Johnson, Sabrina O

| From: | Troy Hays <thayes@jonesedmunds.com></thayes@jonesedmunds.com> |
|--------------|---|
| Sent: | Tuesday, February 18, 2020 7:22 AM |
| То: | 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 |

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 <u>JONESEDMUNDS.COM</u> 730 NE Waldo Road, Gainesville, FL, 32641

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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



p. 352.377.5821 x. 1411 <u>JONESEDMUNDS.COM</u> 730 NE Waldo Road, Gainesville, FL 32641



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Integrity • Knowledge • Service

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,

5,810

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

Gas Monitoring Probes (Wells) and Structures

First Quarter 2020

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| 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

General 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 |

Gas Monitoring Probes (Wells) and Structures

First Quarter 2020

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| 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

General 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 |

Groundwater Monitoring Wells and Piezometers First Quarter 2020

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

General Data

| | | | | | Met | hane | |
|--------------|--------------|--------------|------------|-------------|--|---|------------------|
| 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

General Data

CITRUS COUNTY CENTRAL LANDFILL LANDFILL GAS MONITORING RESULTS

Gas Monitoring Probes (Wells) and Structures

| Date: 1-29-20 | 1-30-20 | Sampler: Stepse Messick |
|---------------------------------|---------|--|
| Time: // 55 | 1309 | Sky Conditions: Che Lady 1- 50-20 Che Lady |
| Air Temperature (deg C): / Sっ C | 170 C | 2. EOS403 FEag |
| Sampling Data | | |
| | | |

| | Ime Station Type | Gas Well | Con Woll |
|-----------------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Methalle | Peak Recorded Concentration as % Volume | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Peak Recorded Concentration as % LEL | A | Ø | Ø | à | Þ | Ø | Ø | Ø | Ø | Ø | Q | Ø | Ø | Ø | Ø | Ø | Ø, | Ø | R | Ø | Ø | Ø | Ø | Ø | Ø. | Ø | Ø | Ø | Ø | Q | 0 | Ø, | Q | Ø | Ķ |
| | CO2 %Volume | 1.4 | 2.4 | 1.6 | 5.5 | 27 | 1.0 | | 5.2 | 4.0 | 4.0 | 2.8 | 2, E | よ.よ | | ч 0 | 2 12 | 1,8 | 1.8 | 2.0 | 6-6 | 1.4 | 2,0 | 1.4 | 1.4 | 1. 2 | 1.8 | 0.0 | 1.6 | 0,0 | 0,8 | 0.8 | 1,0 | 1.0 | 0. 6 | 2 |
| | 02 %Volume | 1.81 | 17.9 | 18.9 | 16.3 | 19.4 | 19.4 | 18.3 | 16.0 | 17,3 | 17.3 | 18.2 | 18.3 | 15.7 | 18.9 | 17.9 | 17.3 | 0.71 | 18.9 | 14.0 | 14.4 | 18.5 | 16.7 | 19.3 | 19.3 | 19.4 | 12.5 | 17.2 | 17.8 | 20.5 | 19.3 | 19.3 | 19.7 | 19.7 | 21.1 | 61 N |
| Douth of Tatala | Ueptn or Intake (Feet) | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 20 | 40 | 25 | 50 | 75 | 25 | 50 | 75 | 25 | 50 | 75 | 25 | 50 | 75 | 25 |
| | Time Sampled | 1416 | 1418 | 1345 | 1347 | 1339 | 1341 | 1309 | 1311 | 1434 | 1436 | 1427 | 1429 | 1421 | 1423 | 1413 | 1415 | 1406 | 140 8 | 1400 | 1402 | 1352 | 1354 | 1341 | 1343 | 1345 | 1330 | 1332 | 1334 | 1320 | 1322 | 1324 | 1311 | 1313 | 1325 | 1156 |
| | -+ | 1-30-20 | - | | | | | | K | 1-29-20 | - | | | | | | | | | - | | | | | | | | - | | | | | | | | |
| | Station I.D. | GP-1 | GP-1 | GP-2 | GP-2 | GP-3 | GP-3 | GP-4 | GP-4 | GP~5 | GP-5 | GP-6 | GP-6 | GP-7 | GP-7 | GP-8 | GP-8 | GP-9 | GP-9 | GP-10 | GP-10 | GP-11 | GP-11 | GP-12 | GP-12 | GP-12 | GP-13 | GP-13 | GP-13 | GP-14 | GP-14 | GP-14 | GP-15 | GP-15 | GP-15 | GP-16 |

General Data

Gas Monitoring Probes (Wells) and Structures

| Clouchy1-29 | Date: (| 129-20 | 1-30-20 | Sampler: | Steve Mersick | |
|------------------------------------|--------------------------|--------|---------|-------------------|---------------|------------------------|
| 3 2 1.2 1. Measuring Device: Farle | Time: | 2422 | 0400 | Sky Conditions: | Cloudur29 | Cloudy 1-30 |
| | Air Temperature (deg C): | 1300 | 1700 | Measuring Device: | | Eagle RKI (SN E084039) |

| Station I.D. | Date Sampled | Time Sampled | Depth of Intake (Feet) | 02 %Volume | CO2 %Volume | Peak Recorded Concentration as % LEL | Peak Recorded Concentration as % Volume | Station Type |
|---------------------------|--------------|--------------|---------------------------|------------|-------------|---|---|--------------|
| GP-17 | 1-29-20 | 147 | 25 | 18.1 | 4,0 | \$ | | Gas Well |
| GP-17 | - | 1149 | 50 | 15.7 | 4.0 | K | | Gas Well |
| GP-17 | | 1151 | 75 | 16.7 | 2.0 | 8 | | Gas Well |
| GP-18 | | 1135 | 25 | 12.6 | 0.7 | R | | Gas Well |
| GP-18 | | 1137 | 50 | 19.3 | 0. | 8 | | Gas Well |
| GP-18 | | 1639 | 75 | 19.6 | 0 | R | | Gas Well |
| GP-19 | | 1126 | 25 | 201 | 07 | 8 | | Gas Well |
| GP-19 | | 1128 | 50 | 20.02 | 0.7 | Q | | Gas Well |
| GP-19 | | 1130 | 75 | 20.1 | 0,8 | Ø | | Gas Well |
| GP-20 | | 1206 | 105 | 18.5 | 0.1 | Q | CO2 / 500 | Gas Well |
| GP-21 | X | 1411 | 115 | 20.9 | 0 | X | mac of the second | Gae Well |
| GP-22 | 1-30-20 | 1425 | 70 | 16.5 | 0.0 | 5)2 | 1 C L L L L L L L L L L L L L L L L L L | Gas Well |
| GP-23 | / | 1221 | 100 | 10.2 | 2.0 | 22 | | Gas Wall |
| GP-24 | | 1354 | 70 | 13.1 | 0.0 | 20 | | Gas Well |
| GP-25 | | 1351 | 100 | 20.9 | 0.0 | 5 | | Gae Wall |
| GP~26 | | 1336 | 70 | 20.8 | 0,0 | 8 | | Gas Well |
| GP-27 | | 6333 | 100 | 16.6 | 2,2 | S | | Gas Well |
| GP-28 | | 1315 | 70 | 15.0 | 1 | Ø | | Gas Well |
| GP-29 | k | - VI | 100 | 2001 | | K | | Gas Well |
| GP-30 | | 1318 | 105 | 19.0 | 0.8 | Þ | CO + 250000 | Gas Well |
| Admin Building | 1-30-20 | 0206 | 1 | 20.9 | 0.0 | Ø | | Structure |
| Mod Bidg | | 0220 | 8 | ~ 1 | 0,0 | Ø | | Structure |
| Shop | | 0916 | | 20.5Z | 0,0 | R | | Structure |
| Scale House | Ŋ | 2912 | • | 20.9 | 0.0 | ð | | Structure |
| Firing Range | 1-24-2 | × 1. | 1 | 20.9 | 00 | Ø | | 7 Structures |
| Haz Waste Drop-Off Center | 1-30-20 | 3946 | , | 20.9 | 0.0 | Ø | | 4 Structures |
| Equipment Container() | - | 0939 | ' | 20.9 | 0.0 | Ś | | Structure |
| Storage Building | | | - | 20,9 | 0 | g | | Structure |
| Small Shed | | 0918 | ł | 20.9 | 0,0 | K. | | - |
| BIda. | _ | 2427 | | 20.9 | 0.0 | R | | |
| anir. Contrar | * | 242 | • | 20.9 | 0 | R | | ₽ |
| | | | , | | | | | |
| | | | | | | | | |

* Electrical Build at all leachate location, Ebuipment Container #2 is for Electronic Recyce

Both Equipment containers are temporary and locoted by that weste Collection area. 1/28/20205:49 PM

Groundwater Monitoring Wells and Piezometers

General Data

| Stand. Morrie F | (oud v | Eagle RKI (SŃ E084039) |
|-----------------|------------------------|---------------------------|
| Sampler: | Sky Conditions: Cloudy | Measuring Device: / Ea |
| 1-30-20 | 0930 | 1200 |
| 07-26-20 | 0945 | mperature (deg C): /3 ° C |

Sampling Data

| Methane Station 1.D. Date Sampled Tenthane Station 1.D. Date Sampled Tenthane NW-18 L-21-2.0 Mit 7 Station 1/pe NW-18 $1-30-7$.0 $140-7$ $56-8$ $2-14$ 20 $20-7$ | Methane C02 % Volume Peak Recorded Peak Recorded Peak Recorded 2:4 D 2:4 D 2:4 D 2:4 D 2:5 D 2:4 D 2:5 D 2:6 D 2:7 S 2:8 D 2:9 D 2:6 D 2:7 S 2:8 D 2:9 D | | | | | | | | |
|--|--|--------------|--------------|-------|------------|-------------|--|---|------------------|
| Date Sampled Time Sampled Time Sampled Time Sampled Deck Recorded Peak Recorded Peak Recorded $1-30-720$ 1407 $16-3$ 20.3 <th>CO2 % Volume Peak Recorded 2.4 Peak Recorded 2.4 Concentration as % 2.4 P 2.4 P 2.4 P 2.4 P 2.4 P 2.4 P 2.5 P 2.5 P 2.5 P 2.5 P 2.6 P 2.7 P 2.6 P 2.7 P 2.6 P 2.7 P 2.6 P 2.7 P 2.6 P 2.7<!--</th--><th></th><th></th><th></th><th></th><th></th><th>Metl</th><th>hane</th><th></th></th> | CO2 % Volume Peak Recorded 2.4 Peak Recorded 2.4 Concentration as % 2.4 P 2.4 P 2.4 P 2.4 P 2.4 P 2.4 P 2.5 P 2.5 P 2.5 P 2.5 P 2.6 P 2.7 P 2.6 P 2.7 P 2.6 P 2.7 P 2.6 P 2.7 P 2.6 P 2.7 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th>Metl</th> <th>hane</th> <th></th> | | | | | | Metl | hane | |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 2.4 13.2 13.2 19.1 23.2 19.1 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.5 20.0 2 | Station I.D. | Date Sampled | | 02 %Volume | CO2 %Volume | Peak Recorded Concentration as % LEL | Peak Recorded Concentration as % Volume | Station Type |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | 14:10 13:12 14:10 19:12 12:18 12 | MW-1R | 3 | 1407 | 18-8 | 2.4 | k |] | Groundwater Well |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 13.20 19.21 33.22 33.22 35.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-2 | - (| 1117 | 20.2 | 0,0 | Ø | 1 | Groundwater Well |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 19.2 31.2 32.2 32.2 32.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | MW-3 | 1 | 0951 | 14.3 | 13.0 | 30.5 |) | Groundwater Well |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 31.2 32.2 35.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-5 | - | 1028 | 7.2 | - 4 | 16 |) | Groundwater Well |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 35.4 0.0 12.8 0.0 2.6 2.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-6 | | 2201 | 2.9 | |] | 1. | Groundwater Well |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 2.6 2.8 2.8 2.6 2.6 2.6 2.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-7 | | 1002 | 6.3 | | 1 | 5.7.5 | Groundwater Well |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 12.8 2.6 2.6 2.6 2.6 2.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-8R | 29-2 | 1020 | > | 0,0 | Z |) | Groundwater Well |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 12.8 2.6 2.6 2.6 2.6 0.0 0.0 0.0 0.0 0.0 0.1 0.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1 | MW-9 | × | 1030 | 20.9 | 4 | Ø |) | Groundwater Well |
| 1.29.20 1.442 30.9 0.0 7.7 7.2 30.9 $1.57-20$ 1.674 20.9 7.7 7.2 8.7 8.7 8.7 8.7 $1.50-20$ 7.7 7.0 8.7 8.7 8.7 $1.50-20$ $1.50-20$ 7.7 7.0 8.7 8.7 8.7 $1.50-20$ $1.50-20$ $1.50-20$ $1.50-20$ $1.50-20$ $1.50-20$ $1.20-20-20$ $1.20-20$ $1.20-20-20$ $1.$ | 25.0 25.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | MW-10 | 1-30-20 | 1146 | 14.4 | 2 | Q |) | Groundwater Well |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 7.8 8.8 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-11 | | 1442 | 20.9 | | Q |) | Groundwater Well |
| \mathcal{K}/\mathcal{A} 10.2 $\mathcal{B}.\mathcal{B}$ $\mathcal{B}.\mathcal{A}$ $10.\mathcal{A}$ 20.7 | 8.8 0.0 0.0 25.0 0.0 0.0 6.0 6.0 6.0 0.1 0.2 17.8 17.8 17.8 17.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | MW-12 | - | 1500 | 7.7 | 7,0 | 60 (X) | 1 | Groundwater Weil |
| 1049 20.9 7.0 7 1057 20.9 7.0 7 1.30^{-2} 1.57 20.9 7.0 7 1.30^{-2} 1.20^{-2} 8.5 25.0 7 1.30^{-2} 1.20^{-2} 8.5 25.0 7 1.20^{-2} 8.5 1.20^{-2} 8.5 20.9 7 1.20^{-2} 8.75 1.20^{-2} 8.75 1.20^{-2} 8.5 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 8.5^{-2} 1.22^{-2} 1.22^{-2} 1.22^{-2} 1.22^{-2} 1.22^{-2} 1.22^{-2} 1.22^{-2} 1.22^{-2} < | 0.0 25.0 0.0 0.0 0.0 6.0 6.0 1.4 1.4 1.2 1.2 1.2 1.2 0.0 0.1 0.2 0.0 0.2 0.0 0.2 0.0 0.2 0.0 0.0 0.0 | MW-13 | | 1514 | 10.2 | \$¢ € | 68 |) | Groundwater Well |
| W 1057 20.9 0.0 W 150.20 732 8.5 35.0 72 25.7 25.7 47.5 47.5 $1-30-2b$ $1/28$ 20.9 0.0 W W W $1-30-2b$ $1/28$ 20.9 0.0 W W W $1/35$ $1/1.9$ 6.0 0.0 W W W $1/35$ $1/1.9$ 6.0 0.0 W W W $1/153$ $1/1.9$ 6.0 $1/1.4$ E^{0} W W 1012 1012 17.6 17.6 27.6 W W $1/239$ 6.6 17.6 7.6 W W W $1/239$ 6.6 17.6 8.5 5.5 5.5 5.5 17.6 W $1/239$ 20.9 0.0 0.0 W W W $1/239$ 20.7 0.0 W W W W W W < | 25:0 25:0 0.0 6:0 6:0 6:0 1.1 1.2 17:8 17:8 17:8 17:8 17:8 17:8 17:8 0:0 0:0 0:0 0:0 0:2 0:2 0:2 0:2 0:2 0:2 | MW-14 | | 6401 | 20.9 | 0.0 | Ø |) | Groundwater Well |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 25:0 0:0 6:0 1:4 1:4 1:4 1:4 1:4 1:4 1:4 1:4 | MW-15 | K | 1057 | 20.9 | 0.0 | 2 |) | Groundwater Well |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 0.0 6.0 6.0 1.4 1.2 1.2 1.2 0.0 0.0 0.1 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 | MW-16 | | 0932 | 8.5 | 25.0 | 2 | 47.5 | Groundwater Well |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 1.2 1.2 1.2 1.2 1.2 1.2 1.2 0.0 0.2 0.2 0.2 0.2 0.2 0.2 0 | MW-17 | 2-2 | 1104 | 20.9 | 0.0 | 0 | J | Groundwater Well |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 6.0 1.4 1.4 1.2 1.2 1.2 0.0 0.2 0.2 0.2 0.2 0.2 0.2 0 | MW-18 | 0 | 1128 | | 0,0 | 9 |) | Groundwater Well |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 12.6 1.4 1.2 1.2 1.2 0.0 0.2 0.2 0.2 0.2 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 | MW-18D | | 1135 | 11.9 | 6.0 | 0 |) | Groundwater Well |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1.4 14 15 1.2 15 15.2 25 15.2 25 0.0 20 0.1 20 1.0 | MW-19 | | 1153 | 1 1 | 12.6 | Ò |) | Groundwater Well |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1.2 45 17.8 75 17.8 75 0.0 0.0 0.2 8 0.2 8 0.2 8 1.0 8 | MW-19D | | 1202. | | 1.4 | R | | Groundwater Well |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 17.8 75 15.2 68 0.0 20 0.2 20 1.0 20 | MW-20 | | 1012 | 19.2 | 1.2 | 45 | | Groundwater Well |
| X 105 9.5 5.2 | 15.2 68 0.0 0.2 0 0.2 0 1.0 0 1.0 0 1.0 0 1.10 | MW-21 | | 1039 | 6.6 | 17.8 | 25 |] | Groundwater Well |
| 1-29-20 1505 20.9 C.C B - 1538 20.9 0.0 B - 1-30-20 1528 20.1 0.2 B - 1-30-20 112 17.7 1.0 D.Y B - | a.c. 2 0.0 0.2 1.0 1.0 1.0 1.0 1.1 1.1 1.1 1.1 1.1 1.1 | MW-22 | | 1105 | Q,S | 15.2 | 60 | | Groundwater Well |
| 1538 20.9 0.0 X 1451 20.9 0.0 X 1-30-20 17.7 1.0 X | 0.2 2 0.2 2 1.0 2 ubrig down into | MW-AA | | 1505 | 20.9 | 0 Ò | Þ | 1 | Groundwater Well |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 0.2 0 0.2 0 ubrig down into | MW-B | | 1538 | 20.9 | 0.0 | 8 |) | Groundwater Well |
| 1-30-20 1112 17.7 1.0 8 - | 1.0 2 2 Lucito | MW-E | | 1451 | 20,9 | 0.0 | Ø |) | Groundwater Well |
| 1-30-20 1112 19.7 1.0 8 - | ulig down into | PZ-1 | × | | 20,1 | 0, 4 | ø |) | Groundwater Well |
| | ubig down into | PZ-2 | 1-30-20 | | 19.7 | ~ · O | Ø |) | Groundwater Well |
| | | | | | | | | | |

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| DEP-SOP-001/01 Page of _ FT 1600 Field Measurement of Landfill Gas | | | | | | | | | | F | | | | | |
|--|--|----------------------------|--------------------------------|-------------------|-------------------------------|---|--|---------|-------------------------------|-----------------------------|--|---|---|--|--|
| | Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS | | | | | | | | | | | | | | |
| SIT | E NAME | | | | | | | | | | | | | | |
| | TRUME | | | | | | | | | | | | | 23* | |
| | rument | | | | | | | | | | | | | | |
| PARAMETER: [check only one] | | | | | | | | | | | | | | | |
| TEMPERATURE CONDUCTIVITY SALINITY | | | | | | | | | | | | | | | |
| TURBIDITY RESIDUAL CI DO X OTHER LANDFILL GAS | | | | | | | | | | | <u>)</u> | | | | |
| 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] | | | | | | | | | | | | | | | |
| | | | | | | | - | 95% | | (Volu | me). E | Balance | Nitroa | en | |
| | Standard A <u>14.99 % Methane (Volume), 14.95 % CO₂ (Volume), Balance Nitrogen</u> Standard Source <u>Airgas</u> Lot # <u>12スー4011 75248-1</u> | | | | | | | | | | | | | | |
| Standard B Zero Air (0 % Methane) (0% CO ₂) (2/.0 % O ₂) | | | | | | | | | | | | | | | |
| | Standard Source Airgas Lot # 55-400 483127-1 | | | | | | | | | | | | | | |
| 3 | Standard | | | | | | | (Volu | me), | <u>0% O</u> | <u>2 (Vol</u> | ume), B | <u>al Nitro</u> | ogen | |
| | Stand | lard S | ource | | | | | L | ot # _ | | | | _ | | |
| DATE (yy/mm/dd) | TIME (hr:min) | STD (A, B, C) | CH₄ STD VALUE (% Vol) | | O2 STD VALUE (% Vol) | INSTRUMENT RESPONSE (%) DEVIATION (LIMITS +/- 5%) CALIB- | | | | | | | | | |
| | | | | | | CH ₄ CO ₂ | | | | O ₂ | | RATED (YES, | (INIT, CONT) | SAMPLER INITIALS | |
| | | | | | | RES | DEV | RES | DEV | RES | DEV | NO) | | | |
| 20/01/29 | 0916 | A | 14.99 | 14.95 | | 15.0 | <1 | 15.0 | <1 | - | - | Yes | Init | sm. | |
| | 0921 | B | 4.000- | | 21.0 | - | - | ~ | - | 20.9 | < 1 | Yes | Int. | from | |
| | 1205 | | 14.99 | 14.95 | ~ | 14.5 | 44.8 | /4.8 | <2 | - | - | Yes . | Cont. | Mm | |
| | 1207 | B | - | _ | 21.0 | - | - | - | - | 20.9 | <1 | Yes | 2 | Im | |
| | 1545 | | | | | | | | <u> </u> | 6-1 | -1 | 16 | Cont. | | |
| -X | | | 14.99 | 14.95 | - | 15.0 | <1 | 14.8 | ~2 | | - | Yes | Cont. | Sm | |
| 20/2/20 | 1547 | в | | | | - | - | - | - | 20.9 | 2 | | Cont. | | |
| 20/01/30 | 1547 0852 | B A | 14.79 14.99 | 4.95 4.95 | _ | | <1 _ <1 | · · · · | - <1 | 20.9 | 2 21 - | Yes Ya5 Ye5 | Cont. Goat. Init. | Som Bony Jorny | |
| 20/01/30 | 1547 0852 0854 | B A B | | | - 21.0 | - 15.0 | - </td <td></td> <td>- <1</td> <td>- 20.9 - 20.9</td> <td>2</td> <td>Yes Yes Yes Yes</td> <td>Cont. Goat. Init. Init.</td> <td>Sm Beng Ann Ann</td> | | - <1 | - 20.9 - 20.9 | 2 | Yes Yes Yes Yes | Cont. Goat. Init. Init. | Sm Beng Ann Ann | |
| 20/01/30 | 1547 0852 0854 1211 | B A B A | | | 21.0 | - | - </td <td>-</td> <td>- <1 - <2</td> <td>20.9 - zo.9 -</td> <td>2 21 - 7] -</td> <td>Yes Yas Yes Yes Yes</td> <td>Cont. Goat. Init. Init. Cont.</td> <td>Sm Som Som Som Som</td> | - | - <1 - <2 | 20.9 - zo.9 - | 2 21 - 7] - | Yes Yas Yes Yes Yes | Cont. Goat. Init. Init. Cont. | Sm Som Som Som Som | |
| 20/01/30 | 1547 0852 0854 1211 1213 | B A B A B | | 14.95 | | 15.0 13.0 | - <br - </td <td></td> <td>- <1 - <2 -</td> <td>- 20.8 - 20.9 -</td> <td>2 E1 - ×1 - ×1 - ×1</td> <td>Yes Yes Yes Yes Yes Yes</td> <td>Cont. Goat. Init. Init. Cont. Cont.</td> <td>Som Som Som Som Som Som</td> | | - <1 - <2 - | - 20.8 - 20.9 - | 2 E1 - ×1 - ×1 - ×1 | Yes Yes Yes Yes Yes Yes | Cont. Goat. Init. Init. Cont. Cont. | Som Som Som Som Som Som | |
| 20/01/30 | 1547 0852 0854 1211 | B A B A | | | | - 15.0 | - <br - </td <td></td> <td>- <1 - <2 - <1</td> <td>- 20.9 - 20.9 -</td> <td></td> <td>Yes Yes Yes Yes Yes Yes Yes</td> <td>Cont. Goat. Init. Init. Cont. Cont. Cont.</td> <td>Som Som Som Som Som Som Som Som</td> | | - <1 - <2 - <1 | - 20.9 - 20.9 - | | Yes Yes Yes Yes Yes Yes Yes | Cont. Goat. Init. Init. Cont. Cont. Cont. | Som Som Som Som Som Som Som Som | |
| | 1547 0852 0854 1211 1213 1433 | B A B A B A | | 14.95 | 21.0 | 15.0 13.0 | - <br - </td <td></td> <td>- <1 - <2 - <1</td> <td>- 20.8 - 20.9 -</td> <td>2 E1 - ×1 - ×1 - ×1</td> <td>Yes Yes Yes Yes Yes Yes</td> <td>Cont. Goat. Init. Init. Cont. Cont.</td> <td>Som Som Som Som Som Som</td> | | - <1 - <2 - <1 | - 20.8 - 20.9 - | 2 E1 - ×1 - ×1 - ×1 | Yes Yes Yes Yes Yes Yes | Cont. Goat. Init. Init. Cont. Cont. | Som Som Som Som Som Som | |
| | 1547 0852 0854 1211 1213 1433 | B A B A B A | | 14.95 | 21.0 | 15.0 13.0 | - <br - </td <td></td> <td>- <1 - <2 - <1</td> <td>- 20.9 - 20.9 -</td> <td></td> <td>Yes Yes Yes Yes Yes Yes Yes</td> <td>Cont. Goat. Init. Init. Cont. Cont. Cont.</td> <td>Som Som Som Som Som Som Som Som</td> | | - <1 - <2 - <1 | - 20.9 - 20.9 - | | Yes Yes Yes Yes Yes Yes Yes | Cont. Goat. Init. Init. Cont. Cont. Cont. | Som Som Som Som Som Som Som Som | |

* Eagle SN E084039