Johnson, Sabrina O

From: Adam Sanchez <ASanchez@jonesedmunds.com>
Sent: Wednesday, March 10, 2021 3:45 PM
To: Black, Alexis; Tafuni, Steven; SWD_Waste
Cc: Troy Hays; Henry C. Norris; dan.sherlock@citrusbocc.com; Joshua L. Younce; Elizabeth Kennelley
Subject: Citrus County Landfill - WACS ID 39859 - First Quarter 2021 - Landfill Gas Monitoring Report
Attachments: 2021.03.10_RPT_Citrus Co LF_WACS 39859_21Q1 LFG.pdf

Dear FDEP and Ms. Black,

Attached to this e-mail is the First Quarter 2021 Landfill Gas Monitoring Report for the Citrus County Landfill (WACS ID 39859).

Please let us know if you have any questions regarding this report. Thank you.

Sincerely,

Adam Sanchez
Scientist

JonesEdmunds
Integrity • Knowledge • Service

p. 352.377.5821 x1343
JONESEDMUNDS.COM
730 NE Waldo Road, Gainesville, FL 32641

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Integrity • Knowledge • Service

March 10, 2021

Ms. Alexis Black
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 2021
FDEP Permit No.: 21375-025-SO-01
FDEP Modification No.: 21375-026-SO-MM
Jones Edmunds Project Number: 03860-075-01

Dear Ms. Black:

Enclosed are the First Quarter 2021 landfill gas monitoring results for the Citrus County Central Landfill conducted on February 5 and 10, 2021. 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 detected below the LEL in groundwater monitoring wells MW-1R, MW-2, MW-5, MW-15, MW-17, and MW-AA. Based on sampling results, Methane does not exceed 100% of the LEL in groundwater monitoring wells at the site. Methane was at or above 100% of the LEL in groundwater monitoring wells MW-6 MW-7, MW-16, and MW-20.

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\2021\21Q1\21Q1_Citrus_Gas Mon_Letter.docx

xc: Henry Norris, Citrus County
Dan Sherlock, Citrus County
Joshua Younce, Citrus County

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Gas Monitoring Probes (Wells) and Structures
First Quarter 2021

General Data

Sampler:	Steve Messick
Measuring Device:	Eagle RKI (SN E084039)

Date	Time	Air Temperature (deg C)	Sky Conditions
2/5/2021	10:41	15	Cloudy
2/5/2021	9:06	14	Mostly Clear
2/10/2021	10:30	20	Mostly Clear
2/10/2021	8:40	18	Mostly Clear

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	2/10/2021	10:32	20	19.4	1.2	0.0	-	Gas Well
GP-1	2/10/2021	10:33	40	19.1	2.4	0.0	-	Gas Well
GP-2	2/5/2021	11:00	20	20.6	1.6	0.0	-	Gas Well
GP-2	2/5/2021	11:02	40	15.9	6.0	0.0	-	Gas Well
GP-3	2/5/2021	10:41	20	20.3	1.0	0.0	-	Gas Well
GP-3	2/5/2021	10:43	40	20.2	1.2	0.0	-	Gas Well
GP-4	2/10/2021	11:02	20	18.5	2.8	0.0	-	Gas Well
GP-4	2/10/2021	11:03	40	17.5	4.0	0.0	-	Gas Well
GP-5	2/10/2021	11:33	20	17.9	3.6	0.0	-	Gas Well
GP-5	2/10/2021	11:34	40	17.3	4.4	0.0	-	Gas Well
GP-6	2/10/2021	11:39	20	18.3	2.8	0.0	-	Gas Well
GP-6	2/10/2021	11:41	40	18.2	3.0	0.0	-	Gas Well
GP-7	2/10/2021	11:44	20	18.8	2.2	0.0	-	Gas Well
GP-7	2/10/2021	11:46	40	18.6	2.4	0.0	-	Gas Well
GP-8	2/10/2021	11:48	20	18.9	1.6	0.0	-	Gas Well
GP-8	2/10/2021	11:47	40	18.0	1.8	0.0	-	Gas Well
GP-9	2/10/2021	11:52	20	19.0	1.8	0.0	-	Gas Well
GP-9	2/10/2021	11:53	40	18.8	2.2	0.0	-	Gas Well
GP-10	2/10/2021	11:58	20	14.7	6.8	0.0	-	Gas Well
GP-10	2/10/2021	11:59	40	13.8	7.8	0.0	-	Gas Well
GP-11	2/10/2021	12:30	20	18.9	1.4	0.0	-	Gas Well
GP-11	2/10/2021	12:31	40	17.9	1.8	0.0	-	Gas Well
GP-12	2/10/2021	12:35	25	19.2	1.6	0.0	-	Gas Well
GP-12	2/10/2021	12:36	50	19.2	1.6	0.0	-	Gas Well
GP-12	2/10/2021	12:37	75	19.1	1.8	0.0	-	Gas Well
GP-13	2/10/2021	12:41	25	18.0	1.8	0.0	-	Gas Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Gas Monitoring Probes (Wells) and Structures
First Quarter 2021

General Data

Sampler:	Steve Messick
Measuring Device:	Eagle RKI (SN E084039)

Date	Time	Air Temperature (deg C)	Sky Conditions
2/5/2021	10:41	15	Cloudy
2/5/2021	9:06	14	Mostly Clear
2/10/2021	10:30	20	Mostly Clear
2/10/2021	8:40	18	Mostly Clear

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-13	2/10/2021	12:42	50	18.0	1.8	0.0	-	Gas Well
GP-13	2/10/2021	12:43	75	17.9	1.8	0.0	-	Gas Well
GP-14	2/10/2021	12:47	25	19.0	1.2	0.0	-	Gas Well
GP-14	2/10/2021	12:48	50	19.0	1.2	0.0	-	Gas Well
GP-14	2/10/2021	12:49	75	19.0	1.2	0.0	-	Gas Well
GP-15	2/5/2021	14:59	25	20.7	1.2	0.0	-	Gas Well
GP-15	2/5/2021	15:00	50	20.8	1.2	0.0	-	Gas Well
GP-15	2/5/2021	15:01	75	20.9	0.6	0.0	-	Gas Well
GP-16	2/5/2021	14:49	25	19.6	1.4	0.0	-	Gas Well
GP-16	2/5/2021	14:50	50	19.5	1.6	0.0	-	Gas Well
GP-16	2/5/2021	14:52	75	20.0	1.2	0.0	-	Gas Well
GP-17	2/5/2021	14:42	25	15.1	5.6	0.0	-	Gas Well
GP-17	2/5/2021	14:43	50	14.3	6.0	0.0	-	Gas Well
GP-17	2/5/2021	14:44	75	16.2	4.2	0.0	-	Gas Well
GP-18	2/5/2021	14:34	25	19.3	1.4	0.0	-	Gas Well
GP-18	2/5/2021	14:35	50	18.8	1.8	0.0	-	Gas Well
GP-18	2/5/2021	14:36	75	20.9	0.4	0.0	-	Gas Well
GP-19	2/5/2021	14:23	25	20.6	0.8	0.0	-	Gas Well
GP-19	2/5/2021	14:25	50	20.6	1.2	0.0	-	Gas Well
GP-19	2/5/2021	14:27	75	20.9	0.6	0.0	-	Gas Well
GP-20	2/5/2021	14:53	105	18.9	1.6	0.0	-	Gas Well
GP-21	2/5/2021	14:38	115	12.2	0.4	0.0	-	Gas Well
GP-22	2/10/2021	10:37	70	16.2	0.0	0.0	-	Gas Well
GP-23	2/10/2021	10:40	100	9.4	3.2	0.0	-	Gas Well
GP-24	2/5/2021	11:06	70	14.8	0.0	0.0	-	Gas Well
GP-25	2/5/2021	11:09	100	20.9	0.0	0.0	-	Gas Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Gas Monitoring Probes (Wells) and Structures
First Quarter 2021

General Data

Sampler:	Steve Messick
Measuring Device:	Eagle RKI (SN E084039)

Date	Time	Air Temperature (deg C)	Sky Conditions
2/5/2021	10:41	15	Cloudy
2/5/2021	9:06	14	Mostly Clear
2/10/2021	10:30	20	Mostly Clear
2/10/2021	8:40	18	Mostly Clear

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-26	2/5/2021	10:45	70	20.9	0.4	0.0	-	Gas Well
GP-27	2/5/2021	10:48	100	19.3	1.0	0.0	-	Gas Well
GP-28	2/10/2021	11:07	70	17.5	3.2	0.0	-	Gas Well
GP-29	2/10/2021	11:10	100	20.4	0.2	0.0	-	Gas Well
GP-30	2/5/2021	15:03	105	20.3	0.8	0.0	-	Gas Well
Admin Building	2/10/2021	8:40	-	20.9	0.0	0.0	-	Structure
Mod Bldg	2/10/2021	8:50	-	20.9	0.0	0.0	-	Structure
Shop	2/10/2021	8:47	-	20.9	0.0	0.0	-	Structure
Scale House	2/10/2021	8:43	-	20.9	0.0	0.0	-	Structure
Firing Range	2/5/2021	9:06	-	20.9	0.0	0.0	-	7 Structures
Haz Waste Drop-Off Center	2/10/2021	10:00	-	20.9	0.0	0.0	-	4 Structures
Equipment Container 1	2/10/2021	9:13	-	20.9	0.0	0.0	-	Structure
Storage Building	2/10/2021	8:54	-	20.9	0.0	0.0	-	Structure
Small Shed	Removed	Removed	-	-	-	-	-	Removed
Electronics	2/10/2021	9:00	-	20.9	0.0	0.0	-	Structure*

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Groundwater Monitoring Wells and Piezometers
First Quarter 2021

General Data

Sampler:	Steve Messick
Measuring Device:	Eagle RKI (SN E084039)

Date	Time	Air Temperature (deg C)	Sky Conditions
2/5/2021	8:30 AM	13	Cloudy
2/10/2021	8:45 AM	18	Mostly Clear

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	2/10/2021	10:27	9.4	16.6	52.0	--	Groundwater Well
MW-2	2/5/2021	14:15	9.1	13.0	2.0	--	Groundwater Well
MW-3	2/10/2021	9:28	17.2	3.2	0.0	--	Groundwater Well
MW-5	2/10/2021	10:13	9.0	17.4	55.0	--	Groundwater Well
MW-6	2/10/2021	10:10	5.9	34.6	--	45.5	Groundwater Well
MW-7	2/10/2021	9:36	4.6	42.8	--	67.0	Groundwater Well
MW-8R	2/5/2021	9:13	12.8	12.6	0.0	--	Groundwater Well
MW-9	2/5/2021	9:22	13.6	11.2	0.0	--	Groundwater Well
MW-10	2/5/2021	10:24	15.7	12.2	0.0	--	Groundwater Well
MW-11	2/5/2021	12:25	18.2	3.0	0.0	--	Groundwater Well
MW-12	2/5/2021	12:39	16.5	2.6	0.0	--	Groundwater Well
MW-13	2/5/2021	12:53	11.7	8.2	0.0	--	Groundwater Well
MW-14	2/5/2021	13:01	9.6	10.2	0.0	--	Groundwater Well
MW-15	2/5/2021	13:10	8.8	14.2	25.0	--	Groundwater Well
MW-16	2/10/2021	9:07	5.0	31.0	--	44.0	Groundwater Well
MW-17	2/5/2021	13:51	15.8	5.8	11.0	--	Groundwater Well
MW-18	2/5/2021	10:35	15.9	7.6	0.0	--	Groundwater Well
MW-18D	2/5/2021	10:30	15.8	12.0	0.0	--	Groundwater Well
MW-19	2/5/2021	10:20	19.2	2.0	0.0	--	Groundwater Well
MW-19D	2/5/2021	10:16	12.5	6.2	0.0	--	Groundwater Well
MW-20	2/10/2021	9:45	4.7	42.6	--	66.5	Groundwater Well
MW-21	2/5/2021	9:34	8.0	12.4	0.0	--	Groundwater Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Groundwater Monitoring Wells and Piezometers
First Quarter 2021

General Data

Sampler:	Steve Messick
Measuring Device:	Eagle RKI (SN E084039)

Date	Time	Air Temperature (deg C)	Sky Conditions
2/5/2021	8:30 AM	13	Cloudy
2/10/2021	8:45 AM	18	Mostly Clear

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-22	2/5/2021	10:10	7.7	12.6	0.0	--	Groundwater Well
MW-AA	2/5/2021	12:45	11.9	5.6	31.0	--	Groundwater Well
MW-B	2/5/2021	8:53	18.7	9.0	0.0	--	Groundwater Well
MW-E	2/5/2021	12:33	10.9	5.4	0.0	--	Groundwater Well
PZ-1	2/5/2021	9:28	17.1	2.2	0.0	--	Groundwater Well
PZ-2	2/5/2021	10:54	17.0	6.0	0.0	--	Groundwater Well

Field Data

and

Instrument Calibration Record

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data 2Q1 Event

Gas Monitoring Probes (Wells) and Structures

Date:	2-5-2021	Sampler:	Steve Messick
Time:	1041	Sky Conditions:	Cloudy
Air Temperature (deg C):	15°C	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			20					Gas Well
GP-1			40					Gas Well
GP-2	2-5-21	1100	20	20.6	1.6	Ø	—	Gas Well
GP-2	↓	1102	40	15.9	6.0	Ø	—	Gas Well
GP-3		1041	20	20.3	1.0	Ø	—	Gas Well
GP-3		1043	40	20.2	1.2	Ø	—	Gas Well
GP-4			20					Gas Well
GP-4			40					Gas Well
GP-5			20					Gas Well
GP-5			40					Gas Well
GP-6			20					Gas Well
GP-6			40					Gas Well
GP-7			20					Gas Well
GP-7			40					Gas Well
GP-8			20					Gas Well
GP-8			40					Gas Well
GP-9			20					Gas Well
GP-9			40					Gas Well
GP-10			20					Gas Well
GP-10			40					Gas Well
GP-11			20					Gas Well
GP-11			40					Gas Well
GP-12			25					Gas Well
GP-12			50					Gas Well
GP-12			75					Gas Well
GP-13			25					Gas Well
GP-13			50					Gas Well
GP-13			75					Gas Well
GP-14			25					Gas Well
GP-14			50					Gas Well
GP-14			75					Gas Well
GP-15	2-5-21	1459	25	20.7	1.2	Ø	—	Gas Well
GP-15	↓	1500	50	20.8	1.2	Ø	—	Gas Well
GP-15		1501	75	20.9	0.6	Ø	—	Gas Well
GP-16		1449	25	19.6	1.4	Ø	—	Gas Well
GP-16		1450	50	19.5	1.6	Ø	—	Gas Well
GP-16		1452	75	20.0	1.2	Ø	—	Gas Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data 2191 Event

Gas Monitoring Probes (Wells) and Structures

Date:	2-5-2021	Sampler:	Steve Messick
Time:	0906	Sky Conditions:	mostly clear
Air Temperature (deg C):	14°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	2-5-21	1442	25	15.1	5.6	Ø	—	Gas Well
GP-17		1443	50	14.3	6.0	Ø	—	Gas Well
GP-17		1444	75	16.2	4.2	Ø	—	Gas Well
GP-18		1434	25	19.3	1.4	Ø	—	Gas Well
GP-18		1435	50	18.8	1.8	Ø	—	Gas Well
GP-18		1436	75	20.9	0.4	Ø	—	Gas Well
GP-19		1423	25	20.6	0.8	Ø	—	Gas Well
GP-19		1425	50	20.6	1.2	Ø	—	Gas Well
GP-19		1427	75	20.9	0.6	Ø	—	Gas Well
GP-20		1453	105	18.9	1.6	Ø	—	Gas Well
GP-21	↓	1438	115	12.2	0.4	Ø	—	Gas Well
GP-22			70					Gas Well
GP-23			100					Gas Well
GP-24	2-5-21	1106	70	14.8	0.0	Ø	—	Gas Well
GP-25		1109	100	20.9	0.0	Ø	—	Gas Well
GP-26		1045	70	20.9	0.4	Ø	—	Gas Well
GP-27	↓	1048	100	19.3	1.0	Ø	—	Gas Well
GP-28			70					Gas Well
GP-29			100					Gas Well
GP-30	2-5-21	1503	105	20.8	0.8	Ø	—	Gas Well
Admin Building			-					Structure
Mod Bldg			-					Structure
Shop								Structure
Scale House			-					Structure
Firing Range	2-5-21	0906	-	20.9	0.0	Ø	—	7 Structures
Haz Waste Drop-Off Center			-					4 Structures
Equipment Container			-					Structure
Storage Building			-					Structure
Small Shed			-					
			-					
			-					
			-					
			-					

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Groundwater Monitoring Wells and Piezometers

General Data 2Q21 Event

Date:	2-5-2021	Sampler:	Steve Messick
Time:	0830	Sky Conditions:	Cloudy
Air Temperature (deg C):	13°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							Groundwater Well
MW-2	2-5-21	1415	9.1	13.0	2	—	No odor Groundwater Well
MW-3							Groundwater Well
MW-5							Groundwater Well
MW-6							Groundwater Well
MW-7							Groundwater Well
MW-8R	2-5-21	0913	12.8	12.6	Ø	—	No odor Groundwater Well
MW-9		0922	13.6	11.2	Ø	—	Groundwater Well
MW-10		1024	15.7	12.2	Ø	—	Groundwater Well
MW-11		1225	18.2	3.0	Ø	—	Groundwater Well
MW-12		1239	16.5	2.6	Ø	—	Groundwater Well
MW-13		1253	11.7	8.2	Ø	—	Groundwater Well
MW-14		1301	9.6	10.2	Ø	—	Groundwater Well
MW-15	↓	1310	8.8	14.2	25	—	↓ Groundwater Well
MW-16							Groundwater Well
MW-17	2-5-21	1351	15.8	5.8	11	—	No odor Groundwater Well
MW-18		1035	15.9	7.6	Ø	—	Groundwater Well
MW-18D		1030	15.8	12.0	Ø	—	Groundwater Well
MW-19		1020	17.2	2.0	Ø	—	Groundwater Well
MW-19D	↓	1016	12.5	6.2	Ø	—	↓ Groundwater Well
MW-20							Groundwater Well
MW-21	2-5-21	0934	8.0	12.4	Ø	—	No odor Groundwater Well
MW-22		1010	7.7	12.6	Ø	—	Groundwater Well
MW-AA		1245	11.9	5.6	31	—	Groundwater Well
MW-B		0853	18.7	9.0	Ø	—	Groundwater Well
MW-E		1233	10.9	5.4	Ø	—	Groundwater Well
PZ-1		0928	17.1	2.2	Ø	—	Groundwater Well
PZ-2	↓	1054	17.0	6.0	Ø	—	↓ Groundwater Well

Note: For each of these I lowered 90 feet of ¼" tubing into the groundwater well to get reading close to water table.

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data 2 Q 1 Event

Gas Monitoring Probes (Wells) and Structures

Date:	2-10-21	Sampler:	Steve Messick
Time:	1030	Sky Conditions:	mostly clear
Air Temperature (deg C):	20°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-1	2-10-21	1032	20	19.4	1.2	Ø	—	Gas Well
GP-1	↓	1033	40	19.1	2.4	Ø	—	Gas Well
GP-2			20					Gas Well
GP-2			40					Gas Well
GP-3			20					Gas Well
GP-3			40					Gas Well
GP-4	2-10-21	1102	20	18.5	2.8	Ø	—	Gas Well
GP-4		1103	40	17.5	4.0	Ø	—	Gas Well
GP-5		1133	20	17.9	3.6	Ø	—	Gas Well
GP-5		1134	40	17.3	4.4	Ø	—	Gas Well
GP-6		1139	20	18.3	2.8	Ø	—	Gas Well
GP-6		1141	40	18.2	3.0	Ø	—	Gas Well
GP-7		1144	20	18.8	2.2	Ø	—	Gas Well
GP-7		1146	40	18.6	2.4	Ø	—	Gas Well
GP-8		1148	20	18.9	1.6	Ø	—	Gas Well
GP-8		1149	40	18.0	1.8	Ø	—	Gas Well
GP-9		1152	20	19.0	1.6	Ø	—	Gas Well
GP-9		1153	40	18.8	2.2	Ø	—	Gas Well
GP-10		1158	20	14.7	6.8	Ø	—	Gas Well
GP-10		1159	40	13.8	7.8	Ø	—	Gas Well
GP-11		1230	20	18.9	1.4	Ø	—	Gas Well
GP-11		1231	40	17.9	1.8	Ø	—	Gas Well
GP-12		1235	25	19.2	1.6	Ø	—	Gas Well
GP-12		1236	50	19.2	1.6	Ø	—	Gas Well
GP-12		1237	75	19.1	1.8	Ø	—	Gas Well
GP-13		1241	25	18.0	1.8	Ø	—	Gas Well
GP-13		1242	50	18.0	1.8	Ø	—	Gas Well
GP-13		1243	75	17.7	1.8	Ø	—	Gas Well
GP-14		1247	25	19.0	1.2	Ø	—	Gas Well
GP-14		1248	50	19.0	1.2	Ø	—	Gas Well
GP-14	↓	1249	75	19.0	1.2	Ø	—	Gas Well
GP-15			25					Gas Well
GP-15			50					Gas Well
GP-15			75					Gas Well
GP-16			25					Gas Well
GP-16			50					Gas Well
GP-16			75					Gas Well

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

General Data 2 1Q1 Event

Gas Monitoring Probes (Wells) and Structures

Date:	2-10-2021	Sampler:	Steve, Messick
Time:	0840	Sky Conditions:	Mostly Clear
Air Temperature (deg C):	18°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			25					Gas Well
GP-17			50					Gas Well
GP-17			75					Gas Well
GP-18			25					Gas Well
GP-18			50					Gas Well
GP-18			75					Gas Well
GP-19			25					Gas Well
GP-19			50					Gas Well
GP-19			75					Gas Well
GP-20			105					Gas Well
GP-21			115					Gas Well
GP-22	2-10-21	1037	70	16.2	0.0	Ø	— CO = 4,200 PPM	Gas Well
GP-23	↓	1040	100	9.4	3.2	Ø	—	Gas Well
GP-24			70					Gas Well
GP-25			100					Gas Well
GP-26			70					Gas Well
GP-27			100					Gas Well
GP-28	2-10-21	1107	70	17.5	3.2	Ø	—	Gas Well
GP-29	↓	1110	100	20.4	0.2	Ø	—	Gas Well
GP-30			105					Gas Well
Admin Building	2-10-21	0840	-	20.9	0.0	Ø	—	Structure
Mod Bldg	|	0850	-	20.9	0.0	Ø	—	Structure
Shop	|	0847		20.9	0.0	Ø	—	Structure
Scale House	↓	0843	-	20.9	0.0	Ø	—	Structure
Firing Range			-					7 Structures
Haz Waste Drop-Off Center	2-10-21	1000	-	20.9	0.0	Ø	—	4 Structures
Equipment Container		0913	-	20.9	0.0	Ø	—	Structure
Storage Building		0854	-	20.9	0.0	Ø	—	Structure
Small Shed	—	Removed	-					
Electronics	2-10-21	0900	-	20.9	0.0	Ø	— Cargo Container	Structure
Paints	↓	0923	-	20.9	0.0	Ø	— ↓	↓
			-					
			-					

Electronics cargo container is located near citizens drop off area.
Paints cargo container is located near Haz Waste drop off area.
Both of these are temporary.

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

Groundwater Monitoring Wells and Piezometers

General Data 2Q21 Event

Date:	2-10-21	Sampler:	Steve Messick
Time:	0845	Sky Conditions:	Mostly Clear
Air Temperature (deg C):	18°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	2-10-21	1027	9.4	16.6	52	—	No odor	Groundwater Well
MW-2								Groundwater Well
MW-3	2-10-21	0928	17.2	3.2	Ø	—	No odor	Groundwater Well
MW-5	↓	1013	9.0	17.4	55	—		Groundwater Well
MW-6		1010	5.7	34.6	—	45.5	↓	Groundwater Well
MW-7	↓	0936	4.6	42.8	—	67.0		Groundwater Well
MW-8R								Groundwater Well
MW-9								Groundwater Well
MW-10								Groundwater Well
MW-11								Groundwater Well
MW-12								Groundwater Well
MW-13								Groundwater Well
MW-14								Groundwater Well
MW-15								Groundwater Well
MW-16	2-10-21	0907	5.0	31.0	—	44.0	No odor	Groundwater Well
MW-17								Groundwater Well
MW-18								Groundwater Well
MW-18D								Groundwater Well
MW-19								Groundwater Well
MW-19D								Groundwater Well
MW-20	2-10-21	0945	4.7	42.6	—	66.5	No odor	Groundwater Well
MW-21								Groundwater Well
MW-22								Groundwater Well
MW-AA								Groundwater Well
MW-B								Groundwater Well
MW-E								Groundwater Well
PZ-1								Groundwater Well
PZ-2								Groundwater Well

Note: For each of these I lowered 90 feet of ¼" tubing into the groundwater well to get reading close to water table.

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

SITE NAME Citrus County Central Landfill **DATE** 2-5-2021

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

Instrument Calibration Date **01/11/2021** 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 **14.85% Methane (Volume), 15.00 % CO_2 (Volume), Balance Nitrogen**

Standard Source **Airgas** Lot # **122-401728228-1**

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			
21/02/05	0832	A	14.85	15.0	—	15.0	<1	15.0	Ø	—	—	Yes	Init.	Srm
	0837	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Init.	Srm
	1202	A	14.85	15.0	—	15.0	~1	15.2	<2	—	—	Yes	Cont	Srm
	1510	A	14.85	15.0	—	14.5	<3	15.2	<2	—	—	Yes	Cont.	Srm
↓	1512	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	Srm
21/02/10	0830	A	14.85	15.0	—	15.0	<1	15.0	Ø	—	—	Yes	Init.	Srm
	0832	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Init.	Srm
	1302	A	14.85	15.0	—	15.5	<5	15.4	<3	—	—	Yes	Cont.	Srm
↓	1304	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	Srm

* Eagle SN E084039