

Smith, George

From: Elizabeth D. Kennelley, MS, CEPM <ekennelley@jonesedmunds.com>
Sent: Thursday, April 14, 2022 2:56 PM
To: Madden, Melissa; SWD_Waste
Cc: Dan S. Sherlock; Joshua L. Younce
Subject: Emailing: 2022.04.14_RPT_Citrus Co LF_WACS 39859_22Q1 LFG.pdf
Attachments: 2022.04.14_RPT_Citrus Co LF_WACS 39859_22Q1 LFG.pdf

EXTERNAL MESSAGE

This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Good afternoon,

Attached is the First Quarter 2022 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,

Elizabeth D. Kennelley, MS, CEPM
Department Manager

P. 352.377.5821 X. 1416
JONESEDMUNDS.COM
730 NE Waldo Road, Gainesville, FL. 32641

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2022.04.14_RPT_Citrus Co LF_WACS 39859_22Q1 LFG.pdf

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April 14, 2022

Ms. Melissa Madden
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 2022
FDEP Permit No.: 21375-025-SO-01
FDEP Modification No.: 21375-026-SO-MM
Jones Edmunds Project Number: 03860-086-01

Dear Ms. Madden:

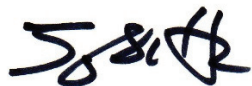
Enclosed are the First Quarter 2022 landfill gas monitoring results for the Citrus County Central Landfill conducted on January 6 and 21, 2022. The calibration log is also enclosed with this letter.

Methane was not detected in any gas monitoring well on site. Based on these sampling results from the wells at varying depths, Methane does not exceed 100% Lower-Explosive-Limit (LEL) at the compliance boundary and the site is in compliance with the landfill gas migration rule. Methane was not detected in the on-site structures.

The County continues to measure Methane in the groundwater monitoring wells. Methane was detected below the LEL in groundwater monitoring wells MW-5, MW-12, MW-14, MW-15, MW-19D, and MW-E. Methane was detected at or above 100% LEL in groundwater monitoring wells MW-3, MW-6, MW-7, MW-16, and MW-20.

Results from this sampling event indicate that the site is in compliance with the landfill gas migration rule. 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

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

CITRUS COUNTY CENTRAL LANDFILL LANDFILL GAS MONITORING RESULTS

First Quarter 2022

General Data

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

Date	Time	Air Temperature (deg C)	Sky Conditions
1/6/2022	12:45	28	Clear
1/21/2022	8:30	15	Cloudy
1/21/2022	10:07	18	Cloudy

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	1/21/2022	10:57	20	19.3	1.2	0	-	Gas Well
GP-1	1/21/2022	10:58	40	19.0	2.0	0	-	Gas Well
GP-2	1/21/2022	10:35	20	19.8	1.0	0	-	Gas Well
GP-2	1/21/2022	10:37	40	15.0	5.8	0	-	Gas Well
GP-3	1/21/2022	10:07	20	19.4	1.2	0	-	Gas Well
GP-3	1/21/2022	10:09	40	19.5	1.0	0	-	Gas Well
GP-4	1/21/2022	11:16	20	18.1	3.0	0	-	Gas Well
GP-4	1/21/2022	11:17	40	17.7	3.2	0	-	Gas Well
GP-5	1/21/2022	11:20	20	17.7	3.0	0	-	Gas Well
GP-5	1/21/2022	11:21	40	17.1	3.8	0	-	Gas Well
GP-6	1/21/2022	14:14	20	17.9	3.0	0	-	Gas Well
GP-6	1/21/2022	14:15	40	17.9	3.0	0	-	Gas Well
GP-7	1/21/2022	14:08	20	18.5	2.2	0	-	Gas Well
GP-7	1/21/2022	14:09	40	19.1	1.6	0	-	Gas Well
GP-8	1/21/2022	14:03	20	18.1	1.8	0	-	Gas Well
GP-8	1/21/2022	14:04	40	17.7	1.8	0	-	Gas Well
GP-9	1/21/2022	13:59	20	18.7	2.0	0	-	Gas Well
GP-9	1/21/2022	14:00	40	18.7	1.8	0	-	Gas Well
GP-10	1/21/2022	13:55	20	12.5	7.6	0	-	Gas Well
GP-10	1/21/2022	13:56	40	13.3	6.6	0	-	Gas Well
GP-11	1/21/2022	13:50	20	18.4	1.4	0	-	Gas Well
GP-11	1/21/2022	13:51	40	18.2	1.2	0	-	Gas Well
GP-12	1/21/2022	13:45	25	19.2	1.6	0	-	Gas Well
GP-12	1/21/2022	13:46	50	19.1	1.6	0	-	Gas Well
GP-12	1/21/2022	13:47	75	19.3	1.4	0	-	Gas Well
GP-13	1/21/2022	13:39	25	17.7	1.8	0	-	Gas Well
GP-13	1/21/2022	13:40	50	17.6	1.8	0	-	Gas Well
GP-13	1/21/2022	13:41	75	18.1	1.4	0	-	Gas Well
GP-14	1/21/2022	13:34	25	19.0	1.2	0	-	Gas Well
GP-14	1/21/2022	13:35	50	18.9	1.2	0	-	Gas Well
GP-14	1/21/2022	13:36	75	19.1	1.0	0	-	Gas Well
GP-15	1/21/2022	13:27	25	20.0	1.0	0	-	Gas Well
GP-15	1/21/2022	13:28	50	20.0	1.0	0	-	Gas Well
GP-15	1/21/2022	13:29	75	20.4	0.6	0	-	Gas Well
GP-16	1/21/2022	12:06	25	19.0	1.2	0	-	Gas Well
GP-16	1/21/2022	12:07	50	18.9	1.4	0	-	Gas Well
GP-16	1/21/2022	12:08	75	19.2	1.0	0	-	Gas Well
GP-17	1/21/2022	12:00	25	11.4	7.4	0	-	Gas Well

CITRUS COUNTY CENTRAL LANDFILL LANDFILL GAS MONITORING RESULTS

First Quarter 2022

General Data

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

Date	Time	Air Temperature (deg C)	Sky Conditions
1/6/2022	12:45	28	Clear
1/21/2022	8:30	15	Cloudy
1/21/2022	10:07	18	Cloudy

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	1/21/2022	12:01	50	11.8	6.6	0	-	Gas Well
GP-17	1/21/2022	12:02	75	14.3	4.8	0	-	Gas Well
GP-18	1/21/2022	11:49	25	17.9	1.8	0	-	Gas Well
GP-18	1/21/2022	11:50	50	17.4	2.0	0	-	Gas Well
GP-18	1/21/2022	11:51	75	18.0	1.6	0	-	Gas Well
GP-19	1/21/2022	11:42	25	20.1	0.6	0	-	Gas Well
GP-19	1/21/2022	11:43	50	20.1	0.6	0	-	Gas Well
GP-19	1/21/2022	11:44	75	20.3	0.4	0	-	Gas Well
GP-20	1/21/2022	12:10	105	17.9	1.4	0	-	Gas Well
GP-21	1/21/2022	11:57	115	19.2	0.0	0	-	Gas Well
GP-22	1/21/2022	11:00	70	20.9	0.0	0	-	Gas Well
GP-23	1/21/2022	11:03	100	15.5	2.0	0	-	Gas Well
GP-24	1/21/2022	10:39	70	15.2	0.4	0	-	Gas Well
GP-25	1/21/2022	10:43	100	20.7	0.0	0	-	Gas Well
GP-26	1/21/2022	10:12	70	18.3	1.8	0	-	Gas Well
GP-27	1/21/2022	10:16	100	17.4	1.8	0	-	Gas Well
GP-28	1/21/2022	11:10	70	17.9	2.6	0	-	Gas Well
GP-29	1/21/2022	11:12	100	19.5	0.0	0	-	Gas Well
GP-30	1/21/2022	12:32	105	18.6	1.0	0	-	Gas Well
Admin Building	1/21/2022	8:36	-	20.9	0.0	0	-	Structure
Scale House	1/21/2022	8:40	-	20.9	0.0	0	-	Structure
Shop	1/21/2022	8:43	-	20.9	0.0	0	-	Structure
Storage Shed	1/21/2022	8:46	-	20.9	0.0	0	-	Structure
Mod Building	1/21/2022	8:49	-	20.9	0.0	0	-	Structure
Equipment Building	1/21/2022	8:52	-	20.9	0.0	0	-	Structure
Electronics Container	1/21/2022	8:56	-	20.9	0.0	0	-	Container
Chemical Container #1	1/21/2022	9:00	-	20.9	0.0	0	-	Container
Haz Waste Drop-Off Center	1/21/2022	9:12	-	20.9	0.0	0	-	4 Structures
Chemical Container #2	1/21/2022	9:14	-	20.9	0.0	0	-	Container
Paints	1/21/2022	9:16	-	20.9	0.0	0	-	Container
Firing Range	1/6/2022	15:01	-	20.9	0.0	0	-	2 Structures

CITRUS COUNTY CENTRAL LANDFILL
LANDFILL GAS MONITORING RESULTS

First Quarter 2022

General Data

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

Date	Time	Air Temperature (deg C)	Sky Conditions
1/6/2022	12:45	28	Clear
1/21/2022	8:30	15	Cloudy
1/21/2022	10:07	18	Cloudy

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	
MW-1R	1/21/2022	10:53	90	12.2	4.8	0	-	Groundwater Well
MW-2	1/21/2022	11:35	90	18.2	2.8	0	-	Groundwater Well
MW-3	1/21/2022	9:07	90	9.7	17.4	660	33.0	Groundwater Well
MW-5	1/21/2022	9:31	90	7.9	15.8	72	-	Groundwater Well
MW-6	1/21/2022	9:27	90	7.1	29.8	840	42.0	Groundwater Well
MW-7	1/21/2022	9:14	90	7.1	29.0	830	41.5	Groundwater Well
MW-8R	1/6/2022	15:13	90	17.8	5.6	0	-	Groundwater Well
MW-9	1/6/2022	15:21	90	19.9	3.2	0	-	Groundwater Well
MW-10	1/21/2022	9:50	90	16.1	11.6	0	-	Groundwater Well
MW-11	1/6/2022	14:42	90	14.4	3.8	0	-	Groundwater Well
MW-12	1/6/2022	14:30	90	9.5	7.2	64	-	Groundwater Well
MW-13	1/6/2022	14:21	90	14.2	4.8	0	-	Groundwater Well
MW-14	1/6/2022	14:15	90	10.4	12.8	46	-	Groundwater Well
MW-15	1/6/2022	14:10	90	8.7	15.2	52	-	Groundwater Well
MW-16	1/21/2022	8:58	90	9.0	20.2	740	37.0	Groundwater Well
MW-17	1/6/2022	14:00	90	11.2	10.4	0	-	Groundwater Well
MW-18	1/21/2022	10:00	90	18.0	3.8	0	-	Groundwater Well
MW-18D	1/21/2022	9:56	90	15.4	13.6	0	-	Groundwater Well
MW-19	1/21/2022	9:42	90	18.9	1.4	0	-	Groundwater Well
MW-19D	1/21/2022	9:39	90	7.5	16.4	74	-	Groundwater Well
MW-20	1/21/2022	9:21	90	18.2	28.2	760	38.0	Groundwater Well
MW-21	1/6/2022	15:35	90	12.2	10.2	0	-	Groundwater Well
MW-22	1/21/2022	10:28	90	14.8	3.4	0	-	Groundwater Well
MW-AA	1/6/2022	14:26	90	14.0	6.6	0	-	Groundwater Well
MW-B	1/6/2022	14:53	90	18.3	9.0	0	-	Groundwater Well
MW-E	1/6/2022	14:36	90	16.2	3.0	26	-	Groundwater Well
PZ-1	1/6/2022	15:27	90	15.7	6.0	0	-	Groundwater Well
PZ-2	1/21/2022	10:23	90	16.8	4.0	0	-	Groundwater Well

Instrument Calibration Record

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

SITE NAME Citrus County Central Landfill DATE 1-6-2022
INSTRUMENT (MAKE/MODEL#) Eagle Multi-Gas Detector INSTRUMENT # GNV 80023*
Instrument Calibration Date 01/12/2022 Reference Meter Book Eagle Meter Book 1

PARAMETER: [check only one]

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP
☐ TURBIDITY ☐ RESIDUAL CI ☐ DO ☒ 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 15.72% Methane (Volume), 14.71 % CO₂ (Volume), Balance Nitrogen

Standard Source Airgas Lot # 122-401950036-1

Standard B Zero Air (0 % Methane) (0% CO₂) (21.0 % O₂)

Standard Source Airgas Lot # 55-400485109-1

Standard C % LEL Methane % CO₂ (Volume), 0% O₂ (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			
22/01/06	1248	A	15.7	14.6	—	15.5	<2	14.8	<1	—	—	Yes	Init.	Am
	1250	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Init.	Am
	1543	A	15.7	14.7	—	15.5	<2	14.6	<1	—	—	Yes	Cont.	Am
	1546	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	Am
22/01/21	0816	A	15.7	14.7	—	15.5	<2	14.6	<1	—	—	Yes	Init.	Am
	0821	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Init.	Am
	1214	A	15.7	14.7	—	16.0	<2	15.0	<2	—	—	Yes	Cont.	Am
	1216	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	Am
	1420	A	15.7	14.7	—	16.5	<5	15.0	<2	—	—	Yes	Cont.	Am
	1422	B	—	—	21.0	—	—	—	—	20.9	<1	Yes	Cont.	Am
Meter sent in for service 1-7-2022														
Returned ready to go 1-20-2022 and														
tested in house before taking to field														
Good Am														

* Eagle SN E084039