

February 19, 2025



John Mahony
Site Landfill Engineer
GFL Environmental, Inc
Zion Landfill
701 Green Bay Rd
Zion, IL 60099

Subject: 2025 Q1 Surface Emissions Monitoring (SEM) Final File Report

Dear Mr. Mahony:

Sniffer Robotics, Inc. (SRI) performed 2025 first quarter surface emissions monitoring (SEM) and penetration monitoring at Zion Landfill on January 15, 2025, as specified in 40 CFR 60.766 (f), and the applicable sections of 40 CFR 60, Appendix A, Method 21, "Method 21 – Determination of Volatile Organic Compound Leaks".

In accordance with the applicable requirements, SEM was conducted as follows:

- around the perimeter of the collection area;
- along a pattern that traverses the landfill at no more than 30-meter intervals;
- where visual observations indicated elevated concentrations of landfill gas; and
- all cover penetrations.

SEM was conducted using a portable methane monitor with the probe inlet placed within 5 to 10 centimeters of the ground in accordance with the requirements specified in section 60.764 "Test Methods and Procedures". Upwind and downwind measurements were taken prior to inspection and monitoring was performed during typical meteorological conditions. Dangerous areas were excluded in accordance with the applicable rules.

This report summarizes the work performed and presents the data collected.

Weather & Atmospheric Conditions:

Weather conditions with upwind and downwind methane concentrations at the start of each day were recorded as provided below in Table 1.

Table 1

Date	January 15, 2025	January 16, 2025	January 24, 2025	February 14, 2025
Event	Initial	Initial	10-Day Remonitoring ¹	One-Month Remonitoring ³
Sky	Overcast -> Overcast	Clear Sky -> Clear Sky	Clear Sky -> Overcast	Overcast -> Overcast
Ground	Dry -> Dry	Dry -> Dry	Dry -> Dry	Dry -> Dry
Temperature	25 -> 32 F	8 -> 16 F	12 -> 18 F	18 -> 23 F
Wind Direction	W -> NW	W -> SW	SW -> SW	S -> S
Wind Speed	10 -> 17 MPH	7 -> 14 MPH	10 -> 11 MPH	10 -> 15 MPH
Barometric Pressure	30.24" -> 30.36"	31.02" -> 30.84"	30.75" -> 30.72"	31.08" -> 30.87"
Humidity	74% -> 79%	79% -> 54%	56% -> 48%	73% -> 80%
Upwind	4	2	1	8
Downwind	8	9	0	5
Average	6	5.5	0.5	6.5

Calibration

The initial monitoring and all subsequent re-monitoring were conducted using an Inficon IRwin (infrared) methane leak detector with a sensitivity of 1 to 100% PPM. The detectors were calibrated in accordance with the manufacturer's recommendations and according to Method 21 using 500 PPM calibration gas. Calibration reports are provided as attachments at the end of this report.

Exceedances

As provided in Tables 2-1 and 2-2 below, one landfill surface location and seven penetrations were found to have exceeded the 500 PPM above background threshold during the initial monitoring.

The site was provided with the details after each inspection event.

Table 2-1 Surface Exceedance(s)

Ref	Long, Lat	Ref Gas Well and Location Description	Initial	10-Day Remonitoring ¹	20-Day Remonitoring ²	One-Month Remonitoring ³	One-Month + 10-Day Remonitoring ⁴	Status
7	-87.868420, 42.481744	-	1,000	10	N/R	250	N/R	Cleared

Table 2-2 Penetration Exceedance(s)

Ref	Long, Lat	Ref Gas Well and Location Description	Initial	10-Day Remonitoring ¹	20-Day Remonitoring ²	One-Month Remonitoring ³	One-Month + 10-Day Remonitoring ⁴	Status
1	-87.871205, 42.483311	EW-143C/143H	950	2	N/R	0	N/R	Cleared
2	-87.871238, 42.483375	EW-143D	2,000	0	N/R	0	N/R	Cleared
3	-87.870978, 42.484163	EW-144RR	9,000	2	N/R	0	N/R	Cleared
4	-87.867108, 42.484197	EW-161	1,000	18	N/R	66	N/R	Cleared
5	-87.868750, 42.483563	EW-152-3	2,000	16	N/R	120	N/R	Cleared
6	-87.867937, 42.484893	EW-157	2,000	5	N/R	8	N/R	Cleared
8	-87.865534, 42.482546	EW-173	11,000	120	N/R	230	N/R	Cleared

N/R = Not Required

¹10-day re-monitoring event performed within 10 days of the initial exceedance.

²20-day re-monitoring event performed within 10 days of the 10-day exceedance. This re-monitoring is only required if the first 10-day re-monitoring event was greater than 500 ppm above background.

³1-month re-monitoring event performed within 1 month of the initial exceedance. This re-monitoring is performed on all locations reported from the initial event except for those where exceedances were measured during both the 10-day and 20-day re-monitoring event.

⁴1 month + 10 day re-monitoring event performed within 10 days of the 1-month re-monitoring event. This re-monitoring is performed when no exceedances are measured during the 10-day re-monitoring event and when an exceedance is measured during the 1-month re-monitoring event.



Thank you for the opportunity to serve you. Please contact the SRI team for further information.

Regards,

A handwritten signature in blue ink, reading "William G. Tennant".

William G. Tennant
Chief Executive Officer
Sniffer Robotics, Inc.