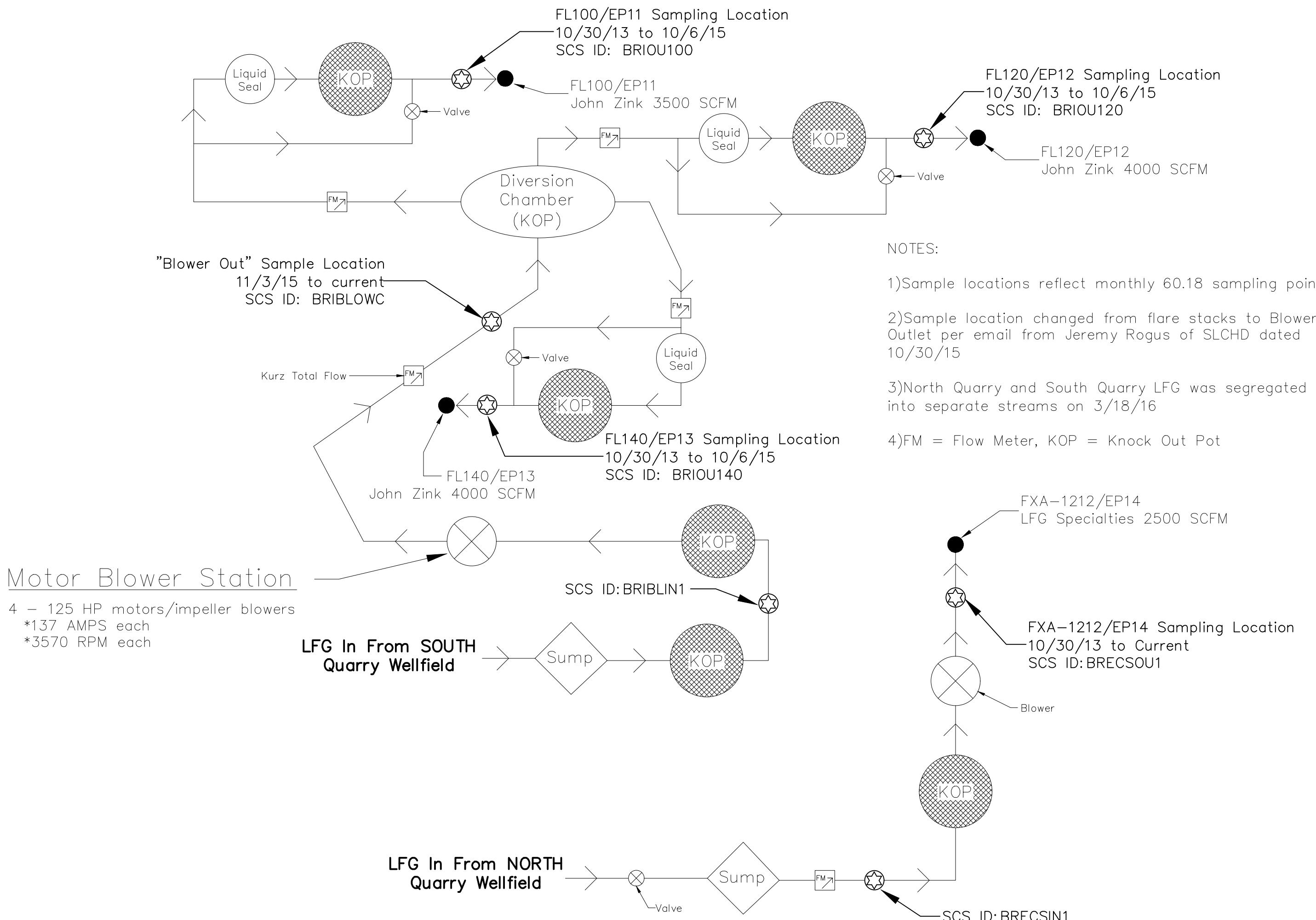


FIGURE 1 - NORTH & SOUTH QUARRY FLARE COMPOUND  
13570 ST. CHARLES ROCK ROAD  
BRIDGETON, MISSOURI

PREPARED FOR:  
BRIDGETON LANDFILL,  
LLC

REVISION DESCRIPTION	
No.	DATE
1	9/19/2016
	ER-98 Removed, shown only to represent SQ LFG flow

Weaver  
Consultants  
Group

WEAVER CONSULTANTS  
GROUP  
6301 EAST HWY AB  
COLUMBIA, MISSOURI 65201  
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DRAWN BY: DT  
REVIEWED BY: MC  
DATE: 10/7/2016  
FILE: 0120-131-10  
CAD: Figure 1 - Flow Diagram.dwg

SHEET 1 OF 1

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

**Bridgeton Landfill, LLC.**  
**May 11 to June 06, 2017**

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm <sub>vd</sub>
118-23 <sup>1</sup>	6/6/2017	17.87	1326	1600
				1700
117-22 <sup>2</sup>	5/30/2017	19.49	1579	1800
				1500
116-21 <sup>2</sup>	5/24/2017	18.14	1469	1400
				1300
115-20 <sup>2</sup>	5/16/2017	19.79	1603	1500
				1400
114-19 <sup>1</sup>	5/11/2017	20.14	1572	1300
				1400

Notes:

<sup>1</sup>Indicates velocity/flow determined by EPA Method 2

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

Note, the North Quarry flare (EP-14 NQ Aux Flare) was offline in May through May 11, due to a lightning strike to the equipment in late April, and therefore all site gas flows were being routed to the SQ Blower Outlet (main flare station). EP-14 NQ Aux Flare became operational again during the subject reporting period; site records indicate full startup and operation of this source occurred 5/11/2017 14:33. From this startup date/time until 6/13/2017 10:12 the Fleetzoom data logger was not fully functional, and therefore flow recording and compliance demonstration of flame presence (i.e., tip thermocouple temperature) are derived from the Sligo scada database logging. Fleetzoom data logger was repaired and returned to full operation at 6/13/2017 10:12.

Monthly 60.18 permit sampling of fixed gases for SQ Blower Outlet occurred 5/11/2017. Per the previous paragraph, the monthly 60.18 permit sampling of EP-14 NQ Aux Flare occurred 5/16/2017.

Bridgeton Landfill, LLC  
 Weekly TRS  
 Monthly Method 2C  
 Event 118-23  
 06/06/2017

PARAMETER		Blower Out
SOUTH QUARRY LFG - BLOWER OUTLET (FL140)		
Date	Test Date	6/6/17
Start	Run Start Time	10:21
	Run Finish Time	11:28
	Net Traversing Points	8 (2 x 4)
⌚	Net Run Time, minutes	1:07:00
C <sub>p</sub>	Pitot Tube Coeficient	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.63
% H <sub>2</sub> O	Moisture Content of LFG, %	4.82
% RH	Relative Humidity, %	78.00
M <sub>fd</sub>	Dry Mole Fraction	0.952
%CH <sub>4</sub>	Methane, %	9.70
%CO <sub>2</sub>	Carbon Dioxide, %	32.90
%O <sub>2</sub>	Oxygen, %	8.49
%Balance	Assumed as Nitrogen, %	38.50
%H <sub>2</sub>	Hydrogen, %	9.30
%CO	Carbon Monoxide, %	0.05
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	29.74
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	29.17
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	11.18
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	30.45
t <sub>s</sub>	Average Stack Gas Temperature, °F	100
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.071
v <sub>s</sub>	Average LFG Velocity, feet/second	17.87
A <sub>s</sub>	Stack Crossectional Area, square feet	1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	1,326
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	1,389
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,451
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	6,138
NHV	Net Heating Value, Btu/scf	143.8
LFG <sub>CH4</sub>	Methane, lb/hr	321.3
	Methane, grains/dscf	28.28
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	2,989.6
	Carbon Dioxide, grains/dscf	263.13
LFG <sub>O2</sub>	Oxygen, lb/hr	560.6
	Oxygen, grains/dscf	49.34
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	2,226.9
	Balance gas as Nitrogen, grains/dscf	196.00
LFG <sub>H2</sub>	Hydrogen, lb/hr	38.7
	Hydrogen, grains/dscf	3.41
LFG <sub>CO</sub>	Carbon Monoxide, lb/hr	3.1
	Carbon Monoxide, grains/dscf	0.27

		Outlet A	Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	2.0	4.1
	Hydrogen Sulfide Rate, lb/hr	0.01	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.001	0.003
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.61
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	170	170
	Methyl Mercaptan Rate, lb/hr	1.69	1.69
	Methyl Mercaptan Rate, grains/dscf	0.149	0.149
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	1.8	1.8
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	1,300	1,200
	Dimethyl Sulfide Rate, lb/hr	16.68	15.40
	Dimethyl Sulfide Rate, grains/dscf	1.468	1.355
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	1.1	1.1
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	130	130
	Dimethyl Disulfide Rate, lb/hr	2.53	2.04
	Dimethyl Disulfide Rate, grains/dscf	0.223	0.180
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	1,600	1,700
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	21.16	22.49
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	1.863	1.979

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

**Tuesday, June 06, 2017**

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	10:21	1,389	1,668	1,465	-20.1%	-5.4%	-13.9%

PARAMETER		Blower Out
EP14 NORTH QUARRY LFG ONLY		
Date	Test Date	6/6/17
Start	Run Start Time	8:53
	Run Finish Time	10:07
	Net Traversing Points	8 (2 x 4)
⌚	Net Run Time, minutes	1:14:20
C <sub>p</sub>	Pitot Tube Coeficient	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.65
% H <sub>2</sub> O	Moisture Content of LFG, %	3.23
% RH	Relative Humidity, %	65.00
M <sub>fd</sub>	Dry Mole Fraction	0.968
%CH <sub>4</sub>	Methane, %	43.40
%CO <sub>2</sub>	Carbon Dioxide, %	35.25
%O <sub>2</sub>	Oxygen, %	2.75
%Balance	Assumed as Nitrogen, %	18.25
%H <sub>2</sub>	Hydrogen, % (* reported at the laboratory detection limit)	3.00
%CO	Carbon Monoxide, % (* reported at the laboratory detection limit)	0.00300
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	28.53
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	28.19
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	0.28
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	29.67
t <sub>s</sub>	Average Stack Gas Temperature, °F	90
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.014
v <sub>s</sub>	Average LFG Velocity, feet/second	8.07
A <sub>s</sub>	Stack Crossectional Area, square feet	0.51
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	229
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	237
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	249
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	1,018
NHV	Net Heating Value, Btu/scf	438.3
LFG <sub>CH4</sub>	Methane, lb/hr	248.5
	Methane, grains/dscf	126.53
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	553.7
	Carbon Dioxide, grains/dscf	281.93
LFG <sub>O2</sub>	Oxygen, lb/hr	31.4
	Oxygen, grains/dscf	15.99
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	182.5
	Balance gas as Nitrogen, grains/dscf	92.91
LFG <sub>H4</sub>	Hydrogen, lb/hr	2.2
	Hydrogen, grains/dscf	1.10
LFG <sub>CO</sub>	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

	Outlet A	Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	87
	Hydrogen Sulfide Rate, lb/hr	0.11
	Hydrogen Sulfide Rate, grains/dscf	0.054
COS	Carbonyl Sulfide Concentration, ppmd	0.59
	Carboynl Sulfide Rate, lb/hr	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	5.3
	Methyl Mercaptan Rate, lb/hr	0.01
	Methyl Mercaptan Rate, grains/dscf	0.005
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	23
	Dimethyl Sulfide Rate, lb/hr	0.05
	Dimethyl Sulfide Rate, grains/dscf	0.026
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.59
	Carbon Disulfide Rate, lb/hr	0.00
	Carbon Disulfide Rate, grains/dscf	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	0.59
	Dimethyl Disulfide Rate, lb/hr	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001
E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	120
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	0.27
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	0.140

● TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

**Tuesday, June 06, 2017**

LOCATION	TIME	FLOW -SCFM		Method 2 vs. Fleetzoom
		Method 2	FleetZoom	
EP14 NQ LFG	8:53	237	231	2.5%

June 9, 2017

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



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

nelac  
ACREDITED IN ACCORDANCE WITH ISO/IEC 17025  
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: I060703-01/04

Enclosed are results for sample(s) received 6/07/17 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 6/08/17.

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

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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



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

## CHAIN OF CUSTODY RECORD

		TURNAROUND TIME		DELIVERABLES		PAGE:	1	OF	1
Project No.:		Standard	□	48 hours	□	EDD	□	Condition upon receipt:	
Project Name:	Bridgeton Landfill	Same Day	□	72 hours	□	EDF	□	Sealed Yes	<input type="checkbox"/> No
Report To:	Nick Bauer	24 hours	■	96 hours	□	Level 3	□	Intact Yes	<input type="checkbox"/> No
Company:	Republic Services	Other:	□	5 day	□	Level 4	□	Chilled	<input type="checkbox"/> deg C
Street:	13570 St. Charles Rock Rd			ANALYSIS REQUEST					
City/State/Zip:	Bridgeton, MO 63044			Btu/SCF (by CH <sub>4</sub> only)					
Phone & Fax:	314-683-3921			ASTM 1946 + H <sub>2</sub> + CO <sub>2</sub>					
e-mail:	<a href="mailto:Nbauer@republicservices.com">Nbauer@republicservices.com</a>			EPA Method 15/16					
		BILLING							
P.O. No.:	6312552								
Bill to:	Republic Services								
Attn:	Nick Bauer								
13570 St. Charles Rock Rd.									
Bridgeton, MO 63044									

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 06/07/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 2 of 7  
I060703

**ASTM D1946**

Lab No.:	I060703-01	I060703-02		
Client Sample I.D.:	NQ EP14 A	NQ EP14 B		
Date/Time Sampled:	6/6/17 9:02	6/6/17 9:31		
Date/Time Analyzed:	6/8/17 10:08	6/8/17 10:22		
QC Batch No.:	170608GC8A1	170608GC8A1		
Analyst Initials:	AS	AS		
Dilution Factor:	3.0	3.0		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND	3.0	ND	3.0
Carbon Dioxide	33.7	0.030	34.8	0.030
Oxygen/Argon	3.1	1.5	2.4	1.5
Nitrogen	19.4	3.0	17.1	3.0
Methane	42.5	0.0030	44.3	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0030
Net Heating Value (BTU/ft3) methane only	386.4	3.0	402.7	3.0
Gross Heating Value (BTU/ft3) methane only	429.2	3.0	447.3	3.0

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 6-9-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 06/07/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 3 of 7  
I060703

**ASTM D1946**

Lab No.:	I060703-03	I060703-04		
Client Sample I.D.:	Blower Outlet A	Blower Outlet B		
Date/Time Sampled:	6/6/17 10:20	6/6/17 10:48		
Date/Time Analyzed:	6/8/17 10:37	6/8/17 10:52		
QC Batch No.:	170608GC8A1	170608GC8A1		
Analyst Initials:	AS	AS		
Dilution Factor:	3.2	3.1		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	9.7	3.2	8.9	3.1
Carbon Dioxide	33.8	0.032	32.0	0.031
Oxygen/Argon	8.2	1.6	8.7	1.5
Nitrogen	37.3	3.2	39.7	3.1
Methane	9.9	0.0032	9.5	0.0031
Carbon Monoxide	0.055	0.0032	0.053	0.0031
Net Heating Value (BTU/ft <sup>3</sup> )	146.2	3.2	141.4	3.1
Gross Heating Value (BTU/ft <sup>3</sup> )	165.4	3.2	159.7	3.1

Results normalized including non-methane hydrocarbons

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

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:

Date 6-9-17

Mark Johnson  
Operations Manager

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No: 170607GC8A1

Matrix: Air

Reporting Units: % v/v

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD			Limits			
Date Analyzed:	6/7/17 14:25		6/7/17 13:32		6/7/17 13:46						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.95	119	5.84	117	1.8	70	130	30
Carbon Dioxide	ND	0.010	10	10.1	101	9.99	100	1.6	70	130	30
Oxygen/Argon	ND	0.50	15	15.8	107	15.6	105	1.1	70	130	30
Nitrogen	ND	1.0	70	72.1	103	71.5	102	0.8	70	130	30
Methane	ND	0.0010	0.10	0.106	106	0.106	106	0.3	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.102	102	0.102	102	0.3	70	130	30

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark JohnsonMark Johnson  
Operations ManagerDate 6-8-17

The cover letter is an integral part of this analytical report

**AirTECHNOLOGY Laboratories, Inc.**

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 06/07/17  
 Matrix: Air  
 Reporting Units: ppmv

Page 5 of 7  
I060703

**EPA Methods 15/16**

Lab No.:	I060703-01	I060703-02	I060703-03	I060703-04
Client Sample I.D.:	NQ EP14 A	NQ EP14 B	Blower Outlet A	Blower Outlet B
Date/Time Sampled:	6/6/17 9:02	6/6/17 9:31	6/6/17 10:20	6/6/17 10:48
Date/Time Analyzed:	6/8/17 9:08	6/8/17 9:20	6/8/17 9:33	6/8/17 9:45
QC Batch No.:	170608GC3A1	170608GC3A1	170608GC3A1	170608GC3A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.0	3.0	3.2	3.1
<b>ANALYTE</b>	<b>Result ppmv</b>	<b>RL ppmv</b>	<b>Result ppmv</b>	<b>RL ppmv</b>
Hydrogen Sulfide	87 d	5.9	46 d	5.9
Carbonyl Sulfide	ND	0.59	ND	0.59
Methyl Mercaptan	5.3	0.59	5.3	0.59
Ethyl Mercaptan	ND	0.59	ND	0.59
Dimethyl Sulfide	23	0.59	23	0.59
Carbon Disulfide	ND	0.59	ND	0.59
Dimethyl Disulfide	ND	0.59	ND	0.59
Total Reduced Sulfur	120	0.59	75	0.59
			1,700	0.63
				1,600
				0.61

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By:

  
Mark Johnson  
Operations Manager

Date 6-8-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 170608GC3A1  
Matrix: Air  
Units: ppmv

Page 6 of 7  
I060703

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	6/8/17 8:55	6/8/17 8:30		6/8/17 8:43				
Analyst Initials:	AS	AS		AS				
Datafile:	08jun003	08jun001		08jun002				
Dilution Factor:	1.0	1.0		1.0				
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	124	70-130%	126	70-130%	1.2	<30
Carbonyl Sulfide	ND	0.20	117	70-130%	118	70-130%	0.8	<30
Ethyl Mercaptan	ND	0.20	124	70-130%	122	70-130%	1.5	<30
Dimethyl Sulfide	ND	0.20	108	70-130%	106	70-130%	1.3	<30
Carbon Disulfide	ND	0.20	109	70-130%	108	70-130%	1.2	<30
Dimethyl Disulfide	ND	0.20	100	70-130%	101	70-130%	0.4	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date: 6-8-17

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



AirTECHNOLOGY Laboratories, Inc.

QC Batch No.: 170608GC3A1  
Matrix: Air  
Units: ppmv

Page 7 of 7  
I060703

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS	LCSD	
Date/Time Analyzed:	6/8/17 8:55	6/7/17 19:15	6/7/17 7:47	
Analyst Initials:	AS	VM	MJ	
Datafile:	08jun003	07jun007	07jun008	
Dilution Factor:	1.0	1.0	1.0	
ANALYTE	Results	RL	% Rec.	Criteria
Methyl Mercaptan	ND	0.20	105	70-130%
				99
				70-130%
				6.1
				<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark J. Johnson  
Operations Manager

Date: 6-8-17

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 117-22  
05/30/2017

Kurz FM =	<b>1,488</b>	scfm
Fleetzoom Total =	<b>1,663</b>	scfm
		$\Delta = 10.5\%$

PARAMETER		Blower Outlet A	Blower Outlet B
<b>SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)</b>			
Date	Test Date	5/30/17	5/30/17
Time	Start	9:26	9:41
*%CH <sub>4</sub>	Methane, %	11.2	11.0
*%CO <sub>2</sub>	Carbon Dioxide, %	37.7	38.0
*%O <sub>2</sub>	Oxygen, %	6.9	6.8
*%Balance	Assumed as Nitrogen, %	44.2	44.2
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	15.2	15.4
t <sub>s</sub>	Blower Outlet LFG Temperature, °F	91.4	98.2
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm (assumes 5%H <sub>2</sub> O)	1,579	
Q <sub>s</sub>	Fleetzoom FM, Standard Volumetric Flow Rate, scfm	1,663	
LFG <sub>CH4</sub>	Methane, lb/hr	442.1	434.2
	Methane, grains/dscf	32.65	32.07
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	4,082.2	4,114.7
	Carbon Dioxide, grains/dscf	301.53	303.92
LFG <sub>O2</sub>	Oxygen, lb/hr	543.2	535.4
	Oxygen, grains/dscf	40.13	39.54
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	3,046.5	3,046.5
	Balance gas as Nitrogen, grains/dscf	225.02	225.02

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

		Blower Outlet A	Blower Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	0.59	0.59
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	30	2.3
	Methyl Mercaptan Rate, lb/hr	0.36	0.03
	Methyl Mercaptan Rate, grains/dscf	0.026	0.002
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.01	0.01
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	1,300	1,200
	Dimethyl Sulfide Rate, lb/hr	19.87	18.34
	Dimethyl Sulfide Rate, grains/dscf	1.468	1.355
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	1.0	0.95
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	230	180
	Dimethyl Disulfide Rate, lb/hr	5.33	4.17
	Dimethyl Disulfide Rate, grains/dscf	0.394	0.308
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	1,800	1,500
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	28.37	23.64
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	2.096	1.746
TPY =		124.27	103.56

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

Bridgeton Landfill, LLC.  
 Weekly TRS Sampling Summary  
 Event 62-22  
 05/30/2017

Fleetzoom Total = **245** scfm

PARAMETER		EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO to NQ LFG Only)			
Date	Test Date	5/30/17	5/30/17
Time	Start	8:30	8:47
*%CH <sub>4</sub>	Methane, %	46.10	45.80
*%CO <sub>2</sub>	Carbon Dioxide, %	37.10	36.90
*%O <sub>2</sub>	Oxygen, %	0.70	0.60
*%Balance	Assumed as Nitrogen, %	16.10	16.70
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	1.89	2.00
t <sub>s</sub>	Blower Outlet LFG Temperature, °F	85.3	88.5
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm (assumes 5%H <sub>2</sub> O)	233	
Q <sub>s</sub>	Fleetzoom Standard Volumetric Flow Rate, scfm	245	
LFG <sub>CH4</sub>	Methane, lb/hr	268.1	266.4
	Methane, grains/dscf	134.40	133.53
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	591.9	588.7
	Carbon Dioxide, grains/dscf	296.73	295.13
LFG <sub>O2</sub>	Oxygen, lb/hr	8.1	7.0
	Oxygen, grains/dscf	4.07	3.49
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	163.5	169.6
	Balance gas as Nitrogen, grains/dscf	81.96	85.02

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

		EP14 NQ A	EP14 NQ B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	44	18
	Hydrogen Sulfide Rate, lb/hr	0.05	0.02
	Hydrogen Sulfide Rate, grains/dscf	0.027	0.011
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	5.0	4.7
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	0.56	0.56
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	21	21
	Dimethyl Sulfide Rate, lb/hr	0.05	0.05
	Dimethyl Sulfide Rate, grains/dscf	0.024	0.024
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	72	45
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	0.17	0.10
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	0.084	0.052
TPY =		0.73	0.46
① TRS assumed moelcular mass = SO <sub>2</sub> , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO <sub>2</sub> emitted from the stack			

June 7, 2017

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: I053104-01/04

Enclosed are results for sample(s) received 5/31/17 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 6/07/17.

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

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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



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

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

### CHAIN OF CUSTODY RECORD

TURNAROUND TIME		DELIVERABLES	PAGE:	1	OF	1
Standard	48 hours	EDD	<i>obj v.17</i>	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

### ANALYSIS REQUEST

P.O. No.: 6312552

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

EPA Method 15/16 + TRS

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVA-TION	EPA Method 15/16 + TRS
	Canister ID	Sample Start	Sample End	Lab Receive							
I053104 - 01	R1344	0830	0837	3" Hg	EP-14 NQ A	5/30/2017	0830	C -1L	LFG	He	X
- 02	16013	0847	0855	3" Hg	EP-14 NQ B	5/30/2017	0847	C -1L	LFG	He	X
- 03	R1348	0926	0933	4" Hg	Blower Outlet A	5/30/2017	0926	C -1L	LFG	He	X
- 04	16012	0941	0948	4" 15	Blower Outlet B	5/30/2017	0941	C -1L	LFG	He	X
	01 -	20.42	-3.45								
	02 -	20.37	-3.46								
	03 -	20.25	-3.42								
	04 -	20.03	-3.45								

AUTHORIZATION TO PERFORM WORK:	Dave Penoyer	COMPANY:	Republic Services	DATE/TIME:	COMMENTS	
SAMPLED BY:	Anthony Kimutis	COMPANY:	Weaver Consultants Group	DATE/TIME:		
RELINQUISHED BY	<i>Anthony Kimutis</i>	DATE/	RECEIVED BY	DATE/TIME	5/30/17 0830	
RELINQUISHED BY	UPS 5-31-17	5/30/17 1600	<i>Jeff L.</i>	5-31-17 10:25		
RELINQUISHED BY		DATE/	RECEIVED BY	DATE/TIME		
METHOD OF TRANSPORT (circle one):	Walk-In	FedEx	UPS	Courier	ATLI	Other _____

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

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

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/31/17  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 3  
I053104

EPA Methods 15/16

Lab No.:	I053104-01	I053104-02	I053104-03	I053104-04
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B	Blower Outlet A	Blower Outlet B
Date/Time Sampled:	5/30/17 8:30	5/30/17 8:47	5/30/17 9:26	5/30/17 9:41
Date/Time Analyzed:	6/5/17 9:28	6/5/17 9:41	6/5/17 9:53	6/5/17 10:06
QC Batch No.:	170605GC3A1	170605GC3A1	170605GC3A1	170605GC3A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	2.8	2.8	3.0	3.0
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	44 d	5.6	18	0.56
Carbonyl Sulfide	ND	0.56	ND	0.56
Methyl Mercaptan	5.0	0.56	4.7	0.56
Ethyl Mercaptan	ND	0.56	ND	0.56
Dimethyl Sulfide	21	0.56	21	0.56
Carbon Disulfide	ND	0.56	ND	0.56
Dimethyl Disulfide	ND	0.56	ND	0.56
Total Reduced Sulfur	72	0.56	45	0.56

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/7/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 170605GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 3  
I053104

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS	LCSD	
Date/Time Analyzed:	6/5/17 9:16	6/5/17 8:51	6/5/17 9:03	
Analyst Initials:	AS	AS	AS	
Datafile:	05jun003	05jun001	05jun002	
Dilution Factor:	1.0	1.0	1.0	
ANALYTE	Results	RL	% Rec.	Criteria
Hydrogen Sulfide	ND	0.20	102	70-130%
Carbonyl Sulfide	ND	0.20	107	70-130%
Methyl Mercaptan	ND	0.20	117	70-130%
Ethyl Mercaptan	ND	0.20	111	70-130%
Dimethyl Sulfide	ND	0.20	98	70-130%
Carbon Disulfide	ND	0.20	91	70-130%
Dimethyl Disulfide	ND	0.20	85	70-130%

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

  
Mark J. Johnson  
Operations Manager

Date:

6/5/17

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 116-21  
05/24/2017

Kurz FM =	1,463	scfm
Fleetzoom Total =	1,547	scfm

$\Delta = 5.4\%$

PARAMETER		Blower Outlet A	Blower Outlet B
<b>SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)</b>			
Date	Test Date	5/24/17	5/24/17
Time	Start	9:24	9:39
*%CH <sub>4</sub>	Methane, %	12.4	11.4
*%CO <sub>2</sub>	Carbon Dioxide, %	34.0	36.6
*%O <sub>2</sub>	Oxygen, %	6.7	7.0
*%Balance	Assumed as Nitrogen, %	46.9	45.0
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	15.4	15.6
t <sub>s</sub>	Blower Outlet LFG Temperature, °F	83.2	85.2
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm (assumes 5%H <sub>2</sub> O)	1,469	
Q <sub>s</sub>	Fleetzoom FM, Standard Volumetric Flow Rate, scfm		1,547
LFG <sub>CH4</sub>	Methane, lb/hr	455.3	418.6
	Methane, grains/dscf	36.15	33.24
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	3,424.6	3,686.4
	Carbon Dioxide, grains/dscf	271.93	292.73
LFG <sub>O2</sub>	Oxygen, lb/hr	490.7	512.6
	Oxygen, grains/dscf	38.96	40.71
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	3,006.9	2,885.1
	Balance gas as Nitrogen, grains/dscf	238.77	229.09

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

		Blower Outlet A	Blower Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	18	0.56
	Hydrogen Sulfide Rate, lb/hr	0.14	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.011	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.58	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	150	120
	Methyl Mercaptan Rate, lb/hr	1.65	1.32
	Methyl Mercaptan Rate, grains/dscf	0.131	0.105
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	1.6	1.20
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	1,000	1,000
	Dimethyl Sulfide Rate, lb/hr	14.22	14.22
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.129
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.81	0.81
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	94	100
	Dimethyl Disulfide Rate, lb/hr	2.03	2.16
	Dimethyl Disulfide Rate, grains/dscf	0.161	0.171
E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	1,400	1,300
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	20.53	19.06
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	1.630	1.514
TPY =		89.91	83.49

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

Bridgeton Landfill, LLC.  
 Weekly TRS Sampling Summary  
 Event 61-21  
 05/24/2017

Fleetzoom Total = 239 scfm

PARAMETER		EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO to NQ LFG Only)			
Date	Test Date	5/24/17	5/24/17
Time	Start	8:28	8:41
*%CH <sub>4</sub>	Methane, %	49.50	48.90
*%CO <sub>2</sub>	Carbon Dioxide, %	37.50	36.30
**%O <sub>2</sub>	Oxygen, %	0.60	0.50
*%Balance	Assumed as Nitrogen, %	12.40	14.30
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	1.79	1.85
t <sub>s</sub>	Blower Outlet LFG Temperature, °F	72.6	87.0
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm (assumes 5%H <sub>2</sub> O)	227	
Q <sub>s</sub>	Fleetzoom Standard Volumetric Flow Rate, scfm	239	
LFG <sub>CH4</sub>	Methane, lb/hr	280.8	277.4
	Methane, grains/dscf	144.32	142.57
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	583.7	565.0
	Carbon Dioxide, grains/dscf	299.93	290.33
LFG <sub>O2</sub>	Oxygen, lb/hr	6.8	5.7
	Oxygen, grains/dscf	3.49	2.91
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	122.8	141.7
	Balance gas as Nitrogen, grains/dscf	63.13	72.80

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

		EP14 NQ A	EP14 NQ B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	0.56	54
	Hydrogen Sulfide Rate, lb/hr	0.00	0.07
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.033
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	2.0	5.0
	Methyl Mercaptan Rate, lb/hr	0.00	0.01
	Methyl Mercaptan Rate, grains/dscf	0.002	0.004
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	0.56	0.56
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	20	21
	Dimethyl Sulfide Rate, lb/hr	0.04	0.05
	Dimethyl Sulfide Rate, grains/dscf	0.023	0.024
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	23	80
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	0.05	0.18
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	0.027	0.093
TPY =		0.23	0.79

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

June 2, 2017

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: I052506-01/04

Enclosed are results for sample(s) received 5/25/17 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 6/01/17.

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

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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

I052506-01/04



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&amp; Fax: 314-683-3921

e-mail: [Nbauer@republicservices.com](mailto:Nbauer@republicservices.com)

CHAIN OF CUSTODY RECORD																		
TURNAROUND TIME					DELIVERABLES		PAGE: 1 OF 1											
Standard		48 hours		EDD		Condition upon receipt:  Sealed Yes No Intact Yes No Chilled deg C												
Same Day		72 hours		EDF														
24 hours		96 hours		Level 3														
Other: ✓ 5 day				Level 4														
BILLING					ANALYSIS REQUEST													
P.O. No.: 6312552																		
Bill to: Republic Services																		
Attn: Nick Bauer																		
13570 St. Charles Rock Rd.																		
Bridgeton, MO 63044																		

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/25/17  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 3  
I052506

EPA Methods 15/16

Lab No.:	I052506-01	I052506-02	I052506-03	I052506-04				
Client Sample I.D.:	NQ EP14 A	NQ EP14 B	Blower Outlet A	Blower Outlet B				
Date/Time Sampled:	5/24/17 8:28	5/24/17 8:41	5/24/17 9:24	5/24/17 9:39				
Date/Time Analyzed:	5/26/17 13:34	5/26/17 13:46	5/26/17 13:59	5/26/17 14:11				
QC Batch No.:	170526GC3A1	170526GC3A1	170526GC3A1	170526GC3A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	2.8	2.8	2.9	2.8				
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.56	54 d	5.6	18	0.58	ND	0.56
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.58	ND	0.56
Methyl Mercaptan	2.0	0.56	5.0	0.56	150 d	58	120 d	56
Ethyl Mercaptan	ND	0.56	ND	0.56	1.6	0.58	1.2	0.56
Dimethyl Sulfide	20	0.56	21	0.56	1,000 d	58	1,000 d	56
Carbon Disulfide	ND	0.56	ND	0.56	0.81	0.58	0.81	0.56
Dimethyl Disulfide	ND	0.56	ND	0.56	94 d	58	100 d	56
Total Reduced Sulfur	23	0.56	80	0.56	1,400	0.58	1,300	0.56

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By:



Mark Johnson  
Operations Manager

Date 6-1-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 170526GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 3  
I052506

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/26/17 10:12	5/26/17 9:47		5/26/17 10:00				
Analyst Initials:	AS	AS		AS				
Datafile:	26may003	26may001		26may002				
Dilution Factor:	1.0	1.0		1.0				
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	112	70-130%	111	70-130%	0.9	<30
Carbonyl Sulfide	ND	0.20	112	70-130%	111	70-130%	0.6	<30
Methyl Mercaptan	ND	0.20	124	70-130%	123	70-130%	0.5	<30
Ethyl Mercaptan	ND	0.20	112	70-130%	112	70-130%	0.5	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	97	70-130%	1.0	<30
Carbon Disulfide	ND	0.20	99	70-130%	99	70-130%	0.3	<30
Dimethyl Disulfide	ND	0.20	85	70-130%	85	70-130%	0.4	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark J. Johnson  
Operations Manager

Date: 6-1-17

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 115-20  
05/16/2017

Kurz FM =	1,497	scfm
Fleetzoom Total =	1,687	scfm

$\Delta = 11.3\%$

PARAMETER		Blower Outlet A	Blower Outlet B
<b>SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)</b>			
Date	Test Date	5/16/17	5/16/17
Time	Start	9:24	9:42
*%CH <sub>4</sub>	Methane, %	11.40	11.80
*%CO <sub>2</sub>	Carbon Dioxide, %	38.00	39.10
*%O <sub>2</sub>	Oxygen, %	7.10	6.90
*%Balance	Assumed as Nitrogen, %	43.50	42.20
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	14.90	15.10
t <sub>s</sub>	Blower Outlet LFG Temperature, °F	97	99
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm (assumes 5%H <sub>2</sub> O)	1,603	
Q <sub>s</sub>	Fleetzoom FM, Standard Volumetric Flow Rate, scfm		1,687
LFG <sub>CH4</sub>	Methane, lb/hr	456.6	472.6
	Methane, grains/dscf	33.24	34.40
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	4,174.9	4,295.7
	Carbon Dioxide, grains/dscf	303.92	312.72
LFG <sub>O2</sub>	Oxygen, lb/hr	567.2	551.2
	Oxygen, grains/dscf	41.29	40.13
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	3,042.1	2,951.2
	Balance gas as Nitrogen, grains/dscf	221.46	214.84

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

		Blower Outlet A	Blower Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	17	0.63
	Hydrogen Sulfide Rate, lb/hr	0.14	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.011	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.63
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	160	13
	Methyl Mercaptan Rate, lb/hr	1.92	0.16
	Methyl Mercaptan Rate, grains/dscf	0.140	0.011
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	1.6	0.63
	Ethyl Mercaptan Rate, lb/hr	0.02	0.01
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	1,000	1,100
	Dimethyl Sulfide Rate, lb/hr	15.51	17.06
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.242
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.82	0.86
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	120	170
	Dimethyl Disulfide Rate, lb/hr	2.82	4.00
	Dimethyl Disulfide Rate, grains/dscf	0.205	0.291
E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	1,500	1,400
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	23.99	22.39
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	1.746	1.630
TPY =		105.07	98.07

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

Bridgeton Landfill, LLC  
 Weekly TRS  
 Monthly Method 2C  
 Event 61-20  
 05/16/2017

PARAMETER		Blower Out
EP14 NORTH QUARRY LFG ONLY		
Date	Test Date	5/16/17
Start	Run Start Time	8:05
	Run Finish Time	9:04
	Net Traversing Points	8 (2 x 4)
④	Net Run Time, minutes	0:59:00
C <sub>p</sub>	Pitot Tube Coeficient	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.42
% H <sub>2</sub> O	Moisture Content of LFG, %	2.43
% RH	Relative Humidity, %	44.90
M <sub>fd</sub>	Dry Mole Fraction	0.976
%CH <sub>4</sub>	Methane, %	45.95
%CO <sub>2</sub>	Carbon Dioxide, %	34.45
%O <sub>2</sub>	Oxygen, %	2.35
%Balance	Assumed as Nitrogen, %	15.50
%H <sub>2</sub>	Hydrogen, % (* reported at the laboratory detection limit)	3.10
%CO	Carbon Monoxide, % (* reported at the laboratory detection limit)	0.00310
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	27.69
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	27.45
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	1.36
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	29.52
t <sub>s</sub>	Average Stack Gas Temperature, °F	93
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.013
V <sub>s</sub>	Average LFG Velocity, feet/second	7.82
A <sub>s</sub>	Stack Crossectional Area, square feet	0.51
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	221
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	227
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	241
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	954
NHV	Net Heating Value, Btu/scf	417.9
LFG <sub>CH4</sub>	Methane, lb/hr	254.0
	Methane, grains/dscf	133.97
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	522.4
	Carbon Dioxide, grains/dscf	275.53
LFG <sub>O2</sub>	Oxygen, lb/hr	25.9
	Oxygen, grains/dscf	13.67
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	149.6
	Balance gas as Nitrogen, grains/dscf	78.91
LFG <sub>H4</sub>	Hydrogen, lb/hr	2.2
	Hydrogen, grains/dscf	1.14
LFG <sub>CO</sub>	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	51	0.61
	Hydrogen Sulfide Rate, lb/hr	0.06	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.032	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.61	0.61
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	4.6	0.84
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.004	0.001
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	0.61	0.61
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	20	19
	Dimethyl Sulfide Rate, lb/hr	0.04	0.04
	Dimethyl Sulfide Rate, grains/dscf	0.023	0.021
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.61	0.61
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	0.61	0.74
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
④E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	77	23
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	0.17	0.05
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	0.090	0.027

④ TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

May 24, 2017

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: I051703-01/04

Enclosed are results for sample(s) received 6/17/17 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 5/24/17.

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

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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

CHAIN OF CUSTODY RECORD									
		TURNAROUND TIME		DELIVERABLES		PAGE:		1 OF 1	
		Standard 48 hours		EDD		Condition upon receipt: Sealed Yes Intact Yes Chilled No			
		Same Day 72 hours		EDF					
		24 hours 96 hours		Level 3					
		Other: ✓ 5 day		Level 4					
ANALYSIS REQUEST									
ASTM 1946 + H2 + CO & BTU/SCF (by CH4 only)									
EPA Method 15/16 + TRS									
Btu/SCF (by CH4 only)									
P.O. No.: 6312552									
Bill to: Republic Services									
Attn: Nick Bauer									
13570 St. Charles Rock Rd.									
Bridgeton, MO 63044									
BILLING									
PROJECT NUMBER: 18501 E. Gale Ave., Suite 130 City of Industry, CA 91748 Ph: 626-964-4032 Fx: 626-964-5832									
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: Nbauera@republicservices.com									
LAB USE ONLY		Canister Pressures ("hg)		SAMPLE IDENTIFICATION		DATE		TIME	
		Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE	CONTAINER	MATRIX	PRESERVATION
I051703-01		R1343	-18.84	-3.52	-5	Blower Outlet A	C-1L	LFG	He
-01		J1725	-19.34	-3.47	-5	Blower Outlet B	C-1L	LFG	He
-63		R1366	-19.31	-3.45	-4.9	NQ EP14 A	C-1L	LFG	He
-64		1538	-19.4	-3.48	-4.1	NQ EP14 B	C-1L	LFG	He
COMMENTS									
AUTHORIZATION TO PERFORM WORK: Dave Penoyer									
SAMPLER BY: DAR DATE RECEIVED BY: DATE/TIME: 05/16/2017 11:00									
RELINQUISHED BY: DATE RECEIVED BY: DATE/TIME: 05/17/2017 10:15									
RELINQUISHED BY: DATE RECEIVED BY: DATE/TIME: 05/17/2017 10:15									
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									
N=HCl N=None / Container: B=Bag C=Can									
Rev. 03-57/09									

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/17/17  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 5  
I051703

EPA Methods 15/16

Lab No.:	I051703-01	I051703-02	I051703-03	I051703-04
Client Sample I.D.:	Blower Outlet A	Blower Outlet B	NQ EP14 A	NQ EP14 B
Date/Time Sampled:	5/16/17 9:32	5/16/17 9:42	5/16/17 8:24	5/16/17 8:40
Date/Time Analyzed:	5/17/17 14:37	5/17/17 14:50	5/17/17 15:02	5/17/17 15:15
QC Batch No.:	170517GC3A1	170517GC3A1	170517GC3A1	170517GC3A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.2	3.2	3.1	3.1
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	17	0.63	ND	0.63
Carbonyl Sulfide	ND	0.63	ND	0.63
Methyl Mercaptan	160 d	63	13	0.63
Ethyl Mercaptan	1.6	0.63	ND	0.61
Dimethyl Sulfide	1,000 d	63	1,100 d	63
Carbon Disulfide	0.82	0.63	0.86	0.63
Dimethyl Disulfide	120 d	63	170 d	63
Total Reduced Sulfur	1,500	0.63	1,400	0.63

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By:

Mark Johnson

Operations Manager

Date 5-24-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 170517GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 5  
I051703

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/17/17 13:45	5/17/17 13:20		5/17/17 13:33				
Analyst Initials:	AS		AS		AS			
Datafile:	17may003		17may001		17may002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Hydrogen Sulfide	ND	0.20	110	70-130%	110	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	100	70-130%	100	70-130%	0.2	<30
Methyl Mercaptan	ND	0.20	123	70-130%	122	70-130%	0.6	<30
Ethyl Mercaptan	ND	0.20	114	70-130%	112	70-130%	1.7	<30
Dimethyl Sulfide	ND	0.20	94	70-130%	93	70-130%	1.2	<30
Carbon Disulfide	ND	0.20	95	70-130%	94	70-130%	0.7	<30
Dimethyl Disulfide	ND	0.20	85	70-130%	86	70-130%	1.2	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark J. Johnson  
Operations Manager

Date: 5-24-17

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



AirTECHNOLOGY Laboratories, Inc.

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

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/17/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 4 of 5  
I051703

**ASTM D1946**

Lab No.:	I051703-03	I051703-04		
<b>Client Sample I.D.:</b>	NQ EP14 A	NQ EP14 B		
<b>Date/Time Sampled:</b>	5/16/17 8:24	5/16/17 8:40		
<b>Date/Time Analyzed:</b>	5/22/17 20:23	5/22/17 20:38		
<b>QC Batch No.:</b>	170522GC8A3	170522GC8A3		
<b>Analyst Initials:</b>	AS	AS		
<b>Dilution Factor:</b>	3.1	3.1		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND	3.1	ND	3.1
Carbon Dioxide	35.4	0.031	33.5	0.031
Oxygen/Argon	1.8	1.5	2.9	1.5
Nitrogen	13.7	3.1	17.3	3.1
Methane	47.3	0.0031	44.6	0.0031
Carbon Monoxide	ND	0.0031	ND	0.0031
Net Heating Value (BTU/ft <sup>3</sup> ) methane only	430.4	3.1	405.4	3.1
Gross Heating Value (BTU/ft <sup>3</sup> ) methane only	478.0	3.1	450.2	3.1

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 5-24-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No: 170522GC8A3  
Matrix: Air  
Reporting Units: % v/v

Page 5 of 5  
I051703

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD						
Date Analyzed:	5/22/17 16:03		5/22/17 16:30		5/22/17 16:44						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.92	118	5.87	117	1.0	70	130	30
Carbon Dioxide	ND	0.010	10	9.95	99	9.51	95	4.5	70	130	30
Oxygen/Argon	ND	0.50	15	15.6	105	15.1	102	3.2	70	130	30
Nitrogen	ND	1.0	70	70.6	101	68.4	98	3.2	70	130	30
Methane	ND	0.0010	0.10	0.108	108	0.107	107	1.4	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.104	104	0.102	102	1.2	70	130	30

ND = Not Detected (below RL)

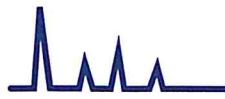
RL = Reporting Limit

Reviewed/Approved By: Mark Johnson

Date 5-24-17

Mark Johnson  
Operations Manager

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

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

Bridgeton Landfill, LLC  
 Weekly TRS  
 Monthly Method 2C  
 Event 114-19  
 05/11/2017

PARAMETER		Blower Out
SOUTH & NORTH QUARRY COMBINED - BLOWER OUTLET (FL140)		
Date	Test Date	5/11/17
Start	Run Start Time	9:22
	Run Finish Time	10:55
	Net Traversing Points	8 (2 x 4)
⌚	Net Run Time, minutes	1:33:02
C <sub>p</sub>	Pitot Tube Coeficient	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.41
% H <sub>2</sub> O	Moisture Content of LFG, %	2.63
% RH	Relative Humidity, %	61.40
M <sub>fd</sub>	Dry Mole Fraction	0.974
%CH <sub>4</sub>	Methane, %	14.50
%CO <sub>2</sub>	Carbon Dioxide, %	34.15
%O <sub>2</sub>	Oxygen, %	7.75
%Balance	Assumed as Nitrogen, %	33.15
%H <sub>2</sub>	Hydrogen, %	9.52
%CO	Carbon Monoxide, %	0.05
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	29.33
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	29.03
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	16.73
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	30.64
t <sub>s</sub>	Average Stack Gas Temperature, °F	88
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.092
v <sub>s</sub>	Average LFG Velocity, feet/second	20.14
A <sub>s</sub>	Stack Crossectional Area, square feet	1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	1,572
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	1,613
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,635
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	7,180
NHV	Net Heating Value, Btu/scf	178.7
LFG <sub>CH4</sub>	Methane, lb/hr	569.6
	Methane, grains/dscf	42.27
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	3,680.3
	Carbon Dioxide, grains/dscf	273.13
LFG <sub>O2</sub>	Oxygen, lb/hr	607.3
	Oxygen, grains/dscf	45.07
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	2,274.0
	Balance gas as Nitrogen, grains/dscf	168.77
LFG <sub>H2</sub>	Hydrogen, lb/hr	47.0
	Hydrogen, grains/dscf	3.49
LFG <sub>CO</sub>	Carbon Monoxide, lb/hr	3.6
	Carbon Monoxide, grains/dscf	0.27

		Outlet A	Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd	11	19.0
	Hydrogen Sulfide Rate, lb/hr	0.09	0.16
	Hydrogen Sulfide Rate, grains/dscf	0.007	0.012
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd	150	140
	Methyl Mercaptan Rate, lb/hr	1.77	1.65
	Methyl Mercaptan Rate, grains/dscf	0.131	0.122
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd	1.4	1.4
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd	1,000	1,100
	Dimethyl Sulfide Rate, lb/hr	15.22	16.74
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.242
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd	0.66	0.65
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd	77	83
	Dimethyl Disulfide Rate, lb/hr	1.78	1.55
	Dimethyl Disulfide Rate, grains/dscf	0.132	0.115
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd	1,300	1,400
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	20.39	21.96
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf	1.514	1.630

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

**Thursday, May 11, 2017**

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	9:22	1,613	1,805	1,650	-11.9%	-2.3%	-9.4%

PARAMETER		Blower Out
<b>EP14 NORTH QUARRY FLARE NOT OPERATING - LFG Q Combined with/SQ LFG</b>		
Date	Test Date	5/11/17
Start	Run Start Time	0:00
	Run Finish Time	0:00
	Net Traversing Points	8 (2 x 4)
⌚	Net Run Time, minutes	0:00:00
C <sub>p</sub>	Pitot Tube Coeficient	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	0.00
% H <sub>2</sub> O	Moisture Content of LFG, %	
% RH	Relative Humidity, %	0.00
M <sub>fd</sub>	Dry Mole Fraction	
%CH <sub>4</sub>	Methane, %	0.00
%CO <sub>2</sub>	Carbon Dioxide, %	0.00
%O <sub>2</sub>	Oxygen, %	0.00
%Balance	Assumed as Nitrogen, %	0.00
%H <sub>2</sub>	Hydrogen, % (* reported at the laboratory detection limit)	0.00
%CO	Carbon Monoxide, % (* reported at the laboratory detection limit)	0.00000
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	0.00
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	
t <sub>s</sub>	Average Stack Gas Temperature, °F	0
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.000
V <sub>s</sub>	Average LFG Velocity, feet/second	
A <sub>s</sub>	Stack Crossectional Area, square feet	0.51
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	
NHV	Net Heating Value, Btu/scf	
LFG <sub>CH4</sub>	Methane, lb/hr	0.0
	Methane, grains/dscf	
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	0.0
	Carbon Dioxide, grains/dscf	
LFG <sub>O2</sub>	Oxygen, lb/hr	0.0
	Oxygen, grains/dscf	
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	0.0
	Balance gas as Nitrogen, grains/dscf	
LFG <sub>H4</sub>	Hydrogen, lb/hr	0.0
	Hydrogen, grains/dscf	
LFG <sub>CO</sub>	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	

		Outlet A	Outlet B
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd		
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf		
COS	Carbonyl Sulfide Concentration, ppmd		
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf		
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd		
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf		
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd		
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf		
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd		
	Dimethyl Sulfide Rate, lb/hr	0.00	0.00
	Dimethyl Sulfide Rate, grains/dscf		
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd		
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf		
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd		
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf		
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd		
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr	0.00	0.00
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf		

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

May 16, 2017

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, 250/3C,  
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: I051205-01/02

Enclosed are results for sample(s) received 5/12/17 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 5/15/17.

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

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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



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

**Project No.:** Bridgeton Landfill  
**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	<input type="checkbox"/>	48 hours	<input type="checkbox"/>	EDD	<input type="checkbox"/>	Condition upon receipt:			
Same Day	<input type="checkbox"/>	72 hours	<input type="checkbox"/>	EDF	<input type="checkbox"/>	Sealed Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
24 hours	<input checked="" type="checkbox"/>	96 hours	<input type="checkbox"/>	Level 3	<input type="checkbox"/>	Intact Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Other:	<input type="checkbox"/>	5 day	<input type="checkbox"/>	Level 4	<input type="checkbox"/>	Chilled	<input type="checkbox"/>	deg C	

## ANALYSIS REQUEST

Btu/SCF (by CH<sub>4</sub> only)

Btu/SCF

ASTM 1946 + H<sub>2</sub> + CO &ASTM 1946 + H<sub>2</sub> + CO &

EPA Method 1516

Bridgeton, MO 63044

## SAMPLE IDENTIFICATION

EPA Method

Sample Date

TIME

SAMPLE

CONTAINER

QTY/TYPE

MATRIX

PRESERVA-

TION

Btu/SCF

He

LFG

He

LFG

LFG

LFG

LFG

LFG

ASTM 1946 + H<sub>2</sub> + CO &

He

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He

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Btu/SCF

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ASTM 1946 + H<sub>2</sub> + CO &

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Btu/SCF

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ASTM 1946 + H<sub>2</sub> + CO &

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ASTM 1946 + H<sub>2</sub> + CO &

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Bridgeton, MO 63044

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

DATE/TIME:

SAMPLER BY: DAR COMPANY: Weaver Consultants Group DATE/TIME: 05/11/2017 0700-1300

REINQUISITION BY: DATE/TIME: DATE/TIME: DATE/TIME:

RELINQUISHED BY: DATE/TIME: DATE/TIME: DATE/TIME:

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/12/17  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 5  
I051205

**EPA Methods 15/16**

Lab No.:	I051205-01	I051205-02		
Client Sample I.D.:	Blower Outlet A	Blower Outlet B		
Date/Time Sampled:	5/11/17 9:37	5/11/17 10:00		
Date/Time Analyzed:	5/12/17 14:15	5/12/17 14:28		
QC Batch No.:	170512GC3A1	170512GC3A1		
Analyst Initials:	MJ	MJ		
Dilution Factor:	3.0	2.8		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	11	0.59	19	0.56
Carbonyl Sulfide	ND	0.59	ND	0.56
Methyl Mercaptan	150 d	5.9	140 d	5.6
Ethyl Mercaptan	1.4	0.59	1.4	0.56
Dimethyl Sulfide	1,000 d	59	1,100 d	56
Carbon Disulfide	0.66	0.59	0.65	0.56
Dimethyl Disulfide	77 d	5.9	83 d	5.6
Total Reduced Sulfur	1,300	0.59	1,400	0.56

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson  
Mark Johnson  
Operations Manager

Date 5/16/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 170512GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 5  
I051205

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/12/17 9:07	5/12/17 8:43		5/12/17 8:55				
Analyst Initials:	MJ	MJ		MJ				
Datafile:	12may002	12may.		12may001				
Dilution Factor:	1.0	1.0		1.0				
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	101	70-130%	99	70-130%	2.0	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	101	70-130%	4.4	<30
Methyl Mercaptan	ND	0.20	113	70-130%	108	70-130%	4.1	<30
Ethyl Mercaptan	ND	0.20	107	70-130%	104	70-130%	2.9	<30
Dimethyl Sulfide	ND	0.20	93	70-130%	90	70-130%	2.7	<30
Carbon Disulfide	ND	0.20	85	70-130%	82	70-130%	3.3	<30
Dimethyl Disulfide	ND	0.20	75	70-130%	73	70-130%	1.8	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark J. Johnson  
Operations Manager

Date:

5-12-17

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



AirTECHNOLOGY Laboratories, Inc.

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

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/12/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 4 of 5  
I051205

**ASTM D1946**

Lab No.:	I051205-01	I051205-02		
Client Sample I.D.:	Blower Outlet A	Blower Outlet B		
Date/Time Sampled:	5/11/17 9:37	5/11/17 10:00		
Date/Time Analyzed:	5/12/17 16:42	5/12/17 16:56		
QC Batch No.:	170512GC8A1	170512GC8A1		
Analyst Initials:	MJ	MJ		
Dilution Factor:	3.0	2.8		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	9.41	3.0	9.63	2.8
Carbon Dioxide	34.0	0.030	34.3	0.028
Oxygen/Argon	8.0	1.5	7.5	1.4
Nitrogen	33.5	3.0	32.8	2.8
Methane	14	0.0030	15	0.0028
Carbon Monoxide	0.051	0.0030	0.054	0.0028
Net Heating Value (BTU/ft3)	175.0	3.0	182.3	2.8
Gross Heating Value (BTU/ft3)	197.4	3.0	205.6	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  
Operations Manager

Date 5-15-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No: 170512GC8A1  
Matrix: Air  
Reporting Units: % v/v

Page 5 of 5  
I051205

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD											
Date Analyzed:	5/12/17 12:15		5/12/17 11:02		5/12/17 11:17											
Analyst Initials:	MJ		MJ		MJ											
Dilution Factor:	1.0		1.0		1.0											
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD					
Hydrogen	ND	1.0	5.0	5.10	102	5.31	106	4.0	70	130	30					
Carbon Dioxide	ND	0.010	10	9.55	95	9.75	97	2.1	70	130	30					
Oxygen/Argon	ND	0.50	15	16.0	108	16.2	109	1.4	70	130	30					
Nitrogen	ND	1.0	70	71.7	103	72.2	103	0.6	70	130	30					
Methane	ND	0.0010	0.10	0.117	117	0.115	115	1.2	70	130	30					
Carbon Monoxide	ND	0.0010	0.10	0.108	108	0.107	107	1.1	70	130	30					

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: 

Date 5-15-17

Mark Johnson  
Operations Manager

The cover letter is an integral part of this analytical report



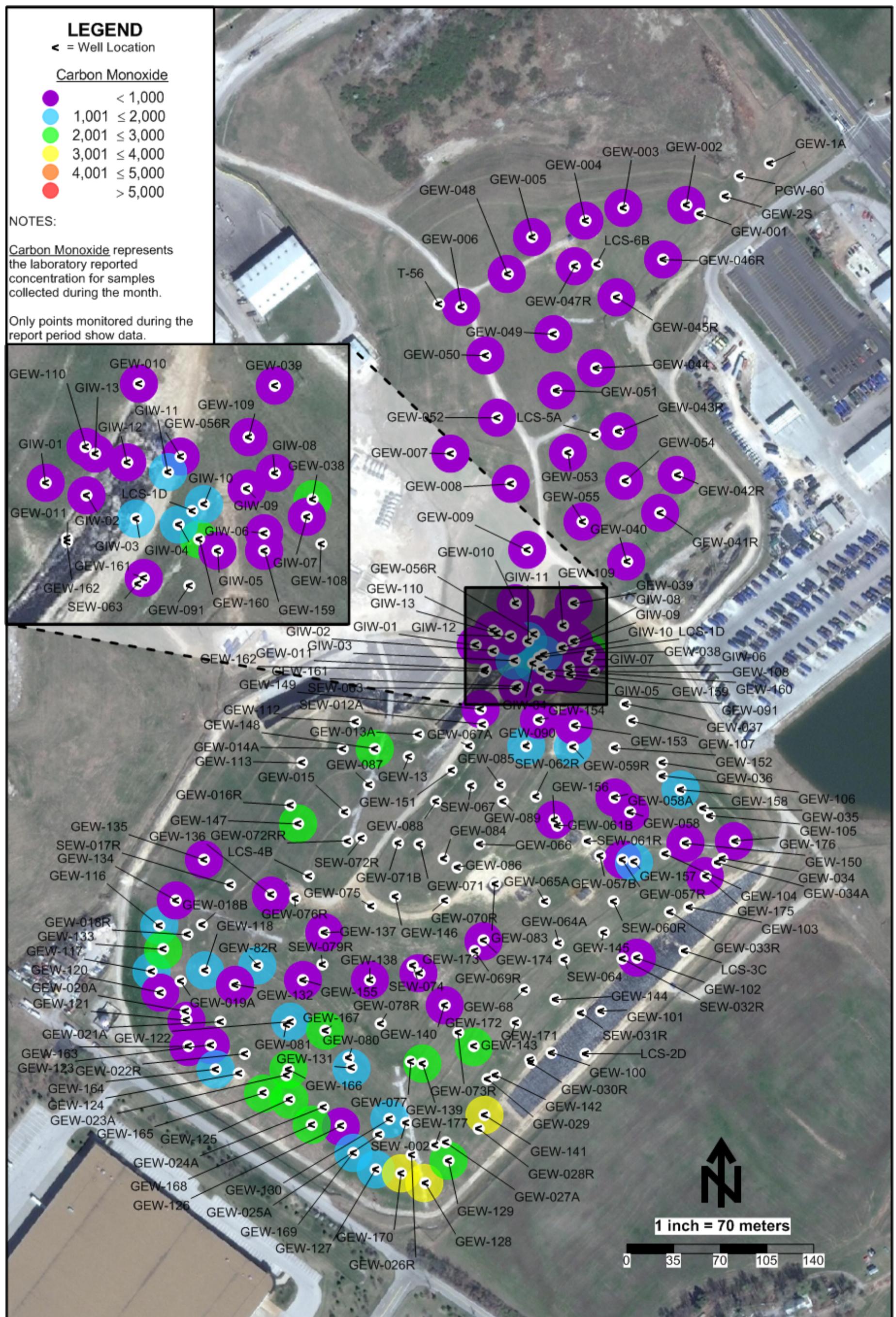
AirTECHNOLOGY Laboratories, Inc.

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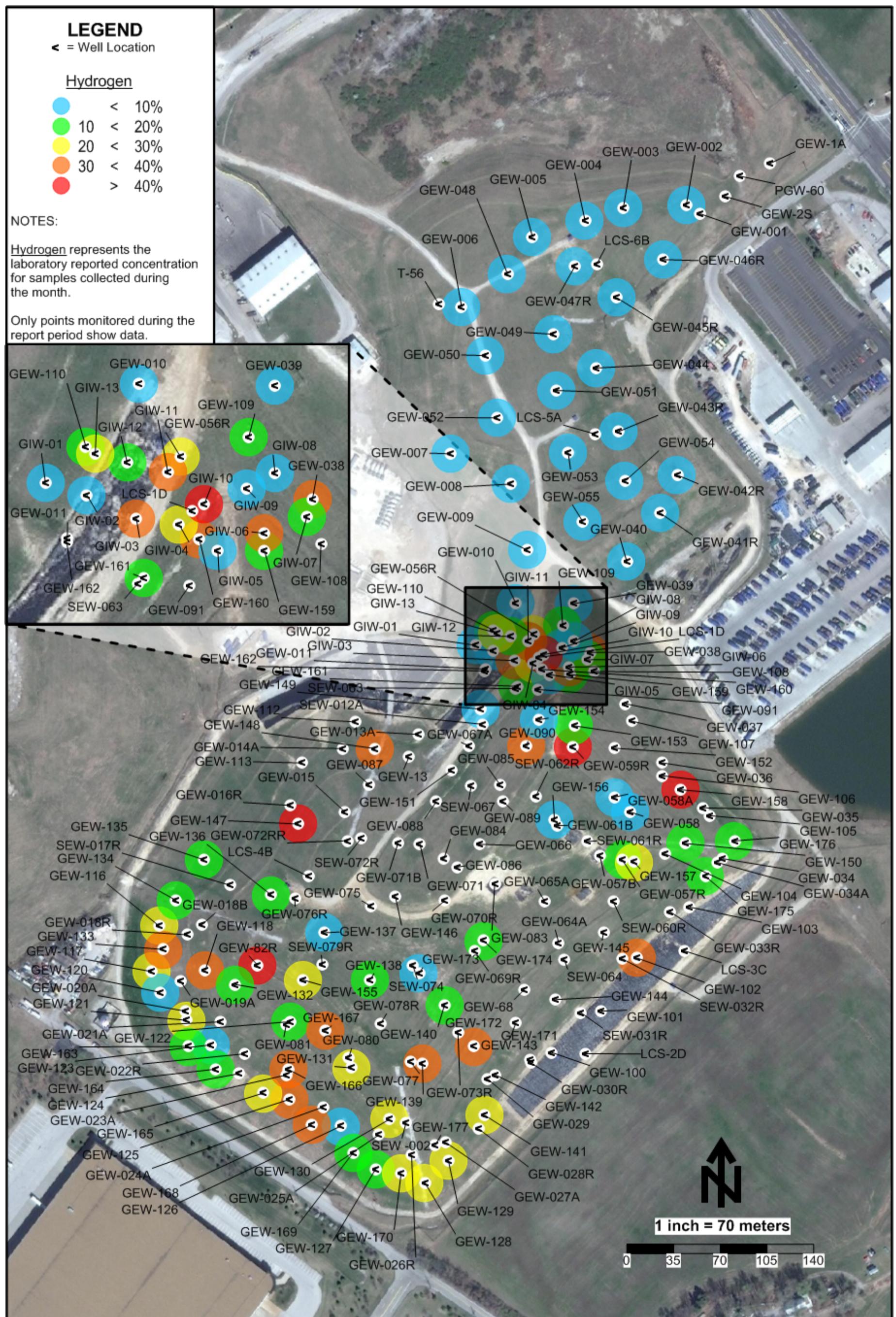
**ATTACHMENT C**

**GAS WELL ANALYSIS MAPS**

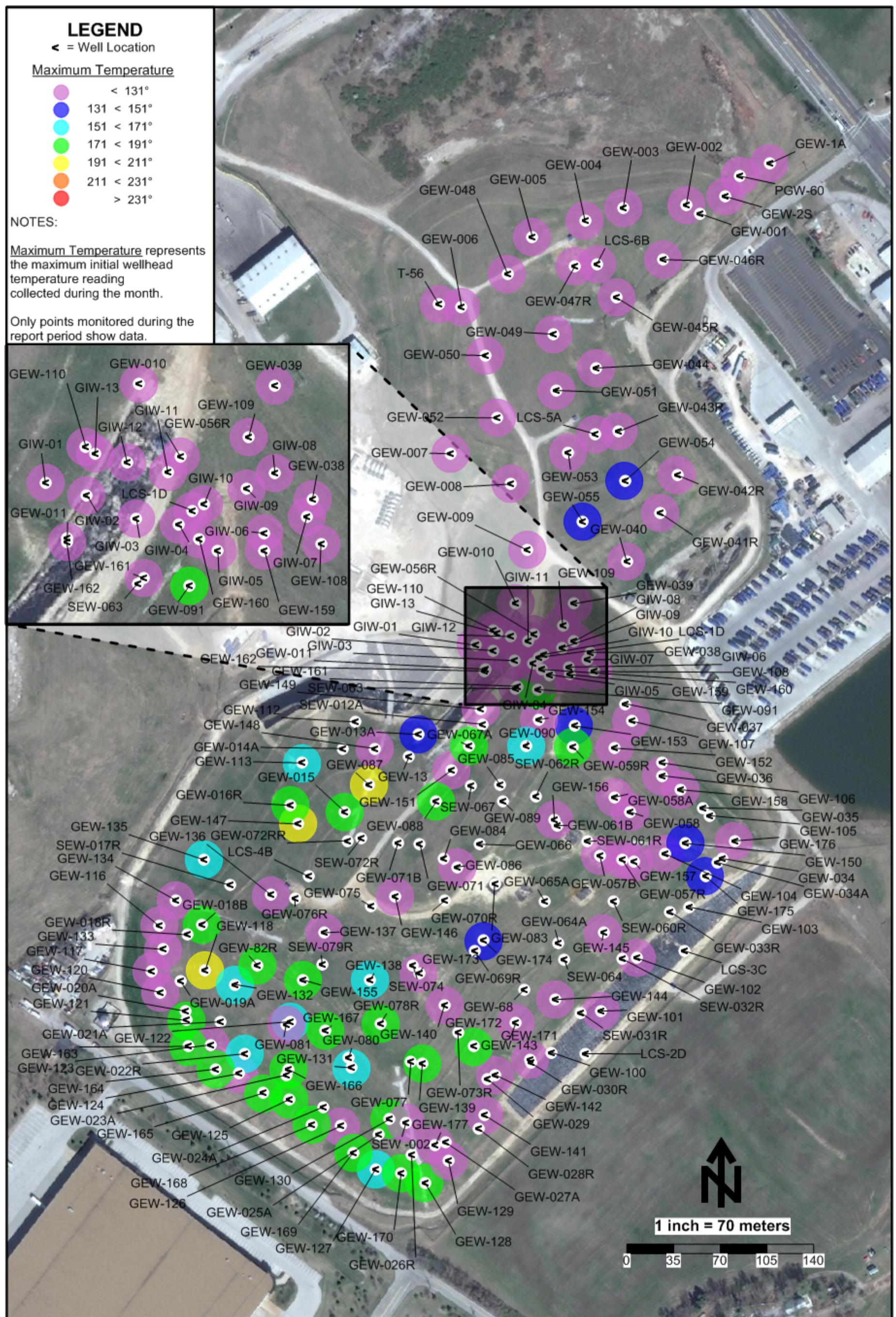
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Carbon Monoxide Data Map - May 2017 - Bridgeton Landfill



Hydrogen Data Map - May 2017 - Bridgeton Landfill



Initial Temperature Maximums -May 2017 - Bridgeton Landfill

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**ATTACHMENT D**

**LABORATORY DATA**

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**ATTACHMENT D-1**

**LAB ANALYSIS SUMMARY**

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Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)				(ppm)		
North Quarry								
GEW-002	1/9/2017	54	40	ND	5.6	ND	ND	
GEW-002	2/15/2017	56	41	ND	ND	ND	ND	
GEW-002	3/9/2017	56	42	ND	ND	ND	ND	
GEW-002	4/11/2017	55	43	ND	ND	ND	ND	
GEW-002	5/9/2017	49	40	2.7	9.1	ND	ND	See Note 3
GEW-02S	1/9/2017	50	34	3.5	12	ND	ND	See Note 3
GEW-02S	3/9/2017	59	38	ND	ND	ND	ND	
GEW-02S	5/9/2017	61	34	ND	3.7	ND	ND	
GEW-003	1/9/2017	49	37	ND	12	0.1	ND	
GEW-003	2/15/2017	50	39	ND	11	0.1	ND	
GEW-003	3/9/2017	49	39	ND	11	0.1	ND	
GEW-003	4/11/2017	51	39	ND	9.8	0.1	ND	
GEW-003	5/9/2017	56	41	ND	ND	0.08	ND	
GEW-004	1/9/2017	54	41	ND	4.5	0.1	ND	
GEW-004	2/15/2017							See Note 7
GEW-004	3/9/2017	47	38	ND	14	0.1	ND	
GEW-004	4/11/2017	50	38	ND	11	0.1	ND	
GEW-004	5/9/2017	54	40	ND	5.7	0.08	ND	
GEW-005	1/10/2017	50	37	ND	11	0.1	ND	
GEW-005	2/15/2017	38	33	ND	28	ND	ND	
GEW-005	3/9/2017	34	29	2.9	34	ND	ND	See Note 3
GEW-005	4/11/2017	46	33	ND	20	ND	ND	
GEW-005	5/9/2017	51	35	ND	14	ND	ND	
GEW-006	1/10/2017	52	37	ND	11	ND	ND	
GEW-006	3/9/2017	44	34	ND	21	ND	ND	
GEW-006	5/9/2017	56	37	ND	6.6	ND	ND	
GEW-007	1/10/2017	56	40	ND	ND	ND	ND	
GEW-007	3/8/2017	57	40	ND	ND	ND	ND	
GEW-007	5/9/2017	44	31	5.7	20	ND	ND	See Note 3
GEW-008	1/10/2017	50	41	1.9	6.8	0.4	ND	See Note 3
GEW-008	2/15/2017	54	43	ND	ND	0.8	ND	
GEW-008	3/8/2017	54	43	ND	ND	1.0	ND	
GEW-008	4/11/2017	53	43	ND	ND	0.7	ND	
GEW-008	5/9/2017	53	44	ND	ND	0.45	ND	
GEW-009	1/10/2017	44	37	ND	17	0.5	ND	
GEW-009	2/15/2017	48	41	ND	9.8	0.6	ND	
GEW-009	3/8/2017	49	41	ND	8.4	0.5	ND	
GEW-009	4/11/2017	45	39	1.7	13	0.4	ND	See Note 3
GEW-009	5/9/2017	52	42	ND	4.2	0.8	ND	
GEW-040	1/9/2017	58	40	ND	ND	ND	ND	
GEW-040	2/15/2017	55	37	1.7	5.7	ND	ND	See Note 3
GEW-040	3/8/2017	57	41	ND	ND	ND	ND	
GEW-040	4/11/2017	57	41	ND	ND	ND	ND	
GEW-040	5/9/2017	58	40	ND	ND	ND	ND	
GEW-041R	1/9/2017	56	40	ND	3.0	ND	ND	
GEW-041R	3/8/2017	56	37	ND	5.9	ND	ND	
GEW-041R	5/15/2017	56	37	ND	5.1	ND	ND	
GEW-042R	1/9/2017	57	39	ND	3	ND	ND	
GEW-042R	2/15/2017	48	36	3.6	13	ND	ND	See Note 3
GEW-042R	3/8/2017	56	42	ND	ND	ND	ND	
GEW-042R	4/11/2017	56	41	ND	ND	ND	ND	
GEW-042R	5/9/2017	56	41	ND	ND	ND	ND	
GEW-043R	1/9/2017	55	42	ND	ND	0.1	ND	
GEW-043R	3/8/2017	55	42	ND	ND	0.1	ND	
GEW-043R	5/9/2017	56	41	ND	ND	0.22	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)				(ppm)		
GEW-044	1/9/2017	56	41	ND	ND	ND	ND	
GEW-044	3/8/2017	51	37	ND	11	ND	ND	
GEW-044	5/9/2017	58	39	ND	ND	ND	ND	
GEW-045R	1/9/2017	57	37	ND	5.6	ND	ND	
GEW-045R	2/15/2017	56	37	ND	5.4	ND	ND	
GEW-045R	3/8/2017	60	38	ND	ND	ND	ND	
GEW-045R	4/11/2017	60	37	ND	ND	ND	ND	
GEW-045R	5/9/2017	60	38	ND	ND	ND	ND	
GEW-046R	1/9/2017	54	41	ND	4.5	0.1	ND	
GEW-046R	2/15/2017	47	36	2.5	15	0.1	ND	See Note 3
GEW-046R	3/15/2017	51	39	ND	9.9	0.1	ND	
GEW-046R	4/11/2017	52	39	ND	8.0	0.1	ND	
GEW-046R	5/9/2017	56	39	ND	3.9	0.06	ND	
GEW-047R	1/9/2017	54	41	ND	4.4	0.1	ND	
GEW-047R	2/15/2017	44	35	ND	21	ND	ND	
GEW-047R	3/9/2017	42	34	ND	22	ND	ND	
GEW-047R	4/11/2017	32	27	ND	40	0.1	ND	
GEW-047R	5/9/2017	53	39	ND	7.2	ND	ND	
GEW-048	1/10/2017	55	39	ND	5	ND	ND	
GEW-048	2/15/2017	45	34	3.1	19	ND	ND	See Note 3
GEW-048	3/9/2017	50	38	ND	11	ND	ND	
GEW-048	4/11/2017	50	36	ND	14	ND	ND	
GEW-048	5/9/2017	54	38	ND	6.2	ND	ND	
GEW-049	1/9/2017	54	39	ND	6.2	0.1	ND	
GEW-049	2/14/2017	54	38	ND	6.8	0.1	ND	
GEW-049	3/8/2017	37	31	ND	31	ND	ND	
GEW-049	4/11/2017	43	30	2.5	24	ND	ND	See Note 3
GEW-049	5/9/2017	55	38	ND	5.9	ND	ND	
GEW-050	1/10/2017	51	37	ND	12	0.04	ND	
GEW-050	3/9/2017	41	31	3	25	0.05	ND	See Note 3
GEW-050	5/9/2017	55	38	ND	6	ND	ND	
GEW-051	1/9/2017	55	42	ND	ND	1.5	ND	
GEW-051	3/8/2017	49	38	ND	10	0.9	ND	
GEW-051	5/9/2017	54	41	ND	ND	1.1	ND	
GEW-052	1/10/2017	52	38	ND	9.1	ND	ND	
GEW-052	3/8/2017	34	28	1.9	35	ND	ND	See Note 3
GEW-052	5/9/2017	51	36	ND	12	ND	ND	
GEW-053	1/9/2017	40	34	3.4	2.1	1.8	ND	See Note 3
GEW-053	2/14/2017	44	37	ND	16	2.2	95	
GEW-053	3/8/2017	44	37	ND	14	4.6	110	
GEW-053	4/11/2017	46	36	ND	12	4.2	48	
GEW-053	5/9/2017	51	39	ND	5.8	2.8	55	
GEW-054	1/9/2017	55	41	ND	ND	1.2	ND	
GEW-054	2/14/2017	50	40	ND	4.1	4.9	ND	
GEW-054	3/8/2017	46	38	2.3	9.4	4.7	34	See Note 3
GEW-054	4/11/2017	52	41	ND	4	2.1	35	
GEW-054	5/9/2017	52	40	ND	3.9	2.2	ND	
GEW-055	1/9/2017	47	37	3	11	1.5	ND	See Note 3
GEW-055	2/14/2017	53	43	ND	ND	1.7	ND	
GEW-055	3/8/2017	51	40	1.9	6.3	1.4	ND	See Note 3
GEW-055	4/11/2017	48	41	ND	3.7	5.4	45	
GEW-055	5/9/2017	48	41	ND	ND	6.8	53	
Flare Station <sup>2</sup>	1/4/2017	40.7	34.1	2.1	22.0	ND	ND	See Note 5
Flare Station <sup>2</sup>	2/7/2017	47.1	36.5	0.9	13.8	ND	ND	See Note 5
Flare Station <sup>2</sup>	3/7/2017	42.7	34.9	1.7	18.8	ND	ND	See Note 5
Flare Station <sup>2</sup>	4/4/2017	46.5	37.9	ND	11.7	ND	ND	See Note 5

## Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)	(ppm)				(ppm)	
Flare Station <sup>2</sup>	5/16/2017	45.9	34.5	2.4	15.5	ND	ND	See Note 5

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of NQ EP14 A (or 1) and NQ EP14 B (or 2), located in the North Quarry. (6) Flare station gas concentration data is an average of Outlets 1 and 2 (A & B) or SQ OU 1 and OU 2, located in the South Quarry. (7) Sample not reported by lab due to canister leak.

ND = Analyte not detected in sample.  
<sup>2</sup> = Flare Station measured at EPA Method 2 flow port (blower outlet)

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)				(ppm)		
South Quarry								
GEW-010	1/11/2017	51	46	ND	ND	0.1	ND	
GEW-010	2/14/2017	47	42	2.5	8.5	0.1	ND	See Note 3
GEW-010	3/7/2017	47	45	1.8	6	0.1	ND	
GEW-010	4/10/2017	56	40	ND	ND	0.13	ND	
GEW-010	5/2/2017	57	40	ND	ND	ND	ND	
GEW-038	1/11/2017	7.2	42	6.3	22	22	1,500	See Note 4
GEW-038	2/14/2017	12	50	2.9	11	24	1,300	See Note 4
GEW-038	3/7/2017	1.3	56	ND	3.4	37	2,800	
GEW-038	4/11/2017	6.4	55	ND	5.1	32	2,100	
GEW-038	5/2/2017	1.1	56	ND	ND	38	2,400	
GEW-039	1/11/2017	45	53	ND	ND	0.1	ND	
GEW-039	2/14/2017	45	52	ND	ND	0.1	ND	
GEW-039	3/7/2017	44	53	ND	ND	0.04	ND	
GEW-039	4/11/2017	44	54	ND	ND	0.07	ND	
GEW-039	5/2/2017	45	53	ND	ND	0.05	ND	
GEW-056R	1/11/2017	13	57	ND	ND	27	1,000	
GEW-056R	2/14/2017	15	52	ND	4.9	27	1,000	
GEW-056R	3/7/2017	16	51	ND	5.2	27	970	
GEW-056R	4/10/2017	14	52	ND	4.3	28	880	
GEW-056R	5/2/2017	16	53	ND	ND	28	920	
GEW-057R	1/12/2017	8.6	39	4.6	29	19	840	See Note 4
GEW-057R	3/3/2017	12	42	1.6	29	16	600	
GEW-057R	5/9/2017	5.9	37	3	42	11	370	
GEW-058	1/12/2017	8.5	32	6.8	38	14	610	See Note 4
GEW-058	3/3/2017	12	40	2.1	34	13	500	
GEW-058	5/8/2017	11	38	1.8	42	7.4	260	
GEW-058A	3/3/2017	8.6	31	2.7	50	6.7	300	
GEW-058A	5/8/2017	9.9	33	2.9	50	4.6	210	
GEW-059R	1/12/2017	4.1	49	ND	ND	44	1,800	
GEW-059R	3/3/2017	6.8	47	ND	ND	43	1,600	
GEW-059R	5/8/2017	7.8	45	ND	ND	43	1,500	
GEW-082R	1/12/2017	3.2	50	ND	ND	43	1,900	
GEW-082R	3/10/2017	7.2	47	1.7	5.8	38	1,500	See Note 3
GEW-082R	5/8/2017	2.5	49	ND	ND	45	1,700	
GEW-086	3/10/2017	4.2	55	ND	3.1	36	960	
GEW-090	1/12/2017	11	46	ND	ND	40	1,800	
GEW-090	3/10/2017	12	44	ND	3.6	39	1,600	
GEW-090	5/9/2017	8.4	38	4.2	15	34	1,300	See Note 3
GEW-102	1/12/2017	2	53	ND	3	40	830	
GEW-102	5/9/2017	7.2	47	2.5	8.6	34	640	
GEW-107	1/12/2017	24	47	2	7	20	1,200	See Note 4
GEW-107	3/3/2017	37	40	4	14	5.1	230	
GEW-109	1/11/2017	21	51	ND	6.5	20	790	
GEW-109	2/14/2017	19	49	ND	8.3	22	910	
GEW-109	3/7/2017	27	47	ND	9.1	16	510	
GEW-109	4/11/2017	24	49	ND	9.6	17	510	
GEW-109	5/2/2017	23	50	ND	8	18	530	
GEW-110	1/11/2017	13	48	ND	13	25	1,300	
GEW-110	2/14/2017	10	34	5.2	35	15	800	See Note 4
GEW-110	3/7/2017	12	35	6.7	35	11	570	See Note 4
GEW-110	4/10/2017	5.5	22	12.0	50	10	500	See Note 4
GEW-110	5/2/2017	5.8	22	11	50	11	540	
GEW-116	1/12/2017	1.8	59	ND	4.8	33	2,100	
GEW-116	5/8/2017	1.8	42	7.4	26	21	1,200	See Note 3
GEW-117	1/12/2017	7.4	61	1.7	5.9	23	1,900	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)	(ppm)					
GEW-117	3/9/2017	7	65	ND	ND	25	1,600	
GEW-117	5/9/2017	4.3	43	6.4	22	23	1,100	See Note 4
GEW-118	1/12/2017	1.3	53	2.1	7.6	35	1,500	See Note 3
GEW-118	3/9/2017	1.5	56	ND	ND	38	1,500	
GEW-118	5/8/2017	1.1	54	ND	ND	39	1,600	
GEW-120	3/9/2017	38	58	ND	ND	1.8	43	
GEW-120	5/2/2017	16	54	ND	23	5.8	280	
GEW-121	1/11/2017	9.2	56	ND	6.3	27	1,500	
GEW-121	3/9/2017	10	56	ND	7.7	25	1,200	
GEW-121	5/2/2017	8.8	50	2.7	18	20	980	See Note 3
GEW-122	3/9/2017	0.3	56	ND	ND	41	2,800	
GEW-122	5/2/2017	11	41	ND	30	16	1,200	
GEW-123	3/7/2017	0.4	60	ND	ND	36	3,100	
GEW-123	5/5/2017	18	37	3	35	7	420	See Note 3
GEW-124	1/11/2017	35.0	49	2.9	10.0	2.4	280	See Note 4
GEW-125	1/11/2017	2.4	55	ND	ND	38	2,600	
GEW-125	3/6/2017	3.4	56	ND	ND	37	2,500	
GEW-125	5/2/2017	3.5	54	ND	5.7	35	2,200	
GEW-126	1/11/2017	24	52	ND	5.4	18	1,600	
GEW-126	3/6/2017	23	51	ND	18	6.4	460	
GEW-126	5/2/2017	18	49	ND	26	5.7	440	
GEW-127	1/11/2017	2.9	46	7	25	18	2,200	See Note 4
GEW-127	3/2/2017	3.9	58	2.6	12	23	2,700	
GEW-127	5/2/2017	6.4	57	2.6	14	18	1,900	
GEW-128	1/12/2017	6.4	64	ND	ND	26	2,900	
GEW-128	3/2/2017	5.7	61	ND	5.1	27	3,000	
GEW-128	5/2/2017	2.6	64	ND	ND	29	3,300	
GEW-129	1/12/2017	1.4	69	1.7	5.9	22	3,300	See Note 4
GEW-129	3/2/2017	3.4	70	ND	4.6	19	2,400	
GEW-129	5/2/2017	0.7	76	ND	ND	20	2,300	
GEW-130	1/11/2017	0.4	55	ND	ND	41	3,600	
GEW-130	3/2/2017	1.1	36	8.3	30	24	1,900	See Note 4
GEW-130	5/2/2017	3.3	39	6.9	28	22	1,700	
GEW-131	1/11/2017	0.8	61	ND	ND	36	2,000	
GEW-131	3/6/2017	19	46	ND	11	22	1,200	
GEW-131	5/23/2017	12	41	ND	19	26	1,700	
GEW-132	1/9/2017	4.8	53	ND	ND	39	2,000	
GEW-132	3/9/2017	7.5	46	2.1	18	26	1,300	
GEW-132	5/2/2017	5.9	38	3.1	37	15	810	
GEW-133	1/9/2017	0.6	18	15	53	14	1,000	See Note 3
GEW-133	3/9/2017	1.0	55	ND	ND	41	1,600	
GEW-133	5/2/2017	0.88	57	2.4	8.4	30	2,200	
GEW-134	1/9/2017	18	52	ND	ND	26	1,300	
GEW-134	3/15/2017	15	47	2.1	18	18	900	
GEW-134	5/5/2017	8.9	34	6.1	41	11	480	See Note 4
GEW-135	1/9/2017	0.2	6.6	19	68	6.4	190	See Note 4
GEW-135	3/9/2017	0.6	62	ND	ND	34	2,600	
GEW-135	5/5/2017	4.4	33	4.8	44	14	690	
GEW-136	1/9/2017	7.5	41	ND	39	11	410	
GEW-136	3/15/2017	3.4	19	13	55	10	320	See Note 4
GEW-137	1/9/2017	0.6	57	ND	ND	39	2,600	
GEW-137	3/9/2017	9.9	23	3.9	63	0.06	ND	
GEW-137	5/5/2017	8.4	20	6.7	65	ND	ND	See Note 3
GEW-138	5/5/2017	5.3	33	3.1	41	17	1,000	
GEW-139	1/12/2017	3	40	6	23	27	2100	See Note 4
GEW-139	3/2/2017	3.1	48	2.8	11	34	2700	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide (ppm)	Comments
		(%)						
GEW-139	5/9/2017	3.1	48	2.7	10	36	2500	
GEW-140	1/12/2017	5.7	37	7.9	30	19	1,100	See Note 4
GEW-140	3/3/2017	3.6	38	6.3	25	28	1,400	See Note 4
GEW-140	5/8/2017	9.8	35	5.7	35	15	730	See Note 4
GEW-141	1/12/2017	0.31	54	2.1	7.3	36	4100	See Note 4
GEW-141	3/3/2017	1.9	43	5.6	20	29	3200	See Note 4
GEW-141	5/8/2017	0.19	45	5.4	19	29	3300	See Note 4
GEW-142	1/12/2017	2.3	58	3.5	12	23	2,100	See Note 4
GEW-144	1/12/2017	4.7	55	ND	4.7	33	1600	
GEW-144	3/3/2017	0.78	45	4.8	17	32	1800	See Note 4
GEW-146	1/9/2017	2.8	9	13	75	0.9	120	See Note 4
GEW-147	1/9/2017	12	50	ND	9.8	27	1200	
GEW-147	3/7/2017	13	46	ND	18	22	920	
GEW-147	5/5/2017	0.5	53	ND	ND	41	2400	
GEW-148	1/9/2017	0.2	1.9	21	76	0.6	31	See Note 4
GEW-148	5/2/2017	7.1	55	1.8	6.1	30	2,300	
GEW-149	1/9/2017	17	48	1.5	16	17	750	See Note 4
GEW-149	3/10/2017	11	43	3.4	30	13	580	
GEW-149	5/2/2017	12	41	3.6	33	9.9	400	
GEW-150	1/11/2017	5.4	50	3.5	18	22	1,400	See Note 4
GEW-150	3/3/2017	11.0	38	5.1	38	7.8	420	See Note 4
GEW-150	5/9/2017	9.2	37	7.2	35	12	590	See Note 4
GEW-151	1/9/2017	1.4	45	ND	ND	51	1000	
GEW-151	3/10/2017	1	41	1.9	6.5	49	900	See Note 3
GEW-153	1/11/2017	31.0	43.0	2.4	8.4	14.0	530	See Note 4
GEW-153	3/3/2017	37.0	44.0	ND	ND	16.0	430	
GEW-153	5/8/2017	25	39	2.7	23	10	350	
GEW-154	1/9/2017	1.7	4.3	20	72	1.3	89	See Note 4
GEW-154	3/10/2017	33	42	2.3	8	15	700	
GEW-154	5/2/2017	22	29	8.7	38	1.6	140	See Note 4
GEW-155	1/9/2017	5.4	52	ND	8.2	33	1,200	
GEW-155	5/8/2017	2.4	38	2.2	32	25	940	
GEW-156	3/3/2017	16	32	5.3	44	2	95	See Note 4
GEW-156	5/9/2017	10	25	8	56	0.77	40	See Note 4
GEW-157	5/9/2017	14	50	ND	5.4	28	1,500	
GEW-158	3/10/2017	26	33	4.4	25	11	490	
GEW-158	5/8/2017	5	51	ND	ND	40	1700	
GEW-159	5/8/2017	7.3	27	10	38	17	920	See Note 4
GEW-160	1/9/2017	5.5	54	ND	ND	37	2,100	
GEW-160	3/10/2017	11	52	ND	3.6	32	2,000	
GEW-160	5/2/2017	6	51	ND	ND	39	2,300	
GEW-161	1/9/2017	2.8	54	ND	ND	40	2,200	
GEW-161	5/2/2017	16	42	6	24	11	480	See Note 3
GEW-162	3/10/2017	6.8	31	11	38	13	690	See Note 4
GEW-163	1/11/2017	0.95	16	16	59	7.8	490	See Note 4
GEW-163	3/7/2017	4.8	30	8.8	46	9.3	590	See Note 4
GEW-163	5/2/2017	3.1	41	4.8	36	14	900	
GEW-164	1/11/2017	5	25	13	49	7	540	See Note 4
GEW-164	3/7/2017	10	41	7.1	32	8.6	660	See Note 4
GEW-164	5/2/2017	13	64	ND	6.4	15	1,200	
GEW-165	1/11/2017	3.2	63	ND	ND	30	2,800	
GEW-165	3/6/2017	5.6	62	ND	ND	29	2,400	
GEW-165	5/2/2017	5.1	59	1.7	6	28	2,100	
GEW-166	1/11/2017	5.6	32	8.2	36	18	1,400	See Note 4
GEW-166	3/6/2017	0.3	54	1.7	5.7	38	3,200	
GEW-166	5/2/2017	0.51	44	4.9	17	32	2,500	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-167	1/11/2017	3.6	39	5.1	23	29	1,900	See Note 4
GEW-167	3/6/2017	1.5	46	3.5	14	34	2,400	
GEW-167	5/2/2017	1.4	41	5.1	21	31	2,100	See Note 4
GEW-168	1/11/2017	4.2	59	ND	ND	32	2,600	
GEW-168	3/6/2017	3.4	53	2.2	7.5	33	2,600	
GEW-168	5/2/2017	3.3	58	ND	ND	34	2,400	
GEW-169	1/11/2017	3.3	53	4.5	16	22	2,300	See Note 4
GEW-169	3/6/2017	2.1	36	9	32	20	1,700	See Note 4
GEW-169	5/2/2017	1.5	35	9.6	35	18	1,600	See Note 4
GEW-170	1/11/2017	4.2	50	5.8	22	17	2,400	See Note 4
GEW-170	3/2/2017	3.3	57	4	16	20	2,700	
GEW-170	5/2/2017	2.9	65	ND	ND	29	3,200	
GEW-172	1/12/2017	0.7	57	ND	ND	40	3,200	
GEW-172	5/9/2017	0.25	48	3.3	12	36	2,800	
GEW-173	1/12/2017	4.3	16	15	62	2.6	260	See Note 4
GEW-173	5/8/2017	7.1	21	9.2	59	2.7	310	See Note 4
GEW-174	1/12/2017	4.6	39	4.9	29	21	1,500	See Note 4
GEW-174	3/3/2017	5.5	34	6.6	34	20	1,200	See Note 4
GEW-174	5/8/2017	8.7	31	6.5	38	15	850	See Note 4
GEW-175	1/11/2017	18	52	3.2	16	11	610	See Note 4
GEW-175	3/3/2017	16	45	4.5	23	11	510	
GEW-175	5/8/2017	15	43	5.9	24	12	470	See Note 4
GEW-176	1/11/2017	23	53	1.9	8.9	13	590	See Note 4
GEW-176	3/3/2017	18	40	6	25	10	400	
GEW-176	5/8/2017	18	54	ND	8.1	17	730	
GEW-177	1/12/2017	0.2	55	3.8	13	27	4,300	See Note 4
GIW-01	1/11/2017	4.5	67	ND	3.8	23	2,100	
GIW-01	2/14/2017	3.5	66	ND	4.7	25	1,900	
GIW-01	3/7/2017	12	58	3.6	16	10	720	
GIW-01	4/10/2017	17	40	6.6	35	1.2	170	See Note 4
GIW-01	5/1/2017	6.1	28	11	53	1.9	250	See Note 4
GIW-02	1/11/2017	12	67	ND	ND	19	970	
GIW-02	2/14/2017	1.8	60	1.7	5.8	30	1,800	See Note 4
GIW-02	3/7/2017	4.7	32	9.9	44	9.1	460	See Note 4
GIW-02	4/10/2017	2.9	16	16	63	1.9	130	See Note 4
GIW-02	5/1/2017	5.9	31	11	43	8.2	300	See Note 4
GIW-03	1/11/2017	1	66	ND	ND	29	2,000	
GIW-03	2/14/2017	7.1	42	6.4	33	11	490	See Note 3
GIW-03	3/7/2017	1	57	2.3	8	31	1,900	
GIW-03	4/10/2017	0.85	48	4.6	16	31	1,700	See Note 4
GIW-03	5/1/2017	0.82	52	3.4	12	31	1,800	
GIW-04	1/11/2017	1.1	53	ND	ND	43	2,400	
GIW-04	2/14/2017	0.5	37	6.5	23	33	1,800	See Note 4
GIW-04	3/7/2017	0.1	8.1	19	66	7.2	400	See Note 4
GIW-04	4/10/2017	0.4	24	11	41	23	1,200	See Note 4
GIW-04	5/2/2017	0.61	29	9.5	33	27	1,600	See Note 4
GIW-05	1/11/2017	0.2	1.6	22	77	ND	ND	See Note 4
GIW-05	2/14/2017	0.05	2.1	22	76	ND	ND	See Note 4
GIW-05	3/7/2017	0.07	1.6	22	77	0.04	ND	See Note 4
GIW-05	4/10/2017	0.01	1.5	22	77	ND	ND	See Note 4
GIW-05	5/2/2017	0.013	2.6	21	76	ND	ND	See Note 4
GIW-06	1/11/2017	3.1	36	ND	37	21	1,200	
GIW-06	2/14/2017	22	45	2.1	7.2	22	550	See Note 3
GIW-06	3/7/2017	24	39	4.2	14	18	480	See Note 3
GIW-06	4/11/2017	6.4	50	ND	17	25	600	
GIW-06	5/2/2017	4.5	48	1.7	13	32	640	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide (ppm)	Comments
		(%)						
GIW-07	1/11/2017	37	49	ND	6.4	6	410	
GIW-07	2/14/2017	32	50	2.4	8	7	430	See Note 4
GIW-07	3/7/2017	35	49	1.8	5.9	8.4	540	
GIW-07	4/11/2017	13	51	5.8	21	9.4	680	See Note 4
GIW-07	5/2/2017	17	56	3.3	12	12	940	
GIW-08	1/11/2017	35	46	ND	18	0.3	88	
GIW-08	2/14/2017	42	55	ND	ND	0.7	140	
GIW-08	3/7/2017	36	59	ND	4.1	0.7	160	
GIW-08	4/11/2017	21	68	ND	9.4	0.5	200	
GIW-08	5/2/2017	26	68	ND	4.2	0.7	220	
GIW-09	1/11/2017	24	36	3.9	31	4.4	150	See Note 4
GIW-09	2/14/2017	29	41	2.3	19	8.3	280	See Note 4
GIW-09	3/7/2017	6.2	25	7	56	5.4	320	
GIW-09	4/11/2017	2.3	15	12	66	4.6	160	See Note 4
GIW-09	5/2/2017	11	28	4.4	51	5.7	220	
GIW-10	1/11/2017	6.7	53	ND	ND	37	1,400	
GIW-10	2/14/2017	8.3	49	ND	4.4	36	1,200	
GIW-10	3/7/2017	6.4	51	ND	ND	40	1,300	
GIW-10	4/10/2017	1.5	51	ND	ND	43	1,200	
GIW-10	5/2/2017	4	51	ND	ND	42	1,100	
GIW-11	1/11/2017	1.8	64	ND	ND	31	2,100	
GIW-11	2/14/2017	5.5	60	ND	7.2	27	1,500	
GIW-11	3/7/2017	5.3	56	ND	11	26	1,400	
GIW-11	4/11/2017	3	61	ND	4.3	30	1,500	
GIW-11	5/2/2017	1.9	60	ND	ND	36	1,600	
GIW-12	1/11/2017	3.5	64	ND	ND	31	1500	
GIW-12	2/14/2017	10	40	5.9	31	13	590	See Note 4
GIW-12	3/7/2017	9.1	33	8.1	39	10	490	See Note 4
GIW-12	4/10/2017	10	37	6.9	35	11	380	See Note 4
GIW-12	5/2/2017	11	39	6	30	14	470	See Note 4
GIW-13	1/11/2017	9.9	69	ND	ND	18	890	
GIW-13	2/14/2017	12	68	ND	ND	17	660	
GIW-13	3/7/2017	13	66	ND	ND	18	760	
GIW-13	4/10/2017	11	67	ND	ND	18	680	
GIW-13	5/2/2017	9.6	66	ND	ND	22	880	
Flare Station <sup>2</sup>	1/4/2017	9.8	38.7	7.4	30.6	12.8	815	See Note 6
Flare Station <sup>2</sup>	2/7/2017	9.7	37.7	7.9	31.7	12.2	840	See Note 6
Flare Station <sup>2</sup>	3/7/2017	9.1	35.0	8.6	35.2	11.6	695	See Note 6
Flare Station <sup>2</sup>	4/4/2017	9.3	35.6	8.5	34.5	11.5	680	See Note 6
Flare Station <sup>2</sup>	5/11/2017	14.5	34.2	7.8	33.2	9.5	525	See Note 6

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of NQ EP14 A (or 1) and NQ EP14 B (or 2), located in the North Quarry. (6) Flare station gas concentration data is an average of Outlets 1 and 2 (A & B) or SQ OU 1 and OU 2, located in the South Quarry. (7) Sample not reported by lab due to canister leak.

ND = Analyte not detected in sample.

<sup>2</sup> = Flare Station Inlet measured at EPA Method 2 flow port (blower outlet)

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**ATTACHMENT D-2**

**LAB ANALYSIS REPORTS**

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June 2, 2017

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: I051504-01/101

Enclosed are REVISED results for sample(s) received 5/15/17 by Air Technology Laboratories, and replaces in its entirety the report dated May 22, 2017. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- This revision corrects the results for samples GEW 22R (I051504-47) and GEW 55 (I051504-48), which were switched in the original report.
- 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).

Partial preliminary results (I051504-01/89) were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 5/19/17. Complete preliminary report was e-mailed to same distribution list on 5/22/17.

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

Sincerely,

Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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



18501 E. Gale Ave., Suite  
130  
City of Industry, CA 91748

Ph: 626-964-4032  
Fx: 626-964-5832

Project No.:

Project Name: Bridgeton Landfill

Report To:

Nick Bauer

Company: Republic Services

Street: 13570 St. Charles Rock Rd.

City/State/Zip: Bridgeton, MO 63044

Phone &amp; Fax: 618-420-5209

e-mail: Nbauer@republicservices.com

## CHAIN OF CUSTODY RECORD

Standard	<input type="checkbox"/>	48 hours	<input type="checkbox"/>	EDD	<input type="checkbox"/>	Condition upon receipt:
Same Day	<input type="checkbox"/>	72 hours	<input type="checkbox"/>	EDF	<input type="checkbox"/>	Sealed Yes <input type="checkbox"/> No <input type="checkbox"/>
24 hours	<input type="checkbox"/>	96 hours	<input type="checkbox"/>	Level 3	<input type="checkbox"/>	Intact Yes <input type="checkbox"/> No <input type="checkbox"/>
Other: <i>7/8 Day</i>	<input type="checkbox"/>	5 days	<input type="checkbox"/>	Level 4	<input type="checkbox"/>	Chilled _____ deg C

## BILLING

P.O. No.: PO6312552

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

## Cannister Pressure ("hg)

LAB USE ONLY	Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVE	REASON
1071504 - 01	5834	-20.1	-5	GIW 1	-5	5/1/2017	1450	C	LFG	NA
-01	A7762	-19.7	-5	GIW 2	-5	5/1/2017	1517	C	LFG	NA
-03	A7778	-20.1	-5	GIW 3	-5	5/1/2017	1529	C	LFG	NA
-04	A7765	-19.8	-5	GIW 4	-5	5/2/2017	742	C	LFG	NA
-05	6151	-20.2	-5	GIW 5	-5	5/2/2017	757	C	LFG	NA
-06	A7747	-19.7	-5	GIW 10	-5	5/2/2017	809	C	LFG	NA
-07	A7769	-19.7	-5	GEW 10	-6	5/2/2017	1016	C	LFG	NA
-08	4648	-19.8	-5	GEW 110	-5.5	5/2/2017	1027	C	LFG	NA
-09	A8090	-19.6	-5	GIW 13	-6	5/2/2017	1038	C	LFG	NA
-10	3131	-19.9	-5	GIW 12	-6	5/2/2017	1048	C	LFG	NA

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

## COMMENTS

SAMPLER BY: Anthony Klimutis COMPANY: Republic Services DATE/TIME

RELINQUISHED BY: *Rona Bunker* DATE/TIME *5/12/2017* RECEIVED BY DATE/TIMERELINQUISHED BY: *FED EX* DATE/TIME *5/12/2017* RECEIVED BY DATE/TIME

RELINQUISHED BY DATE/TIME RECEIVED BY DATE/TIME

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier AT&amp;T Other

DISTRIBUTION: White &amp; 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



**CHAIN OF CUSTODY RECORD**

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

<b>Project No.:</b>	Bridgeton Landfill			<input type="checkbox"/> Intact Yes	<input type="checkbox"/> No
<b>Project Name:</b>				<input type="checkbox"/> Chilled	_____ deg C
<b>Report To:</b>				<b>ANALYSIS REQUEST</b>	
<b>Company:</b>	Nick Bauer			<b>BILLING</b>	
<b>Street:</b>				<b>P.O. No.:</b>	PO6312552
<b>City/State/Zip:</b>	Bridgeton, MO 63044			<b>Bill to:</b>	Republic Services
<b>Phone &amp; Fax:</b>	618-420-5209				Attn: Nick Bauer
<b>E-mail:</b>	<a href="mailto:Nbauer@publicservices.com">Nbauer@publicservices.com</a>				13570 St. Charles Rock Rd.
					Bridgeton, MO 63044

LAB USE ONLY		Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	DATE RECEIVED	SAMPLE TIME	CONTAINER QTY/TYPE	PRESERVE MATRIX	D1946 + CC
1051504-11		A8082	-20	-5	GEW 56R	-5	5/2/2017	1102	C	LFG NA X
-12		6130	-19.8	-5	GW 11	-5.5	5/2/2017	1113	C	LFG NA X
-13		3826	-19.7	-5	GW 6	-6	5/2/2017	1137	C	LFG NA X
-14		6131	-19.8	-5	GW 7	-5	5/2/2017	1307	C	LFG NA X
-15		A7781	-19.7	-5	GW 8	-6	5/2/2017	1318	C	LFG NA X
-16		A7663	-19.5	-5	GEW 38	-6	5/2/2017	1327	C	LFG NA X
-17		6143	-19.8	-5	GW 9	-6	5/2/2017	1338	C	LFG NA X
-18		5828	-19.8	-5	GEW 109	-6	5/2/2017	1349	C	LFG NA X
-19		5929	-19.7	-5	GEW 39	-6	5/2/2017	1359	C	LFG NA X
-20		A7793	-19.7	-5	GEW 160	-5	5/2/2017	1426	C	LFG NA X

Dawn Demaus

**COMPANY: Republic Services**

COMMERCIALS

**COMPANY:** Republic Services **DATETIME**

<b>Dave Penoyre</b>	<b>LAW FIRM OF DAVE PENOYRE</b>
<b>AUTHORIZATION TO PERFORM WORK:</b>	<b>Anthony Kimutis</b>
<b>AMPLIFIED BY:</b>	<b>Ronald Belcher</b>
<b>TELEINQUISHED BY:</b>	<b>FED EX</b>
<b>TELEINQUISHED BY:</b>	<b>FED EX</b>
<b>TELEINQUISHED BY:</b>	<b>FED EX</b>

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

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



**Air TECHNOLOGY**  
Laboratories, Inc.

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

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

Bridgeton Landfill  
Nick Bauer  
Republic Services  
13570 St. Charles Rock Rd.  
Bridgeton, MO 63044  
618-420-5209  
Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD											
			TURNAROUND TIME			DELIVERABLES			PAGE:		
			Standard	□ 48 hours	□	EDD	□	Condition upon receipt:	3 OF 11		
			Same Day	□ 72 hours	□	EDF	□	Sealed Yes	□	No	
			24 hours	□ 96 hours	□	Level 3	□	Intact Yes	□	No	
			Other:			Level 4	□	Chilled	—	deg C	
ANALYSIS REQUEST											
			P.O. No.:	PO6312552							
			Bill to:	Republic Services							
			Attn:	Nick Bauer							
			13570 St. Charles Rock Rd.								
			Bridgeton, MO 63044								
LAB USE ONLY	Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION			TIME SAMPLE DATE	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	
105	5836	-19.9	-5	GEW 161	-6		5/2/2017	1436	C	LFG NA X	
121	5840	-19.8	-5	GEW 154	-6		5/2/2017	1450	C	LFG NA X	
122	A8076	-19.6	-5	GEW 149	-6		5/2/2017	1511	C	LFG NA X	
123	A7819	-19.8	-5	GEW 148	-6		5/2/2017	1536	C	LFG NA X	
124	A8055	-19.8	-5	GEW 134	-6		5/5/2017	1415	C	LFG NA X	
125	5835	-20	-5	GEW 135	-6		5/5/2017	1427	C	LFG NA X	
126	A7744	-18.3	-5	GEW 137	-6		5/5/2017	1441	C	LFG NA X	
127	A7770	-19.5	-5	GEW 138	-6		5/5/2017	1453	C	LFG NA X	
128	A7649	-19.7	-5	GEW 82R	-6		5/8/2017	1124	C	LFG NA X	
129	6146	-19.7	-5	GEW 159	-6		5/8/2017	1318	C	LFG NA X	
COMMENTS											
AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services											
SAMPLED BY: <b>Anthony Klimutis</b>	COMPANY: Republic Services			DATE/TIME							
RELINQUISHED BY: <b>Donald Baker</b>	DATE/TIME	RECEIVED BY	DATE/TIME								
RELINQUISHED BY: <b>FEB</b>	DATE/TIME	RECEIVED BY: <b>Don J.</b>	DATE/TIME <b>5/17 0900</b>								
RELINQUISHED BY:	DATE/TIME	RECEIVED BY	DATE/TIME								
METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other											
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy											
Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other											
Rev. 03 - 5/7/09											



CHAIN OF CUSTODY RECORD									
<b>Project No.:</b> <b>Project Name:</b> <b>Report To:</b> <b>Company:</b> <b>Street:</b> <b>City/State/Zip:</b> <b>Phone &amp; Fax:</b> <b>e-mail:</b>		<b>TURNAROUND TIME</b> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/> Same Day <input type="checkbox"/> 24 hours <input type="checkbox"/> Other: <input type="checkbox"/> EDD <input type="checkbox"/> EDF <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4		<b>DELIVERABLES</b> <input type="checkbox"/> Condition upon receipt: Sealed Yes <input type="checkbox"/> No <input type="checkbox"/> Intact Yes <input type="checkbox"/> No <input type="checkbox"/> Chilled _____ deg C		<b>PAGE:</b> 4      OF      11			
<b>BILLING</b> P.O. No.: PO6312552 Bill to: Republic Services Attn: Nick Bauer 13570 St. Charles Rock Rd. Bridgeton, MO 63044									
<b>ANALYSIS REQUEST</b> D1946 + CO, H2									
<b>LAB USE ONLY</b> Cannister Pressure (mg) Cannister ID      Sample Start      Sample End SAMPLE IDENTIFICATION RECEIVED									
1051504-3	5934	-18.4	-5	GEW 153	- <i>6</i>	5/8/2017	1335	C	LFG NA X
-32	5928	-19.4	-5	GEW 59R	- <i>6</i>	5/8/2017	1346	C	LFG NA X
-33	A8096	-19.5	-5	GEW 58A	- <i>6</i>	5/8/2017	1416	C	LFG NA X
-34	A7767	-19.6	-5	GEW 58	- <i>6</i>	5/8/2017	1426	C	LFG NA X
-35	A7815	-19.8	-5	GEW 158	- <i>6</i>	5/8/2017	1443	C	LFG NA X
-36	A7670	-19.6	-5	GEW 176	- <i>6</i>	5/8/2017	1458	C	LFG NA X
-37	6137	-19.5	-5	GEW 175	- <i>6</i>	5/8/2017	1510	C	LFG NA X
-38	A7761	-19.6	-5	GEW 150	- <i>6</i>	5/9/2017	746	C	LFG NA X
-39	6152	-19.7	-5	GEW 157	- <i>6</i>	5/9/2017	759	C	LFG NA X
-40	A7776	-19.5	-5	GEW 57R	- <i>6</i>	5/9/2017	812	C	LFG NA X
<b>AUTHORIZATION TO PERFORM WORK:</b> Dave Penoyer      COMPANY: Republic Services									
<b>SAMPLED BY:</b> <b>Anthony Kimutis</b> COMPANY: <b>Republic Services</b> DATE/TIME									
<b>RELINQUISHED BY:</b> <i>Ronald Baker</i> DATE/TIME <b>5/12/17</b> RECEIVED BY DATE/TIME									
<b>RELINQUISHED BY:</b> <i>FedEx</i> DATE/TIME <b>5/15/17</b> RECEIVED BY DATE/TIME <b>5/15/17</b> <i>RON</i>									
<b>METHOD OF TRANSPORT (circle one):</b> Walk-In      FedEx      UPS      Courier      ATLI      Other _____									
<b>DISTRIBUTION:</b> White & Yellow - Lab Copies / Pink - Customer Copy									
<b>Preservation:</b> H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other									
<i>Rev. 03 - 5/7/09</i>									
<b>COMMENTS</b>									



**Project No.:** 18501 E. Gale Ave., Suite 130  
**City/State/Zip:** City of Industry, CA 91748  
**Phone & Fax:** Ph: 626-964-4032  
**e-mail:** Fx: 626-964-5832  
**Project Name:** Bridgeton Landfill  
**Report To:** Nick Bauer  
**Company:** Republic Services  
**Street:** 13570 St. Charles Rock Rd.  
**Bridgeton, MO 63044**  
**Attn:** Nick Bauer  
**Phone & Fax:** 618-420-5209  
**e-mail:** Nbauer@republicservices.com

CHAIN OF CUSTODY RECORD									
			TURNAROUND TIME		DELIVERABLES		PAGE:		5 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:			Level 4	□	Chilled	_____ deg C
ANALYSIS REQUEST									
D1946 + CO, H2									
P.O. No.: PO6312552 Bill to: Republic Services Attn: Nick Bauer 13570 St. Charles Rock Rd.									
BILLING									
Cannister Pressure (hg)									
LAB USE ONLY		Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	DATE SAMPLE RECEIVED	CONTAINER TYPE	MATRIX	PRESERVATION
-41	A8066	-19.4	-5	GEV 156	-6	5/9/2017	832	C	LFG NA X
-42	3827	-19.2	-5	GEV 102	-6	5/9/2017	848	C	LFG NA X
-43	A7764	-19.6	-5	GEV 172	-6	5/9/2017	954	C	LFG NA X
-44	6160	-19.6	-5	GEV 139	-6	5/9/2017	1011	C	LFG NA X
-45	5906	-18	-5	GEV 90	-6.7	5/9/2017	1029	C	LFG NA X
-46	5833	-19.4	-5	GEV 117	-7	5/9/2017	1105	C	LFG NA X
-47	A7648	-19.4	-5	GEV 22R	-6.7	5/9/2017	1121	C	LFG NA X
-48	A8064	-19.8	-5	GEV 55	-6	5/9/2017	1337	C	LFG NA X
-49	4644	-19.7	-5	GEV 40	-6.7	5/9/2017	1349	C	LFG NA X
-50	A8086	19.4	-5	GEV 41R	-7	5/9/2017	1400	C	LFG NA X
AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services									
SAMPLER BY: Anthony Kimutis COMPANY: Republic Services DATE/TIME									
RELINQUISHED BY Ronald Baker DATE/TIME RECEIVED BY DATE/TIME									
RELINQUISHED BY [Signature] DATE/TIME RECEIVED BY DATE/TIME									
RELINQUISHED BY DATE/TIME RECEIVED BY DATE/TIME									
METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other									
COMMENTS									
Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09									
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy									



**CHAIN OF CUSTODY RECORD**

**AirTECHNOLOGY**  
*Laboratories, Inc.*

---

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

Republic Services

Street:

13570 St. Charles Rock Rd.

City/State/Zip:

Bridgeton MO 63044

Phone & Fax:

618-420-5209

e-mail:

Nbauer@republicservices.com

Cannister Pressure ("hg)

Cannister ID

Sample Start

Sample End

**SAMPLE IDENTIFICATION**

DATE

RECEIVED

GEW 129

-5

GEW 128

-6

GEW 170

-6

GEW 127

-6

GEW 130

-6

GEW 131

-6

GEW 126

-6

GEW 168

-6

GEW 169

-6

GEW 125

-6

GEW 168

-6

GEW 169

-6

GEW 125

-6

**CHAIN OF CUSTODY RECORD**

		TURNAROUND TIME	DELIVERABLES	PAGE:	7 OF 11
Standard	<input type="checkbox"/>	48 hours	<input type="checkbox"/>	EDD	<input type="checkbox"/>
Same Day	<input type="checkbox"/>	72 hours	<input type="checkbox"/>	EDF	<input type="checkbox"/>
24 hours	<input type="checkbox"/>	96 hours	<input type="checkbox"/>	Level 3	<input type="checkbox"/>
Other:				Level 4	<input type="checkbox"/>

**BILLING**

P.O. No.: PO6312552

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton MO 63044

D1946 + CO, H2

**ANALYSIS REQUEST**

**COMMENTS**

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY *Ronald Baker* DATE/TIME 5/12/17 RECEIVED BY DATE/TIME

RELINQUISHED BY *FedEx* DATE/TIME 5/15/17 RECEIVED BY DATE/TIME

RELINQUISHED BY DATE/TIME

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

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

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

Rev. 03 - 5/7/09



**CHAIN OF CUSTODY RECORD**

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

<b>Project No.:</b>	Bridgeton Landfill		
<b>Project Name:</b>	Nick Bauer		
<b>Report To:</b>			
<b>Company:</b>	Republic Services		
<b>Street:</b>	13570 St. Charles Rock Rd.		
<b>City/State/Zip:</b>	Bridgeton, MO 63044		
<b>Phone &amp; Fax:</b>	618-420-5209		
<b>E-mail:</b>	<a href="mailto:Nbauer@republicservices.com">Nbauer@republicservices.com</a>		

AIR TECHNOLOGY Laboratories, Inc.									
Project No.:		Project Name:		Report To:		Company:		Comments	
		Bridgeton Landfill		Nick Bauer		Republic Services			
		13570 St. Charles Rock Rd.		13570 St. Charles Rock Rd.		Attn: Nick Bauer			
		Bridgeton, MO 63044		Bridgeton, MO 63044		Bill to:			
		618-420-5209		618-420-5209		P.O. No.:		PO6312552	
		e-mail:		Nbauer@publicservices.com		Bill to:		Republic Services	
18501 E. Gale Ave., Suite 130 City of Industry, CA 91748 Ph: 626-964-4032 Fx: 626-964-5832									
METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLi Other									
RELINQUISHED BY <u>Ronald Baker</u> DATE/TIME <u>5/11/17</u> RECEIVED BY DATE/TIME <u>5/11/17 0900</u>									
RELINQUISHED BY <u>FED EX</u> DATE/TIME <u>5/11/17 0900</u> RECEIVED BY DATE/TIME <u>5/11/17 0900</u>									
RELINQUISHED BY _____ DATE/TIME _____ RECEIVED BY _____ DATE/TIME _____									
CHAIN OF CUSTODY RECORD									
TURNAROUND TIME					DELIVERABLES		PAGE: 8 OF 11		
Standard		48 hours		<input type="checkbox"/>	EDD	<input type="checkbox"/>	Condition upon receipt:		
Same Day		72 hours		<input type="checkbox"/>	EDF	<input type="checkbox"/>	Sealed Yes	<input type="checkbox"/>	No
24 hours		96 hours		<input type="checkbox"/>	Level 3	<input type="checkbox"/>	Intact Yes	<input type="checkbox"/>	No
Other:				<input type="checkbox"/>	Level 4	<input type="checkbox"/>	Chilled	<u>      </u> deg C	
ANALYSIS REQUEST									
Cannister Pressure (mTg)									
LAB USE ONLY		Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	DATE RECEIVED	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX
-63	-64	A8083	-19.8	-5	GEW 167	-6	5/2/2017	1351	C LFG NA X
-63	-64	6141	-19.9	-5	GEW 122	-6	5/2/2017	1402	C LFG NA X
-64	-65	3839	-19.9	-5	GEW 166	-6	5/2/2017	1417	C LFG NA X
-64	-65	A8059	-19.8	-5	GEW 165	-6	5/2/2017	1432	C LFG NA X
-64	-66	5323	-19.8	-5	GEW 164	-6	5/2/2017	1454	C LFG NA X
-67	-68	A7810	-19.5	-5	GEW 163	-6	5/2/2017	1509	C LFG NA X
-67	-68	A8057	-19.3	-5	GEW 121	-6	5/2/2017	1519	C LFG NA X
-69	-70	A7802	-19.9	-5	GEW 132	-6	5/2/2017	1536	C LFG NA X
-70	-71	A7766	-19.9	-5	GEW 120	-6	5/2/2017	1551	C LFG NA X
-71		5832	-19.8	-5	GEW 133	-6	5/2/2017	1625	C LFG NA X
AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services									
SAMPLER BY: Ronald Baker COMPANY: Republic Services DATE/TIME									

**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

לעומת הדרישות הנדרש בתקופה מודרנית, מושג זה מושג בתקופה עתיקה.





**CHAIN OF CUSTODY RECORD**

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:** \_\_\_\_\_  
**Bridgeton Landfill** **Nick Bauer**

---

Company:  
Republic Services

**Street:** 13570 St. Charles Rock Rd.

卷之三

Albion@monash.edu.au

### Cannister Pressure ("h

卷之三

Cannister D Start

卷之三

18-15 OF 4636 - 19.6

**-83**

-19.6

-19.7

-197  
A7794

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卷之三

卷之三

3120 - 13:00

卷之三

38837 - 19.5

Dave Penoyer      COMP

Ronald Baker

DATE/TIME  
PUBLISHED BY

Ronald Baker 5/12/17

卷之三

AUGUSTINE'S CONCEPTION OF TIME

**METHOD OF TRANSPORT (circle one):**

CHAIN OF CUSTODY RECORD									
Project No.:		Report To:		TURNAROUND TIME		DELIVERABLES		PAGE:	
				<input type="checkbox"/> Standard	<input type="checkbox"/> 48 hours	<input type="checkbox"/> EDD	<input type="checkbox"/>	Condition upon receipt:	
				<input type="checkbox"/> Same Day	<input type="checkbox"/> 72 hours	<input type="checkbox"/> EDF	<input type="checkbox"/>	Sealed Yes <input type="checkbox"/>	No <input type="checkbox"/>
				<input type="checkbox"/> 24 hours	<input type="checkbox"/> 96 hours	<input type="checkbox"/> Level 3	<input type="checkbox"/>	Intact Yes <input type="checkbox"/>	No <input type="checkbox"/>
				<input type="checkbox"/> Other:		<input type="checkbox"/> Level 4	<input type="checkbox"/>	Chilled <input type="checkbox"/>	deg C _____
ANALYSIS REQUEST									
Project Name:		Company:		P.O. No.:		PO6312552			
Bridgeton Landfill		Republic Services		Bill to:		Republic Services			
Nick Bauer		Attn: Nick Bauer							
Report To:		Street:		13570 St. Charles Rock Rd.					
Company:		City/State/Zip:		Bridgeton , MO 63044					
Project No.:		Phone & Fax:		618-420-5209					
Project Name:		e-mail:		Nbauer@republicservices.com					
Cannister Pressure ("hg)									
LAB USE ONLY		Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION		SAMPLE DATE	TIME	CONTAINER
1051504-82	4656	-19.6	-5	GEW 3	-6	5/9/2017	836	C	LFG
-83	3162	-19.6	-5	GEW 46R	-6	5/9/2017	849	C	LFG
-84	6158	-19.6	-5	GEW 45R	-6	5/9/2017	901	C	LFG
-85	6144	-19.7	-5	GEW 47R	-6	5/9/2017	941	C	LFG
-86	A7794	-19.7	-5	GEW 4	-6	5/9/2017	953	C	LFG
-87	5306	-19.4	-5	GEW 5	-6	5/9/2017	1003	C	LFG
-88	3440	-19.4	-5	GEW 48	-6.5	5/9/2017	1013	C	LFG
-89	3128	-19.8	-5	GEW 6	-6.5	5/9/2017	1025	C	LFG
-90	4657	-19.6	-5	GEW 49	-6.5	5/9/2017	1042	C	LFG
-91	3837	-19.5	-5	GEW 51	-6.5	5/9/2017	1054	C	LFG
AUTHORIZATION TO PERFORM WORK: <input type="checkbox"/> Dave Penoyer <input type="checkbox"/> company: Republic Services									
SAMPLER BY: <input type="checkbox"/> Ronald Baker <input type="checkbox"/> company: Republic Services <input type="checkbox"/> DATE/TIME									
RELINQUISHED BY: <input type="checkbox"/> Ronald Baker <input type="checkbox"/> DATE/TIME <input type="checkbox"/> RECEIVED BY <input type="checkbox"/> DATE/TIME									
RELINQUISHED BY: <input type="checkbox"/> FedEx <input type="checkbox"/> DATE/TIME <input type="checkbox"/> RECEIVED BY <input type="checkbox"/> DATE/TIME									
RELINQUISHED BY: <input type="checkbox"/> DATE/TIME <input type="checkbox"/> RECEIVED BY <input type="checkbox"/> DATE/TIME									
METHOD OF TRANSPORT (circle one): <input type="checkbox"/> Walk-In <input type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier <input type="checkbox"/> ATLI <input type="checkbox"/> Other _____									
COMMENTS									

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



**TECHNOLOGY**  
**Laboratories, Inc.**

### CHAIN OF CUSTODY RECORD

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

**Project No.:**

Bridgeton Landfill

**Project Name:**

Nick Bauer

**Report To:**

Republic Services

**Company:**

13570 St. Charles Rock Rd.

**Street:**

Bridgeton, MO 63044

**City/State/Zip:**

618-420-5209

**Phone & Fax:**

Nbauer@republicservices.com

**e-mail:**

LAB USE ONLY		Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	DATE SAMPLE TAKEN	TIME SAMPLE TAKEN	CONTAINER	MATRIX	PRESERVE-TION
<b>105150F - 92</b>		3126	-19.6	-5	GEV 52	-6/6	5/9/2017	1104	C	LFG NA X
<b>- 93</b>		A8072	-19.6	-5	GEV 50	-7	5/9/2017	1114	C	LFG NA X
<b>- 94</b>		5269	-16.8	-5	GEV 7	-6	5/9/2017	1128	C	LFG NA X
<b>- 95</b>		A7646	-19.4	-5	GEV 8	-7	5/9/2017	1139	C	LFG NA X
<b>- 96</b>		3130	-19.8	-5	GEV 9	-6	5/9/2017	1152	C	LFG NA X
<b>- 97</b>		4658	-19.4	-5	GEV 2S	-7	5/9/2017	1330	C	LFG NA X
<b>- 98</b>		5813	-19.5	-5	GEV 43R	-7	5/9/2017	1350	C	LFG NA X
<b>- 99</b>		A8094	-19.3	-5	GEV 44	-7	5/9/2017	1403	C	LFG NA X
<b>- 100</b>		A8063	-19.3	-5	GEV 53	-7	5/9/2017	1430	C	LFG NA X
<b>- 101</b>		A7751	-19.3	-5	GEV 54	-7	5/9/2017	1443	C	LFG NA X

**AUTHORIZATION TO PERFORM WORK:** Dave Penoyer

COMPANY: Republic Services

**DATE/TIME**

**ANALYSIS REQUEST**

DELIVERABLES		PAGE:	
Standard	48 hours	EDD	11 OF 11

Same Day	72 hours	EDF	Condition upon receipt:
24 hours	96 hours	Level 3	Sealed Yes <input type="checkbox"/> No <input type="checkbox"/>
Other:		Level 4	Intact Yes <input type="checkbox"/> No <input type="checkbox"/>
			Chilled _____ deg C

BILLING		ANALYSIS REQUEST	
P.O. No.:	PO6312552		

BILL TO:	
Republic Services	Republic Services

ATTACHMENT	
Attn: Nick Bauer	13570 St. Charles Rock Rd.

METHOD OF TRANSPORT (circle one):	
Walk-In	FedEx

METHOD OF TRANSPORT (circle one):	
UPS	Courier

METHOD OF TRANSPORT (circle one):	
ATL	Other

METHOD OF TRANSPORT (circle one):	

METHOD OF TRANSPORT (circle one):	

METHOD OF TRANSPORT (circle one):	

METHOD OF TRANSPORT (circle one):	

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METHOD OF TRANSPORT (circle one):	

METHOD OF TRANSPORT (circle one):	

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 2 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-01	I051504-02	I051504-03	I051504-04
Client Sample I.D.:	GIW 1	GIW 2	GIW 3	GIW 4
Date/Time Sampled:	5/1/17 14:50	5/1/17 15:17	5/1/17 15:29	5/2/17 7:42
Date/Time Analyzed:	5/17/17 12:52	5/17/17 13:06	5/17/17 13:21	5/17/17 13:35
QC Batch No.:	170517GC8A2	170517GC8A2	170517GC8A2	170517GC8A2
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
Hydrogen	1.9	d	0.032	8.2
Carbon Dioxide	28		0.032	31
Oxygen/Argon	11		1.6	11
Nitrogen	53		3.2	43
Methane	6.1		0.0032	5.9
Carbon Monoxide	0.025		0.0032	0.030
				0.0032
				0.18
				0.0032
				0.16
				0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_ *Mark Johnson* /  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/15/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 3 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-05	I051504-06	I051504-07	I051504-08						
Client Sample I.D.:	GIW 5	GIW 10	GEW 10	GEW 110						
Date/Time Sampled:	5/2/17 7:57	5/2/17 8:09	5/2/17 10:16	5/2/17 10:27						
Date/Time Analyzed:	5/17/17 13:50	5/17/17 14:04	5/17/17 14:19	5/17/17 14:34						
QC Batch No.:	170517GC8A2	170517GC8A2	170517GC8A2	170517GC8A2						
Analyst Initials:	AS	AS	AS	AS						
Dilution Factor:	3.2	3.2	3.4	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	ND	d	0.032	42	3.2	ND	d	0.034	11	3.3
Carbon Dioxide	2.6		0.032	51	0.032	40		0.034	22	0.033
Oxygen/Argon	21		1.6	ND	1.6	ND		1.7	11	1.6
Nitrogen	76		3.2	ND	3.2	ND		3.4	50	3.3
Methane	0.013		0.0032	4.0	0.0032	57		0.0034	5.8	0.0033
Carbon Monoxide	ND		0.0032	0.11	0.0032	ND		0.0034	0.054	0.0033

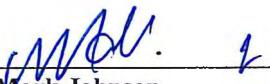
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

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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:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 4 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-09	I051504-10	I051504-11	I051504-12				
<b>Client Sample I.D.:</b>	GIW 13	GIW 12	GEW 56R	GIW 11				
<b>Date/Time Sampled:</b>	5/2/17 10:38	5/2/17 10:48	5/2/17 11:02	5/2/17 11:13				
<b>Date/Time Analyzed:</b>	5/17/17 14:48	5/17/17 15:03	5/17/17 15:19	5/17/17 15:34				
<b>QC Batch No.:</b>	170517GC8A2	170517GC8A2	170517GC8A2	170517GC8A2				
<b>Analyst Initials:</b>	AS	AS	AS	AS				
<b>Dilution Factor:</b>	3.4	3.4	3.2	3.3				
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>						
Hydrogen	22	3.4	14	3.4	28	3.2	36	3.3
Carbon Dioxide	66	0.034	39	0.034	53	0.032	60	0.033
Oxygen/Argon	ND	1.7	6.0	1.7	ND	1.6	ND	1.6
Nitrogen	ND	3.4	30	3.4	ND	3.2	ND	3.3
Methane	9.6	0.0034	11	0.0034	16	0.0032	1.9	0.0033
Carbon Monoxide	0.088	0.0034	0.047	0.0034	0.092	0.0032	0.16	0.0033

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 5 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-13	I051504-14	I051504-15	I051504-16
Client Sample I.D.:	GIW 6	GIW 7	GIW 8	GEW 38
<b>Date/Time Sampled:</b>	5/2/17 11:37	5/2/17 13:07	5/2/17 13:18	5/2/17 13:27
<b>Date/Time Analyzed:</b>	5/17/17 15:49	5/17/17 16:04	5/17/17 16:18	5/17/17 16:33
<b>QC Batch No.:</b>	170517GC8A2	170517GC8A2	170517GC8A2	170517GC8A2
<b>Analyst Initials:</b>	AS	AS	AS	AS
<b>Dilution Factor:</b>	3.4	3.2	3.4	3.4
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	32	3.4	12	3.2
Carbon Dioxide	48	0.034	56	0.032
Oxygen/Argon	1.7	1.7	3.3	1.6
Nitrogen	13	3.4	12	3.2
Methane	4.5	0.0034	17	0.0032
Carbon Monoxide	0.064	0.0034	0.094	0.0032

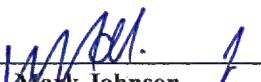
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

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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: 05/15/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 6 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-17	I051504-18	I051504-19	I051504-20
Client Sample I.D.:	GIW 9	GEW 109	GEW 39	GEW 160
Date/Time Sampled:	5/2/17 13:38	5/2/17 13:49	5/2/17 13:59	5/2/17 14:26
Date/Time Analyzed:	5/17/17 16:47	5/17/17 17:02	5/17/17 17:17	5/17/17 17:31
QC Batch No.:	170517GC8A2	170517GC8A2	170517GC8A2	170517GC8A2
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.4	3.4	3.4	3.2
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>	<b>Result % v/v</b>	<b>RL % v/v</b>
Hydrogen	5.7	3.4	18	3.4
Carbon Dioxide	28	0.034	50	0.034
Oxygen/Argon	4.4	1.7	ND	1.7
Nitrogen	51	3.4	8.0	3.4
Methane	11	0.0034	23	0.0034
Carbon Monoxide	0.022	0.0034	0.053	0.0034

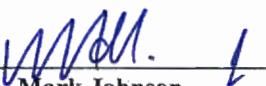
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/1/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 7 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-21	I051504-22		I051504-23		I051504-24			
<b>Client Sample I.D.:</b>	GEW 161		GEW 154		GEW 149		GEW 148		
<b>Date/Time Sampled:</b>	5/2/17 14:36		5/2/17 14:50		5/2/17 15:11		5/2/17 15:36		
<b>Date/Time Analyzed:</b>	5/17/17 22:57		5/17/17 23:11		5/17/17 23:26		5/17/17 23:40		
<b>QC Batch No.:</b>	170517GC8A3		170517GC8A3		170517GC8A3		170517GC8A3		
<b>Analyst Initials:</b>	MJ		MJ		MJ		MJ		
<b>Dilution Factor:</b>	3.4		3.4		3.4		3.4		
<b>ANALYTE</b>	Result % v/v	RL % v/v							
Hydrogen	11	3.4	1.6	d	0.034	9.9	3.4	30	3.4
Carbon Dioxide	42	0.034	29	0.034	41	0.034	55	0.034	
Oxygen/Argon	6.0	1.7	8.7	1.7	3.6	1.7	1.8	1.7	
Nitrogen	24	3.4	38	3.4	33	3.4	6.1	3.4	
Methane	16	0.0034	22	0.0034	12	0.0034	7.1	0.0034	
Carbon Monoxide	0.048	0.0034	0.014	0.0034	0.040	0.0034	0.23	0.0034	

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: Nick Bauer  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 8 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-25	I051504-26	I051504-27	I051504-28				
Client Sample I.D.:	GEW 134	GEW 135	GEW 137	GEW 138				
Date/Time Sampled:	5/5/17 14:15	5/5/17 14:27	5/5/17 14:41	5/5/17 14:53				
Date/Time Analyzed:	5/17/17 23:55	5/18/17 0:09	5/18/17 0:24	5/18/17 0:38				
QC Batch No.:	170517GC8A3	170517GC8A3	170517GC8A3	170517GC8A3				
Analyst Initials:	MJ	MJ	MJ	MJ				
Dilution Factor:	3.4	3.4	3.4	3.4				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	11	3.4	14	3.4	ND	d	17	3.4
Carbon Dioxide	34	0.034	33	0.034	20		33	0.034
Oxygen/Argon	6.1	1.7	4.8	1.7	6.7		3.1	1.7
Nitrogen	41	3.4	44	3.4	65		41	3.4
Methane	8.9	0.0034	4.4	0.0034	8.4		5.3	0.0034
Carbon Monoxide	0.048	0.0034	0.069	0.0034	ND		0.10	0.0034

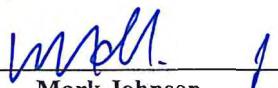
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

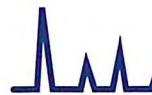
d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/12/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/15/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 9 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-29	I051504-30	I051504-31	I051504-32
Client Sample I.D.:	GEW 82R	GEW 159	GEW 153	GEW 59R
Date/Time Sampled:	5/8/17 11:24	5/8/17 13:18	5/8/17 13:35	5/8/17 13:46
Date/Time Analyzed:	5/18/17 0:53	5/18/17 1:08	5/18/17 1:22	5/18/17 1:37
QC Batch No.:	170517GC8A3	170517GC8A3	170517GC8A3	170517GC8A3
Analyst Initials:	MJ	MJ	MJ	MJ
Dilution Factor:	3.4	3.4	3.4	3.4
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>	<b>Result % v/v</b>	<b>RL % v/v</b>
Hydrogen	45	3.4	17	3.4
Carbon Dioxide	49	0.034	27	0.034
Oxygen/Argon	ND	1.7	10	1.7
Nitrogen	ND	3.4	38	3.4
Methane	2.5	0.0034	7.3	0.0034
Carbon Monoxide	0.17	0.0034	0.092	0.0034
			0.035	0.0034
				0.15
				0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date \_\_\_\_\_

*5/17*

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 10 of 33  
I051504a

ASTM D1946								
Lab No.:	I051504-33	I051504-34	I051504-35	I051504-36				
<b>Client Sample I.D.:</b>	GEW 58A	GEW 58	GEW 158	GEW 176				
<b>Date/Time Sampled:</b>	5/8/17 14:16	5/8/17 14:26	5/8/17 14:43	5/8/17 14:58				
<b>Date/Time Analyzed:</b>	5/18/17 1:51	5/18/17 2:06	5/18/17 2:20	5/18/17 2:35				
<b>QC Batch No.:</b>	170517GC8A3	170517GC8A3	170517GC8A3	170517GC8A3				
<b>Analyst Initials:</b>	MJ	MJ	MJ	MJ				
<b>Dilution Factor:</b>	3.4	3.4	3.4	3.4				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	4.6	3.4	7.4	3.4	40	3.4	17	3.4
Carbon Dioxide	33	0.034	38	0.034	51	0.034	54	0.034
Oxygen/Argon	2.9	1.7	1.8	1.7	ND	1.7	ND	1.7
Nitrogen	50	3.4	42	3.4	ND	3.4	8.1	3.4
Methane	9.9	0.0034	11	0.0034	5.0	0.0034	18	0.0034
Carbon Monoxide	0.021	0.0034	0.026	0.0034	0.17	0.0034	0.073	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/1/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 11 of 33  
I051504a

**ASTM D1946**

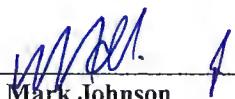
Lab No.:	I051504-37	I051504-38	I051504-39	I051504-40				
<b>Client Sample I.D.:</b>	GEW 175	GEW 150	GEW 157	GEW 57R				
<b>Date/Time Sampled:</b>	5/8/17 15:10	5/9/17 7:46	5/9/17 7:59	5/9/17 8:12				
<b>Date/Time Analyzed:</b>	5/18/17 5:31	5/18/17 7:11	5/18/17 7:26	5/18/17 7:40				
<b>QC Batch No.:</b>	170517GC8A3	170517GC8A3	170517GC8A3	170517GC8A3				
<b>Analyst Initials:</b>	MJ	MJ	MJ	MJ				
<b>Dilution Factor:</b>	3.4	3.4	3.4	3.4				
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>						
Hydrogen	12	3.4	12	3.4	28	3.4	11	3.4
Carbon Dioxide	43	0.034	37	0.034	50	0.034	37	0.034
Oxygen/Argon	5.9	1.7	7.2	1.7	ND	1.7	3.0	1.7
Nitrogen	24	3.4	35	3.4	5.4	3.4	42	3.4
Methane	15	0.0034	9.2	0.0034	14	0.0034	5.9	0.0034
Carbon Monoxide	0.047	0.0034	0.059	0.0034	0.15	0.0034	0.037	0.0034

Results normalized including non-methane hydrocarbons

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Operations Manager

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page 1 of 1

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**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 12 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-41	I051504-42	I051504-43	I051504-44				
<b>Client Sample I.D.:</b>	GEW 156	GEW 102	GEW 172	GEW 139				
<b>Date/Time Sampled:</b>	5/9/17 8:32	5/9/17 8:48	5/9/17 9:54	5/9/17 10:11				
<b>Date/Time Analyzed:</b>	5/18/17 9:38	5/18/17 9:53	5/18/17 10:07	5/18/17 10:22				
<b>QC Batch No.:</b>	170518GC8A1	170518GC8A1	170518GC8A1	170518GC8A1				
<b>Analyst Initials:</b>	AS	AS	AS	AS				
<b>Dilution Factor:</b>	3.4	3.4	3.4	3.4				
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>						
Hydrogen	0.77 d	0.034	34	3.4	36	3.4	36	3.4
Carbon Dioxide	25	0.034	47	0.034	48	0.034	48	0.034
Oxygen/Argon	8.0	1.7	2.5	1.7	3.3	1.7	2.7	1.7
Nitrogen	56	3.4	8.6	3.4	12	3.4	10	3.4
Methane	10.0	0.0034	7.2	0.0034	0.25	0.0034	3.1	0.0034
Carbon Monoxide	0.0040	0.0034	0.064	0.0034	0.28	0.0034	0.25	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/1/17

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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:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 13 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-45	I051504-46	I051504-47	I051504-48
<b>Client Sample I.D.:</b>	GEW 90	GEW 117	GEW 22R	GEW 55
<b>Date/Time Sampled:</b>	5/9/17 10:29	5/9/17 11:05	5/9/17 11:21	5/9/17 13:37
<b>Date/Time Analyzed:</b>	5/18/17 10:36	5/18/17 10:51	5/18/17 11:36	5/18/17 11:05
<b>QC Batch No.:</b>	170518GC8A1	170518GC8A1	170518GC8A1	170518GC8A1
<b>Analyst Initials:</b>	AS	AS	AS	AS
<b>Dilution Factor:</b>	3.5	3.6	3.4	3.5
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	34	3.5	23	3.6
Carbon Dioxide	38	0.035	43	0.036
Oxygen/Argon	4.2	1.7	6.4	1.8
Nitrogen	15	3.5	22	3.6
Methane	8.4	0.0035	4.3	0.0036
Carbon Monoxide	0.13	0.0035	0.11	0.0036

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 6/1/17

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AirTECHNOLOGY Laboratories, Inc.

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

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 14 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-49	I051504-50		I051504-51		I051504-52					
<b>Client Sample I.D.:</b>	GEW 40		GEW 41R		GEW 42R		GEW 129				
<b>Date/Time Sampled:</b>	5/9/17 13:49		5/9/17 14:00		5/9/17 14:13		5/2/17 8:03				
<b>Date/Time Analyzed:</b>	5/18/17 11:50		5/18/17 12:05		5/18/17 12:19		5/18/17 12:34				
<b>QC Batch No.:</b>	170518GC8A1		170518GC8A1		170518GC8A1		170518GC8A1				
<b>Analyst Initials:</b>	AS		AS		AS		AS				
<b>Dilution Factor:</b>	3.5		3.6		3.4		3.2				
ANALYTE	Result % v/v	RL % v/v									
Hydrogen	ND	d	0.035	ND	d	0.036	ND	d	0.034	20	3.2
Carbon Dioxide	40		0.035	37		0.036	41		0.034	76	0.032
Oxygen/Argon	ND		1.7	ND		1.8	ND		1.7	ND	1.6
Nitrogen	ND		3.5	5.1		3.6	ND		3.4	ND	3.2
Methane	58		0.0035	56		0.0036	56		0.0034	0.70	0.0032
Carbon Monoxide	ND		0.0035	ND		0.0036	ND		0.0034	0.23	0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

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d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

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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:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 15 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-53	I051504-54	I051504-55	I051504-56
<b>Client Sample I.D.:</b>	GEW 128	GEW 170	GEW 127	GEW 130
<b>Date/Time Sampled:</b>	5/2/17 8:22	5/2/17 10:34	5/2/17 10:46	5/2/17 10:57
<b>Date/Time Analyzed:</b>	5/18/17 12:48	5/18/17 13:03	5/18/17 13:18	5/18/17 13:32
<b>QC Batch No.:</b>	170518GC8A1	170518GC8A1	170518GC8A1	170518GC8A1
<b>Analyst Initials:</b>	AS	AS	AS	AS
<b>Dilution Factor:</b>	3.4	3.4	3.4	3.4
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	29	3.4	29	3.4
Carbon Dioxide	64	0.034	65	0.034
Oxygen/Argon	ND	1.7	ND	1.7
Nitrogen	ND	3.4	ND	3.4
Methane	2.6	0.0034	2.9	0.0034
Carbon Monoxide	0.33	0.0034	0.32	0.0034
			0.19	0.0034
				0.17
				0.0034

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 6/2/17

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page 1 of 1

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/15/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 16 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-58	I051504-59	I051504-60	I051504-61				
Client Sample I.D.:	GEW 126	GEW 168	GEW 169	GEW 125				
Date/Time Sampled:	5/2/17 11:27	5/2/17 11:39	5/2/17 11:52	5/2/17 13:32				
Date/Time Analyzed:	5/18/17 13:47	5/18/17 14:01	5/18/17 14:16	5/18/17 14:30				
QC Batch No.:	170518GC8A1	170518GC8A1	170518GC8A1	170518GC8A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.4	3.4				
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>						
Hydrogen	5.7	3.4	34	3.4	18	3.4	35	3.4
Carbon Dioxide	49	0.034	58	0.034	35	0.034	54	0.034
Oxygen/Argon	ND	1.7	ND	1.7	9.6	1.7	ND	1.7
Nitrogen	26	3.4	ND	3.4	35	3.4	5.7	3.4
Methane	18	0.0034	3.3	0.0034	1.5	0.0034	3.5	0.0034
Carbon Monoxide	0.044	0.0034	0.24	0.0034	0.16	0.0034	0.22	0.0034

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Operations Manager

Date 6/2/17

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page 1 of 1

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**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 17 of 33  
I051504a

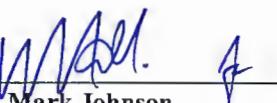
ASTM D1946				
Lab No.:	I051504-62	I051504-63	I051504-64	I051504-65
<b>Client Sample I.D.:</b>	GEW 167	GEW 122	GEW 166	GEW 165
<b>Date/Time Sampled:</b>	5/2/17 13:51	5/2/17 14:02	5/2/17 14:17	5/2/17 14:32
<b>Date/Time Analyzed:</b>	5/18/17 16:18	5/18/17 16:33	5/18/17 16:47	5/18/17 17:02
<b>QC Batch No.:</b>	170518GC8A2	170518GC8A2	170518GC8A2	170518GC8A2
<b>Analyst Initials:</b>	AS	AS	AS	AS
<b>Dilution Factor:</b>	3.4	3.4	3.4	3.4
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	31	3.4	16	3.4
Carbon Dioxide	41	0.034	41	0.034
Oxygen/Argon	5.1	1.7	ND	1.7
Nitrogen	21	3.4	30	3.4
Methane	1.4	0.0034	11	0.0034
Carbon Monoxide	0.21	0.0034	0.12	0.0034

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Mark Johnson  
Operations Manager

Date 6/2/17

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page 1 of 1

**Client:** Republic Services  
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**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 18 of 33  
I051504a

ASTM D1946								
Lab No.:	I051504-66	I051504-67	I051504-68	I051504-69				
Client Sample I.D.:	GEW 164	GEW 163	GEW 121	GEW 132				
Date/Time Sampled:	5/2/17 14:54	5/2/17 15:09	5/2/17 15:19	5/2/17 15:36				
Date/Time Analyzed:	5/18/17 17:16	5/18/17 17:31	5/18/17 17:45	5/18/17 18:00				
QC Batch No.:	170518GC8A2	170518GC8A2	170518GC8A2	170518GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.4	3.4				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	15	3.4	14	3.4	20	3.4	15	3.4
Carbon Dioxide	64	0.034	41	0.034	50	0.034	38	0.034
Oxygen/Argon	ND	1.7	4.8	1.7	2.7	1.7	3.1	1.7
Nitrogen	6.4	3.4	36	3.4	18	3.4	37	3.4
Methane	13	0.0034	3.1	0.0034	8.8	0.0034	5.9	0.0034
Carbon Monoxide	0.12	0.0034	0.090	0.0034	0.098	0.0034	0.081	0.0034

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Mark Johnson  
Operations Manager

Date: 6/2/17

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Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 19 of 33  
I051504a

ASTM D1946							
Lab No.:	I051504-70	I051504-71	I051504-72	I051504-73			
<b>Client Sample I.D.:</b>	GEW 120	GEW 133	GEW 123	GEW 147			
<b>Date/Time Sampled:</b>	5/2/17 15:51	5/2/17 16:25	5/5/17 14:27	5/5/17 14:49			
<b>Date/Time Analyzed:</b>	5/18/17 18:15	5/18/17 18:29	5/18/17 18:44	5/18/17 18:58			
<b>QC Batch No.:</b>	170518GC8A2	170518GC8A2	170518GC8A2	170518GC8A2			
<b>Analyst Initials:</b>	AS	AS	AS	AS			
<b>Dilution Factor:</b>	3.4	3.4	3.4	4.2			
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v
Hydrogen	5.8	3.4	30	3.4	7.0	3.4	41
Carbon Dioxide	54	0.034	57	0.034	37	0.034	53
Oxygen/Argon	ND	1.7	2.4	1.7	3.0	1.7	ND
Nitrogen	23	3.4	8.4	3.4	35	3.4	ND
Methane	16	0.0034	0.88	0.0034	18	0.0034	0.50
Carbon Monoxide	0.028	0.0034	0.22	0.0034	0.042	0.0034	0.24

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Operations Manager

Date \_\_\_\_\_

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page 1 of 1

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**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 20 of 33  
I051504a

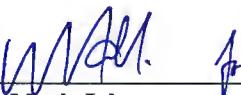
ASTM D1946								
Lab No.:	I051504-74	I051504-75	I051504-76	I051504-77				
Client Sample I.D.:	GEW 155	GEW 141	GEW 118	GEW 116				
Date/Time Sampled:	5/8/17 11:34	5/8/17 13:30	5/8/17 13:50	5/8/17 14:09				
Date/Time Analyzed:	5/18/17 19:13	5/18/17 20:29	5/18/17 20:44	5/18/17 20:58				
QC Batch No.:	170518GC8A2	170518GC8A2	170518GC8A2	170518GC8A2				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.4	3.4				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	25	3.4	29	3.4	39	3.4	21	3.4
Carbon Dioxide	38	0.034	45	0.034	54	0.034	42	0.034
Oxygen/Argon	2.2	1.7	5.4	1.7	ND	1.7	7.4	1.7
Nitrogen	32	3.4	19	3.4	ND	3.4	26	3.4
Methane	2.4	0.0034	0.19	0.0034	1.1	0.0034	1.8	0.0034
Carbon Monoxide	0.094	0.0034	0.33	0.0034	0.16	0.0034	0.12	0.0034

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Mark Johnson  
Operations Manager

Date: 6/2/17

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page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 21 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-78	I051504-79	I051504-80	I051504-81						
<b>Client Sample I.D.:</b>	GEW 173	GEW 174	GEW 140	GEW 2						
<b>Date/Time Sampled:</b>	5/8/17 14:33	5/8/17 14:46	5/8/17 15:01	5/9/17 8:20						
<b>Date/Time Analyzed:</b>	5/18/17 21:13	5/18/17 21:28	5/18/17 21:43	5/19/17 5:36						
<b>QC Batch No.:</b>	170518GC8A2	170518GC8A2	170518GC8A2	170518GC8A2						
<b>Analyst Initials:</b>	AS	AS	AS	AS						
<b>Dilution Factor:</b>	3.6	3.4	3.6	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	2.7	d	0.036	15	3.4	15	3.6	ND	d	0.034
Carbon Dioxide	21		0.036	31	0.034	35	0.036	40		0.034
Oxygen/Argon	9.2		1.8	6.5	1.7	5.7	1.8	2.7		1.7
Nitrogen	59		3.6	38	3.4	35	3.6	9.1		3.4
Methane	7.1		0.0036	8.7	0.0034	9.8	0.0036	49		0.0034
Carbon Monoxide	0.031		0.0036	0.085	0.0034	0.073	0.0036	ND		0.0034

Results normalized including non-methane hydrocarbons

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Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 06/17

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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:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 22 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-82	I051504-83	I051504-84	I051504-85
Client Sample I.D.:	GEW 3	GEW 46R	GEW 45R	GEW 47R
Date/Time Sampled:	5/9/17 8:36	5/9/17 8:49	5/9/17 9:01	5/9/17 9:41
Date/Time Analyzed:	5/19/17 8:30	5/19/17 8:45	5/19/17 8:59	5/19/17 9:14
QC Batch No.:	170519GC8A1	170519GC8A1	170519GC8A1	170519GC8A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.4	3.4	3.4	3.4
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>	<b>Result % v/v</b>	<b>RL % v/v</b>
Hydrogen	0.076 d	0.034	0.064 d	0.034
Carbon Dioxide	41	0.034	39	0.034
Oxygen/Argon	ND	1.7	ND	1.7
Nitrogen	ND	3.4	3.9	3.4
Methane	56	0.0034	56	0.0034
Carbon Monoxide	ND	0.0034	ND	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 23 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-86	I051504-87	I051504-88	I051504-89								
<b>Client Sample I.D.:</b>	GEW 4	GEW 5	GEW 48	GEW 6								
<b>Date/Time Sampled:</b>	5/9/17 9:53	5/9/17 10:03	5/9/17 10:13	5/9/17 10:25								
<b>Date/Time Analyzed:</b>	5/19/17 9:28	5/19/17 9:43	5/19/17 9:58	5/19/17 10:12								
<b>QC Batch No.:</b>	170519GC8A1	170519GC8A1	170519GC8A1	170519GC8A1								
<b>Analyst Initials:</b>	AS	AS	AS	AS								
<b>Dilution Factor:</b>	3.4	3.4	3.5	3.5								
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>										
Hydrogen	0.080	d	0.034	ND	d	0.034	ND	d	0.035	ND	d	0.035
Carbon Dioxide	40		0.034	35		0.034	38		0.035	37		0.035
Oxygen/Argon	ND		1.7	ND		1.7	ND		1.7	ND		1.7
Nitrogen	5.7		3.4	14		3.4	6.2		3.5	6.6		3.5
Methane	54		0.0034	51		0.0034	54		0.0035	56		0.0035
Carbon Monoxide	ND		0.0034	ND		0.0034	ND		0.0035	ND		0.0035

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A1, 170522GC8A2

Reviewed/Approved By:

  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 24 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-90	I051504-91	I051504-92	I051504-93								
<b>Client Sample I.D.:</b>	GEW 49	GEW 51	GEW 52	GEW 50								
<b>Date/Time Sampled:</b>	5/9/17 10:42	5/9/17 10:54	5/9/17 11:04	5/9/17 11:14								
<b>Date/Time Analyzed:</b>	5/19/17 10:27	5/19/17 10:41	5/19/17 10:56	5/19/17 11:10								
<b>QC Batch No.:</b>	170519GC8A1	170519GC8A1	170519GC8A1	170519GC8A1								
<b>Analyst Initials:</b>	AS	AS	AS	AS								
<b>Dilution Factor:</b>	3.5	3.5	3.5	3.6								
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v								
Hydrogen	ND	d	0.035	1.1	d	0.035	ND	d	0.035	ND	d	0.036
Carbon Dioxide	38		0.035	41		0.035	36		0.035	38		0.036
Oxygen/Argon	ND		1.7	ND		1.7	ND		1.7	ND		1.8
Nitrogen	5.9		3.5	ND		3.5	12		3.5	6.0		3.6
Methane	55		0.0035	54		0.0035	51		0.0035	55		0.0036
Carbon Monoxide	ND		0.0035	ND		0.0035	ND		0.0035	ND		0.0036

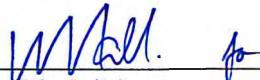
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A2

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Nick Bauer  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/15/17  
 Matrix: Air  
 Reporting Units: % v/v

Page 25 of 33  
I051504a

ASTM D1946

Lab No.:	I051504-94	I051504-95		I051504-96		I051504-97						
Client Sample I.D.:	GEW 7	GEW 8		GEW 9		GEW 2S						
Date/Time Sampled:	5/9/17 11:28		5/9/17 11:39		5/9/17 11:52		5/9/17 13:30					
Date/Time Analyzed:	5/19/17 11:40		5/19/17 11:55		5/19/17 12:10		5/19/17 12:24					
QC Batch No.:	170519GC8A1		170519GC8A1		170519GC8A1		170519GC8A1					
Analyst Initials:	AS		AS		AS		AS					
Dilution Factor:	3.4		3.6		3.4		3.6					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	d	0.034	0.45	d	0.036	0.80	d	0.034	ND	d	0.036
Carbon Dioxide	31		0.034	44		0.036	42		0.034	34		0.036
Oxygen/Argon	5.7		1.7	ND		1.8	ND		1.7	ND		1.8
Nitrogen	20		3.4	ND		3.6	4.2		3.4	3.7		3.6
Methane	44		0.0034	53		0.0036	52		0.0034	61		0.0036
Carbon Monoxide	ND		0.0034	ND		0.0036	ND		0.0034	ND		0.0036

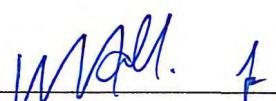
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

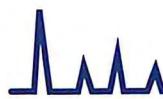
d = Reported from a secondary analysis. QC Batch: 170522GC8A2

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Nick Bauer  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/15/17  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 26 of 33  
I051504a

**ASTM D1946**

Lab No.:	I051504-98	I051504-99	I051504-100	I051504-101
Client Sample I.D.:	GEW 43R	GEW 44	GEW 53	GEW 54
Date/Time Sampled:	5/9/17 13:50	5/9/17 14:03	5/9/17 14:30	5/9/17 14:43
Date/Time Analyzed:	5/19/17 12:39	5/19/17 12:53	5/19/17 13:08	5/19/17 13:22
QC Batch No.:	170519GC8A1	170519GC8A1	170519GC8A1	170519GC8A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.6	3.6	3.6	3.6
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>	<b>Result % v/v</b>	<b>RL % v/v</b>
Hydrogen	0.22	d	0.036	ND
Carbon Dioxide	41		39	0.036
Oxygen/Argon	ND		1.8	ND
Nitrogen	ND		3.6	ND
Methane	56		58	0.0036
Carbon Monoxide	ND		ND	0.0036

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 170522GC8A2

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date 6/2/17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No: 170517GC8A2  
Matrix: Air  
Reporting Units: % v/v

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD						
Date Analyzed:	5/17/17 12:35		5/17/17 11:51		5/17/17 12:06						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.80	116	6.08	122	4.6	70	130	30
Carbon Dioxide	ND	0.010	10	9.65	96	10.2	102	5.5	70	130	30
Oxygen/Argon	ND	0.50	15	15.1	102	15.8	106	4.1	70	130	30
Nitrogen	ND	1.0	70	68.6	98	71.0	101	3.4	70	130	30
Methane	ND	0.0010	0.10	0.107	107	0.107	107	0.2	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.104	104	0.104	104	0.0	70	130	30

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*

Date \_\_\_\_\_

*6/2/17*

Mark Johnson  
Operations Manager

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

QC Batch No: 170517GC8A3  
Matrix: Air  
Reporting Units: % v/v

Page 28 of 33  
I051504a

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD		Limits							
Date Analyzed:	5/17/17 18:55		5/17/17 18:23		5/17/17 18:37									
Analyst Initials:	MJ		MJ		MJ									
Dilution Factor:	1.0		1.0		1.0									
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD			
Hydrogen	ND	1.0	5.0	5.89	118	5.97	119	1.4	70	130	30			
Carbon Dioxide	ND	0.010	10	9.83	98	10.0	100	2.2	70	130	30			
Oxygen/Argon	ND	0.50	15	15.5	105	15.7	106	1.6	70	130	30			
Nitrogen	ND	1.0	70	70.1	100	70.9	101	1.1	70	130	30			
Methane	ND	0.0010	0.10	0.107	107	0.107	107	0.3	70	130	30			
Carbon Monoxide	ND	0.0010	0.10	0.105	105	0.104	104	0.2	70	130	30			

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date \_\_\_\_\_

5/2/17

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AirTECHNOLOGY Laboratories, Inc.

QC Batch No: 170518GC8A1  
Matrix: Air  
Reporting Units: % v/v

Page 29 of 33

I051504a

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD						
Date Analyzed:	5/18/17 9:23		5/18/17 8:39		5/18/17 8:54						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.73	115	5.82	116	1.5	70	130	30
Carbon Dioxide	ND	0.010	10	9.62	96	9.92	99	3.1	70	130	30
Oxygen/Argon	ND	0.50	15	15.6	105	15.8	107	1.3	70	130	30
Nitrogen	ND	1.0	70	70.4	101	70.8	101	0.7	70	130	30
Methane	ND	0.0010	0.10	0.108	108	0.107	107	0.4	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.106	106	0.105	105	0.2	70	130	30

ND = Not Detected (below RL)

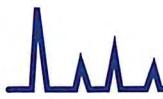
RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 6/2/17

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: 170518GC8A2  
Matrix: Air  
Reporting Units: % v/v

Page 30 of 33

I051504a

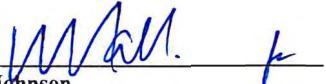
**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD						
Date Analyzed:	5/18/17 15:34		5/18/17 15:49		5/18/17 16:03						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.47	109	5.75	115	5.0	70	130	30
Carbon Dioxide	ND	0.010	10	9.31	93	9.95	99	6.7	70	130	30
Oxygen/Argon	ND	0.50	15	15.3	103	15.9	107	3.7	70	130	30
Nitrogen	ND	1.0	70	68.8	98	71.1	102	3.2	70	130	30
Methane	ND	0.0010	0.10	0.107	107	0.109	109	2.2	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.105	105	0.105	105	0.4	70	130	30

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
Mark 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: 170519GC8A1  
Matrix: Air  
Reporting Units: % v/v

Page 31 of 33

I051504a

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD						
Date Analyzed:	5/19/17 8:15		5/19/17 7:13		5/19/17 7:28						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.28	106	5.36	107	1.5	70	130	30
Carbon Dioxide	ND	0.010	10	9.18	92	9.59	96	4.3	70	130	30
Oxygen/Argon	ND	0.50	15	15.3	103	15.9	107	3.5	70	130	30
Nitrogen	ND	1.0	70	68.9	98	71.1	102	3.1	70	130	30
Methane	ND	0.0010	0.10	0.102	102	0.0987	99	3.0	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.0998	100	0.0968	97	3.1	70	130	30

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 6/2/17

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

QC Batch # 170522GC8A1  
Matrix: Air  
Units: % v/v

Page 32 of 33  
I051504a

**QC for Low Level Hydrogen Analysis**

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	5/22/2017 9:17		5/22/2017 8:58		5/22/2017 9:03			
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	92	70-130	4.6	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

  
Mark Johnson  
Operations Manager

Date:

6/2/17

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



AirTECHNOLOGY Laboratories, Inc.

QC Batch # 170522GC8A2  
Matrix: Air  
Units: % v/v

Page 33 of 33  
I051504a

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	5/22/2017 11:13		5/22/2017 11:04		5/22/2017 11:08			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	91	70-130	95	70-130	4.2	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark Johnson

Operations Manager

Date:

6/2/17

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

May 26, 2017

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: I052503-01

Enclosed are results for sample(s) received 5/25/17 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

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

Preliminary results were e-mailed to Nick Bauer and Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 5/26/17.

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

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

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



TECHNOLOGY

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

<b>Project No.:</b>	Bridgeton Landfill
<b>Project Name:</b>	
<b>Report To:</b>	Nick Bauer
<b>Company:</b>	Republic Services
<b>Street:</b>	13570 St. Charles Rock Rd.
<b>City/State/Zip:</b>	Bridgeton , MO 63044
<b>Phone &amp; Fax:</b>	618-420-5209
<b>E-mail:</b>	<a href="mailto:Nbauer@republicservices.com">Nbauer@republicservices.com</a>

**CHAIN OF CUSTODY RECORD**

CHAIN OF CUSTODY RECORD		DELIVERABLES	PAGE:	1	OF 1
TURNAROUND TIME				Condition upon receipt:	
<input type="checkbox"/>	48 hours	<input type="checkbox"/>	EDD	<input checked="" type="checkbox"/>	Sealed Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/>	72 hours	<input type="checkbox"/>	EDF	<input type="checkbox"/>	Intact Yes <input type="checkbox"/> No <input type="checkbox"/>
<input type="checkbox"/>	96 hours	<input type="checkbox"/>	Level 3	<input type="checkbox"/>	

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CONTENTS

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: 05/25/17  
Matrix: Air  
Reporting Units: % v/v

Page 2 of 3  
I052503

ASTM D1946

Lab No.:	I052503-01						
Client Sample I.D.:	GEW 131						
Date/Time Sampled:	5/23/17 11:39						
Date/Time Analyzed:	5/25/17 15:31						
QC Batch No.:	170525GC8A2						
Analyst Initials:	AS						
Dilution Factor:	3.2						
ANALYTE	Result % v/v	RL % v/v					
Hydrogen	26	3.2					
Carbon Dioxide	41	0.032					
Oxygen/Argon	ND	1.6					
Nitrogen	19	3.2					
Methane	12	0.0032					
Carbon Monoxide	0.17	0.0032					

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark Johnson  
Operations Manager

Date 5.26-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No: 170525GC8A2  
Matrix: Air  
Reporting Units: % v/v

**ASTM D1946**  
**LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK		LCS		LCSD			Limits			
Date Analyzed:	5/25/17 13:10		5/25/17 12:26		5/25/17 12:41						
Analyst Initials:	AS		AS		AS						
Dilution Factor:	1.0		1.0		1.0						
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	6.14	123	6.17	123	0.5	70	130	30
Carbon Dioxide	ND	0.010	10	10.1	101	10.2	102	1.3	70	130	30
Oxygen/Argon	ND	0.50	15	15.8	107	15.9	108	0.8	70	130	30
Nitrogen	ND	1.0	70	70.9	101	71.2	102	0.4	70	130	30
Methane	ND	0.0010	0.10	0.123	123	0.123	123	0.5	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.107	107	0.107	107	0.3	70	130	30

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson

Mark Johnson  
Operations Manager

Date 5-26-17

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

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**ATTACHMENT E**

**GAS WELLFIELD DATA**

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**ATTACHMENT E-1**

**WELLFIELD DATA TABLE**

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May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-002	5/5/2017 9:21	55.4	40.8	0.0	3.8	110.0	111.5	79	78	-0.5	-0.4	-10.3
GEW-002	5/9/2017 8:14	56.0	41.6	0.0	2.4	97.0	97.0	0	0	0.3	0.3	-2.4
GEW-002	5/9/2017 8:25	54.6	42.7	0.0	2.7	91.7	91.7	105	106	-1.8	-1.8	-1.9
GEW-002	5/12/2017 11:09	53.8	43.5	0.0	2.7	92.1	93.0	110	111	-2.0	-2.0	-12.2
GEW-002	5/12/2017 11:12	54.2	39.7	0.0	6.1	91.0	91.2	47	47	-0.1	-0.1	-12.1
GEW-002	5/16/2017 14:48	54.3	40.1	0.0	5.6	95.8	95.8	27	27	0.9	0.9	-11.2
GEW-002	5/16/2017 14:49	53.0	42.7	0.0	4.3	96.7	96.7	21	22	0.9	0.9	-11.1
GEW-002	5/23/2017 14:14	55.1	41.7	0.0	3.2	82.8	82.4	30	30	-0.1	-0.1	-12.7
GEW-002	5/31/2017 10:36	55.3	42.6	0.0	2.1	95.8	95.9	65	66	-0.5	-0.5	-11.2
GEW-003	5/5/2017 9:17	55.8	39.5	0.0	4.7	112.6	112.2	13	15	-0.4	-0.3	-10.4
GEW-003	5/9/2017 8:32	55.3	42.0	0.0	2.7	111.7	111.7	0	0	0.3	0.3	-9.1
GEW-003	5/9/2017 8:39	55.3	41.5	0.0	3.2	114.3	114.3	0	0	0.2	0.2	-9.1
GEW-003	5/12/2017 11:15	54.8	40.6	0.0	4.6	114.8	114.8	20	16	-1.1	-1.1	-12.7
GEW-003	5/12/2017 11:16	55.4	41.1	0.0	3.5	114.5	114.8	15	13	-1.1	-1.1	-12.4
GEW-003	5/16/2017 14:52	53.3	40.7	0.0	6.0	115.8	115.8	30	29	0.1	0.0	-11.0
GEW-003	5/16/2017 14:53	54.5	40.5	0.0	5.0	116.0	115.8	32	32	0.0	0.0	-11.1
GEW-003	5/23/2017 14:19	55.8	39.5	0.0	4.7	113.7	113.7	11	14	-0.3	-0.3	-12.9
GEW-003	5/31/2017 10:40	55.7	41.1	0.0	3.2	116.6	116.7	36	34	-0.8	-0.8	-11.3
GEW-004	5/5/2017 9:11	53.6	39.4	0.0	7.0	117.9	117.6	15	13	-0.6	-0.5	-10.3
GEW-004	5/5/2017 9:13	53.3	39.5	0.0	7.2	117.6	117.6	14	14	-0.5	-0.5	-10.7
GEW-004	5/9/2017 9:48	53.6	38.9	0.0	7.5	118.6	118.6	0	0	0.2	0.2	-8.7
GEW-004	5/9/2017 9:54	53.3	40.3	0.0	6.4	118.4	118.6	0	0	0.1	0.1	-8.7
GEW-004	5/12/2017 11:19	52.8	39.8	0.0	7.4	119.4	119.2	20	19	-1.3	-1.2	-11.9
GEW-004	5/12/2017 11:20	52.9	40.0	0.0	7.1	117.9	118.1	14	15	-1.1	-1.1	-12.6
GEW-004	5/16/2017 14:55	52.3	39.0	0.0	8.7	118.9	119.0	29	29	0.0	0.0	-11.4
GEW-004	5/16/2017 14:57	52.2	39.8	0.0	8.0	119.2	119.2	14	9	0.0	0.0	-11.1
GEW-004	5/23/2017 14:22	53.0	39.8	0.0	7.2	118.1	118.1	17	17	-0.3	-0.3	-12.9
GEW-004	5/31/2017 10:45	52.6	39.9	0.0	7.5	119.9	119.7	10	8	-0.7	-0.7	-11.8
GEW-005	5/5/2017 8:58	50.6	35.5	0.0	13.9	89.6	89.6	10	16	-0.3	-0.3	-10.9
GEW-005	5/9/2017 9:59	49.6	36.0	0.0	14.4	91.5	91.5	0	0	0.3	0.3	-8.6
GEW-005	5/9/2017 10:04	49.2	33.6	0.0	17.2	91.9	92.0	0	0	0.2	0.2	-7.9
GEW-005	5/12/2017 11:28	46.4	34.8	0.0	18.8	91.3	91.3	18	19	-1.0	-1.0	-11.9
GEW-005	5/12/2017 11:29	46.7	35.1	0.0	18.2	91.1	91.0	0	0	-1.0	-1.0	-12.5
GEW-005	5/16/2017 15:06	45.3	35.3	0.0	19.4	93.9	93.9	9	20	0.1	0.0	-11.2
GEW-005	5/16/2017 15:07	44.8	35.1	0.0	20.1	93.9	93.9	24	17	0.0	0.0	-11.4
GEW-005	5/23/2017 14:34	42.9	35.9	0.0	21.2	92.1	91.9	36	36	-0.3	-0.3	-13.0
GEW-005	5/23/2017 14:36	43.0	35.5	0.0	21.5	92.2	91.6	39	39	-0.3	-0.3	-13.0
GEW-005	5/31/2017 10:59	40.5	35.4	0.0	24.1	92.1	92.2	14	10	-0.6	-0.6	-11.5
GEW-005	5/31/2017 11:01	40.2	35.5	0.0	24.3	92.2	92.2	0	0	-0.6	-0.6	-11.2
GEW-006	5/5/2017 8:46	56.4	36.0	0.0	7.6	86.3	86.5	16	20	-0.4	-0.5	-10.4
GEW-006	5/9/2017 10:20	55.7	33.8	0.0	10.5	88.6	88.6	0	0	0.3	0.3	-8.0
GEW-006	5/9/2017 10:26	54.9	37.0	0.0	8.1	88.9	88.9	0	0	0.1	0.1	-8.3
GEW-006	5/12/2017 9:41	54.1	33.9	0.0	12.0	87.1	87.2	25	20	-1.3	-1.4	-12.4

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-006	5/12/2017 9:42	52.2	36.0	0.0	11.8	86.8	86.8	4	11	-1.1	-1.1	-12.4
GEW-006	5/16/2017 13:19	52.8	36.1	0.0	11.1	90.1	90.1	17	22	-0.1	-0.1	-11.2
GEW-006	5/23/2017 14:42	50.6	38.1	0.0	11.3	87.9	88.0	17	14	-0.3	-0.3	-13.2
GEW-006	5/31/2017 11:09	47.4	36.9	0.0	15.7	86.8	86.8	0	0	-0.6	-0.6	-10.9
GEW-007	5/3/2017 10:42	59.8	40.0	0.0	0.2	85.5	85.1	0	0	-1.0	-1.0	-9.9
GEW-007	5/9/2017 11:23	56.3	40.5	0.0	3.2	93.6	93.5	0	0	-0.1	-0.1	-7.6
GEW-007	5/9/2017 11:29	56.3	39.8	0.0	3.9	93.6	93.6	0	0	-0.1	-0.1	-7.4
GEW-007	5/12/2017 10:07	56.8	39.0	0.0	4.2	92.5	92.5	11	11	-2.0	-2.0	-12.6
GEW-007	5/12/2017 10:09	56.5	40.8	0.0	2.7	91.9	91.9	11	12	-1.4	-1.4	-12.5
GEW-007	5/16/2017 13:38	56.5	38.9	0.0	4.6	94.6	94.6	50	50	0.0	0.0	-11.3
GEW-007	5/23/2017 15:25	56.3	42.3	0.0	1.4	90.8	90.6	12	9	-0.3	-0.3	-12.9
GEW-007	5/31/2017 9:30	58.7	39.9	0.0	1.4	94.1	94.3	9	10	-0.9	-0.9	-12.1
GEW-007	5/31/2017 9:32	58.6	40.4	0.0	1.0	94.3	94.1	5	6	-0.9	-0.9	-11.8
GEW-008	5/3/2017 10:48	54.8	43.3	0.0	1.9	107.0	107.0	8	4	0.1	0.2	-9.6
GEW-008	5/3/2017 10:51	54.7	43.7	0.0	1.6	106.6	107.0	7	5	0.0	0.0	-10.0
GEW-008	5/9/2017 11:34	52.6	43.0	0.0	4.4	111.2	111.0	0	0	0.5	0.5	-7.5
GEW-008	5/9/2017 11:41	52.5	44.0	0.0	3.5	111.0	111.2	0	0	0.3	0.3	-7.4
GEW-008	5/12/2017 10:12	52.3	43.3	0.0	4.4	112.0	111.8	17	18	-1.3	-1.2	-12.3
GEW-008	5/12/2017 10:14	52.0	44.0	0.0	4.0	112.2	112.2	20	18	-1.2	-1.2	-12.4
GEW-008	5/16/2017 13:42	51.5	42.9	0.0	5.6	113.5	113.5	13	19	-0.5	-0.5	-11.4
GEW-008	5/23/2017 15:21	52.5	43.0	0.0	4.5	112.2	112.2	17	13	-0.7	-0.7	-12.7
GEW-008	5/31/2017 9:37	53.2	43.1	0.0	3.7	113.5	113.5	15	16	-0.9	-0.9	-12.2
GEW-008	5/31/2017 9:39	53.0	43.3	0.0	3.7	113.5	113.5	14	13	-0.9	-0.9	-12.0
GEW-009	5/3/2017 10:56	53.5	42.3	0.0	4.2	121.5	122.3	17	17	-0.3	-0.3	-10.0
GEW-009	5/9/2017 11:47	51.6	42.8	0.0	5.6	124.1	123.7	0	0	0.5	0.5	-7.3
GEW-009	5/9/2017 11:53	51.8	40.4	0.0	7.8	124.0	124.2	0	0	0.2	0.2	-6.7
GEW-009	5/12/2017 10:17	46.9	40.7	0.0	12.4	118.1	118.1	25	25	-1.2	-1.2	-17.2
GEW-009	5/12/2017 10:19	46.0	41.2	0.0	12.8	117.7	117.6	36	35	-0.9	-0.9	-17.7
GEW-009	5/16/2017 13:48	46.4	40.2	0.0	13.4	119.7	119.7	16	18	-0.5	-0.5	-19.0
GEW-009	5/23/2017 15:17	46.1	41.5	0.0	12.4	120.2	120.0	13	13	-0.4	-0.4	-12.7
GEW-009	5/23/2017 15:18	46.1	41.6	0.0	12.3	120.6	120.2	30	30	-0.4	-0.4	-12.7
GEW-009	5/31/2017 9:43	45.9	41.1	0.0	13.0	120.5	120.5	35	37	-0.5	-0.5	-11.3
GEW-009	5/31/2017 9:46	46.0	40.9	0.0	13.1	120.6	120.5	10	9	-0.4	-0.4	-11.9
GEW-010	5/2/2017 10:11	56.2	41.3	0.0	2.5	68.1	68.1	5	5	-0.8	-0.8	-18.7
GEW-010	5/2/2017 10:17	58.3	39.1	0.0	2.6	69.1	69.1	6	6	-0.8	-0.8	-18.7
GEW-010	5/11/2017 13:21	57.8	39.2	0.0	3.0	73.0	73.0	7	7	-0.8	-0.8	-19.0
GEW-010	5/15/2017 9:53	56.4	39.6	0.0	4.0	86.1	86.1	4	4	-0.9	-0.9	-18.1
GEW-010	5/23/2017 8:17	57.5	38.8	0.0	3.7	74.7	74.7	6	6	-0.8	-0.8	-18.7
GEW-010	5/30/2017 13:42	56.5	42.9	0.0	0.6	97.7	97.9	3	3	-1.0	-1.0	-19.1
GEW-013A	5/12/2017 8:23	10.0	39.1	5.0	45.9	133.2	133.3	66	62	-13.1	-13.0	-15.9
GEW-013A	5/12/2017 8:24	9.9	39.5	4.9	45.7	133.4	133.4	64	60	-12.6	-12.5	-15.3
GEW-013A	5/24/2017 14:48	12.4	36.8	4.4	46.4	136.2	136.8	67	67	-12.1	-12.1	-15.1
GEW-013A	5/24/2017 14:49	12.3	37.4	4.3	46.0	136.2	136.8	69	71	-12.0	-11.8	-16.0

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-015	5/12/2017 10:25	5.8	45.4	2.4	46.4	175.9	175.8	NFD	NFD	-3.7	-3.6	-13.6
GEW-015	5/12/2017 10:26	6.3	47.7	2.3	43.7	176.4	175.9	NFD	NFD	-3.7	-3.6	-14.0
GEW-015	5/18/2017 14:24	10.1	43.7	2.2	44.0	174.2	174.2	NFD	NFD	-3.6	-3.6	-13.2
GEW-015	5/18/2017 14:25	10.2	45.2	2.3	42.3	174.7	174.7	NFD	NFD	-3.6	-3.6	-13.2
GEW-016R	5/12/2017 10:36	2.3	45.1	2.6	50.0	183.6	183.3	NFD	NFD	-18.6	-18.6	-18.0
GEW-016R	5/12/2017 10:38	1.9	45.2	2.5	50.4	183.3	183.9	NFD	NFD	-18.6	-18.5	-18.1
GEW-016R	5/18/2017 14:15	4.0	41.9	3.1	51.0	182.7	183.1	NFD	NFD	-18.0	-18.0	-17.7
GEW-016R	5/18/2017 14:17	2.6	43.2	3.1	51.1	182.8	182.7	NFD	NFD	-18.0	-18.0	-17.6
GEW-018B	5/12/2017 10:13	2.3	42.7	3.4	51.6	179.4	178.8	1	1	-7.8	-7.8	-10.5
GEW-018B	5/12/2017 10:14	2.1	45.9	3.1	48.9	178.7	178.6	1	3	-7.9	-7.8	-10.7
GEW-018B	5/18/2017 11:46	9.3	43.7	2.5	44.5	183.3	183.3	2	1	-7.4	-7.4	-10.5
GEW-018B	5/18/2017 11:47	10.6	46.2	2.6	40.6	183.3	183.3	9	5	-7.4	-7.4	-9.8
GEW-022R	5/9/2017 11:16	1.1	54.3	2.0	42.6	140.2	140.6	3	2	-11.2	-10.8	-17.1
GEW-022R	5/9/2017 11:22	1.0	50.2	2.1	46.7	143.2	142.9	2	3	-10.7	-10.8	-16.8
GEW-022R	5/18/2017 10:41	3.0	58.8	1.9	36.3	150.2	149.5	2	2	-11.3	-11.3	-17.3
GEW-022R	5/18/2017 10:43	3.0	59.6	2.1	35.3	150.6	150.9	6	6	-11.3	-11.3	-17.3
GEW-022R	5/31/2017 16:33	2.6	58.2	0.9	38.3	152.5	152.5	5	5	-10.4	-10.4	-18.3
GEW-022R	5/31/2017 16:39	2.3	59.6	0.7	37.4	152.9	152.9	6	11	-10.3	-9.4	-17.2
GEW-038	5/2/2017 13:22	1.6	55.6	0.2	42.6	78.7	78.9	5	6	-2.0	-2.0	-2.5
GEW-038	5/2/2017 13:29	1.2	57.0	0.3	41.5	81.2	81.2	9	5	-2.1	-2.1	-2.3
GEW-038	5/11/2017 14:22	1.4	54.0	0.9	43.7	70.2	70.2	5	4	-3.5	-3.5	-3.9
GEW-038	5/15/2017 11:04	1.6	51.0	1.8	45.6	99.9	100.0	1	4	-2.5	-2.5	-2.5
GEW-038	5/23/2017 9:19	2.1	51.1	1.5	45.3	77.3	77.4	4	5	-3.2	-3.1	-3.5
GEW-038	5/30/2017 15:07	1.3	51.6	2.6	44.5	96.8	97.7	5	4	-4.1	-4.2	-4.5
GEW-039	5/2/2017 13:54	45.2	51.4	0.0	3.4	110.7	110.7	7	9	-0.3	-0.3	-19.0
GEW-039	5/2/2017 14:00	46.5	50.0	0.0	3.5	110.7	110.7	7	12	-0.4	-0.3	-19.0
GEW-039	5/11/2017 14:30	43.9	50.7	0.0	5.4	108.0	107.9	5	9	-0.3	-0.3	-19.3
GEW-039	5/15/2017 11:14	48.2	49.7	0.0	2.1	120.5	120.5	11	7	-0.3	-0.2	-16.5
GEW-039	5/23/2017 9:32	44.2	50.6	0.0	5.2	113.3	113.2	8	7	-0.2	-0.2	-16.2
GEW-039	5/30/2017 15:24	45.9	51.0	0.0	3.1	116.7	116.7	13	10	-0.2	-0.2	-17.5
GEW-040	5/5/2017 9:02	60.9	37.4	0.0	1.7	81.9	81.9	29	29	-0.3	-0.3	-11.2
GEW-040	5/9/2017 13:43	55.9	41.0	0.0	3.1	88.1	88.0	8	7	-0.2	-0.2	-7.4
GEW-040	5/9/2017 13:50	56.9	38.9	0.0	4.2	87.9	87.9	11	10	-0.2	-0.2	-7.4
GEW-040	5/12/2017 10:38	55.6	41.4	0.0	3.0	86.6	86.5	11	9	-0.5	-0.5	-12.5
GEW-040	5/12/2017 10:39	56.8	40.8	0.0	2.4	86.6	86.8	7	6	-0.5	-0.5	-12.6
GEW-040	5/16/2017 14:09	55.8	40.9	0.0	3.3	90.6	90.6	10	10	-0.4	-0.4	-11.3
GEW-040	5/23/2017 13:28	58.1	39.2	0.0	2.7	87.0	87.0	13	12	-0.4	-0.4	-12.7
GEW-040	5/31/2017 9:55	57.3	40.1	0.0	2.6	90.8	90.8	10	10	-0.6	-0.5	-11.6
GEW-041R	5/5/2017 9:06	58.4	38.3	0.0	3.3	89.4	89.6	13	13	-0.2	-0.2	-11.3
GEW-041R	5/9/2017 13:55	56.7	37.9	0.0	5.4	95.0	95.0	6	6	0.0	0.0	-6.8
GEW-041R	5/9/2017 14:03	57.3	36.6	0.0	6.1	95.0	95.0	6	6	0.0	0.0	-6.9
GEW-041R	5/12/2017 10:43	56.2	38.7	0.2	4.9	92.7	92.7	8	9	-0.3	-0.3	-12.3
GEW-041R	5/16/2017 14:12	56.0	39.0	0.0	5.0	95.8	95.7	9	9	0.2	0.2	-6.5

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-041R	5/16/2017 14:14	56.0	38.7	0.0	5.3	96.3	96.5	9	7	0.0	0.0	-7.3
GEW-041R	5/23/2017 13:34	55.3	37.8	0.1	6.8	98.4	98.4	11	12	-0.2	-0.2	-11.9
GEW-041R	5/31/2017 10:01	56.4	38.0	0.1	5.5	101.1	101.1	10	10	-0.3	-0.3	-10.5
GEW-042R	5/5/2017 9:10	58.0	39.9	0.0	2.1	92.0	92.2	9	8	-0.6	-0.6	-10.4
GEW-042R	5/9/2017 14:07	55.7	39.9	0.0	4.4	100.1	100.1	6	8	0.1	0.1	-6.9
GEW-042R	5/9/2017 14:14	55.4	40.0	0.0	4.6	100.5	100.4	8	8	0.0	0.0	-6.9
GEW-042R	5/12/2017 10:46	56.3	39.9	0.0	3.8	98.4	98.4	0	0	-0.8	-0.8	-12.9
GEW-042R	5/16/2017 14:17	57.1	38.6	0.0	4.3	99.1	99.1	30	30	-0.3	-0.3	-8.7
GEW-042R	5/23/2017 13:39	55.5	40.9	0.0	3.6	99.1	99.2	22	22	-0.5	-0.5	-11.8
GEW-042R	5/31/2017 11:46	56.3	41.4	0.0	2.3	103.6	103.7	0	0	-0.7	-0.7	-11.2
GEW-043R	5/5/2017 9:15	56.1	40.3	0.0	3.6	117.0	115.8	0	0	-0.4	-0.5	-10.7
GEW-043R	5/9/2017 13:40	55.0	40.2	0.0	4.8	118.6	118.4	13	14	0.0	0.1	-7.3
GEW-043R	5/9/2017 13:52	54.7	41.1	0.0	4.2	118.6	118.6	13	13	0.1	0.1	-7.4
GEW-043R	5/12/2017 10:50	54.8	39.6	0.0	5.6	118.4	118.6	12	11	-0.9	-0.9	-12.7
GEW-043R	5/12/2017 10:51	54.8	41.3	0.0	3.9	118.4	118.6	0	0	-0.9	-0.9	-12.8
GEW-043R	5/16/2017 14:21	55.3	38.6	0.0	6.1	119.2	119.2	0	0	0.0	0.0	-11.5
GEW-043R	5/16/2017 14:22	54.3	40.8	0.0	4.9	119.4	119.4	0	0	-0.1	-0.1	-11.7
GEW-043R	5/23/2017 13:43	55.4	40.3	0.0	4.3	118.1	118.4	17	17	-0.4	-0.4	-13.0
GEW-043R	5/31/2017 10:06	57.0	40.8	0.0	2.2	120.2	120.2	24	24	-0.8	-0.8	-12.2
GEW-044	5/5/2017 9:20	56.5	39.2	0.0	4.3	67.9	68.4	0	0	-0.4	-0.4	-10.3
GEW-044	5/9/2017 13:59	55.9	37.9	0.0	6.2	85.6	85.5	8	8	-0.3	-0.3	-7.2
GEW-044	5/9/2017 14:05	56.4	38.6	0.0	5.0	85.8	85.8	9	8	-0.3	-0.3	-7.2
GEW-044	5/12/2017 10:55	56.4	38.4	0.0	5.2	76.1	76.1	11	11	-1.0	-1.0	-12.2
GEW-044	5/16/2017 14:26	53.4	38.4	0.0	8.2	88.9	88.9	8	8	-0.4	-0.4	-11.2
GEW-044	5/23/2017 13:47	52.8	39.1	0.0	8.1	79.1	78.7	0	0	-0.3	-0.3	-12.7
GEW-044	5/31/2017 10:10	53.2	38.1	0.0	8.7	86.5	86.7	0	3	-1.0	-1.0	-11.5
GEW-045R	5/5/2017 9:25	61.8	37.4	0.0	0.8	64.4	64.4	9	7	-0.6	-0.6	-10.7
GEW-045R	5/9/2017 8:56	59.0	39.0	0.0	2.0	77.5	77.5	0	0	-0.6	-0.6	-9.1
GEW-045R	5/9/2017 9:03	58.6	37.1	0.0	4.3	78.0	78.0	0	0	-0.7	-0.7	-8.8
GEW-045R	5/12/2017 10:59	57.9	37.6	0.0	4.5	70.9	70.9	11	11	-1.9	-1.9	-12.5
GEW-045R	5/16/2017 14:29	56.8	37.2	0.0	6.0	86.5	86.2	7	7	-1.5	-1.5	-11.1
GEW-045R	5/23/2017 13:52	57.6	38.2	0.0	4.2	70.7	70.7	3	3	-0.9	-1.0	-12.7
GEW-045R	5/31/2017 10:14	60.1	38.2	0.0	1.7	80.9	81.2	10	10	-1.9	-1.9	-11.8
GEW-046R	5/5/2017 9:30	57.3	37.6	0.0	5.1	93.4	93.1	12	12	-0.2	-0.2	-10.8
GEW-046R	5/9/2017 8:44	55.1	40.0	0.0	4.9	96.2	96.0	0	0	0.4	0.3	-9.3
GEW-046R	5/9/2017 8:50	55.7	38.4	0.0	5.9	97.4	97.4	0	0	0.3	0.3	-9.3
GEW-046R	5/12/2017 11:03	55.2	38.8	0.0	6.0	97.7	97.7	9	9	-0.7	-0.7	-12.7
GEW-046R	5/12/2017 11:04	54.4	39.8	0.0	5.8	97.2	97.4	16	16	-0.6	-0.6	-12.4
GEW-046R	5/16/2017 14:32	54.8	37.4	0.0	7.8	100.4	100.4	31	31	-0.1	-0.1	-11.3
GEW-046R	5/23/2017 13:56	56.1	38.9	0.0	5.0	98.2	98.3	12	12	-0.2	-0.2	-12.8
GEW-046R	5/31/2017 10:18	57.2	39.4	0.0	3.4	100.1	100.1	12	14	-0.5	-0.5	-12.0
GEW-047R	5/5/2017 9:02	50.6	37.4	0.0	12.0	99.4	99.4	6	7	-0.2	-0.2	-10.6
GEW-047R	5/9/2017 9:36	52.0	40.2	0.0	7.8	104.2	104.0	0	0	0.5	0.5	-8.8

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-047R	5/9/2017 9:43	52.1	40.0	0.0	7.9	104.3	105.8	0	0	0.4	0.4	-9.0
GEW-047R	5/12/2017 11:24	49.6	37.6	0.0	12.8	114.3	114.3	38	37	-0.8	-0.8	-12.4
GEW-047R	5/12/2017 11:25	49.6	37.2	0.0	13.2	114.0	114.3	13	11	-0.8	-0.9	-12.4
GEW-047R	5/16/2017 15:02	47.8	37.2	0.0	15.0	117.9	117.9	15	14	0.1	0.1	-11.0
GEW-047R	5/16/2017 15:04	47.9	37.0	0.0	15.1	118.1	118.1	37	37	0.1	0.1	-10.9
GEW-047R	5/23/2017 14:29	46.0	38.2	0.0	15.8	116.6	116.3	30	29	-0.2	-0.2	-12.9
GEW-047R	5/23/2017 14:31	46.2	37.5	0.0	16.3	116.3	116.3	8	10	-0.3	-0.3	-13.0
GEW-047R	5/31/2017 10:53	44.4	37.5	0.0	18.1	117.6	117.6	11	8	-0.6	-0.6	-11.7
GEW-047R	5/31/2017 10:55	44.7	37.3	0.0	18.0	117.6	117.6	8	7	-0.6	-0.6	-11.8
GEW-048	5/5/2017 8:54	55.5	35.8	0.0	8.7	101.2	101.3	14	14	-0.3	-0.3	-6.4
GEW-048	5/9/2017 10:08	55.0	38.9	0.0	6.1	101.6	101.5	0	0	0.3	0.3	-2.6
GEW-048	5/9/2017 10:14	54.9	38.1	0.0	7.0	101.7	101.6	0	0	0.3	0.3	-2.3
GEW-048	5/12/2017 11:33	53.3	38.0	0.0	8.7	102.8	102.6	41	41	-1.4	-1.4	-10.1
GEW-048	5/12/2017 11:35	54.2	39.0	0.0	6.8	102.0	101.7	5	9	-1.0	-1.0	-10.0
GEW-048	5/16/2017 15:10	52.8	37.0	0.0	10.2	103.0	103.0	11	11	0.1	0.1	-6.8
GEW-048	5/16/2017 15:11	54.1	39.0	0.0	6.9	103.1	103.0	14	14	0.1	0.1	-7.9
GEW-048	5/23/2017 14:39	54.9	38.6	0.0	6.5	102.5	102.8	27	26	-0.3	-0.3	-10.0
GEW-048	5/31/2017 11:05	54.3	38.7	0.0	7.0	103.6	103.8	43	43	-0.6	-0.6	-8.5
GEW-049	5/3/2017 11:10	56.6	38.7	0.0	4.7	95.3	94.6	0	0	0.0	0.0	-9.8
GEW-049	5/3/2017 11:11	56.5	39.6	0.0	3.9	96.0	96.5	0	0	0.1	0.0	-9.7
GEW-049	5/9/2017 10:38	54.9	38.6	0.0	6.5	104.5	104.8	0	0	0.4	0.4	-8.2
GEW-049	5/9/2017 10:44	55.2	38.8	0.0	6.0	104.8	104.8	0	0	0.4	0.4	-8.0
GEW-049	5/12/2017 9:53	49.5	35.7	0.0	14.8	107.7	107.5	0	0	-0.7	-0.7	-12.6
GEW-049	5/12/2017 9:55	51.3	36.5	0.0	12.2	107.5	107.7	0	0	-0.7	-0.7	-12.4
GEW-049	5/16/2017 13:27	52.7	37.2	0.0	10.1	109.7	109.7	30	30	0.0	0.0	-11.4
GEW-049	5/16/2017 13:29	52.8	38.4	0.0	8.8	109.7	109.7	29	28	0.0	0.0	-11.5
GEW-049	5/23/2017 14:56	51.8	37.1	0.0	11.1	108.7	108.7	12	9	-0.2	-0.2	-12.7
GEW-049	5/31/2017 11:25	44.0	37.3	0.0	18.7	108.5	108.2	0	0	-0.5	-0.5	-11.8
GEW-049	5/31/2017 11:27	44.2	37.1	0.0	18.7	108.3	108.2	0	0	-0.5	-0.5	-11.9
GEW-050	5/3/2017 10:31	59.0	35.5	0.0	5.5	101.1	100.6	7	9	-0.1	-0.1	-3.1
GEW-050	5/9/2017 11:09	55.2	38.7	0.0	6.1	104.3	104.3	0	0	0.5	0.5	-1.5
GEW-050	5/9/2017 11:15	55.3	38.2	0.0	6.5	104.3	104.4	0	0	0.6	0.5	-0.1
GEW-050	5/12/2017 9:49	51.0	35.2	0.0	13.8	107.5	107.5	26	27	-1.6	-1.6	-6.7
GEW-050	5/12/2017 9:50	50.7	37.6	0.0	11.7	107.2	107.2	24	25	-1.4	-1.3	-8.8
GEW-050	5/16/2017 13:24	49.9	35.6	0.0	14.5	108.5	108.5	17	13	-0.4	-0.4	-7.3
GEW-050	5/23/2017 14:48	48.7	35.9	0.0	15.4	107.8	107.7	28	22	-0.7	-0.7	-7.5
GEW-050	5/31/2017 11:19	44.5	36.9	0.0	18.6	108.5	108.5	35	36	-1.0	-1.0	-8.3
GEW-050	5/31/2017 11:21	44.4	37.1	0.0	18.5	108.3	108.3	23	22	-0.7	-0.7	-4.6
GEW-051	5/3/2017 11:16	56.2	38.7	0.0	5.1	119.5	118.9	0	0	-0.1	-0.1	-9.9
GEW-051	5/9/2017 10:48	54.1	40.4	0.0	5.5	122.3	121.8	0	0	0.4	0.4	-7.9
GEW-051	5/9/2017 10:54	54.1	39.4	0.0	6.5	124.2	123.9	0	0	0.2	0.2	-7.8
GEW-051	5/12/2017 9:58	54.9	37.4	0.0	7.7	124.3	124.2	0	0	-1.2	-1.2	-12.4
GEW-051	5/12/2017 9:59	54.3	40.5	0.0	5.2	123.5	123.7	0	0	-1.1	-1.1	-12.4

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-051	5/16/2017 13:31	54.1	38.4	0.0	7.5	125.1	125.0	19	14	-0.2	-0.2	-11.4
GEW-051	5/23/2017 14:59	55.0	39.2	0.0	5.8	124.5	124.2	29	29	-0.5	-0.5	-13.0
GEW-051	5/31/2017 11:30	54.9	36.6	0.0	8.5	125.0	125.0	9	17	-0.9	-0.9	-11.4
GEW-052	5/3/2017 10:35	52.3	35.2	0.0	12.5	110.0	109.7	0	2	0.0	0.0	-9.9
GEW-052	5/3/2017 10:37	51.3	37.3	0.0	11.4	110.5	111.0	5	7	0.0	0.0	-9.9
GEW-052	5/9/2017 10:59	50.3	36.5	0.0	13.2	114.2	114.0	0	0	0.4	0.4	-7.4
GEW-052	5/9/2017 11:05	50.2	36.5	0.0	13.3	115.1	115.3	0	0	0.2	0.2	-7.6
GEW-052	5/12/2017 10:02	47.6	36.3	0.0	16.1	112.4	112.5	0	0	-0.7	-0.7	-12.9
GEW-052	5/12/2017 10:04	47.4	35.5	0.0	17.1	112.5	112.2	32	33	-0.7	-0.7	-12.3
GEW-052	5/16/2017 13:34	47.5	36.4	0.0	16.1	114.8	114.8	31	33	-0.2	-0.2	-11.3
GEW-052	5/23/2017 14:51	45.2	36.2	0.0	18.6	114.0	114.0	6	3	-0.4	-0.4	-13.0
GEW-052	5/23/2017 14:52	44.6	36.4	0.0	19.0	114.1	114.0	24	26	-0.4	-0.4	-13.3
GEW-052	5/31/2017 9:22	42.7	36.4	0.0	20.9	113.3	113.5	17	18	-0.6	-0.6	-12.0
GEW-052	5/31/2017 9:24	42.5	36.0	0.0	21.5	113.4	113.4	28	27	-0.5	-0.5	-12.3
GEW-053	5/3/2017 11:21	51.9	40.3	0.0	7.8	123.1	123.1	24	24	-0.2	-0.2	-10.0
GEW-053	5/9/2017 14:25	50.4	39.3	0.0	10.3	127.4	127.5	9	10	0.0	0.0	-7.3
GEW-053	5/9/2017 14:32	50.5	39.2	0.0	10.3	127.8	128.0	14	14	0.0	0.0	-7.3
GEW-053	5/12/2017 10:23	50.4	40.1	0.0	9.5	127.4	127.2	0	0	-1.0	-1.0	-12.6
GEW-053	5/12/2017 10:25	50.4	40.6	0.0	9.0	127.5	127.5	21	22	-1.1	-1.1	-12.6
GEW-053	5/16/2017 13:52	49.6	37.9	0.0	12.5	130.2	130.0	26	26	-0.1	-0.1	-11.6
GEW-053	5/23/2017 15:02	50.6	40.6	0.0	8.8	130.9	130.5	14	12	-0.4	-0.4	-12.9
GEW-053	5/31/2017 11:35	49.9	41.9	0.0	8.2	129.5	129.5	28	29	-0.8	-0.8	-12.0
GEW-054	5/3/2017 11:30	54.7	41.0	0.0	4.3	143.9	143.9	56	56	-5.1	-5.1	-9.1
GEW-054	5/3/2017 11:32	53.8	41.9	0.0	4.3	143.9	143.9	55	55	-5.5	-5.5	-8.6
GEW-054	5/9/2017 14:38	51.5	40.7	0.0	7.8	144.2	144.2	46	51	-3.8	-3.8	-5.2
GEW-054	5/9/2017 14:46	51.8	41.2	0.0	7.0	144.2	144.3	51	51	-3.8	-3.8	-5.7
GEW-054	5/12/2017 10:29	52.4	41.4	0.0	6.2	143.2	143.2	56	68	-7.2	-7.2	-10.1
GEW-054	5/12/2017 10:30	51.9	42.1	0.0	6.0	143.5	143.7	58	58	-7.5	-7.5	-10.7
GEW-054	5/16/2017 13:57	52.4	38.3	0.0	9.3	143.9	143.9	54	50	-4.0	-4.1	-6.2
GEW-054	5/16/2017 13:58	51.6	41.5	0.0	6.9	144.2	144.2	61	52	-4.2	-4.1	-6.8
GEW-054	5/23/2017 15:09	52.3	42.1	0.0	5.6	143.2	143.2	62	69	-7.4	-7.4	-11.3
GEW-054	5/23/2017 15:10	52.3	42.2	0.0	5.5	143.2	143.2	65	65	-7.3	-7.3	-11.1
GEW-054	5/31/2017 11:43	52.7	41.0	0.0	6.3	142.9	142.9	57	58	-6.1	-6.1	-9.4
GEW-055	5/3/2017 11:40	50.8	42.6	0.0	6.6	87.7	88.1	0	0	0.2	0.2	-0.9
GEW-055	5/3/2017 11:43	50.4	44.1	0.0	5.5	105.1	104.8	16	16	0.1	0.1	-0.9
GEW-055	5/9/2017 13:32	49.6	39.7	0.0	10.7	93.7	93.9	9	9	0.4	0.4	0.4
GEW-055	5/9/2017 13:39	48.3	41.8	0.0	9.9	93.9	93.9	9	7	0.4	0.4	0.5
GEW-055	5/12/2017 10:33	48.9	40.2	0.5	10.4	135.0	135.3	13	13	-1.0	-1.0	-4.6
GEW-055	5/12/2017 10:35	48.7	42.4	0.0	8.9	126.2	123.4	10	10	-0.6	-0.6	-4.4
GEW-055	5/16/2017 14:05	48.5	42.5	0.0	9.0	108.2	108.1	8	8	0.4	0.4	-2.4
GEW-055	5/16/2017 14:06	48.4	43.3	0.0	8.3	112.3	112.6	10	8	0.4	0.4	-2.3
GEW-055	5/23/2017 15:13	49.6	42.1	0.0	8.3	121.2	120.5	9	8	-0.1	-0.1	-3.5
GEW-055	5/31/2017 9:51	49.5	42.3	0.0	8.2	124.7	124.7	10	10	-0.3	-0.3	-2.2

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-055	5/31/2017 16:01	53.4	43.1	0.0	3.5	120.7	121.0	8	6	0.6	0.6	-2.2
GEW-055	5/31/2017 16:24	54.6	42.2	0.0	3.2	125.8	125.8	9	6	0.4	0.4	-2.2
GEW-056R	5/2/2017 10:56	17.1	51.6	0.0	31.3	108.2	108.2	2	2	-0.3	-0.3	-19.2
GEW-056R	5/2/2017 11:04	16.2	49.8	0.0	34.0	108.5	108.5	1	2	-0.3	-0.3	-19.2
GEW-056R	5/11/2017 13:39	16.3	53.6	0.0	30.1	110.7	110.7	3	3	-0.3	-0.3	-19.8
GEW-056R	5/15/2017 10:11	13.9	52.8	0.0	33.3	128.0	128.0	2	1	-0.2	-0.2	-18.5
GEW-056R	5/23/2017 8:36	14.6	52.6	0.0	32.8	126.1	126.1	3	2	-0.2	-0.2	-18.5
GEW-056R	5/30/2017 14:03	15.4	54.6	0.0	30.0	129.4	128.8	1	2	-0.2	-0.2	-19.0
GEW-057B	5/12/2017 9:24	5.4	48.7	0.3	45.6	71.4	71.4	7	5	-12.8	-12.6	-12.7
GEW-057B	5/17/2017 10:14	4.8	50.2	0.7	44.3	81.9	82.1	23	17	-17.0	-16.2	-16.5
GEW-057R	5/9/2017 8:06	6.4	37.8	1.7	54.1	95.5	95.5	1	3	-0.1	-0.1	-12.4
GEW-057R	5/9/2017 8:13	5.9	36.5	1.7	55.9	96.0	96.0	9	11	-0.2	-0.3	-12.8
GEW-057R	5/17/2017 10:17	17.0	44.4	0.9	37.7	101.0	101.0	8	4	-3.5	-3.3	-15.8
GEW-058	5/8/2017 14:20	12.0	36.8	0.4	50.8	127.5	127.5	3	3	-18.2	-17.8	-18.4
GEW-058	5/8/2017 14:27	11.8	36.3	0.6	51.3	127.2	126.6	10	13	-17.7	-17.8	-17.6
GEW-058	5/17/2017 9:40	14.8	38.5	1.3	45.4	120.4	120.5	4	5	-18.2	-18.2	-18.5
GEW-058A	5/8/2017 14:11	10.5	32.2	1.6	55.7	115.5	115.4	13	13	-16.7	-16.7	-18.5
GEW-058A	5/8/2017 14:17	10.4	32.7	1.5	55.4	115.4	115.3	14	15	-16.5	-16.5	-18.1
GEW-058A	5/17/2017 9:35	8.4	25.8	5.3	60.5	114.0	114.1	13	11	-16.8	-17.2	-18.9
GEW-058A	5/17/2017 9:37	8.4	26.5	5.2	59.9	112.5	112.5	11	10	-12.4	-12.6	-18.8
GEW-059R	5/8/2017 13:40	9.5	46.0	0.0	44.5	177.8	177.5	8	8	-17.9	-17.9	-18.1
GEW-059R	5/8/2017 13:47	8.3	42.8	0.0	48.9	177.0	176.9	9	7	-17.7	-17.7	-18.0
GEW-059R	5/17/2017 9:19	8.8	49.4	0.1	41.7	173.6	173.6	8	6	-18.6	-18.6	-18.5
GEW-059R	5/17/2017 9:21	8.9	50.3	0.1	40.7	174.1	173.6	7	6	-18.6	-18.6	-18.5
GEW-067A	5/12/2017 8:32	4.8	45.5	3.8	45.9	177.8	178.0	7	6	0.0	0.0	-17.4
GEW-067A	5/12/2017 8:33	3.7	46.7	3.6	46.0	178.6	178.6	10	10	-0.2	-0.2	-18.0
GEW-067A	5/24/2017 14:34	3.9	50.7	1.5	43.9	178.6	178.6	21	15	-0.7	-0.6	-18.1
GEW-067A	5/24/2017 14:35	4.3	50.6	1.6	43.5	178.6	178.6	17	16	-0.3	-0.6	-17.9
GEW-078R	5/12/2017 9:52	8.2	45.8	0.0	46.0	165.7	165.2	17	22	-18.6	-18.9	-18.1
GEW-078R	5/12/2017 9:54	8.3	47.4	0.0	44.3	165.7	165.2	22	22	-19.0	-19.0	-18.0
GEW-078R	5/18/2017 13:47	9.7	40.1	0.0	50.2	172.6	172.6	26	25	-18.7	-19.0	-17.5
GEW-078R	5/18/2017 13:50	9.2	46.7	0.0	44.1	172.7	172.7	26	22	-18.6	-18.5	-17.5
GEW-081	5/12/2017 10:03	1.3	34.5	11.5	52.7	71.6	71.6	NFD		-18.1	-18.1	-18.1
GEW-081	5/12/2017 10:05	0.3	34.3	10.3	55.1	71.8	71.8	NFD		-17.6	-17.6	-17.5
GEW-081	5/18/2017 10:55	1.9	33.3	9.9	54.9	90.0	90.1	NFD		-17.2	-17.2	-17.3
GEW-081	5/18/2017 10:57	2.7	37.9	7.9	51.5	91.5	91.5	NFD		-17.6	-18.1	-17.5
GEW-082R	5/8/2017 11:18	3.2	52.3	0.0	44.5	188.9	188.9	5	5	-1.9	-1.9	-1.2
GEW-082R	5/8/2017 11:25	3.0	50.1	0.0	46.9	189.6	188.9	3	5	-1.8	-1.8	-1.2
GEW-082R	5/18/2017 11:51	12.3	52.7	0.0	35.0	190.4	190.2	7	4	-2.5	-2.5	-2.0
GEW-082R	5/18/2017 11:52	13.4	53.0	0.0	33.6	190.9	190.8	8	9	-2.5	-2.5	-2.0
GEW-086	5/9/2017 10:38	0.1	1.9	21.1	76.9	91.1	91.1	8	5	-17.5	-17.8	-17.7
GEW-086	5/9/2017 10:40	0.1	0.8	21.1	78.0	91.0	91.0	7	8	-17.7	-17.7	-17.3
GEW-086	5/25/2017 8:29	0.0	1.8	21.3	76.9	71.6	71.4	10	7	-18.5	-18.4	-18.2

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-086	5/25/2017 8:31	0.0	0.6	21.6	77.8	69.8	69.6	4	4	-18.1	-18.1	-18.2
GEW-087	5/12/2017 10:29	3.6	56.8	0.0	39.6	195.7	195.7	NFD		-18.6	-19.0	-19.0
GEW-087	5/12/2017 10:30	3.6	57.8	0.0	38.6	195.7	195.7	NFD		-18.1	-18.3	-18.1
GEW-087	5/25/2017 8:42	1.8	47.4	0.9	49.9	193.6	193.6	NFD		-17.8	-18.7	-17.8
GEW-087	5/25/2017 8:44	4.2	57.3	1.2	37.3	193.6	193.6	NFD		-17.9	-19.0	-17.9
GEW-088	5/12/2017 8:38	7.3	42.0	2.9	47.8	173.3	173.1	16	16	-1.1	-1.1	-18.9
GEW-088	5/12/2017 8:39	7.7	41.0	2.8	48.5	173.1	173.1	17	17	-1.1	-1.1	-18.6
GEW-088	5/25/2017 8:35	6.0	35.2	3.7	55.1	174.7	174.7	16	12	-1.4	-1.3	-17.7
GEW-088	5/25/2017 8:36	5.6	36.4	3.5	54.5	174.7	174.7	23	18	-1.4	-1.3	-17.8
GEW-090	5/9/2017 10:24	10.7	48.0	0.0	41.3	166.5	165.4	13	10	-17.6	-17.6	-17.2
GEW-090	5/9/2017 10:29	11.0	41.5	0.0	47.5	165.2	165.7	16	16	-17.6	-17.6	-13.8
GEW-090	5/24/2017 14:21	12.5	46.9	0.0	40.6	164.9	164.2	14	10	-18.3	-18.1	-17.8
GEW-090	5/24/2017 14:22	12.2	48.6	0.0	39.2	165.9	165.2	14	15	-18.1	-18.2	-14.6
GEW-091	5/12/2017 8:44	2.6	54.7	0.0	42.7	189.0	188.9	4	6	-8.3	-7.8	-8.0
GEW-091	5/12/2017 8:45	2.6	58.1	0.0	39.3	189.3	188.9	7	10	-8.3	-7.8	-8.1
GEW-091	5/19/2017 13:34	2.2	52.6	0.0	45.2	188.3	188.3	4	6	-10.8	-10.8	-11.0
GEW-091	5/19/2017 13:36	2.2	55.0	0.0	42.8	188.3	188.3	4	3	-11.3	-11.3	-11.3
GEW-101	5/12/2017 9:39	12.1	57.1	2.5	28.3	89.8	89.7	22	23	-0.6	-0.6	-15.1
GEW-101	5/17/2017 10:36	10.7	46.0	6.6	36.7	95.6	95.5	23	27	-0.4	-0.6	-12.9
GEW-101	5/17/2017 10:38	10.7	47.4	6.4	35.5	95.5	95.5	20	22	-0.5	-0.5	-13.2
GEW-102	5/9/2017 8:42	7.7	44.9	2.9	44.5	73.9	73.9	NR	NR	-18.0	-18.0	-17.7
GEW-102	5/9/2017 8:49	7.1	41.2	2.7	49.0	75.4	75.4	NR	NR	-17.5	-17.6	-17.3
GEW-102	5/17/2017 10:33	8.1	47.8	2.3	41.8	82.1	82.1	NR	NR	-18.2	-18.2	-18.3
GEW-104	5/12/2017 9:19	0.6	40.0	6.0	53.4	70.9	70.9	1	3	-15.9	-16.1	-16.0
GEW-104	5/12/2017 9:20	0.6	42.1	5.9	51.4	71.6	71.6	3	3	-16.1	-16.1	-16.0
GEW-104	5/17/2017 10:04	3.4	38.2	7.8	50.6	78.9	78.9	3	3	-14.3	-14.3	-14.1
GEW-104	5/17/2017 10:05	0.7	37.4	7.1	54.8	79.6	79.6	3	3	-14.4	-14.4	-14.1
GEW-106	5/12/2017 9:06	10.2	35.3	10.4	44.1	76.4	76.4	3	3	-0.9	-0.9	-12.2
GEW-106	5/12/2017 9:07	9.8	33.1	10.9	46.2	76.8	76.8	4	4	-0.8	-0.8	-12.1
GEW-106	5/17/2017 9:43	19.3	46.4	2.5	31.8	92.7	92.7	3	4	-1.0	-1.0	-11.6
GEW-107	5/8/2017 13:54	0.1	2.7	20.6	76.6	97.7	97.7	13	12	-18.3	-18.3	-18.2
GEW-107	5/8/2017 13:56	0.0	0.7	20.9	78.4	98.4	98.2	4	4	-18.0	-18.0	-18.1

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-107	5/17/2017 9:24	0.1	6.7	20.4	72.8	83.4	83.6	57	47	-18.7	-18.6	-18.5
GEW-107	5/17/2017 9:27	0.0	0.6	21.2	78.2	84.4	84.4	10	6	-18.7	-18.7	-18.8
GEW-108	5/12/2017 8:57	2.3	47.2	4.5	46.0	69.5	69.6	4	3	-18.6	-18.6	-18.5
GEW-108	5/12/2017 8:59	1.2	44.8	3.8	50.2	70.4	70.4	5	3	-18.2	-18.2	-18.4
GEW-108	5/17/2017 9:13	1.7	51.0	2.2	45.1	86.9	87.0	4	3	-18.9	-19.1	-18.9
GEW-109	5/2/2017 13:43	25.3	47.8	0.0	26.9	81.9	81.7	5	4	-14.9	-14.8	-19.2
GEW-109	5/2/2017 13:50	24.3	49.1	0.0	26.6	81.4	81.4	4	4	-15.1	-14.9	-19.1
GEW-109	5/11/2017 14:27	25.4	47.2	0.0	27.4	78.0	78.0	3	4	-15.2	-15.2	-19.6
GEW-109	5/15/2017 11:11	27.7	48.5	0.0	23.8	112.0	112.2	1	3	-13.2	-13.2	-17.9
GEW-109	5/23/2017 9:28	25.6	47.8	0.0	26.6	101.8	101.8	2	2	-14.1	-14.1	-18.2
GEW-109	5/30/2017 15:19	26.5	49.3	0.0	24.2	108.9	108.5	2	2	-13.8	-13.7	-16.7
GEW-110	5/2/2017 10:21	6.7	23.7	10.5	59.1	71.4	71.4	2	3	-0.2	-0.2	-18.7
GEW-110	5/2/2017 10:28	5.7	22.1	11.5	60.7	71.4	71.4	5	2	-0.1	-0.1	-18.5
GEW-110	5/11/2017 13:25	5.6	22.2	12.1	60.1	76.1	76.1	6	7	-0.3	-0.3	-19.1
GEW-110	5/11/2017 13:26	5.2	22.6	12.3	59.9	76.1	76.0	1	1	-0.2	-0.2	-18.7
GEW-110	5/15/2017 9:57	6.4	22.3	12.3	59.0	90.8	90.8	2	2	-0.2	-0.2	-18.7
GEW-110	5/15/2017 9:59	6.0	21.3	12.5	60.2	90.8	90.8	3	3	-0.2	-0.2	-18.5
GEW-110	5/23/2017 8:21	7.2	22.3	11.1	59.4	77.7	77.7	2	2	-0.2	-0.2	-18.8
GEW-110	5/23/2017 8:22	6.5	22.2	11.3	60.0	77.9	77.8	2	2	-0.2	-0.2	-18.7
GEW-110	5/30/2017 13:47	6.8	23.1	12.5	57.6	94.6	94.6	2	2	-0.2	-0.2	-19.3
GEW-110	5/30/2017 13:49	6.6	22.1	12.7	58.6	94.6	94.6	2	2	-0.2	-0.2	-19.3
GEW-113	5/12/2017 10:20	5.9	37.9	3.9	52.3	155.6	155.6	20	19	-11.2	-11.2	-17.3
GEW-113	5/12/2017 10:22	6.0	36.2	3.8	54.0	156.0	156.0	20	20	-11.2	-11.2	-18.0
GEW-113	5/18/2017 14:20	7.6	39.8	2.0	50.6	158.4	158.3	22	23	-11.2	-11.2	-17.8
GEW-113	5/18/2017 14:21	9.0	41.2	1.9	47.9	158.5	158.5	23	20	-11.2	-11.2	-18.0
GEW-116	5/8/2017 14:05	3.7	60.7	1.9	33.7	93.0	93.0	7	8	-5.4	-5.4	-17.7
GEW-116	5/8/2017 14:12	1.9	43.8	7.1	47.2	94.8	94.8	10	8	-5.9	-5.9	-17.5
GEW-116	5/18/2017 11:33	9.2	46.7	4.6	39.5	108.7	108.5	10	6	-5.9	-5.9	-16.8
GEW-117	5/9/2017 10:58	5.8	46.5	4.8	42.9	93.1	93.4	NR	NR	-17.6	-17.5	-17.3
GEW-117	5/9/2017 11:06	6.3	44.3	4.9	44.5	99.9	99.9	NR	NR	-17.3	-17.5	-17.3
GEW-117	5/18/2017 11:26	17.5	55.9	2.0	24.6	102.8	102.8	NR	NR	-17.6	-17.6	-17.2
GEW-118	5/8/2017 13:42	1.2	58.9	0.2	39.7	195.0	195.0	86	87	-6.1	-5.9	-17.4
GEW-118	5/8/2017 13:52	1.3	57.7	0.2	40.8	194.3	194.3	83	85	-6.5	-6.4	-17.2
GEW-118	5/18/2017 11:07	5.4	52.8	0.1	41.7	194.0	193.9	85	87	-5.9	-5.9	-17.1
GEW-118	5/18/2017 11:08	6.4	59.3	0.1	34.2	194.3	194.3	91	94	-5.0	-4.0	-17.4
GEW-120	5/2/2017 15:46	15.8	50.8	0.0	33.4	116.2	116.1	16	14	-18.1	-18.1	-18.0
GEW-120	5/2/2017 15:53	16.1	53.1	0.0	30.8	116.4	116.3	13	16	-17.9	-18.1	-17.8
GEW-120	5/18/2017 11:12	30.7	57.8	0.0	11.5	122.9	122.9	9	17	-17.2	-17.6	-17.3
GEW-121	5/2/2017 15:14	9.9	55.0	0.0	35.1	170.6	170.5	23	25	-15.8	-16.6	-15.8
GEW-121	5/2/2017 15:21	10.3	55.2	0.0	34.5	171.6	171.5	29	36	-16.0	-15.6	-15.9
GEW-121	5/18/2017 10:50	18.0	55.0	0.0	27.0	171.6	171.6	16	18	-14.8	-15.1	-15.5
GEW-121	5/18/2017 10:51	18.6	56.3	0.0	25.1	171.6	171.6	23	23	-15.7	-15.7	-15.7
GEW-122	5/2/2017 13:57	11.2	44.2	0.5	44.1	156.9	156.9	20	21	-17.9	-17.9	-18.4

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-122	5/2/2017 14:04	11.5	41.7	0.5	46.3	157.4	157.3	18	17	-17.9	-17.7	-18.1
GEW-122	5/18/2017 10:16	13.8	45.5	0.4	40.3	166.6	166.6	22	21	-16.7	-16.7	-17.4
GEW-122	5/18/2017 10:17	14.4	45.6	0.3	39.7	166.7	166.6	22	22	-17.2	-17.2	-17.8
GEW-123	5/5/2017 14:21	20.7	37.7	0.8	40.8	106.7	106.7	4	3	-12.8	-13.0	-18.3
GEW-123	5/5/2017 14:29	19.7	35.2	0.9	44.2	107.2	107.2	4	6	-13.0	-13.0	-17.7
GEW-123	5/18/2017 10:46	31.8	50.1	0.8	17.3	123.9	123.9	7	7	-11.2	-11.2	-17.5
GEW-124	5/2/2017 14:43	8.9	36.5	12.3	42.3	75.0	75.0	4	2	-18.0	-17.6	-17.8
GEW-124	5/2/2017 14:44	12.2	27.2	13.0	47.6	75.5	75.5	5	3	-18.2	-18.0	-18.5
GEW-124	5/18/2017 10:32	17.9	34.7	10.2	37.2	91.9	91.9	5	4	-4.7	-4.3	-4.4
GEW-124	5/18/2017 10:33	19.0	35.8	9.7	35.5	92.4	92.4	4	0	-4.2	-4.3	-3.7
GEW-125	5/2/2017 13:28	3.6	56.4	0.1	39.9	181.0	180.9	17	17	-17.6	-17.7	-18.3
GEW-125	5/2/2017 13:36	3.5	55.0	0.1	41.4	180.9	180.9	18	19	-17.6	-17.9	-18.2
GEW-125	5/18/2017 9:36	4.6	55.2	0.1	40.1	180.3	180.3	16	16	-16.7	-16.7	-17.4
GEW-125	5/18/2017 9:37	5.0	58.0	0.1	36.9	180.4	180.3	17	17	-16.7	-17.1	-17.4
GEW-126	5/2/2017 11:23	19.3	45.6	0.1	35.0	86.1	86.1	4	11	-15.9	-15.7	-16.1
GEW-126	5/2/2017 11:29	18.1	47.7	0.1	34.1	85.4	85.6	10	11	-15.6	-15.6	-16.0
GEW-126	5/18/2017 9:22	24.0	57.3	0.1	18.6	101.1	101.1	13	14	-10.9	-11.5	-11.2
GEW-127	5/2/2017 10:41	6.2	58.1	1.9	33.8	151.0	150.6	19	20	-15.9	-17.3	-16.3
GEW-127	5/2/2017 10:47	6.6	55.5	1.9	36.0	150.6	150.7	23	25	-15.5	-16.9	-16.4
GEW-127	5/18/2017 9:09	6.3	57.9	1.9	33.9	155.2	155.2	21	20	-16.2	-16.0	-16.6
GEW-127	5/18/2017 9:11	6.4	59.6	1.8	32.2	154.8	154.8	24	16	-16.7	-16.2	-16.0
GEW-128	5/2/2017 8:17	2.8	61.7	0.3	35.2	169.0	169.5	9	9	-14.9	-14.9	-15.2
GEW-128	5/2/2017 8:24	2.6	63.9	0.2	33.3	169.5	169.7	11	12	-15.1	-15.2	-14.9
GEW-128	5/18/2017 8:58	5.5	63.6	0.1	30.8	182.7	182.7	38	37	-14.8	-13.7	-16.6
GEW-128	5/18/2017 9:00	5.7	65.6	0.0	28.7	182.7	182.7	25	25	-14.7	-14.7	-16.5
GEW-129	5/2/2017 7:56	0.6	71.2	0.3	27.9	66.3	66.2	6	4	-18.3	-17.9	-17.8
GEW-129	5/2/2017 8:07	0.6	73.8	0.1	25.5	68.6	68.6	5	6	-17.9	-17.9	-17.7
GEW-129	5/18/2017 8:49	0.8	52.5	2.9	43.8	87.7	87.7	5	7	-18.1	-18.1	-18.0
GEW-129	5/18/2017 8:55	0.9	62.5	3.3	33.3	88.6	88.6	4	4	-18.1	-18.1	-18.1
GEW-130	5/2/2017 10:52	3.3	45.0	6.3	45.4	176.4	176.4	58	61	-9.1	-9.1	-17.7
GEW-130	5/2/2017 11:01	3.3	44.4	6.2	46.1	177.5	177.5	37	49	-6.6	-6.8	-13.3
GEW-130	5/18/2017 9:14	3.1	44.3	6.1	46.5	176.4	176.4	50	49	-7.8	-7.8	-18.6
GEW-130	5/18/2017 9:18	1.2	54.2	1.9	42.7	185.1	185.1	16	28	-1.7	-1.8	-17.4
GEW-131	5/2/2017 11:09	20.5	42.7	0.0	36.8	133.2	133.2	13	13	-18.3	-18.3	-18.7
GEW-131	5/2/2017 11:15	20.6	40.7	0.0	38.7	133.2	132.6	9	13	-17.9	-17.9	-18.3
GEW-131	5/18/2017 9:41	20.6	44.8	0.0	34.6	133.8	133.8	12	12	-17.6	-17.6	-17.8
GEW-131	5/18/2017 9:42	23.9	41.1	0.0	35.0	134.0	134.1	9	9	-17.2	-17.2	-17.3
GEW-131	5/22/2017 13:30	1.3	57.8	0.0	40.9	92.8	92.7	3	3	4.6	4.6	4.8
GEW-131	5/22/2017 13:39	1.0	57.5	0.0	41.5	93.9	94.0	5	5	4.8	4.8	4.9
GEW-131	5/23/2017 11:35	13.0	45.2	0.0	41.8	148.9	149.9	10	17	-7.8	-8.2	-7.5
GEW-131	5/23/2017 11:42	13.1	42.1	0.0	44.8	152.5	152.1	11	9	-8.6	-7.9	-8.5
GEW-132	5/2/2017 15:31	6.0	42.3	2.0	49.7	158.6	158.5	11	11	-1.3	-1.3	-18.1
GEW-132	5/2/2017 15:39	5.8	41.5	2.0	50.7	158.5	158.5	13	12	-1.3	-1.3	-18.5

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-132	5/18/2017 11:02	12.8	42.1	2.7	42.4	164.3	164.3	7	7	-1.1	-1.1	-17.7
GEW-132	5/18/2017 11:04	13.9	42.4	2.6	41.1	164.7	164.7	4	5	-1.1	-1.1	-14.9
GEW-133	5/2/2017 16:19	0.9	62.7	2.2	34.2	72.4	72.4	7	6	-18.1	-18.3	-18.3
GEW-133	5/2/2017 16:27	0.6	48.1	3.9	47.4	73.4	73.4	4	3	-18.6	-18.1	-18.5
GEW-133	5/18/2017 11:30	14.5	58.2	0.1	27.2	104.8	104.8	6	3	-17.2	-17.2	-17.1
GEW-133	5/31/2017 13:53	4.3	59.7	0.3	35.7	97.9	98.2	2	6	-17.7	-17.4	-17.5
GEW-133	5/31/2017 13:56	4.0	61.7	0.0	34.3	97.2	97.4	6	9	-17.3	-17.3	-17.1
GEW-134	5/5/2017 14:09	9.7	35.4	5.1	49.8	109.0	108.9	3	2	-0.7	-0.7	-18.5
GEW-134	5/5/2017 14:16	9.5	35.2	5.1	50.2	109.0	109.0	3	2	-0.7	-0.7	-18.7
GEW-134	5/18/2017 11:37	21.7	43.7	3.8	30.8	127.2	127.2	2	2	-0.6	-0.6	-17.5
GEW-135	5/5/2017 14:21	4.9	35.4	3.6	56.1	153.3	153.3	37	34	-16.2	-16.2	-18.1
GEW-135	5/5/2017 14:29	4.9	35.3	3.6	56.2	153.3	153.3	35	34	-16.1	-16.1	-17.6
GEW-135	5/18/2017 11:40	14.7	38.2	2.9	44.2	154.0	154.0	34	32	-15.7	-15.7	-17.1
GEW-135	5/18/2017 11:42	16.0	36.9	2.9	44.2	154.4	154.4	34	34	-15.7	-15.7	-17.3
GEW-136	5/5/2017 14:36	4.6	21.9	12.9	60.6	109.7	109.8	7	8	-0.6	-0.6	-13.0
GEW-136	5/5/2017 14:37	4.0	19.2	13.4	63.4	109.7	109.5	6	6	-0.6	-0.7	-13.0
GEW-136	5/18/2017 14:04	5.4	16.3	13.6	64.7	116.6	116.6	4	4	-0.7	-0.7	-14.1
GEW-136	5/18/2017 14:06	5.1	14.8	13.7	66.4	116.3	116.3	5	7	-0.8	-0.8	-13.2
GEW-137	5/5/2017 14:36	10.1	25.8	3.1	61.0	88.9	88.6	4	4	-17.8	-17.8	-18.1
GEW-137	5/5/2017 14:43	10.2	23.0	3.2	63.6	88.4	88.3	2	3	-17.8	-17.9	-18.1
GEW-137	5/18/2017 14:01	11.8	25.2	2.7	60.3	105.7	105.7	5	2	-17.5	-17.6	-17.7
GEW-138	5/5/2017 14:47	6.1	35.5	1.1	57.3	151.3	151.0	12	5	-0.3	-0.3	-18.4
GEW-138	5/5/2017 14:54	5.7	35.1	1.2	58.0	150.9	150.6	5	10	-0.4	-0.4	-18.3
GEW-138	5/18/2017 13:54	7.8	38.7	0.2	53.3	164.1	164.1	6	3	-0.2	-0.2	-17.9
GEW-138	5/18/2017 13:57	8.6	35.8	0.3	55.3	161.9	161.6	19	21	-1.7	-1.7	-17.5
GEW-139	5/9/2017 10:06	3.3	48.4	1.7	46.6	169.0	168.9	16	17	-2.9	-2.9	-17.9
GEW-139	5/9/2017 10:12	3.6	45.4	1.9	49.1	169.6	169.5	16	17	-2.9	-2.9	-17.3
GEW-139	5/18/2017 8:38	3.0	49.9	2.2	44.9	173.6	173.6	18	15	-3.0	-3.1	-18.5
GEW-139	5/18/2017 8:40	2.6	52.4	2.2	42.8	173.6	173.6	45	41	-13.1	-13.2	-17.3
GEW-140	5/8/2017 14:56	13.8	35.8	5.3	45.1	113.5	113.5	19	19	-4.2	-4.2	-18.8
GEW-140	5/8/2017 15:03	13.4	37.9	4.8	43.9	113.5	113.5	18	21	-4.1	-4.2	-18.0
GEW-140	5/17/2017 11:12	22.8	50.3	0.8	26.1	121.8	121.9	22	15	-3.5	-3.4	-18.9
GEW-141	5/8/2017 13:23	0.2	49.8	4.8	45.2	86.6	86.6	4	3	-17.6	-17.6	-17.7
GEW-141	5/8/2017 13:33	0.1	49.6	4.3	46.0	85.2	85.2	12	8	-17.3	-17.2	-17.7
GEW-141	5/17/2017 11:01	0.9	59.8	0.1	39.2	83.9	83.9	6	3	3.1	3.0	3.3
GEW-141	5/17/2017 11:03	1.2	60.9	0.1	37.8	84.0	84.0	6	3	3.1	3.1	3.5
GEW-142	5/9/2017 11:31	0.1	0.9	21.0	78.0	87.2	87.3	11	11	-8.3	-8.3	-8.1
GEW-142	5/9/2017 11:33	0.1	0.5	21.1	78.3	87.7	87.7	5	6	-7.8	-7.7	-7.9
GEW-142	5/17/2017 10:56	0.7	57.3	0.1	41.9	81.9	82.0	1	2	2.1	1.9	2.4
GEW-142	5/17/2017 10:59	1.0	57.3	0.1	41.6	82.1	82.1	3	3	3.1	3.2	3.3
GEW-143	5/9/2017 9:38	0.1	6.9	19.8	73.2	87.5	87.5	2	3	-11.8	-11.8	-17.3
GEW-143	5/9/2017 9:40	0.1	9.5	17.4	73.0	88.2	88.2	3	2	-15.9	-16.0	-17.2
GEW-143	5/17/2017 10:47	0.1	5.6	19.3	75.0	80.3	80.4	3	0	-12.8	-12.7	-18.2

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-143	5/17/2017 10:49	0.2	7.6	18.0	74.2	81.0	81.0	2	3	-16.2	-16.2	-18.0
GEW-144	5/9/2017 9:32	2.2	25.3	11.7	60.8	87.9	87.7	3	5	-14.6	-14.7	-14.3
GEW-144	5/9/2017 9:34	3.0	28.3	9.9	58.8	89.1	89.3	2	3	-14.2	-15.0	-13.8
GEW-144	5/17/2017 10:42	1.0	51.7	0.2	47.1	81.9	81.9	6	6	5.9	5.9	6.0
GEW-144	5/17/2017 10:44	1.1	55.5	0.1	43.3	81.7	81.7	8	4	5.9	5.8	6.0
GEW-145	5/9/2017 8:54	0.0	2.2	21.2	76.6	82.1	82.1	3	3	-17.8	-17.8	-17.7
GEW-145	5/9/2017 8:55	0.0	0.9	21.5	77.6	82.8	82.8	3	3	-17.9	-17.9	-17.8
GEW-145	5/17/2017 10:28	0.1	5.3	19.5	75.1	80.0	80.0	2	6	-18.2	-18.1	-18.0
GEW-145	5/17/2017 10:29	0.1	2.5	20.1	77.3	80.8	80.7	2	4	-18.1	-18.1	-18.0
GEW-146	5/8/2017 14:21	2.1	9.5	17.6	70.8	94.1	94.1	16	17	-0.1	-0.2	-18.2
GEW-146	5/8/2017 14:22	2.4	4.1	18.1	75.4	94.0	94.1	17	21	-0.2	-0.2	-18.3
GEW-146	5/18/2017 14:29	4.8	22.1	3.4	69.7	100.1	100.1	15	13	-0.2	-0.2	-17.3
GEW-147	5/5/2017 14:44	0.7	59.6	0.0	39.7	203.9	203.9	16	11	2.0	1.9	-19.8
GEW-147	5/5/2017 14:56	0.2	58.3	0.0	41.5	203.1	203.1	61	61	-13.4	-13.7	-16.9
GEW-147	5/18/2017 14:11	14.3	37.6	0.2	47.9	173.1	173.1	21	21	-17.1	-17.1	-17.6
GEW-147	5/18/2017 14:12	13.5	48.4	0.0	38.1	173.1	173.1	21	20	-17.4	-17.2	-17.9
GEW-148	5/2/2017 15:30	9.3	55.6	0.5	34.6	74.7	74.8	7	10	-18.9	-18.6	-19.1
GEW-148	5/2/2017 15:37	7.1	55.1	0.1	37.7	74.2	74.1	5	4	-18.6	-18.6	-18.9
GEW-148	5/25/2017 8:58	3.5	52.9	0.3	43.3	96.5	96.5	4	4	-17.0	-17.0	-17.8
GEW-148	5/31/2017 14:17	6.7	56.1	0.6	36.6	124.7	124.7	3	6	-16.7	-16.7	-17.5
GEW-148	5/31/2017 14:20	7.0	56.7	0.6	35.7	125.0	125.3	7	3	-17.6	-17.6	-17.5
GEW-149	5/2/2017 15:05	14.2	41.7	1.9	42.2	103.3	103.3	19	22	-1.0	-1.0	-20.0
GEW-149	5/2/2017 15:12	13.9	40.2	1.8	44.1	104.2	104.2	30	28	-1.0	-1.2	-19.8
GEW-149	5/24/2017 14:38	13.9	45.8	1.4	38.9	105.0	104.9	26	26	-1.2	-1.0	-19.1
GEW-150	5/9/2017 7:40	9.8	34.6	6.8	48.8	101.3	101.3	3	2	-0.3	-0.4	-16.8
GEW-150	5/9/2017 7:47	10.1	35.7	6.4	47.8	103.4	103.3	1	2	-0.4	-0.3	-16.2
GEW-150	5/17/2017 9:59	27.6	52.2	0.3	19.9	111.0	110.7	1	3	0.0	0.0	-16.9
GEW-150	5/17/2017 10:01	28.3	55.2	0.2	16.3	132.8	133.2	7	7	-0.5	-0.5	-16.4
GEW-151	5/2/2017 15:22	3.6	21.6	13.2	61.6	72.8	72.8	5	7	-18.6	-19.1	-18.8
GEW-151	5/2/2017 15:23	3.5	18.9	13.6	64.0	72.3	72.3	6	8	-19.1	-19.0	-19.4
GEW-151	5/24/2017 14:42	4.6	31.9	8.8	54.7	73.2	73.2	7	3	-18.9	-18.8	-18.6
GEW-151	5/24/2017 14:44	3.7	25.5	11.5	59.3	72.1	72.0	6	7	-18.9	-18.9	-18.9
GEW-152	5/8/2017 14:00	0.0	0.6	20.9	78.5	84.2	84.5	2	2	-17.0	-17.0	-18.1
GEW-152	5/8/2017 14:02	0.0	0.2	21.1	78.7	87.5	87.6	2	2	-17.2	-17.2	-18.1
GEW-152	5/17/2017 9:30	0.0	0.2	21.4	78.4	83.5	83.7	3	1	-18.7	-18.6	-18.5
GEW-152	5/17/2017 9:32	0.0	0.1	21.4	78.5	84.9	84.9	4	3	-18.6	-18.6	-18.7
GEW-153	5/8/2017 13:29	29.1	42.3	0.0	28.6	131.7	131.7	16	16	-17.1	-16.7	-18.1
GEW-153	5/8/2017 13:36	28.3	41.0	0.0	30.7	132.3	132.3	18	18	-16.7	-16.8	-18.1
GEW-153	5/17/2017 9:17	27.4	43.4	0.2	29.0	128.6	128.6	17	14	-17.7	-17.6	-18.9
GEW-154	5/2/2017 14:44	23.8	34.0	6.7	35.5	79.5	79.4	3	3	-5.9	-5.9	-9.2
GEW-154	5/2/2017 14:51	24.6	31.4	6.9	37.1	80.1	80.2	2	1	-5.9	-5.9	-8.8
GEW-154	5/25/2017 8:20	5.0	18.9	12.2	63.9	74.8	74.8	2	2	-5.5	-5.5	-7.3

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-154	5/25/2017 8:22	4.8	18.2	12.3	64.7	75.2	75.3	1	1	-5.8	-5.8	-7.0
GEW-155	5/8/2017 11:29	2.6	41.0	1.0	55.4	179.9	180.3	3	4	0.0	0.0	-17.1
GEW-155	5/8/2017 11:36	3.0	39.8	1.4	55.8	189.6	189.6	18	18	-0.5	-0.5	-16.6
GEW-155	5/18/2017 13:42	2.5	17.3	7.0	73.2	148.0	148.0	20	18	-0.9	-0.9	-17.7
GEW-155	5/18/2017 13:43	2.4	18.5	6.9	72.2	148.4	148.4	20	20	-0.9	-0.9	-19.3
GEW-156	5/9/2017 8:27	11.5	27.7	5.6	55.2	100.8	100.8	13	14	-0.6	-0.6	-17.9
GEW-156	5/9/2017 8:34	11.4	25.9	5.9	56.8	101.5	101.5	10	12	-0.6	-0.6	-17.8
GEW-156	5/17/2017 10:20	8.7	22.6	12.3	56.4	104.3	104.2	14	14	-0.6	-0.7	-18.3
GEW-156	5/17/2017 10:22	8.2	16.7	12.7	62.4	104.3	104.3	11	11	-0.7	-0.7	-18.4
GEW-157	5/9/2017 7:53	15.2	50.0	0.0	34.8	98.2	98.2	4	4	-5.7	-5.7	-5.9
GEW-157	5/9/2017 8:00	15.1	48.7	0.0	36.2	100.8	101.1	11	11	-6.3	-6.3	-6.9
GEW-157	5/17/2017 10:08	0.2	17.8	16.6	65.4	82.3	82.3	3	2	-9.3	-9.3	-9.1
GEW-157	5/17/2017 10:10	0.1	13.1	16.2	70.6	82.6	82.6	3	1	-9.3	-9.3	-9.2
GEW-158	5/8/2017 14:37	0.6	52.9	0.0	46.5	90.8	90.8	4	6	-16.2	-17.0	-18.0
GEW-158	5/8/2017 14:44	7.8	46.4	0.0	45.8	92.9	93.1	2	2	-17.8	-17.8	-18.2
GEW-158	5/17/2017 9:45	0.3	5.2	20.6	73.9	81.5	81.7	2	4	-19.1	-18.7	-18.9
GEW-158	5/17/2017 9:47	0.0	0.4	21.3	78.3	83.0	83.1	4	2	-19.1	-19.1	-18.9
GEW-159	5/8/2017 13:13	10.8	31.8	8.9	48.5	84.3	84.2	2	1	-2.1	-2.1	-2.1
GEW-159	5/8/2017 13:20	7.5	25.9	11.1	55.5	83.2	83.1	4	4	-2.2	-2.1	-2.2
GEW-159	5/17/2017 9:07	2.3	21.0	12.1	64.6	83.3	83.3	4	2	-3.8	-3.8	-3.4
GEW-159	5/17/2017 9:10	1.8	20.4	13.0	64.8	84.2	84.2	3	3	-3.8	-3.8	-3.5
GEW-160	5/2/2017 14:20	7.3	53.1	0.0	39.6	76.6	76.6	8	8	4.5	4.5	4.4
GEW-160	5/2/2017 14:27	6.2	55.6	0.0	38.2	75.7	75.7	19	15	4.5	4.5	4.4
GEW-160	5/19/2017 13:25	0.0	46.3	0.2	53.5	97.0	97.4	11	11	-1.3	-1.3	-1.3
GEW-160	5/31/2017 13:59	6.4	51.7	0.0	41.9	97.0	97.2	14	6	-0.5	-0.5	-0.4
GEW-160	5/31/2017 14:08	6.1	54.0	0.0	39.9	100.2	100.1	14	14	-0.6	-0.6	-0.4
GEW-161	5/2/2017 14:30	1.2	56.2	0.0	42.6	75.2	75.2	11	8	4.3	4.4	4.3
GEW-161	5/2/2017 14:38	1.1	56.7	0.0	42.2	73.9	73.9	11	7	4.4	4.5	4.2
GEW-161	5/19/2017 13:29	0.0	2.4	20.3	77.3	92.7	92.7	3	5	-1.0	-1.0	-1.4
GEW-161	5/19/2017 13:30	0.0	0.9	20.6	78.5	93.4	93.4	2	4	-1.0	-1.0	-1.2
GEW-162	5/2/2017 14:59	1.2	6.1	19.2	73.5	77.1	77.1	8	8	-0.4	-0.4	-19.1
GEW-162	5/2/2017 15:01	1.1	3.5	19.7	75.7	77.3	77.1	8	8	-0.6	-0.6	-19.2
GEW-162	5/24/2017 14:29	19.4	59.0	0.0	21.6	82.1	82.0	3	2	-18.0	-17.9	-18.6
GEW-163	5/2/2017 15:04	3.0	45.2	3.5	48.3	183.3	183.3	42	36	-0.3	-0.2	-12.8
GEW-163	5/2/2017 15:10	3.0	44.4	3.6	49.0	183.3	182.8	36	22	-0.3	-0.3	-13.1
GEW-163	5/10/2017 7:54	6.8	32.8	5.2	55.2	151.7	151.3	37	40	-0.5	-0.5	-12.7
GEW-163	5/10/2017 7:56	6.6	34.8	4.8	53.8	151.1	152.1	13	19	-0.5	-0.5	-12.9
GEW-163	5/15/2017 8:29	6.4	37.2	4.7	51.7	152.6	152.9	34	32	-0.5	-0.5	-14.1
GEW-163	5/15/2017 8:30	6.8	36.3	4.2	52.7	152.1	152.5	7	7	-0.5	-0.5	-12.6
GEW-163	5/22/2017 14:02	5.8	37.1	3.8	53.3	154.2	152.9	10	19	-0.6	-0.5	-11.2
GEW-163	5/22/2017 14:04	5.8	36.9	3.7	53.6	153.7	153.7	29	34	-0.5	-0.5	-11.7
GEW-163	5/30/2017 13:29	6.3	35.3	3.7	54.7	145.9	146.6	19	17	-0.6	-0.6	-13.4
GEW-163	5/30/2017 13:31	6.3	37.3	3.7	52.7	146.6	146.3	36	16	-0.6	-0.5	-13.0

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-164	5/2/2017 14:48	16.9	52.4	0.7	30.0	166.1	166.6	22	21	-0.9	-0.8	-18.2
GEW-164	5/2/2017 14:57	13.8	60.9	0.6	24.7	166.6	166.2	21	10	-0.8	-0.8	-18.8
GEW-164	5/10/2017 7:59	14.5	58.3	0.0	27.2	174.7	174.7	21	31	2.2	2.3	-17.9
GEW-164	5/10/2017 8:03	14.5	61.5	0.0	24.0	175.3	175.3	37	30	-0.7	-0.7	-19.0
GEW-164	5/15/2017 8:24	16.2	59.1	0.1	24.6	169.1	169.0	31	33	-2.6	-2.6	-19.5
GEW-164	5/15/2017 8:25	16.2	59.7	0.0	24.1	169.0	169.0	35	35	-2.5	-2.5	-18.9
GEW-164	5/18/2017 10:37	20.8	60.9	0.6	17.7	167.6	167.6	30	28	-1.0	-1.0	-17.7
GEW-164	5/18/2017 10:38	21.7	62.6	0.5	15.2	167.9	167.6	26	43	-1.0	-1.0	-18.6
GEW-164	5/22/2017 14:07	12.2	46.2	4.6	37.0	163.3	163.2	28	14	-1.3	-1.3	-18.5
GEW-164	5/22/2017 14:08	12.0	47.7	4.6	35.7	163.7	163.3	28	22	-1.3	-1.3	-17.6
GEW-164	5/30/2017 13:36	13.3	50.9	3.2	32.6	158.5	158.6	25	31	-1.1	-1.0	-20.2
GEW-164	5/30/2017 13:39	13.1	51.7	3.3	31.9	158.9	158.6	14	14	-1.0	-1.0	-19.7
GEW-165	5/2/2017 14:27	5.0	59.6	1.0	34.4	184.5	183.3	28	16	-17.9	-17.9	-18.1
GEW-165	5/2/2017 14:33	5.2	56.8	1.1	36.9	184.1	184.5	23	16	-17.5	-17.8	-18.1
GEW-165	5/10/2017 8:07	4.7	56.5	0.9	37.9	185.7	185.7	14	14	-17.2	-17.2	-17.1
GEW-165	5/10/2017 8:08	4.8	57.1	1.0	37.1	186.4	186.4	25	27	-17.1	-17.2	-17.1
GEW-165	5/15/2017 8:18	5.3	55.4	0.9	38.4	185.7	185.7	14	14	-18.1	-18.1	-18.1
GEW-165	5/15/2017 8:19	5.1	56.5	0.7	37.7	185.7	185.1	20	18	-18.1	-17.6	-18.1
GEW-165	5/18/2017 10:26	7.2	60.2	1.3	31.3	185.1	184.5	22	18	-16.7	-16.7	-17.4
GEW-165	5/18/2017 10:27	8.1	60.2	1.4	30.3	185.1	185.1	15	16	-16.7	-17.1	-17.4
GEW-165	5/22/2017 14:12	5.9	57.0	0.9	36.2	185.7	185.7	26	26	-17.3	-17.3	-18.1
GEW-165	5/22/2017 14:13	5.0	57.9	0.9	36.2	185.7	185.7	29	29	-16.9	-16.9	-17.1
GEW-165	5/30/2017 13:45	5.0	60.4	1.0	33.6	183.9	184.0	20	17	-17.6	-17.6	-18.4
GEW-165	5/30/2017 13:47	5.3	60.6	1.0	33.1	183.9	183.9	16	14	-18.1	-18.1	-18.7
GEW-166	5/2/2017 14:12	0.4	49.9	4.1	45.6	188.3	187.6	8	22	-8.5	-8.5	-19.1
GEW-166	5/2/2017 14:22	0.4	50.0	4.2	45.4	188.9	188.9	16	6	-8.8	-8.8	-19.1
GEW-166	5/10/2017 8:12	0.7	45.6	5.3	48.4	185.1	185.1	18	18	-13.2	-13.1	-18.1
GEW-166	5/10/2017 8:14	0.6	43.3	5.6	50.5	185.7	185.1	11	13	-12.2	-12.3	-17.3
GEW-166	5/15/2017 8:11	1.0	43.2	5.7	50.1	185.2	185.1	13	14	-13.0	-13.1	-18.1
GEW-166	5/15/2017 8:14	0.8	42.8	5.6	50.8	184.6	185.7	19	15	-11.3	-11.3	-18.1
GEW-166	5/18/2017 10:21	2.5	53.7	3.6	40.2	185.1	185.1	13	15	-10.4	-10.4	-17.1
GEW-166	5/18/2017 10:22	1.8	50.8	3.9	43.5	185.7	185.7	26	27	-10.8	-10.8	-17.9
GEW-166	5/22/2017 14:17	1.0	44.3	5.6	49.1	185.7	185.1	15	10	-10.5	-10.4	-17.1
GEW-166	5/22/2017 14:19	0.8	43.8	5.4	50.0	185.1	185.1	25	22	-7.4	-7.4	-17.5
GEW-166	5/30/2017 13:53	0.7	47.2	3.9	48.2	187.0	187.0	32	30	-5.9	-6.0	-17.7
GEW-166	5/30/2017 13:57	0.6	49.4	4.5	45.5	186.8	186.8	61	69	-6.9	-6.9	-16.8
GEW-167	5/2/2017 13:44	1.4	46.5	4.3	47.8	190.2	190.2	46	42	-0.4	-0.4	-18.2
GEW-167	5/2/2017 13:52	1.3	46.8	4.5	47.4	190.1	190.2	56	56	-1.6	-1.6	-18.2
GEW-167	5/10/2017 13:38	1.0	44.1	4.5	50.4	190.9	190.9	45	47	-0.4	-0.3	-16.3
GEW-167	5/10/2017 13:39	0.9	44.8	4.1	50.2	190.9	190.9	46	46	-0.3	-0.3	-17.0
GEW-167	5/15/2017 8:05	1.6	45.4	3.9	49.1	188.9	189.0	51	54	-0.2	-0.3	-18.5
GEW-167	5/15/2017 8:07	2.0	45.3	3.8	48.9	189.2	188.9	56	55	-0.4	-0.4	-17.3
GEW-167	5/18/2017 10:12	2.2	44.8	4.5	48.5	188.3	188.3	42	44	-0.4	-0.3	-16.6

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-167	5/18/2017 10:13	2.2	46.8	4.4	46.6	188.3	188.3	39	42	-0.2	-0.2	-17.2
GEW-167	5/22/2017 14:23	2.5	43.9	4.0	49.6	187.6	187.0	23	23	-0.3	-0.3	-17.3
GEW-167	5/22/2017 14:24	2.6	45.0	4.0	48.4	187.6	187.2	23	18	-0.3	-0.3	-17.4
GEW-167	5/30/2017 14:01	2.9	40.5	5.2	51.4	185.1	185.1	56	55	-0.4	-0.4	-19.0
GEW-167	5/30/2017 14:06	2.8	41.6	5.2	50.4	185.1	185.1	63	63	-0.3	-0.3	-18.6
GEW-168	5/2/2017 11:34	3.3	61.7	0.0	35.0	181.6	181.5	154	160	-8.9	-10.6	-18.6
GEW-168	5/2/2017 11:41	3.8	57.6	0.0	38.6	181.6	181.6	168	154	-8.0	-9.5	-18.2
GEW-168	5/10/2017 13:44	2.8	58.0	0.0	39.2	187.0	186.5	149	149	-8.2	-8.2	-17.6
GEW-168	5/10/2017 13:45	3.0	59.0	0.0	38.0	187.0	186.5	155	155	-8.4	-8.4	-17.3
GEW-168	5/15/2017 7:58	3.4	58.6	0.0	38.0	185.1	185.2	136	164	-10.9	-8.1	-18.1
GEW-168	5/15/2017 7:59	3.7	59.0	0.0	37.3	185.7	185.7	186	183	-7.7	-6.3	-18.8
GEW-168	5/18/2017 9:25	4.4	55.4	0.0	40.2	185.1	185.2	133	170	-11.6	-7.4	-17.6
GEW-168	5/18/2017 9:28	3.5	61.3	0.0	35.2	185.1	185.1	174	187	-7.0	-4.9	-17.5
GEW-168	5/22/2017 14:31	4.6	54.9	1.1	39.4	178.6	178.6	129	166	-11.4	-7.8	-17.8
GEW-168	5/22/2017 14:33	4.7	56.0	1.1	38.2	178.6	178.6	118	130	-14.0	-11.1	-17.1
GEW-168	5/30/2017 14:14	5.6	46.5	5.4	42.5	160.7	160.7	152	124	-10.4	-12.5	-18.6
GEW-168	5/30/2017 14:18	5.4	44.2	5.4	45.0	161.1	161.1	135	165	-11.6	-9.4	-18.1
GEW-169	5/2/2017 11:48	1.6	43.2	9.0	46.2	180.3	180.3	30	29	-6.4	-6.4	-19.1
GEW-169	5/2/2017 11:55	1.5	40.7	9.1	48.7	180.3	180.3	27	36	-6.7	-6.4	-19.3
GEW-169	5/10/2017 13:48	3.6	34.0	10.8	51.6	159.0	159.4	29	40	-6.9	-6.9	-18.0
GEW-169	5/10/2017 13:51	3.8	31.2	10.8	54.2	155.5	155.2	13	13	-0.5	-0.5	-17.9
GEW-169	5/15/2017 7:47	0.6	55.6	0.0	43.8	185.7	185.7	9	19	0.3	0.3	-18.6
GEW-169	5/15/2017 7:49	0.5	60.9	0.0	38.6	188.3	188.3	7	13	-1.0	-1.0	-18.7
GEW-169	5/18/2017 9:31	2.4	57.1	2.3	38.2	179.2	179.2	12	9	-1.3	-1.4	-17.5
GEW-169	5/18/2017 9:32	2.3	57.3	2.3	38.1	179.4	179.6	13	7	-1.4	-1.4	-18.0
GEW-169	5/22/2017 14:36	4.3	58.8	0.4	36.5	182.7	182.3	10	14	-1.2	-1.3	-18.2
GEW-169	5/22/2017 14:38	4.6	60.2	0.4	34.8	182.1	182.1	13	12	-1.3	-1.3	-17.9
GEW-169	5/30/2017 14:24	3.5	58.3	1.2	37.0	182.7	182.7	16	17	-1.4	-1.4	-18.3
GEW-169	5/30/2017 14:27	4.0	60.2	1.2	34.6	182.7	182.1	29	30	-1.5	-1.5	-18.0
GEW-170	5/2/2017 10:30	3.3	63.3	0.0	33.4	175.3	175.3	4	14	-0.6	-0.6	-8.7
GEW-170	5/2/2017 10:36	3.1	64.1	0.0	32.8	176.4	176.4	25	25	-1.9	-1.9	-9.6
GEW-170	5/18/2017 9:03	4.9	44.4	6.9	43.8	155.6	155.3	23	14	-6.1	-6.0	-12.7
GEW-170	5/18/2017 9:06	4.9	45.1	7.0	43.0	149.5	149.5	7	9	-0.4	-0.4	-14.1
GEW-170	5/31/2017 14:11	5.8	64.3	0.0	29.9	179.2	179.2	18	8	-1.5	-1.5	-8.4
GEW-170	5/31/2017 14:13	5.6	65.6	0.0	28.8	180.3	180.0	18	19	-4.0	-4.1	-7.4
GEW-171	5/9/2017 11:44	0.3	11.2	16.9	71.6	97.0	96.7	6	6	-17.7	-17.6	-17.7
GEW-171	5/9/2017 11:46	0.3	19.4	15.7	64.6	97.4	97.7	9	8	-17.2	-17.5	-17.1
GEW-171	5/17/2017 10:52	1.4	61.9	0.3	36.4	85.4	85.4	17	14	5.0	5.0	5.1
GEW-171	5/17/2017 10:53	1.5	64.4	0.2	33.9	85.1	85.1	7	10	4.7	4.7	4.9
GEW-172	5/9/2017 9:48	0.3	51.1	2.0	46.6	176.4	177.0	25	30	-6.6	-6.7	-6.1
GEW-172	5/9/2017 9:54	0.1	47.6	2.1	50.2	176.9	176.9	7	10	-6.6	-6.6	-6.4
GEW-172	5/17/2017 11:07	1.4	56.9	0.1	41.6	83.7	83.6	14	10	19.3	19.3	19.5

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GEW-172	5/17/2017 11:08	1.9	56.8	0.1	41.2	83.6	83.8	14	11	19.2	19.4	19.5
GEW-173	5/8/2017 14:28	8.6	22.9	7.1	61.4	128.9	128.9	15	13	-0.1	-0.1	-17.1
GEW-173	5/8/2017 14:35	8.0	23.2	7.2	61.6	129.3	129.2	8	2	-0.1	-0.1	-17.2
GEW-173	5/17/2017 11:16	19.4	20.2	8.0	52.4	104.0	104.1	10	10	-0.1	-0.1	-18.2
GEW-173	5/17/2017 11:18	20.3	19.4	8.2	52.1	104.8	104.8	9	9	-0.1	-0.1	-17.7
GEW-174	5/8/2017 14:41	9.7	32.7	5.8	51.8	134.0	134.1	30	21	-0.5	-0.5	-13.8
GEW-174	5/9/2017 9:03	9.6	31.8	5.5	53.1	132.3	132.3	27	31	-0.5	-0.5	-12.8
GEW-174	5/9/2017 9:09	9.8	32.3	5.4	52.5	132.3	132.1	15	14	-0.5	-0.5	-13.5
GEW-174	5/10/2017 8:20	7.4	28.7	7.6	56.3	130.9	130.9	21	25	-0.5	-0.5	-13.2
GEW-174	5/25/2017 8:08	11.5	50.1	0.7	37.7	140.2	140.6	29	22	-0.3	-0.3	-12.4
GEW-174	5/25/2017 8:10	11.9	51.5	0.6	36.0	140.9	140.3	49	49	-0.3	-0.3	-10.8
GEW-175	5/8/2017 15:03	19.3	46.0	3.8	30.9	133.5	133.3	60	47	-0.9	-0.8	-18.6
GEW-175	5/8/2017 15:12	16.2	41.3	5.5	37.0	133.2	133.2	52	52	-0.9	-0.9	-18.2
GEW-175	5/17/2017 9:55	20.3	48.1	2.9	28.7	97.9	98.1	40	46	-0.9	-0.9	-19.3
GEW-176	5/8/2017 14:52	19.3	53.7	0.9	26.1	107.8	107.7	9	10	-0.3	-0.2	-18.1
GEW-176	5/8/2017 14:59	18.2	48.8	0.8	32.2	108.7	108.7	15	13	-0.2	-0.2	-18.1
GEW-176	5/17/2017 9:51	26.3	48.3	1.5	23.9	124.5	124.5	6	6	-0.3	-0.2	-18.7
GEW-177	5/2/2017 8:12	0.0	29.9	13.7	56.4	82.8	82.6	11	11	-3.4	-3.4	-3.2
GEW-177	5/2/2017 8:13	0.0	28.1	14.0	57.9	82.2	82.1	9	7	-3.0	-3.2	-2.9
GEW-177	5/18/2017 8:44	0.1	22.1	15.5	62.3	95.3	95.5	10	3	-1.4	-1.4	-1.3
GEW-177	5/18/2017 8:46	0.0	18.3	15.9	65.8	95.3	95.3	3	9	-1.3	-1.3	-1.3
GEW-1A	5/5/2017 9:47	0.9	7.4	20.2	71.5	63.5	63.5	5	5	-7.8	-7.8	-10.6
GEW-1A	5/5/2017 9:49	0.3	0.8	21.6	77.3	63.9	64.0	1	2	-9.7	-9.7	-10.6
GEW-1A	5/10/2017 8:07	0.6	3.1	20.8	75.5	75.8	75.8	2	2	-6.4	-6.4	-7.6
GEW-1A	5/10/2017 8:09	0.1	0.3	21.3	78.3	76.1	76.1	2	1	-7.4	-7.4	-7.5
GEW-1A	5/16/2017 14:38	0.5	2.2	20.7	76.6	96.3	96.5	3	1	-9.3	-9.0	-11.1
GEW-1A	5/16/2017 14:39	0.1	0.4	21.1	78.4	97.7	97.7	3	3	-10.3	-10.3	-11.3
GEW-1A	5/23/2017 14:02	0.5	3.9	20.6	75.0	70.0	70.2	4	4	-9.9	-9.9	-12.8
GEW-1A	5/23/2017 14:03	0.6	1.9	20.9	76.6	70.5	70.5	3	3	-10.7	-10.7	-12.7
GEW-1A	5/31/2017 10:25	0.5	1.8	21.0	76.7	87.7	88.3	3	1	-8.5	-8.5	-11.6
GEW-1A	5/31/2017 10:27	0.7	1.5	20.4	77.4	89.1	89.1	4	3	-9.3	-9.3	-11.6
GEW-2S	5/5/2017 9:39	59.0	36.4	0.4	4.2	71.4	71.5	5	3	-4.0	-4.4	-5.5
GEW-2S	5/9/2017 13:25	61.1	34.0	0.3	4.6	91.3	91.4	5	5	-2.2	-2.1	-3.9
GEW-2S	5/9/2017 13:31	60.1	35.4	0.1	4.4	92.2	92.3	5	3	-2.3	-2.5	-3.4
GEW-2S	5/16/2017 14:45	58.3	35.8	0.1	5.8	91.7	91.9	5	5	-5.0	-5.0	-8.3
GEW-2S	5/23/2017 14:11	60.2	36.9	0.0	2.9	68.7	68.6	5	6	-6.8	-6.9	-9.2
GEW-2S	5/31/2017 10:32	62.2	35.0	0.0	2.8	96.0	96.5	4	8	-4.4	-4.6	-12.3
GIW-01	5/1/2017 14:45	6.8	27.0	9.7	56.5	63.8	63.8	5	3	-18.6	-18.6	-19.1
GIW-01	5/1/2017 14:52	6.5	27.8	9.9	55.8	61.5	61.5	2	2	-19.2	-19.5	-19.9
GIW-01	5/11/2017 13:45	7.5	41.1	6.9	44.5	82.1	82.1	4	4	-19.0	-19.0	-19.5
GIW-01	5/11/2017 13:46	9.7	34.6	7.3	48.4	82.3	82.3	4	4	-19.0	-19.0	-19.5
GIW-01	5/15/2017 10:32	7.4	36.6	3.2	52.8	98.4	98.3	2	2	-17.6	-17.6	-18.4
GIW-01	5/23/2017 8:43	9.3	43.6	1.9	45.2	88.3	88.4	3	2	-18.1	-18.4	-18.7

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GIW-01	5/30/2017 14:13	6.6	42.4	4.3	46.7	102.1	101.8	2	5	-18.7	-18.7	-19.5
GIW-02	5/1/2017 15:12	6.9	32.2	10.3	50.6	59.8	59.8	2	2	-0.3	-0.3	-19.9
GIW-02	5/1/2017 15:19	6.6	32.7	10.3	50.4	60.1	60.1	1	2	-0.2	-0.2	-19.6
GIW-02	5/11/2017 13:49	8.1	31.3	9.5	51.1	71.6	71.6	3	3	-0.3	-0.3	-19.9
GIW-02	5/11/2017 13:51	7.2	35.3	9.5	48.0	71.8	71.8	2	3	-0.3	-0.3	-19.8
GIW-02	5/15/2017 10:35	8.7	35.8	7.9	47.6	96.0	96.0	2	2	-0.3	-0.3	-18.4
GIW-02	5/15/2017 10:36	8.7	36.8	7.9	46.6	96.3	96.3	2	2	-0.3	-0.3	-18.5
GIW-02	5/23/2017 8:46	7.2	37.3	8.1	47.4	74.8	74.9	4	4	-0.3	-0.3	-19.0
GIW-02	5/23/2017 8:47	7.1	37.2	8.2	47.5	75.2	75.2	4	4	-0.3	-0.3	-18.9
GIW-02	5/30/2017 14:17	7.1	36.9	8.2	47.8	89.6	90.1	4	4	-0.3	-0.3	-19.3
GIW-02	5/30/2017 14:20	7.3	36.5	8.1	48.1	90.5	90.2	3	4	-0.3	-0.3	-19.2
GIW-03	5/1/2017 15:23	1.0	56.0	2.1	40.9	59.3	59.2	1	3	-1.6	-1.6	-3.7
GIW-03	5/1/2017 15:30	0.8	52.6	2.5	44.1	57.0	57.0	4	3	-1.6	-1.6	-3.4
GIW-03	5/11/2017 13:54	1.0	49.1	3.1	46.8	71.8	71.8	3	4	-3.0	-3.0	-3.7
GIW-03	5/15/2017 10:39	1.2	50.4	2.5	45.9	92.4	92.4	4	2	-2.3	-2.3	-2.5
GIW-03	5/23/2017 8:51	0.9	47.8	5.1	46.2	75.9	75.9	3	2	-3.1	-3.2	-3.3
GIW-03	5/23/2017 8:52	0.8	48.9	5.2	45.1	76.2	76.2	2	1	-3.5	-3.5	-3.6
GIW-03	5/30/2017 14:26	0.8	49.2	4.7	45.3	92.6	92.7	5	6	-4.4	-4.4	-4.8
GIW-04	5/2/2017 7:36	0.5	25.5	10.8	63.2	73.9	74.3	4	4	-2.2	-2.2	-2.0
GIW-04	5/2/2017 7:44	0.6	27.3	10.5	61.6	77.4	77.4	3	4	-2.1	-2.1	-2.0
GIW-04	5/11/2017 13:57	0.9	45.5	4.6	49.0	71.0	71.0	4	4	-3.5	-3.4	-3.5
GIW-04	5/15/2017 10:44	0.6	25.6	11.2	62.6	96.5	96.5	2	3	-2.7	-2.7	-2.6
GIW-04	5/16/2017 11:16	0.5	24.3	11.1	64.1	89.8	90.0	4	4	-2.8	-2.8	-2.9
GIW-04	5/23/2017 8:55	0.4	25.7	12.8	61.1	75.0	75.0	4	5	-3.7	-3.7	-3.6
GIW-04	5/23/2017 8:56	0.4	24.1	12.7	62.8	76.0	76.0	3	4	-3.6	-3.6	-3.6
GIW-04	5/30/2017 14:30	0.4	21.7	13.4	64.5	85.2	86.1	1	1	-4.3	-4.3	-4.4
GIW-04	5/30/2017 14:32	0.4	20.3	13.4	65.9	86.8	86.7	3	2	-4.3	-4.3	-4.4
GIW-05	5/2/2017 7:51	0.0	7.8	19.6	72.6	62.6	62.6	0	0	-5.8	-5.7	4.8
GIW-05	5/2/2017 7:58	0.0	2.2	21.0	76.8	64.3	64.2	0	0	-4.3	-4.2	4.4
GIW-05	5/11/2017 14:06	0.0	5.7	20.8	73.5	70.9	70.8	0	0	-4.8	-4.7	2.1
GIW-05	5/11/2017 14:07	0.0	2.9	21.4	75.7	70.9	70.9	0	3	-5.4	-5.5	2.2
GIW-05	5/15/2017 10:49	0.1	2.6	20.5	76.8	89.6	89.8	0	0	-7.9	-7.9	2.5
GIW-05	5/15/2017 10:50	0.1	1.6	20.6	77.7	91.5	91.5	4	0	-10.2	-10.2	2.6
GIW-05	5/23/2017 9:05	0.0	4.1	20.8	75.1	73.0	73.0	0	0	-4.4	-4.3	-0.1
GIW-05	5/23/2017 9:07	0.0	2.0	21.3	76.7	73.6	73.5	6	6	-3.7	-3.6	-0.1
GIW-05	5/30/2017 14:44	0.0	3.0	20.5	76.5	83.1	83.5	0	0	-0.1	-0.1	-0.6
GIW-05	5/30/2017 14:46	0.0	1.6	20.8	77.6	83.6	83.7	3	3	-0.1	-0.1	-0.7
GIW-06	5/2/2017 11:31	4.8	52.9	0.0	42.3	72.5	72.3	5	6	-2.3	-2.3	-2.2
GIW-06	5/2/2017 11:38	5.5	51.2	0.0	43.3	70.7	70.7	5	7	-2.3	-2.3	-2.2
GIW-06	5/11/2017 14:11	24.9	48.6	0.1	26.4	70.4	70.4	6	6	-3.4	-3.4	-3.7
GIW-06	5/15/2017 10:54	24.7	46.3	0.0	29.0	91.9	91.7	4	3	-2.7	-2.8	-2.5
GIW-06	5/23/2017 9:11	17.3	48.3	0.2	34.2	75.0	75.2	4	5	-3.5	-3.5	-3.4
GIW-06	5/30/2017 14:52	22.1	48.5	0.1	29.3	90.3	90.5	3	3	-4.4	-4.3	-4.4

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
GIW-07	5/2/2017 13:02	18.1	50.3	3.1	28.5	77.7	77.7	11	9	-1.8	-1.8	-2.5
GIW-07	5/2/2017 13:08	16.9	51.8	2.9	28.4	78.0	78.0	7	7	-1.7	-1.7	-2.5
GIW-07	5/11/2017 14:13	29.0	48.4	1.6	21.0	70.4	70.3	4	4	-2.3	-2.3	-3.5
GIW-07	5/15/2017 10:57	34.0	47.9	0.9	17.2	100.9	101.1	3	2	-1.7	-1.7	-2.5
GIW-07	5/23/2017 9:14	33.4	48.7	0.9	17.0	75.7	75.9	5	5	-2.1	-2.1	-3.4
GIW-07	5/30/2017 14:57	34.9	49.1	0.8	15.2	88.2	88.4	3	3	-2.6	-2.6	-4.8
GIW-08	5/2/2017 13:12	27.6	59.1	0.0	13.3	76.4	76.6	9	9	-1.5	-1.5	-2.5
GIW-08	5/2/2017 13:19	28.2	61.8	0.0	10.0	77.1	77.1	9	9	-1.5	-1.5	-2.5
GIW-08	5/11/2017 14:16	29.1	58.7	0.0	12.2	71.4	71.4	4	4	-1.9	-1.9	-3.6
GIW-08	5/15/2017 11:00	31.0	57.5	0.0	11.5	101.5	101.6	3	3	-1.5	-1.5	-2.5
GIW-08	5/23/2017 9:17	29.4	56.8	0.0	13.8	76.2	76.2	4	4	-1.8	-1.8	-3.5
GIW-08	5/30/2017 15:02	30.0	57.2	0.0	12.8	94.6	94.9	2	2	-2.1	-2.1	-4.4
GIW-09	5/2/2017 13:32	11.5	36.2	1.6	50.7	74.8	74.8	4	4	-0.2	-0.2	-2.1
GIW-09	5/2/2017 13:39	12.4	30.6	1.8	55.2	74.5	74.5	7	6	-0.3	-0.3	-2.5
GIW-09	5/11/2017 14:25	2.8	34.4	3.2	59.6	70.0	70.0	4	4	-0.3	-0.3	-3.9
GIW-09	5/15/2017 11:07	2.6	25.2	3.7	68.5	95.1	95.3	3	1	-0.2	-0.2	-2.9
GIW-09	5/23/2017 9:24	8.2	32.6	1.0	58.2	74.5	74.5	2	3	-0.2	-0.2	-3.6
GIW-09	5/30/2017 15:12	3.9	29.4	1.7	65.0	92.1	92.2	1	1	-0.3	-0.3	-4.4
GIW-10	5/2/2017 8:03	5.3	48.9	0.0	45.8	60.0	59.9	6	5	-0.1	-0.1	-1.9
GIW-10	5/2/2017 8:10	4.6	52.3	0.0	43.1	60.7	60.7	5	5	-0.1	-0.1	-2.0
GIW-10	5/11/2017 14:01	2.3	52.6	0.0	45.1	71.1	71.1	2	3	-0.5	-0.5	-3.9
GIW-10	5/15/2017 10:27	2.8	52.4	0.0	44.8	88.4	88.4	3	3	-0.3	-0.3	-2.5
GIW-10	5/23/2017 9:00	3.6	52.4	0.0	44.0	76.6	76.7	4	4	-0.5	-0.5	-3.1
GIW-10	5/30/2017 14:37	4.1	53.4	0.0	42.5	90.1	90.1	2	2	-0.7	-0.7	-4.4
GIW-11	5/2/2017 11:07	2.3	58.1	0.0	39.6	71.1	71.1	6	2	-0.4	-0.5	-18.9
GIW-11	5/2/2017 11:13	2.1	59.8	0.0	38.1	71.4	71.4	5	5	-0.4	-0.4	-19.2
GIW-11	5/11/2017 13:41	3.1	57.7	0.0	39.2	71.6	71.6	3	1	-0.5	-0.5	-20.0
GIW-11	5/15/2017 10:14	2.5	56.5	0.0	41.0	92.9	92.9	2	2	-0.3	-0.3	-18.5
GIW-11	5/23/2017 8:39	2.3	57.8	0.0	39.9	74.1	74.1	3	3	-0.3	-0.3	-18.5
GIW-11	5/30/2017 14:07	2.1	60.5	0.0	37.4	92.2	91.9	1	4	-0.3	-0.3	-19.4
GIW-12	5/2/2017 10:43	11.2	44.3	5.2	39.3	71.2	71.2	4	3	-0.2	-0.2	-16.7
GIW-12	5/2/2017 10:50	11.7	38.8	5.5	44.0	73.0	73.0	1	5	-0.2	-0.2	-14.9
GIW-12	5/11/2017 13:35	12.1	44.2	5.0	38.7	70.9	70.9	2	1	-0.3	-0.3	-18.1
GIW-12	5/11/2017 13:36	12.2	43.1	5.0	39.7	70.7	70.7	2	2	-0.3	-0.3	-17.3
GIW-12	5/15/2017 10:07	12.9	44.8	4.5	37.8	91.7	91.7	2	2	-0.2	-0.2	-14.4
GIW-12	5/23/2017 8:34	12.1	45.7	4.6	37.6	73.6	73.6	2	2	-0.2	-0.2	-17.1
GIW-12	5/30/2017 13:58	13.1	43.3	4.9	38.7	89.8	90.1	1	0	-0.2	-0.2	-15.7
GIW-13	5/2/2017 10:32	11.3	60.0	0.0	28.7	71.6	71.6	5	5	-0.7	-0.7	-7.7
GIW-13	5/2/2017 10:39	10.0	60.2	0.0	29.8	72.8	73.0	3	3	-0.7	-0.7	-7.8
GIW-13	5/11/2017 13:31	10.2	62.6	0.0	27.2	71.4	71.4	5	5	-0.7	-0.7	-7.3
GIW-13	5/15/2017 10:04	10.0	59.3	0.0	30.7	90.7	90.6	4	4	-0.5	-0.6	-7.8
GIW-13	5/23/2017 8:30	9.6	62.2	0.0	28.2	74.3	74.3	4	3	-0.6	-0.6	-7.0
GIW-13	5/30/2017 13:53	10.8	59.1	0.0	30.1	88.5	88.5	4	2	-0.8	-0.8	-8.4

May 2017 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H <sub>2</sub> O		
LCS-1D	5/12/2017 10:58	54.9	43.9	0.0	1.2	84.4	84.4	4	4	-15.7	-15.7	-18.4
LCS-1D	5/19/2017 13:19	54.9	38.8	0.2	6.1	106.7	106.5	2	3	-19.4	-19.5	-22.5
LCS-5A	5/3/2017 11:26	58.5	41.1	0.0	0.4	66.2	66.2	NFD	NFD	-9.6	-9.6	-10.3
LCS-5A	5/10/2017 7:50	55.7	40.8	0.0	3.5	82.1	82.1	NFD	NFD	-7.7	-7.8	-7.4
LCS-5A	5/16/2017 13:54	55.6	40.0	0.0	4.4	93.0	93.1	NFD	NFD	-11.3	-11.3	-11.4
LCS-6B	5/5/2017 9:06	54.2	39.3	0.0	6.5	88.9	88.9	10	10	-2.1	-2.0	-10.7
LCS-6B	5/9/2017 9:07	55.0	37.0	0.1	7.9	102.5	102.8	0	0	-1.0	-1.0	-9.0
LCS-6B	5/16/2017 14:59	49.9	39.6	0.1	10.4	108.5	108.6	13	12	-1.7	-1.7	-11.1
LCS-6B	5/23/2017 14:26	51.0	39.8	0.0	9.2	96.6	95.9	8	6	-2.2	-2.2	-12.9
LCS-6B	5/31/2017 10:49	49.5	39.8	0.0	10.7	112.2	112.3	7	7	-2.3	-2.3	-11.7
PGW-60	5/5/2017 9:35	56.9	38.6	0.0	4.5	72.4	72.5	8	9	-6.1	-6.7	-6.9
PGW-60	5/16/2017 14:42	56.2	32.1	0.3	11.4	87.2	87.0	19	0	-8.0	-8.8	-8.7
PGW-60	5/23/2017 14:07	58.0	37.7	0.4	3.9	81.9	81.9	17	12	-8.9	-9.3	-9.2
SEW-002	5/25/2017 11:07	2.4	64.7	0.0	32.9	79.6	80.3	8	8	0.1	0.1	1.4
SEW-002	5/25/2017 11:09	2.4	69.2	0.0	28.4	81.2	81.2	9	11	0.1	0.0	1.4
T-56	5/5/2017 8:50	50.1	34.0	0.5	15.4	60.7	60.7	21	21	-0.2	-0.2	-10.3
T-56	5/9/2017 10:29	48.2	34.3	0.3	17.2	65.1	64.9	0	0	0.3	0.4	-8.0
T-56	5/9/2017 10:30	47.9	34.1	0.3	17.7	64.7	64.7	0	0	0.3	0.3	-8.0
T-56	5/12/2017 9:45	43.8	32.5	1.1	22.6	64.7	64.7	23	23	-0.2	-0.2	-12.9
T-56	5/12/2017 9:46	42.6	31.7	1.2	24.5	64.7	64.7	20	21	-0.2	-0.2	-11.9
T-56	5/16/2017 13:22	47.3	33.7	0.0	19.0	69.6	69.5	15	15	-0.1	-0.1	-11.5
T-56	5/23/2017 14:44	51.6	36.7	0.1	11.6	66.6	66.6	26	18	-0.1	-0.1	-11.9
T-56	5/31/2017 11:12	41.0	33.8	0.6	24.6	71.4	71.3	12	18	-0.2	-0.1	-11.8
T-56	5/31/2017 11:14	40.6	33.6	0.6	25.2	71.4	71.4	17	20	-0.1	-0.1	-11.0

NFD = No flow device installed

NR = Flow information was not recorded due to data collection error

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**ATTACHMENT E-2**

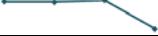
**MAXIMUM WELLHEAD TEMPERATURE TABLE**

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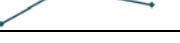
### Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	February 2017	March 2017	April 2017	May 2017		
GEW-001	--	--	--	--		
GEW-002	122.7	112.0	117.7	110.0		
GEW-003	114.5	115	114.6	116.6		
GEW-004	118.4	118.4	119.2	119.9		
GEW-005	92.2	89.8	93.8	93.9		
GEW-006	91.7	91.7	89.8	90.1		
GEW-007	90.5	93.0	92.0	94.6		
GEW-008	112.0	112.7	112.0	113.5		
GEW-009	122.9	124.2	123.4	124.1		
GEW-010	79.8	59.2	94.1	97.7		
GEW-011	--	--	--	--		
GEW-013A	136.5	130.7	140.5	136.2		
GEW-014A	--	--	--	--		
GEW-015	184.5	173.6	179.2	176.4		
GEW-016R	185.1	183.9	182	183.6		
GEW-018B	189	182.7	176.9	183.3		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	137.4	130.1	125.3	152.9		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	--	--	--	--		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	74.1	67.2	91.2	99.9		
GEW-039	113.4	113.2	118.2	120.5		
GEW-040	85.4	85.8	88.2	90.8		
GEW-041R	97.9	97.9	96.0	101.1		
GEW-042R	100.6	100.8	101.3	103.6		
GEW-043R	131.1	130.2	126.9	120.2		

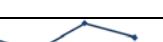
### Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	February 2017	March 2017	April 2017	May 2017		
GEW-044	77.3	86.3	87.1	88.9		
GEW-045R	71.6	79.9	76.8	86.5		
GEW-046R	95.6	97.7	98.2	100.4		
GEW-047R	111.2	111.2	106.5	118.1		
GEW-048	102.3	103.5	103.5	103.6		
GEW-049	98.0	118.5	104.0	109.7		
GEW-050	107.4	108.2	107.5	108.5		
GEW-051	124.2	125.6	124.6	125.1		
GEW-052	113.1	113.2	115.1	115.1		
GEW-053	133.5	133.5	129.8	130.9		
GEW-054	147.0	147.7	144.5	144.2		
GEW-055	111.5	117.8	119.4	135.0		
GEW-056R	118.1	104.5	122.6	129.4		
GEW-057B	65.8	71.8	82.6	81.9		
GEW-057R	78.3	81.2	102.3	101.0		
GEW-058	107.5	102.1	106.9	127.5		
GEW-058A	113.0	113.5	110.7	115.5		
GEW-059R	177.5	175.7	174.0	177.8		
GEW-061B	--	--	--	--		
GEW-064A	83	41.9	62.2	--		
GEW-065A	--	--	--	--		
GEW-066	--	--	--	--		
GEW-067A	87.0	43.8	150.5	178.6		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	158.7	105.8	--	--		
GEW-078R	176.4	170.5	173.1	172.7		
GEW-080	--	--	--	--		
GEW-081	188.9	187.6	193.6	91.5		
GEW-082R	189.6	183.9	192.3	190.9		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	85.4	45.7	78.9	91.1		

### Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	February 2017	March 2017	April 2017	May 2017		
GEW-087	194.3	193.6	195.7	195.7		
GEW-088	--	--	161.2	174.7		
GEW-089	--	--	--	--		
GEW-090	178.6	147.4	162.4	166.5		
GEW-091	194.3	193.6	195.1	189.3		
GEW-100	--	--	--	--		
GEW-101	91.3	80	90.2	95.6		
GEW-102	66.5	68.6	80.3	82.1		
GEW-103	--	--	--	--		
GEW-104	76.4	70.5	80.0	79.6		
GEW-105	143.2	--	--	--		
GEW-106	88.0	83.4	92.9	92.7		
GEW-107	75.4	98.7	123.0	98.4		
GEW-108	91.9	71.6	135.9	86.9		
GEW-109	110.0	85.8	98.9	112.0		
GEW-110	86.8	70.1	92.4	94.6		
GEW-112	--	--	--	--		
GEW-113	161.1	156.5	165.2	158.5		
GEW-116	93.4	117.4	66.8	108.7		
GEW-117	74.2	91.3	69.5	102.8		
GEW-118	195	195.7	197.2	195.0		
GEW-120	81.7	107	105	122.9		
GEW-121	167.6	170.1	171	171.6		
GEW-122	81.1	195	189.6	166.7		
GEW-123	78	171	--	123.9		
GEW-124	80	67	78	92.4		
GEW-125	178.0	187.3	182.1	181.0		
GEW-126	91.5	76.4	85.5	101.1		
GEW-127	179.7	179.2	180.3	155.2		
GEW-128	173.1	165.2	175.8	182.7		
GEW-129	67.5	59.4	72	88.6		
GEW-130	175.7	185.2	192.3	185.1		
GEW-131	171	168.5	160.3	152.5		
GEW-132	176.9	174.7	186.4	164.7		
GEW-133	87.2	86.3	80.5	104.8		
GEW-134	163.8	187	121.4	127.2		
GEW-135	76	196	194	154.4		
GEW-136	107.1	115	110.7	116.6		
GEW-137	91.2	81.2	85.8	105.7		
GEW-138	77.3	77.6	157.7	164.1		
GEW-139	137.4	165.7	170.0	173.6		

### Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	February 2017	March 2017	April 2017	May 2017		
GEW-140	117.3	139.9	109.7	121.8		
GEW-141	73	65	78	86.6		
GEW-142	93.6	--	87.9	87.7		
GEW-143	70.2	67.5	78.7	88.2		
GEW-144	75.7	69.8	87.2	89.1		
GEW-145	66.6	66.3	80.5	82.8		
GEW-146	91.9	86.8	96.0	100.1		
GEW-147	158.5	158.5	156.9	203.9		
GEW-148	78.9	57.2	77.3	125.0		
GEW-149	132.9	107.7	106.8	105.0		
GEW-150	170.6	107.7	121.3	132.8		
GEW-151	91.9	48.8	80.5	73.2		
GEW-152	76.2	64	79.2	87.5		
GEW-153	72.7	120.7	139.3	132.3		
GEW-154	83.5	44.9	115.5	80.1		
GEW-155	74	139	175	189.6		
GEW-156	95.1	90.5	101.1	104.3		
GEW-157	65.8	68.7	80.6	100.8		
GEW-158	74.9	71.6	78.2	92.9		
GEW-159	74.8	83.5	87.0	84.3		
GEW-160	89.8	56.0	82.4	100.2		
GEW-161	80.5	52.4	78.2	93.4		
GEW-162	81.6	45.2	101.8	82.1		
GEW-163	151.3	197.9	188.3	183.3		
GEW-164	161.1	157.3	172.6	175.3		
GEW-165	191.6	187.6	187.2	186.4		
GEW-166	172.7	195.4	192.9	188.9		
GEW-167	181.5	196.4	198.6	190.9		
GEW-168	170.0	193.6	173.1	187.0		
GEW-169	176.9	197.9	193.6	188.3		
GEW-170	182.7	164.7	182.7	180.3		
GEW-171	--	--	--	97.4		
GEW-172	195.7	83.1	95.3	176.9		
GEW-173	117.1	93.9	122.1	129.3		
GEW-174	177.2	144.2	138.3	140.9		
GEW-175	136.4	131.2	135.6	133.5		
GEW-176	124.7	110.1	118.3	124.5		
GEW-177	72.7	61.8	61.0	95.3		
GEW-1A	78.0	93.1	87.7	97.7		
GEW-2S	76.4	92.7	86.5	96.0		
GIW-01	178.6	69.1	96.5	102.1		

### Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	February 2017	March 2017	April 2017	May 2017		
GIW-02	78.9	58.5	87.0	96.3		
GIW-03	76.8	58.5	90.7	92.6		
GIW-04	76.1	59.3	83.0	96.5		
GIW-05	75.5	58.5	84.9	91.5		
GIW-06	75.6	64.1	84.0	91.9		
GIW-07	75.1	67.1	85.2	100.9		
GIW-08	76.8	64.9	89.4	101.5		
GIW-09	75.7	65.8	87.3	95.1		
GIW-10	76.6	60.1	89.8	90.1		
GIW-11	77.7	61.8	83.8	92.9		
GIW-12	77.5	58.8	81.2	91.7		
GIW-13	78.2	59.4	86.1	90.7		
LCS-1D	87.5	56.3	97	106.7		
LCS-2D	--	--	--	--		
LCS-3C	67.7	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	85.6	94.1	86.1	93.0		
LCS-6B	97.4	109.2	106.7	112.2		
PGW-60	82	85	71	87.2		
SEW-002	81.3	58.0	94.1	81.2		
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	56	56	65	71.4		

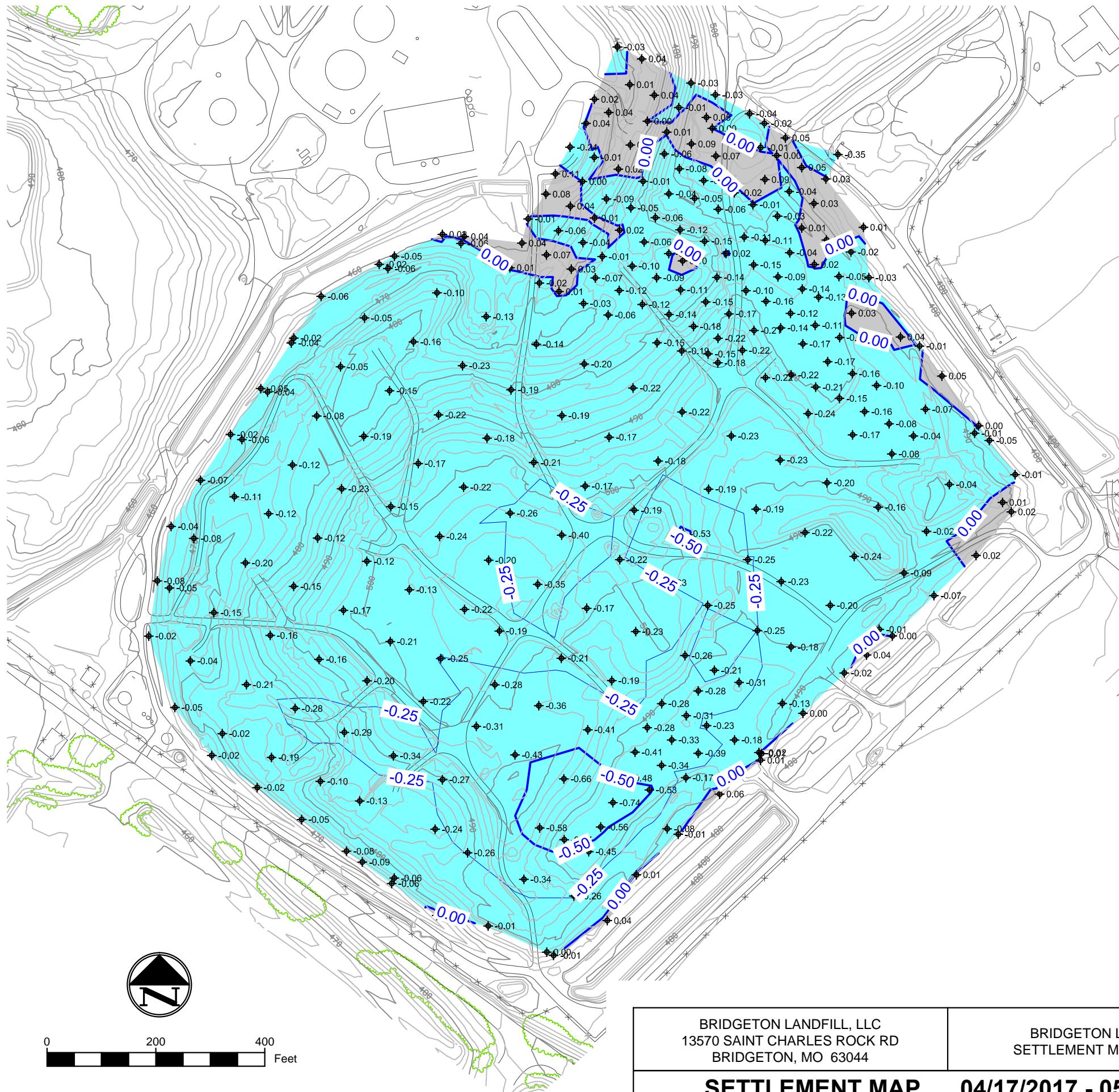
-- = Indicates no data available.

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**ATTACHMENT F**

**SETTLEMENT FRONT MAP**

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

SETTLEMENT MAP 04/17/2017 - 05/15/17

PROJECT NUMBER: BT-145 | FILE PATH: E:\Dropbox (Feezor Engineering)\BT-145 Agreed Order Reporting\Monthly Reports\May Report\Settlement\3\_deliverables\Settlement And Fill 5-15-17.dwg

BRIDGETON LANDFILL  
SETTLEMENT MONITORING

FEEZOR  
ENGINEERING, INC.

MAY 2017  
DRAWING NO.:  
DESIGNED BY: PML  
APPROVED BY: DRF  
001  
REVISION DATE

0 200 400  
Feet



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**ATTACHMENT G**

**SUMMARY OF ODOR COMPLAINTS**

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**May 1, 2017 – May 31, 2017 / MDNR ODOR COMPLAINTS**

**Name:** Rodney Cutright

**Message:** Odor logged May 1, 2017, at 8:24 am strength of 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This concern was duplicated and submitted a total of six times. The location cited in this concern was inaccessible due to water over a roadway on route to this location. Attempts were made to find an alternative route to this location but none could be found. Odor was not observed at multiple observation points between this location and the Bridgeton Landfill. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west 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:** Robbin Dailey

**Message:** Odor logged May 6, 2017, at 10:54 am strength of 8

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

**Name:** Michael K Dailey

**Message:** Odor logged May 6, 2017, at 10:55 am strength of 9

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

**Name:** Debi Disser

**Message:** Odor logged May 9, 2017, at 7:09 pm strength of 5

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

**Name:** Rhonda Steelman

**Message:** Odor logged May 11, 2017, at 11:48 am strength of 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 4 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. This location is in close proximity to another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

**Name:** Kirbi Pemberton

**Message:** Odor logged May 20, 2017, at 7:45 pm strength of 10

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

**Name:** Susan Rohde

**Message:** Odor logged May 25, 2017, at 11:28 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 from another known odor source with frequent off-site odor emissions was observed on route to the location cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a northwester 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:** Kirbi Pemberton

**Message:** Odor logged May 27, 2017, at 8:44 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 cited in this concern winds were of a southwestern origin placing this

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

**Name:** Susan Rohde

**Message:** Odor logged May 29, 2017, at 3:15 pm strength of 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. Non-Bridgeton Landfill odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west-southwestern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

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**ATTACHMENT H**

**LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG**

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## Bridgeton Landfill - Leachate PreTreatment Plant

May 2017

### Liquid Characterization Data

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

#### Hauled Disposal to MSD – Bissell Point

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

Total

0

#### Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
5/1/2017			79,068
5/2/2017			156,340
5/3/2017			296,040
5/4/2017			38,544
5/5/2017			338,076
5/6/2017			333,468
5/7/2017			336,352
5/8/2017			330,656
5/9/2017			311,716
5/10/2017			310,964
5/11/2017			206,928
5/12/2017			145,440
5/13/2017			139,188
5/14/2017			138,296
5/15/2017			148,624
5/16/2017	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	140,844
5/17/2017			144,684
5/18/2017			71,324
5/19/2017			0
5/20/2017			54,268
5/21/2017			118,336
5/22/2017			123,104
5/23/2017			144,732
5/24/2017			167,884
5/25/2017			0
5/26/2017			164,880
5/27/2017			165,672
5/28/2017			167,072
5/29/2017			167,384
5/30/2017			167,548
5/31/2017			93,616

Total

5,201,048

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**ATTACHMENT I**

**LOW FILL PROJECT AREA**

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**ATTACHMENT I-1**

**LOW FILL AREA BOUNDARY**

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## LEGEND

— BOUNDARY OF FILL AREA FOR 4-17-17 THROUGH 5-15-17

— BOUNDARY OF STOCKPILE AREA FOR 4-17-17 THROUGH 5-15-17

## NOTES

1. SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS CO. ON DECEMBER 2, 2016.
  2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
  3. SURVEY POINTS WERE PERFORMED USING GPS METHODS.
  4. NO FILL ADDED BETWEEN SURVEY DATES 4-17-17 AND 5-15-17



BRIDGETON LANDFILL, LLC 13570 SAINT CHARLES ROCK RD BRIDGETON, MO 63044	BRIDGETON LANDFILL SETTLEMENT MONITORING			MAY 2017	DRAWING NO.:
				DESIGNED BY: PML	
				APPROVED BY: DRF	