Johnson, Sabrina O

From: Troy Hays <thayes@jonesedmunds.com>
Sent: Tuesday, February 18, 2020 7:22 AM
To: Black, Alexis
Cc: SWD_Waste; Henry C. Norris; Patrick Kardish; Elizabeth Kennelley; Tim Cully
Subject: FW: Emailing: 2020.02.17_RPT_Citrus Co LF_WACS 39859_20Q1 LFG
Attachments: 2020.02.17_RPT_Citrus Co LF_WACS 39859_20Q1 LFG.pdf

Good morning Alexis,

This was submitted last night to FDEP. We will be sure that all future reports for the Citrus Central Landfill are sent to you.

Thank you,

Troy D. Hays, PG
Senior Manager / Vice President

p. 352.377.5821 x. 1480 | c. 352.258.9520
JONESEDMUNDS.COM
730 NE Waldo Road, Gainesville, FL, 32641

From: Patrick Kardish <PKardish@jonesedmunds.com>
Sent: Monday, February 17, 2020 5:20 PM
To: Morgan, Steve <Steve.Morgan@dep.state.fl.us>
Cc: Henry.Norris@citrusbocc.com; Troy Hays <thayes@jonesedmunds.com>; Tim Cully <TCULLY@jonesedmunds.com>
Subject: Emailing: 2020.02.17_RPT_Citrus Co LF_WACS 39859_20Q1 LFG

Good Evening Mr. Morgan,

Attached is the First Quarter 2020 Landfill Gas Monitoring Report for the Citrus County Central Landfill (WACS 39859).

Please let us know if you have any problems opening the attachment or have questions or comments concerning the report.

Thank you,

Patrick Kardish
Environmental Data Analyst

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p. 352.377.5821 x. 1411
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730 NE Waldo Road, Gainesville, FL 32641

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February 17, 2020

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
13051 N Telecom Pkwy
Temple Terrace, FL 33637-0926

RE: Citrus County Central Landfill
Landfill Gas Monitoring Results – First Quarter 2020
FDEP Permit No.: 21375-025-SO-01
Jones Edmunds Project Number: 13370-001-01

Dear Mr. Morgan:

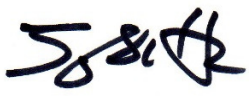
Enclosed are the First Quarter 2020 landfill gas monitoring results for the Citrus County Central Landfill conducted on January 29 and 30, 2020. The calibration log is also enclosed with this letter.

There were no detections of Methane in any of the landfill gas monitoring probes at any depth or in any of the on-site structures. Based on these sampling results from the probes at varying depths, Methane does not exceed 100% of the LEL at the compliance boundary and the site is in compliance with the landfill gas migration rule.

The County continues to measure Methane concentrations in the groundwater monitoring wells. Methane was at or above 100% of the LEL in groundwater monitoring wells MW-6 MW-7, and MW-16.

The results from the measurements conducted in the new landfill gas monitoring probes along with the existing probes retrofitted with tubing installed to varying depths indicate that the site is in compliance with the landfill gas migration rules. If you have any questions regarding this information, please contact me at (352) 377-5821.

Sincerely,



Troy D. Hays, PG
Sr. Manager/Vice President
730 NE Waldo Road
Gainesville, FL 32618

M:\EnvDocs\Citrus County\Gas Mon\2020\20Q1\20Q1_Citrus_Gas Mon_Letter.docx

xc: Henry Norris, Citrus County

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data

Gas Monitoring Probes (Wells) and Structures
First Quarter 2020

Date:	1/29/20 & 1/30/20	Sampler:	Steve Messick
Time:	11:55 on 1/29/20 & 13:09 on 1/30/20	Sky Conditions:	Cloudy on 1/29/20 & Cloudy on 1/30/20
Air Temperature (deg C):	15° on 1/29/20 & 17° on 1/30/20	Measuring Device:	Eagle RKI (SN E084039)

Sampling Data

						Methane		
Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 %Volume	CO2 %Volume	Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	Station Type
GP-1	1/30/2020	14:16	20	19.1	1.4	0.0	-	Gas Well
GP-1	1/30/2020	14:18	40	17.9	2.4	0.0	-	Gas Well
GP-2	1/30/2020	13:45	20	18.9	1.6	0.0	-	Gas Well
GP-2	1/30/2020	13:47	40	16.3	5.0	0.0	-	Gas Well
GP-3	1/30/2020	13:39	20	19.4	1.2	0.0	-	Gas Well
GP-3	1/30/2020	13:41	40	19.4	1.0	0.0	-	Gas Well
GP-4	1/30/2020	13:09	20	18.3	3.0	0.0	-	Gas Well
GP-4	1/30/2020	13:11	40	18.0	3.2	0.0	-	Gas Well
GP-5	1/29/2020	14:34	20	17.3	4.0	0.0	-	Gas Well
GP-5	1/29/2020	14:36	40	17.3	4.0	0.0	-	Gas Well
GP-6	1/29/2020	14:27	20	18.2	2.8	0.0	-	Gas Well
GP-6	1/29/2020	14:29	40	18.3	2.6	0.0	-	Gas Well
GP-7	1/29/2020	14:21	20	18.7	2.2	0.0	-	Gas Well
GP-7	1/29/2020	14:23	40	18.9	1.8	0.0	-	Gas Well
GP-8	1/29/2020	14:13	20	17.9	2.0	0.0	-	Gas Well
GP-8	1/29/2020	14:15	40	17.3	2.2	0.0	-	Gas Well
GP-9	1/29/2020	14:06	20	19.0	1.8	0.0	-	Gas Well
GP-9	1/29/2020	14:08	40	18.9	1.8	0.0	-	Gas Well
GP-10	1/29/2020	14:00	20	14.0	7.0	0.0	-	Gas Well
GP-10	1/29/2020	14:02	40	14.4	6.6	0.0	-	Gas Well
GP-11	1/29/2020	13:52	20	18.5	1.4	0.0	-	Gas Well
GP-11	1/29/2020	13:54	40	16.7	2.0	0.0	-	Gas Well
GP-12	1/29/2020	13:41	25	19.3	1.4	0.0	-	Gas Well
GP-12	1/29/2020	13:43	50	19.3	1.4	0.0	-	Gas Well
GP-12	1/29/2020	13:45	75	19.4	1.2	0.0	-	Gas Well
GP-13	1/29/2020	13:30	25	17.5	1.8	0.0	-	Gas Well
GP-13	1/29/2020	13:32	50	17.2	2.0	0.0	-	Gas Well
GP-13	1/29/2020	13:34	75	17.8	1.6	0.0	-	Gas Well
GP-14	1/29/2020	13:20	25	20.5	0.0	0.0	-	Gas Well
GP-14	1/29/2020	13:22	50	19.3	0.8	0.0	-	Gas Well
GP-14	1/29/2020	13:24	75	19.3	0.8	0.0	-	Gas Well
GP-15	1/29/2020	13:11	25	19.7	1.0	0.0	-	Gas Well
GP-15	1/29/2020	13:13	50	19.7	1.0	0.0	-	Gas Well
GP-15	1/29/2020	13:15	75	21.1	0.6	0.0	-	Gas Well
GP-16	1/29/2020	11:56	25	19.3	1.2	0.0	-	Gas Well
GP-16	1/29/2020	11:58	50	19.1	1.2	0.0	-	Gas Well
GP-16	1/29/2020	12:00	75	19.1	1.2	0.0	-	Gas Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data

Gas Monitoring Probes (Wells) and Structures
First Quarter 2020

Date:	1/29/20 & 1/30/20	Sampler:	Steve Messick
Time:	11:55 on 1/29/20 & 13:09 on 1/30/20	Sky Conditions:	Cloudy on 1/29/20 & Cloudy on 1/30/20
Air Temperature (deg C):	15° on 1/29/20 & 17° on 1/30/20	Measuring Device:	Eagle RKI (SN E084039)

Sampling Data

						Methane		
Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 %Volume	CO2 %Volume	Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	Station Type
GP-17	1/29/2020	11:47	25	16.1	4.0	0.0	-	Gas Well
GP-17	1/29/2020	11:49	50	15.7	4.0	0.0	-	Gas Well
GP-17	1/29/2020	11:51	75	16.7	3.2	0.0	-	Gas Well
GP-18	1/29/2020	11:35	25	19.6	1.0	0.0	-	Gas Well
GP-18	1/29/2020	11:37	50	19.3	1.0	0.0	-	Gas Well
GP-18	1/29/2020	11:39	75	19.6	0.8	0.0	-	Gas Well
GP-19	1/29/2020	11:26	25	20.1	1.0	0.0	-	Gas Well
GP-19	1/29/2020	11:28	50	20.0	1.0	0.0	-	Gas Well
GP-19	1/29/2020	11:30	75	20.1	0.8	0.0	-	Gas Well
GP-20	1/29/2020	12:06	105	18.5	1.0	0.0	-	Gas Well
GP-21	1/29/2020	11:41	115	20.9	0.0	0.0	-	Gas Well
GP-22	1/30/2020	14:25	70	16.8	0.0	0.0	-	Gas Well
GP-23	1/30/2020	14:21	100	10.2	2.6	0.0	-	Gas Well
GP-24	1/30/2020	13:54	70	13.1	0.0	0.0	-	Gas Well
GP-25	1/30/2020	13:51	100	20.9	0.0	0.0	-	Gas Well
GP-26	1/30/2020	13:36	70	20.8	0.0	0.0	-	Gas Well
GP-27	1/30/2020	13:33	100	16.6	2.2	0.0	-	Gas Well
GP-28	1/30/2020	13:15	70	18.0	3.0	0.0	-	Gas Well
GP-29	1/30/2020	13:05	100	20.1	0.0	0.0	-	Gas Well
GP-30	1/29/2020	13:18	105	19.0	0.8	0.0	-	Gas Well
Admin Building	1/30/2020	9:06	-	20.9	0.0	0.0	-	Structure
Mod Bldg	1/30/2020	9:20	-	20.9	0.0	0.0	-	Structure
Shop	1/30/2020	9:16	-	20.9	0.0	0.0	-	Structure
Scale House	1/30/2020	9:12	-	20.9	0.0	0.0	-	Structure
Firing Range	1/29/2020	9:39	-	20.9	0.0	0.0	-	7 Structures
Haz Waste Drop-Off Center	1/30/2020	9:46	-	20.9	0.0	0.0	-	4 Structures
Equipment Container 1	1/30/2020	9:39	-	20.9	0.0	0.0	-	Structure
Storage Building	1/30/2020	9:24	-	20.9	0.0	0.0	-	Structure
Small Shed	1/30/2020	9:18	-	20.9	0.0	0.0	-	Structure
Electric Building	1/30/2020	9:27	-	20.9	0.0	0.0	-	Structure
Equipment Container 2	1/30/2020	9:42	-	20.9	0.0	0.0	-	Structure

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Groundwater Monitoring Wells and Piezometers
First Quarter 2020

General Data

Date:	1/29/20 & 1/30/20	Sampler:	Steve Messick
Time:	09:45 on 1/29/20 & 09:30 on 1/30/20	Sky Conditions:	Cloudy on 1/29/20 & Cloudy on 1/30/20
Air Temperature (deg C):	13° on 1/29/20 & 17° on 1/30/20	Measuring Device:	Eagle RKI (SN E084039)

Sampling Data

					Methane		
Station I.D.	Date Sampled	Time Sampled	O2 %Volume	CO2 %Volume	Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	Station Type
MW-1R	1/30/2020	14:07	18.8	2.4	0.0	-	Groundwater Well
MW-2	1/29/2020	11:17	20.9	0.0	0.0	-	Groundwater Well
MW-3	1/30/2020	9:51	14.3	13.0	30.5	-	Groundwater Well
MW-5	1/30/2020	10:28	7.2	19.2	16.0	-	Groundwater Well
MW-6	1/30/2020	10:22	7.9	31.2	-	45.0	Groundwater Well
MW-7	1/30/2020	10:02	6.3	35.4	-	57.5	Groundwater Well
MW-8R	1/29/2020	10:20	20.9	0.0	0.0	-	Groundwater Well
MW-9	1/29/2020	10:30	20.9	0.0	0.0	-	Groundwater Well
MW-10	1/30/2020	11:46	14.4	12.8	0.0	-	Groundwater Well
MW-11	1/29/2020	14:42	20.9	0.0	0.0	-	Groundwater Well
MW-12	1/29/2020	15:00	7.7	7.0	88.0	-	Groundwater Well
MW-13	1/29/2020	15:14	10.2	8.8	89.0	-	Groundwater Well
MW-14	1/29/2020	10:49	20.9	0.0	0.0	-	Groundwater Well
MW-15	1/29/2020	10:57	20.9	0.0	0.0	-	Groundwater Well
MW-16	1/30/2020	9:32	8.5	25.0	-	47.5	Groundwater Well
MW-17	1/29/2020	11:04	20.9	0.0	0.0	-	Groundwater Well
MW-18	1/30/2020	11:28	20.9	0.0	0.0	-	Groundwater Well
MW-18D	1/30/2020	11:35	11.9	6.0	0.0	-	Groundwater Well
MW-19	1/30/2020	11:53	14.5	12.6	0.0	-	Groundwater Well
MW-19D	1/30/2020	12:02	19.0	1.4	0.0	-	Groundwater Well
MW-20	1/30/2020	10:12	19.2	1.2	45.0	-	Groundwater Well
MW-21	1/30/2020	10:39	6.6	17.8	75.0	-	Groundwater Well
MW-22	1/30/2020	11:05	8.5	15.2	68.0	-	Groundwater Well
MW-AA	1/29/2020	15:05	20.9	0.0	0.0	-	Groundwater Well
MW-B	1/29/2020	15:38	20.9	0.0	0.0	-	Groundwater Well
MW-E	1/29/2020	14:51	20.9	0.0	0.0	-	Groundwater Well
PZ-1	1/29/2020	15:28	20.1	0.4	0.0	-	Groundwater Well
PZ-2	1/30/2020	11:12	19.7	1.0	0.0	-	Groundwater Well

Field Data

and

Instrument Calibration Record

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data

Gas Monitoring Probes (Wells) and Structures

Date: 1-29-20	1-30-20	Sampler: Steve Messick	
Time: 1155	1309	Sky Conditions: Cloudy	1-30-20 Cloudy
Air Temperature (deg C): 15°C	17°C	Measuring Device: RKI S/N E084039	Eagle RKI (SN E084039)

Sampling Data

						Methane		
Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 %Volume	CO2 %Volume	Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	Station Type
GP-1	1-30-20	1416	20	19.1	1.4	Ø		Gas Well
GP-1		1418	40	17.9	2.4	Ø		Gas Well
GP-2		1345	20	18.9	1.6	Ø		Gas Well
GP-2		1347	40	16.3	5.0	Ø		Gas Well
GP-3		1339	20	19.4	1.2	Ø		Gas Well
GP-3		1341	40	19.4	1.0	Ø		Gas Well
GP-4		1309	20	18.3	3.0	Ø		Gas Well
GP-4	↓	1311	40	18.0	3.2	Ø		Gas Well
GP-5	1-29-20	1434	20	17.3	4.0	Ø		Gas Well
GP-5		1436	40	17.3	4.0	Ø		Gas Well
GP-6		1427	20	18.2	2.8	Ø		Gas Well
GP-6		1429	40	18.3	2.6	Ø		Gas Well
GP-7		1421	20	15.7	2.2	Ø		Gas Well
GP-7		1423	40	18.9	1.8	Ø		Gas Well
GP-8		1413	20	17.9	2.0	Ø		Gas Well
GP-8		1415	40	17.3	2.2	Ø		Gas Well
GP-9		1406	20	19.0	1.8	Ø		Gas Well
GP-9		1408	40	18.9	1.8	Ø		Gas Well
GP-10		1400	20	14.0	7.0	Ø		Gas Well
GP-10		1402	40	14.4	6.6	Ø		Gas Well
GP-11		1352	20	18.5	1.4	Ø		Gas Well
GP-11		1354	40	16.7	2.0	Ø		Gas Well
GP-12		1341	25	19.3	1.4	Ø		Gas Well
GP-12		1343	50	19.3	1.4	Ø		Gas Well
GP-12		1345	75	19.4	1.2	Ø		Gas Well
GP-13		1330	25	12.5	1.8	Ø		Gas Well
GP-13		1332	50	17.2	2.0	Ø		Gas Well
GP-13		1334	75	17.8	1.6	Ø		Gas Well
GP-14		1320	25	20.5	0.0	Ø		Gas Well
GP-14		1322	50	19.3	0.8	Ø		Gas Well
GP-14		1324	75	19.3	0.8	Ø		Gas Well
GP-15		1311	25	19.7	1.0	Ø		Gas Well
GP-15		1313	50	19.7	1.0	Ø		Gas Well
GP-15		1315	75	21.1	0.6	Ø		Gas Well
GP-16		1156	25	19.3	1.2	Ø		Gas Well
GP-16		1158	50	19.1	1.2	Ø		Gas Well
GP-16	↓	1200	75	19.1	1.2	Ø		Gas Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data

Gas Monitoring Probes (Wells) and Structures

Date:	1-29-20	1-30-20	Sampler:	Steve Messick	
Time:	0922	0900	Sky Conditions:	Cloudy 1-29	Cloudy 1-30
Air Temperature (deg C):	13°C	17°C	Measuring Device:		Eagle RKI (SN E084039)

Sampling Data

Station I.D.	Date Sampled	Time Sampled	Depth of Intake (Feet)	O2 %Volume	CO2 %Volume	Methane		Station Type
						Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
GP-17	1-29-20	1147	25	16.1	4.0	Ø		Gas Well
GP-17		1149	50	15.7	4.0	Ø		Gas Well
GP-17		1151	75	16.7	3.2	Ø		Gas Well
GP-18		1135	25	19.6	1.0	Ø		Gas Well
GP-18		1137	50	19.3	1.0	Ø		Gas Well
GP-18		1139	75	19.6	0.8	Ø		Gas Well
GP-19		1126	25	20.1	1.0	Ø		Gas Well
GP-19		1128	50	20.0	1.0	Ø		Gas Well
GP-19		1130	75	20.1	0.8	Ø		Gas Well
GP-20		1206	105	19.5	1.0	Ø	CO = 150ppm	Gas Well
GP-21		1141	115	20.9	0.0	Ø		Gas Well
GP-22	1-30-20	1425	70	16.8	0.0	Ø	CO = 200ppm	Gas Well
GP-23		1421	100	10.2	2.6	Ø		Gas Well
GP-24		1354	70	13.1	0.0	Ø		Gas Well
GP-25		1351	100	20.9	0.0	Ø		Gas Well
GP-26		1336	70	20.8	0.0	Ø		Gas Well
GP-27		1333	100	16.6	2.2	Ø		Gas Well
GP-28		1315	70	18.0	3.0	Ø		Gas Well
GP-29		1305	100	20.1	0.0	Ø		Gas Well
GP-30	1-29-20	1318	105	19.0	0.8	Ø	CO = 250ppm	Gas Well
1 Admin Building	1-30-20	0906	-	20.9	0.0	Ø		Structure
5 Mod Bldg		0920	-	20.9	0.0	Ø		Structure
3 Shop		0916		20.9	0.0	Ø		Structure
2 Scale House		0912	-	20.9	0.0	Ø		Structure
Firing Range	1-29-20	0939	-	20.9	0.0	Ø		7 Structures
Haz Waste Drop-Off Center	1-30-20	0946	-	20.9	0.0	Ø		4 Structures
Equipment Container #1		0939	-	20.9	0.0	Ø		Structure
6 Storage Building		0924	-	20.9	0.0	Ø		Structure
4 Small Shed		0918	-	20.9	0.0	Ø		
* Elec. Bldg.		0927	-	20.9	0.0	Ø		
Equip. Container #2		0942	-	20.9	0.0	Ø		
			-					
			-					

* Electrical Build at old leachate location.
Equipment Container #2 is for Electronic Recycle
Both Equipment containers are temporary and located by Haz Waste Collection area.

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Groundwater Monitoring Wells and Piezometers

General Data

Date:	1-29-20	1-30-20	Sampler:	Steve Messick
Time:	0945	0930	Sky Conditions: Cloudy	Cloudy
Air Temperature (deg C):	13°C	17°C	Measuring Device:	Eagle RKI (SN E084039)

Sampling Data

Station I.D.	Date Sampled	Time Sampled	O2 %Volume	CO2 %Volume	Methane		Station Type
					Peak Recorded Concentration as % LEL	Peak Recorded Concentration as % Volume	
MW-1R	1-30-20	1407	18.8	2.4	Ø	—	Groundwater Well
MW-2	1-29-20	1117	20.9	0.0	Ø	—	Groundwater Well
MW-3	1-30-20	0951	14.3	13.0	30.5	—	Groundwater Well
MW-5	↓	1028	7.2	19.2	16	—	Groundwater Well
MW-6	↓	1022	7.9	31.2	—	45.0	Groundwater Well
MW-7	↓	1002	6.3	35.4	—	57.5	Groundwater Well
MW-8R	1-29-20	1020	20.9	0.0	Ø	—	Groundwater Well
MW-9	↓	1030	20.9	0.0	Ø	—	Groundwater Well
MW-10	1-30-20	1146	14.4	12.8	Ø	—	Groundwater Well
MW-11	1-29-20	1142	20.9	0.0	Ø	—	Groundwater Well
MW-12	↓	1500	7.7	7.0	88	—	Groundwater Well
MW-13	↓	1514	10.2	8.8	89	—	Groundwater Well
MW-14	↓	1049	20.9	0.0	Ø	—	Groundwater Well
MW-15	↓	1057	20.9	0.0	Ø	—	Groundwater Well
MW-16	1-30-20	0932	8.5	25.0	—	47.5	Groundwater Well
MW-17	1-29-20	1104	20.9	0.0	Ø	—	Groundwater Well
MW-18	1-30-20	1128	20.9	0.0	Ø	—	Groundwater Well
MW-18D	↓	1135	11.9	6.0	Ø	—	Groundwater Well
MW-19	↓	1153	14.5	12.6	Ø	—	Groundwater Well
MW-19D	↓	1202	19.0	1.4	Ø	—	Groundwater Well
MW-20	↓	1012	19.2	1.2	45	—	Groundwater Well
MW-21	↓	1039	6.6	17.8	75	—	Groundwater Well
MW-22	↓	1105	8.5	15.2	68	—	Groundwater Well
MW-AA	1-29-20	1505	20.9	0.0	Ø	—	Groundwater Well
MW-B	↓	1538	20.9	0.0	Ø	—	Groundwater Well
MW-E	↓	1451	20.9	0.0	Ø	—	Groundwater Well
PZ-1	↓	1528	20.1	0.4	Ø	—	Groundwater Well
PZ-2	1-30-20	1112	19.7	1.0	Ø	—	Groundwater Well

I lowered +/- 95 feet of 1/8" tubing down into each well to get the gas reading close to water column.

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

SITE NAME Citrus County Central LF. **DATE** 1-29-20

INSTRUMENT (MAKE/MODEL#) Eagle Multi-Gas Detector **INSTRUMENT #** GNV 80023*

Instrument Calibration Date 11/11/16 **Reference Meter Book** Eagle Meter Book 1

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP

☐ TURBIDITY ☐ RESIDUAL Cl ☐ DO X OTHER LANDFILL GAS

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 14.99 % Methane (Volume), 14.95 % CO_2 (Volume), Balance Nitrogen

Standard Source Airgas Lot # 122-401175248-1

Standard B Zero Air (0 % Methane) (0% CO_2) (21.0 % O_2)

Standard Source Airgas Lot # 55-400483127-1

Standard C % LEL Methane, % CO_2 (Volume), 0% O_2 (Volume), Bal Nitrogen

Standard Source _____ Lot # _____

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	CH_4 STD VALUE (% Vol)	CO_2 STD VALUE (% Vol)	O_2 STD VALUE (% Vol)	INSTRUMENT RESPONSE (%) DEVIATION (LIMITS +/- 5%)						CALIB-RATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
						CH_4		CO_2		O_2				
						RES	DEV	RES	DEV	RES	DEV			
20/01/29	0916	A	14.99	14.95	—	15.0	<1	15.0	<1	—	—	Yes	Init.	
	0921	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Init.	
	1205	A	14.99	14.95	—	14.5	~~<1~~ 14.8	14.8	<1	—	—	Yes	Cont.	
	1207	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	
	1545	A	14.99	14.95	—	15.0	<1	14.8	<1	—	—	Yes	Cont.	
	1547	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	
20/01/30	0852	A	14.99	14.95	—	15.0	<1	15.0	<1	—	—	Yes	Init.	
	0854	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Init.	
	1211	A	14.99	14.95	—	15.0	<1	14.8	<1	—	—	Yes	Cont.	
	1213	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	
	1433	A	14.99	14.95	—	15.0	<1	15.0	<1	—	—	Yes	Cont.	
	1435	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	

* Eagle SN E084039