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August 16, 2019

Ms. Cindy Koepke  
Hydrogeologist  
Wisconsin Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg, WI 53711

Subject: Refuse Hideaway Landfill  
June (Revised) and July 2019 Landfill Gas Monitoring Results

Dear Cindy:

TRC completed the monthly gas probe monitoring at the Refuse Hideaway Landfill in Middleton, WI. Attached are the monitoring results for June (Revised) and July 2019. Pressure, methane, carbon dioxide, oxygen, and methane (% LEL) are measured during the monthly event.

Please note the following:

- The white office building has been monitored in the May, June, and July events. It was previously reported as building/house, but the same office building has been monitored each event. Going forward, we are calling this location "Speedway Office."
- The location of GP-18S and GP-18D were reversed in the field notes in June and the revised table for June 2019 is attached. This is a monitoring point that should be relabeled as part of the upcoming maintenance planned for the site.

If you have any questions, please contact me at [kvater@trccompanies.com](mailto:kvater@trccompanies.com) or 608-826-3663.

Sincerely,

TRC

A handwritten signature in black ink, appearing to read "Katherine Vater".

Katherine Vater, PE  
Project Manager

Attachments

cc: Meredith Westover – TRC

**GAS PROBE MONITORING FORM**  
**REFUSE HIDEAWAY LANDFILL**

TECHNICIAN(S): J. Roelke

DATE: 6/25/19

START TIME: 8:00

END TIME: 16:30

INSTRUMENT TYPE: GEM 2000

SERIAL NO.: 11668

LAST CALIBRATED: 6/25/19

WEATHER CONDITIONS: Clear

TEMPERATURE: 81°F

METHOD: Standard Cal. Gases      BAROMETRIC PRESSURE & TREND: 29.79 rising  
PRESS. INSTRUMENT: Manometer      GROUND CONDITIONS: moist

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)
GP-1D	903	+0.04	75	9.7	16.0	0.0
GP-1S	905	+0.03	75	20.7	22.0	0.0
GP-2D	908	0.0	75	12.7	14.9	4.4
GP-2S	910	0.0	75	17.8	19.7	0.0
GP-3	914	0.0	75	29.7	23.0	0.4
GP-4	932	0.0	0.0	0.0	0.2	20.5
GP-5	923	0.0	0.0	0.0	0.5	20.1
GP-6	946	0.0	0.0	0.0	0.2	20.4
GP-7	1015	0.0	0.0	0.0	0.2	20.5
GP-8	1041	0.0	0.0	0.0	4.1	16.5
GP-9	1051	0.0	0.0	0.0	2.4	18.5
GP-10	1100	0.0	0.0	0.0	4.3	15.7
GP-11D	1106	0.0	0.0	0.0	5.8	8.3
GP-11S	1108	0.0	0.0	0.0	6.3	3.9
GP-12D	1120	0.0	75	7.1	7.6	10.7
GP-12S	1123	0.0	0.0	0.0	2.8	15.9
GP-13D	1140	0.0	.041	2.1	11.0	3.7
GP-13S	1143	0.0	.014	0.6	7.5	0.8
GP-16D	1231	0.0	0.0	0.0	0.3	20.2
GP-16M	Probe	broken	below ground	Surface	No measurements taken	
GP-16S	1234	0.0	0.0	0.0	13.4	4.0
GP-17D	1220	0.0	.037	1.7	5.2	13.3
GP-17M	1222	0.0	.070	3.4	7.8	10.2
GP-17S	1224	0.0	75	10.2	16.8	0.0
GP-18D <sup>5</sup>	1204	0.0	75	10.8	12.4	3.6
GP-18M	1206	-0.21	.008	0.4	1.0	19.6
GP-18S <sup>D</sup>	1209	-0.04	0.0	0.0	0.1	20.6

8/6/19

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)
GP-19 <sup>85-100</sup>	1504	0.0	0.0	0.0	0.0	20.7
GP-19 <sup>50-70</sup>	1506	0.0	0.0	0.0	0.0	20.7
GP-19 <sup>25-40</sup>	1508	0.0	0.0	0.0	0.0	20.7
GP19 <sup>2-15</sup>	1510	0.0	0.0	0.0	0.0	20.7
GP-20 <sup>85-100</sup>	1454	0.0	0.0	0.0	0.0	20.6
GP-20 <sup>50-70</sup>	1456	0.0	0.0	0.0	0.0	20.6
GP-20 <sup>25-40</sup>	1458	0.0	0.0	0.0	<del>0.5</del> 0.0	20.6
GP-20 <sup>2-15</sup>	1500	0.0	0.0	0.0	0.5	20.1
GP-20 <sup>85-100</sup>	1516	0.0	0.0	0.0	0.6	19.9
GP-20 <sup>50-70</sup>	1518	-0.05	0.0	0.0	0.0	20.6
GP-20 <sup>25-40</sup>	1520	0.0	0.0	0.0	0.0	20.6
GP-20 <sup>2-15</sup>	1522	0.0	0.0	0.0	0.4	20.0
GP-22 <sup>85-100</sup>	1416	0.0	0.0	0.0	2.7	18.1
GP-22 <sup>50-70</sup>	1418	0.0	0.0	0.0	1.0	19.4
GP-22 <sup>25-40</sup>	1420	0.0	0.0	0.0	0.0	20.7
GP-22 <sup>2-15</sup>	1422	0.0	0.0	0.0	4.9	16.1
GP-23 <sup>85-100</sup>	1430	0.0	0.0	0.0	0.4	20.0
GP-23 <sup>50-70</sup>	1432	0.0	0.0	0.0	2.5	17.1
GP-23 <sup>25-40</sup>	1433 <sub>34</sub>	0.0	0.0	0.0	1.1	18.2
GP-23 <sup>2-15</sup>	1434 <sub>36</sub>	0.0	0.0	0.0	0.0	20.5
GP-24 <sup>85-100</sup>	1443	-0.03	0.0	0.0	1.1	19.4
GP-24 <sup>50-70</sup>	1445	0.0	0.0	0.0	0.6	19.9
GP-24 <sup>25-40</sup>	1447	0.0	0.0	0.0	0.5	20.0
GP-24 <sup>2-15</sup>	1449	0.0	0.0	0.0	2.8	17.9
GPW-1D	1319	-0.53	0.0	0.0	0.9	19.7
GPW-1M	1321	-0.57	0.0	0.0	0.0	20.8
GPW-1S	1322	0.0	0.0	0.0	0.0	20.7
G-1D	844	0.0	>5	19.9	23.6	0.1
G-1S	846	+0.03	>5	39.8	31.6	0.0
G-2D	1150	0.0	0.0	0.0	4.8	15.2
G-2S	1153	0.0	0.0	0.0	17.5	0.0
G-5	1033	0.0	0.0	0.0	7.1	10.8
G-6	1249	0.0	0.0	0.0	0.4	20.3
G-8	1549	0.0	0.0	0.0	0.1	17.6
G-9	1200	0.0	0.0	0.0	0.3	19.4
G-10	1610	0.0	0.0	0.0	0.0	20.6
HOUSE	846	0.0	0.0	0.0	0.1	20.7

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**GAS PROBE MONITORING FORM**  
**REFUSE HIDEAWAY LANDFILL**

TECHNICIAN(S): J. Roelke

DATE: 7/24/19  
START TIME: 7:45  
END TIME: 1:15

INSTRUMENT TYPE: GEM 2000  
SERIAL NO.: T1668  
LAST CALIBRATED: 7/24/19

WEATHER CONDITIONS: clear  
TEMPERATURE: 81

METHOD: Standard Cal. Gases      BAROMETRIC PRESSURE & TREND: 30.14" Hg Steady  
PRESS. INSTRUMENT: Manometer      GROUND CONDITIONS: moist

GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)
GP-1D	7:59	0.0	>5	18.6	22.9	0.0
GP-1S	8:01	0.0	>5	40.7	32.2	0.0
GP-2D	8:26	0.0	>5	10.2	13.7	5.9
GP-2S	8:28	0.0	>5	14.7	18.7	0.0
GP-3	8:32	0.0	>5	40.0	33.6	0.3
GP-4	8:37	0.0	0.0	0.0	2.9	18.3
GP-5	8:40	0.0	0.0	0.0	3.4	16.9
GP-6	8:53	0.0	0.0	0.0	0.1	20.6
GP-7	9:11	0.0	0.0	0.0	0.2	20.3
GP-8	9:21	0.0	0.0	0.0	5.9	13.5
GP-9	9:36	0.0	0.0	0.0	2.6	17.9
GP-10	9:39	0.0	0.0	0.0	3.1	17.2
GP-11D	9:43	0.0	0.46	2.3	1.8	0.6
GP-11S	9:45	0.0	0.65	3.2	8.7	0.0
GP-12D	9:51	0.0	>5	6.7	11.2	9.2
GP-12S	9:53	0.0	0.0	0.0	3.8	15.7
GP-13D	9:57	0.0	0.41	2.1	10.8	5.5
GP-13S	9:59	0.0	0.4	0.2	10.6	2.8
GP-16D	10:22	0.0	0.0	0.0	1.0	18.1
GP-16M	NM					
GP-16S	10:24	0.0	0.0	0.0	7.3	13.0
GP-17D	10:15	0.0	0.0	0.0	3.8	15.5
GP-17M	10:17	0.0	0.0	0.0	5.0	15.0
GP-17S	10:19	0.0	0.0	0.0	6.2	14.3
GP-18D	10:34	0.0	0.0	0.0	1.0	18.5
GP-18M	10:36	0.0	0.13	0.6	5.1	13.8
GP-18S	10:38	0.0	>5	8.9	14.6	2.7

NM: No measurements take  
(Probe broken below ground surface)



GAS PROBE NAME	Time	PRESSURE (in. WC)	METHANE (% LEL)	METHANE (%, by vol.)	CARBON DIOXIDE (%, by vol.)	OXYGEN (%, by vol.)
GP-19 <sup>85-100</sup>	1303	0.0	0.0	0.0	0.0	20.5
GP-19 <sup>50-70</sup>	1305	0.0	0.0	0.0	0.0	20.4
GP-19 <sup>25-40</sup>	1307	0.0	0.0	0.0	0.0	20.5
GP19 <sup>2-15</sup>	1309	0.0	0.0	0.0	0.0	20.5
GP-20 <sup>85-100</sup>	1254	0.0	0.0	0.0	0.0	20.4
GP-20 <sup>50-70</sup>	1256	0.0	0.0	0.0	0.0	20.5
GP-20 <sup>25-40</sup>	1258	0.0	0.0	0.0	0.0	20.5
GP-20 <sup>2-15</sup>	1300	0.0	0.0	0.0	0.0	20.5
GP-21 <sup>85-100</sup>	1244	0.0	0.0	0.0	0.3	20.0
GP-21 <sup>50-70</sup>	1246	0.0	0.0	0.0	0.0	20.4
GP-21 <sup>25-40</sup>	1248	0.0	0.0	0.0	0.0	20.5
GP-21 <sup>2-15</sup>	1250	0.0	0.0	0.0	0.5	19.9
GP-22 <sup>85-100</sup>	1232	0.0	0.0	0.0	1.4	18.8
GP-22 <sup>50-70</sup>	1234	0.0	0.0	0.0	1.6	18.6
GP-22 <sup>25-40</sup>	1235	0.0	0.0	0.0	0.0	20.4
GP-22 <sup>2-15</sup>	1236	0.0	0.0	0.0	6.0	14.1
GP-23 <sup>85-100</sup>	1158	0.0	0.0	0.0	0.1	20.3
GP-23 <sup>50-70</sup>	1200	0.0	0.0	0.0	0.0	20.4
GP-23 <sup>25-40</sup>	1202	0.0	0.0	0.0	1.7	18.3
GP-23 <sup>2-15</sup>	1204	0.0	0.0	0.0	2.6	17.5
GP-24 <sup>85-100</sup>	1213	0.06	0.0	0.0	0.1	20.1
GP-24 <sup>50-70</sup>	1215	0.0	0.0	0.0	0.1	20.2
GP-24 <sup>25-40</sup>	1217	0.0	0.0	0.0	0.0	20.3
GP-24 <sup>2-15</sup>	1219	0.0	0.0	0.0	4.5	16.0
GPW-1D	1456	+0.15	0.0	0.0	2.8	15.5
GPW-1M	1458	+0.16	0.0	0.0	0.5	19.5
GPW-1S	1500	0.0	0.0	0.0	2.9	15.5
G-1D	759	0.0	75	18.6	22.9	0.0
G-1S	801	0.0	75	40.7	32.2	0.0
G-2D	1005	0.0	0.0	0.0	2.4	17.7
G-2S	1008	0.0	75	6.9	16.3	0.5
G-5	929	0.0	0.0	0.0	6.2	12.1
G-6	803	0.0	0.0	0.0	0.7	20.1
G-8	1316	0.0	0.0	0.0	0.0	18.9
G-9	1339	0.0	0.0	0.0	0.5	19.7
G-10	1137	-0.09	0.0	0.0	0.0	20.2
Speedway Office	817	0.0	0.0	0.0	0.1	20.6

Reviewed by K. Vater 8/15/19