

March 16, 2018

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 2018
FDEP Permit No.: 21375-025-SO-01
Jones Edmunds Project Number: 03860-070-01

Dear Mr. Morgan:

Enclosed are the First Quarter 2018 landfill gas monitoring results for the Citrus County Central Landfill conducted on February 9 and 12, 2018. 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 depths or in any of the on-site structures. However, elevated levels of carbon dioxide and decreased levels of oxygen were detected in most of the landfill gas monitoring probes indicating the presence of landfill gas in the probes.

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 landfill gas concentration in the groundwater monitoring wells. Methane was above 100% of the LEL in groundwater monitoring wells and MW-6, MW-7, MW-21, and MW-22.

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

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xc: Ray Oates, Citrus County

Scanned to E-Bridge
Date 3/19/18
Initials RD
Solid Waste Management

Submitted Electronically
SWD_Waste@dep
Addresses & cc
Date: 3/19/18
Initials RD For JE

**LANDFILL GAS MONITORING RESULTS
CITRUS COUNTY CENTRAL LANDFILL**

First Quarter 2018

General Data

Date:	2/9/2018 & 2/12/2018	Sampler:	Steve Messick
Time:	11:27 on 2/9/2018 & 12:08 on 2/12/2018	Sky Conditions:	Overcast on 2/9/2018 & Cloudy on 2/12/2018
Air Temperature (deg C):	24 on 2/9/2018 & 27 on 2/12/2018	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	2/12/2018	12:49	20	19.2	1.8	0.0	-	Gas Well
GP-1	2/12/2018	12:51	40	19.1	2.0	0.0	-	Gas Well
GP-2	2/12/2018	12:26	20	20.0	1.2	0.0	-	Gas Well
GP-2	2/12/2018	12:29	40	19.1	3.6	0.0	-	Gas Well
GP-3	2/12/2018	12:12	20	20.4	1.2	0.0	-	Gas Well
GP-3	2/12/2018	12:14	40	20.2	1.2	0.0	-	Gas Well
GP-4	2/9/2018	11:29	20	18.1	3.0	0.0	-	Gas Well
GP-4	2/9/2018	11:32	40	17.5	3.6	0.0	-	Gas Well
GP-5	2/9/2018	11:40	20	18.0	3.2	0.0	-	Gas Well
GP-5	2/9/2018	11:43	40	17.6	3.6	0.0	-	Gas Well
GP-6	2/9/2018	11:47	20	18.2	2.6	0.0	-	Gas Well
GP-6	2/9/2018	11:50	40	18.1	2.8	0.0	-	Gas Well
GP-7	2/9/2018	11:55	20	18.8	1.8	0.0	-	Gas Well
GP-7	2/9/2018	11:58	40	18.7	2.0	0.0	-	Gas Well
GP-8	2/9/2018	12:31	20	18.8	1.8	0.0	-	Gas Well
GP-8	2/9/2018	12:34	40	17.9	2.4	0.0	-	Gas Well
GP-9	2/9/2018	12:41	20	19.7	1.8	0.0	-	Gas Well
GP-9	2/9/2018	12:44	40	19.4	2.0	0.0	-	Gas Well
GP-10	2/9/2018	12:49	20	14.5	7.4	0.0	-	Gas Well
GP-10	2/9/2018	12:52	40	14.0	7.8	0.0	-	Gas Well
GP-11	2/9/2018	12:58	20	18.6	1.8	0.0	-	Gas Well
GP-11	2/9/2018	13:01	40	17.2	2.2	0.0	-	Gas Well
GP-12	2/9/2018	13:05	25	19.7	1.8	0.0	-	Gas Well
GP-12	2/9/2018	13:08	50	19.7	1.8	0.0	-	Gas Well
GP-12	2/9/2018	13:11	75	19.6	1.8	0.0	-	Gas Well
GP-13	2/9/2018	13:16	25	18.2	2.0	0.0	-	Gas Well
GP-13	2/9/2018	13:18	50	18.1	2.0	0.0	-	Gas Well
GP-13	2/9/2018	13:20	75	18.2	1.8	0.0	-	Gas Well
GP-14	2/9/2018	13:23	25	19.5	1.2	0.0	-	Gas Well
GP-14	2/9/2018	13:26	50	19.4	1.2	0.0	-	Gas Well

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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-14	2/9/2018	13:29	75	19.4	1.2	0.0	-	Gas Well
GP-15	2/12/2018	11:20	25	20.9	1.0	0.0	-	Gas Well
GP-15	2/12/2018	11:22	50	20.8	1.0	0.0	-	Gas Well
GP-15	2/12/2018	11:24	75	20.9	0.8	0.0	-	Gas Well
GP-16	2/9/2018	14:33	25	19.4	1.6	0.0	-	Gas Well
GP-16	2/9/2018	14:36	50	19.4	1.6	0.0	-	Gas Well
GP-16	2/9/2018	14:39	75	19.6	1.4	0.0	-	Gas Well
GP-17	2/9/2018	14:43	25	16.2	4.4	0.0	-	Gas Well
GP-17	2/9/2018	14:46	50	15.7	4.6	0.0	-	Gas Well
GP-17	2/9/2018	14:49	75	16.2	4.0	0.0	-	Gas Well
GP-18	2/12/2018	11:43	25	20.6	1.0	0.0	-	Gas Well
GP-18	2/12/2018	11:46	50	20.4	1.0	0.0	-	Gas Well
GP-18	2/12/2018	11:48	75	20.4	1.0	0.0	-	Gas Well
GP-19	2/12/2018	11:36	25	20.6	1.2	0.0	-	Gas Well
GP-19	2/12/2018	11:38	50	20.6	1.0	0.0	-	Gas Well
GP-19	2/12/2018	11:41	75	20.7	1.0	0.0	-	Gas Well
GP-20	2/9/2018	14:29	105	18.6	1.4	0.0	-	Gas Well
GP-21	2/12/2018	11:50	115	19.2	0.0	0.0	-	Gas Well
GP-22	2/12/2018	12:54	70	15.9	0.0	0.0	-	Gas Well
GP-23	2/12/2018	12:46	100	9.5	3.0	0.0	-	Gas Well
GP-24	2/12/2018	12:32	70	8.4	0.0	0.0	-	Gas Well
GP-25	2/12/2018	12:22	100	19.5	0.0	0.0	-	Gas Well
GP-26	2/12/2018	12:08	70	16.7	2.8	0.0	-	Gas Well
GP-27	2/12/2018	12:17	100	16.6	2.6	0.0	-	Gas Well
GP-28	2/9/2018	11:35	70	18.0	1.0	0.0	-	Gas Well
GP-29	2/9/2018	11:38	100	19.6	0.0	0.0	-	Gas Well
GP-30	2/9/2018	14:19	105	19.7	1.2	0.0	-	Gas Well
Admin Building	2/9/2018	9:26	-	20.9	0.0	0.0	-	Structure
Mod Bldg	2/9/2018	9:40	-	20.9	0.0	0.0	-	Structure
Shop	2/9/2018	9:37	-	20.9	0.0	0.0	-	Structure

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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	
Scale House	2/9/2018	9:33	-	20.9	0.0	0.0	-	Structure
Treatment Facility	2/9/2018	9:45	-	20.9	0.0	0.0	-	Structure
Firing Range	2/9/2018	10:07	-	20.9	0.0	0.0	-	7 Structures
Haz Waste Drop off Center	2/9/2018	9:53	-	20.9	0.0	0.0	-	4 Structures

**LANDFILL GAS MONITORING RESULTS
CITRUS COUNTY CENTRAL LANDFILL**

First Quarter 2018

General Data

Date:	2/9/2018 & 2/12/2018	Sampler:	Steve Messick
Time:	9:10 on 2/9/2018 & 9:00 on 2/12/2018	Sky Conditions:	Hazy on 2/9/2018 & Cloudy on 2/12/2018
Air Temperature (deg C):	19 on 2/9/2018 & 25 on 2/12/2018	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	2/12/2018	12:39	18.7	2.8	0.0	-	Groundwater Well
MW-2	2/12/2018	11:30	10.9	14.0	0.0	-	Groundwater Well
MW-3	2/12/2018	9:25	17.4	2.8	0.0	-	Groundwater Well
MW-5	2/12/2018	9:47	7.7	20.0	92.0	-	Groundwater Well
MW-6	2/12/2018	9:41	7.2	30.6	-	39.5	Groundwater Well
MW-7	2/12/2018	9:33	6.1	32.2	-	38.5	Groundwater Well
MW-8R	2/12/2018	11:06	10.3	15.2	0.0	-	Groundwater Well
MW-9	2/12/2018	10:58	20.9	0.0	0.0	-	Groundwater Well
MW-10	2/12/2018	10:20	11.1	17.8	0.0	-	Groundwater Well
MW-11	2/9/2018	11:17	16.5	2.0	0.0	-	Groundwater Well
MW-12	2/9/2018	11:05	8.3	2.6	0.0	-	Groundwater Well
MW-13	2/9/2018	10:53	14.6	7.2	15.0	-	Groundwater Well
MW-14	2/9/2018	10:29	17.0	7.0	0.0	-	Groundwater Well
MW-15	2/9/2018	10:45	5.9	16.4	21.0	-	Groundwater Well
MW-16	2/12/2018	9:18	19.5	1.8	55.0	-	Groundwater Well
MW-17	2/9/2018	10:38	7.9	13.4	0.0	-	Groundwater Well
MW-18	2/12/2018	10:28	11.1	18.0	0.0	-	Groundwater Well
MW-18D	2/12/2018	10:33	13.4	9.2	0.0	-	Groundwater Well
MW-19	2/12/2018	10:15	18.1	2.6	16.0	-	Groundwater Well
MW-19D	2/12/2018	10:08	11.2	3.0	17.0	-	Groundwater Well
MW-20	2/12/2018	9:10	17.1	1.4	0.0	-	Groundwater Well
MW-21	2/12/2018	9:54	6.4	20.4	-	8.5	Groundwater Well
MW-22	2/12/2018	10:00	6.3	20.6	-	9.0	Groundwater Well
MW-AA	2/9/2018	10:59	18.2	2.8	0.0	-	Groundwater Well
MW-B	2/9/2018	10:20	16.9	14.0	0.0	-	Groundwater Well
MW-E	2/9/2018	11:10	20.8	0.0	0.0	-	Groundwater Well
PZ-1	2/12/2018	10:52	16.0	6.0	0.0	-	Groundwater Well
PZ-2	2/12/2018	10:42	15.9	6.2	0.0	-	Groundwater Well

Ray Oates

From: Troy Hays <thayes@jonesedmunds.com>
Sent: Monday, March 19, 2018 9:01 AM
To: Henry C. Norris
Cc: Ray Oates; Patrick Kardish; Elizabeth Kennelley
Subject: FW: 2018.03.16_RPT_Citrus_WACS 39859_18Q1 LFG
Attachments: 2018.03.16_RPT_Citrus_WACS 39859_18Q1 LFG.pdf

Good Morning Henry,

Attached is the 1st Quarter 2018 Landfill Gas Monitoring report for the compliance probes. The gas concentrations are similar to previous events, no Methane in the boundary probes so the site is in compliance with the migration rule. There continues to be Methane in the groundwater wells. Please let me know if you have any questions on this and upon your approval we will forward it over to FDEP.

Thanks,

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

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From: Patrick Kardish
Sent: Friday, March 16, 2018 2:25 PM
To: Troy Hays
Cc: Elizabeth Kennelley
Subject: 2018.03.16_RPT_Citrus_WACS 39859_18Q1 LFG

Good Afternoon Troy,

Attached is the final report for the 18Q1 Citrus LFG.

Thanks!

Patrick Kardish
Environmental Data Analyst

JonesEdmunds
Integrity • Knowledge • Service

p. 352.377.5821 x. 1411

JONESEDMUNDS.COM

730 NE Waldo Road, Gainesville, FL 32641



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