



708 Heartland Trl.
Suite 3000
Madison, WI 53717

T 608.826.3600
TRCcompanies.com

August 16, 2019

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

Subject: Refuse Hideaway Landfill
August 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 August 2019. Pressure, methane, carbon dioxide, oxygen, and methane (% LEL) are measured during the monthly event.

If you have any questions, please contact me at kvater@trccompanies.com or 608-826-3663.

Sincerely,

TRC

A handwritten signature in black ink that reads "Katherine Vater".

Katherine Vater, PE
Project Manager

Attachments

cc: Meredith Westover – TRC

GAS PROBE MONITORING FORM
REFUSE HIDEAWAY LANDFILL

TECHNICIAN(S): J. Roelke

DATE: 8/12/19
START TIME: 8:00
END TIME: 1430

INSTRUMENT TYPE: GEM 2000
SERIAL NO.: 11668
LAST CALIBRATED: 8/12/19

WEATHER CONDITIONS: cloudy turning to rain
TEMPERATURE: 74

METHOD: Standard Cal. Gases BAROMETRIC PRESSURE & TREND: 29.93 falling
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 | 847 | +0.04 | >5 | 9.7 | 18.1 | 0.0 |
| GP-1S | 849 | +0.04 | >5 | 22.9 | 25.2 | 0.0 |
| GP-2D | 852 | 0.0 | >5 | 10.5 | 13.9 | 5.1 |
| GP-2S | 854 | 0.0 | >5 | 12.8 | 18.4 | 0.0 |
| GP-3 | 857 | 0.0 | >5 | 64.4 | 27.1 | 0.0 |
| GP-4 | 903 | 0.0 | 0.0 | 0.0 | 5.1 | 16.3 |
| GP-5 | 907 | 0.0 | 0.0 | 0.0 | 0.6 | 19.1 |
| GP-6 | 913 | 0.0 | 0.0 | 0.0 | 0.1 | 20.2 |
| GP-7 | 922 | -0.96 | 0.0 | 0.0 | 0.6 | 20.1 |
| GP-8 | 929 | 0.0 | 0.0 | 0.0 | 2.5 | 18.1 |
| GP-9 | 942 | 0.0 | 0.0 | 0.0 | 2.1 | 18.5 |
| GP-10 | 957 | 0.0 | 0.0 | 0.0 | 2.7 | 13.4 |
| GP-11D | 950 | 0.0 | .059 | 2.9 | 9.3 | 1.0 |
| GP-11S | 952 | 0.0 | .071 | 3.5 | 10.0 | 0.7 |
| GP-12D | 1008 | 0.0 | .061 | 2.9 | 8.6 | 12.1 |
| GP-12S | 1010 | 0.0 | 0.0 | 0.0 | 6.7 | 12.4 |
| GP-13D | 1013 | +0.05 | .017 | 0.8 | 8.43 | 8.4 |
| GP-13S | 1015 | 0.0 | .005 | 0.2 | 10.1 | 2.3 |
| GP-16D | 1037 | 0.0 | 0.0 | 0.0 | 1.6 | 18.2 |
| GP-16M | NM | | | | | |
| GP-16S | 1039 | 0.0 | 0.0 | 0.0 | 5.3 | 14.4 |
| GP-17D | 1032 | 0.0 | 0.0 | 0.0 | 7.0 | 12.7 |
| GP-17M | 1034 | +0.04 | 0.0 | 0.0 | 5.7 | 14.5 |
| GP-17S | 1036 | 0.0 | 0.0 | 0.0 | 11.6 | 5.8 |
| GP-18D | 1045 | +0.08 | 0.0 | 0.0 | 0.2 | 20.1 |
| GP-18M | 1047 | -0.17 | 0.0 | 0.0 | 0.4 | 20.0 |
| GP-18S | 1049 | -0.03 | >5 | 8.7 | 15.6 | 2.0 |

8/12/19 SAR

NM; No measurements taken
(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 ⁸⁵⁻¹⁰⁰ | 1246 | 0.0 | 0.0 | 0.0 | 0.0 | 20.4 |
| GP-19 ⁵⁰⁻⁷⁰ | 1248 | 0.0 | 0.0 | 0.0 | 0.0 | 20.4 |
| GP-19 ²⁵⁻⁴⁰ | 1250 | 0.0 | 0.0 | 0.0 | 0.0 | 20.4 |
| GP-19 ²⁻¹⁵ | 1252 | 0.0 | 0.0 | 0.0 | 0.0 | 20.4 |
| GP-20 ⁸⁵⁻¹⁰⁰ | 1237 | 0.0 | 0.0 | 0.0 | 0.1 | 20.2 |
| GP-20 ⁵⁰⁻⁷⁰ | 1239 | 0.0 | 0.0 | 0.0 | 0.0 | 20.3 |
| GP-20 ²⁵⁻⁴⁰ | 1241 | 0.0 | 0.0 | 0.0 | 0.0 | 20.3 |
| GP-20 ²⁻¹⁵ | 1243 | 0.0 | 0.0 | 0.0 | 0.2 | 19.5 |
| GP-21 ⁸⁵⁻¹⁰⁰ | 1229 | 0.0 | 0.0 | 0.0 | 0.4 | 19.6 |
| GP-21 ⁵⁰⁻⁷⁰ | 1231 | +0.07 | 0.0 | 0.0 | 0.0 | 20.2 |
| GP-21 ²⁵⁻⁴⁰ | 1233 | 0.0 | 0.0 | 0.0 | 0.0 | 20.2 |
| GP-21 ²⁻¹⁵ | 1235 | 0.0 | 0.0 | 0.0 | 1.2 | 18.9 |
| GP-22 ⁸⁵⁻¹⁰⁰ | 1155 | +0.14 | 0.0 | 0.0 | 0.5 | 19.5 |
| GP-22 ⁵⁰⁻⁷⁰ | 1157 | +0.05 | 0.0 | 0.0 | 0.3 | 20.1 |
| GP-22 ²⁵⁻⁴⁰ | 1159 | 0.0 | 0.0 | 0.0 | 0.4 | 19.9 |
| GP-22 ²⁻¹⁵ | 1201 | 0.0 | 0.0 | 0.0 | 4.9 | 15.7 |
| GP-23 ⁸⁵⁻¹⁰⁰ | 1206 | 0.0 | 0.0 | 0.0 | 6.5 | 13.1 |
| GP-23 ⁵⁰⁻⁷⁰ | 1208 | 0.0 | 0.0 | 0.0 | 5.1 | 14.7 |
| GP-23 ²⁵⁻⁴⁰ | 1210 | 0.0 | 0.0 | 0.0 | 1.7 | 18.3 |
| GP-23 ²⁻¹⁵ | 1212 | 0.0 | 0.0 | 0.0 | 5.4 | 14.2 |
| GP-24 ⁸⁵⁻¹⁰⁰ | 1219 | 0.0 | 0.0 | 0.0 | 4.2 | 16.1 |
| GP-24 ⁵⁰⁻⁷⁰ | 1221 | +0.06 | 0.0 | 0.0 | 2.0 | 17.3 |
| GP-24 ²⁵⁻⁴⁰ | 1223 | 0.0 | 0.0 | 0.0 | 0.1 | 20.2 |
| GP-24 ²⁻¹⁵ | 1225 | 0.0 | 0.0 | 0.0 | 0.4 | 19.9 |
| GPW-1D | 1423 | +0.36 | 0.0 | 0.0 | 2.3 | 16.7 |
| GPW-1M | 1425 | +0.31 | 0.0 | 0.0 | 1.2 | 18.6 |
| GPW-1S | 1427 | 0.0 | 0.0 | 0.0 | 3.5 | 15.2 |
| G-1D | 825 | 0.0 | >5 | 17.9 | 22.7 | 0.0 |
| G-1S | 827 | 0.0 | >5 | 37.8 | 31.4 | 0.0 |
| G-2D | 1020 | 0.0 | 0.0 | 0.0 | 3.1 | 16.0 |
| G-2S | 1022 | 0.0 | >5 | 6.5 | 16.9 | 0.0 |
| G-5 | 934 | +0.86 | 0.0 | 0.0 | 6.3 | 8.7 |
| G-6 | 834 | 0.0 | 0.0 | 0.0 | 0.7 | 19.7 |
| G-8 | 1259 | 0.0 | 0.0 | 0.0 | 0.0 | 20.3 |
| G-9 | 1310 | 0.0 | 0.0 | 0.0 | 0.1 | 16.5 |
| G-10 | 1131 | +0.66 | 0.0 | 0.0 | 1.1 | 17.5 |
| Speedway Office | 843 | 0.0 | 0.0 | 0.0 | 0.1 | 20.3 |

Reviewed by K. Vater 8/15/19