



January 11, 2017

Ms. Christina Pearse-Bossick  
Environmental Manager  
BFI Waste Systems of North America, LLC  
5011 S. Lilley Road  
Canton, Michigan 48188

Subject: Surface monitoring report for BFI - Arbor Hills Landfill, "Area F," conducted on January 9, 2017.

Dear Ms. Pearse-Bossick,

Air Quality Specialist, Inc. (AQSI) conducted a surface emissions monitoring (SEM) event at BFI Waste Systems of North America, LLC (BFI) – Arbor Hills Landfill (Arbor) on January 9, 2017. The monitoring was performed in general accordance with 40 Code of Federal Regulations (CFR) Part 60, Subpart WWW; however this SEM event was not performed to comply with the routine quarterly SEM requirement required pursuant to 40 CFR 60.753(d) and 60.755(c).

AQSI traversed "Area F" of the landfill consistent with the requirements of the New Source Performance Standard (NSPS). AQSI used a portable Flame Ionization Detector (FID) to measure surface methane concentration. AQSI calibrated and operated the FID in accordance with the NSPS and 40 CFR Part 60, Appendix A, Method 21. Instrument calibration data is attached.

The average weather conditions during the scan event were:

<u>Date</u>	<u>Temperature</u>	<u>Skies</u>	<u>Wind Speed</u>	<u>Wind Direction</u>
January 9, 2017	27 °F	Cloudy	16 mph	South southwest

On January 9, 2017, there were two (2) locations on "Area F" with a measured surface concentration greater than 500 parts per million (ppm), as methane. The results were:

<u>Number/ID</u>	<u>Concentration</u>	<u>Descriptive Location</u>
010917-F <sub>1</sub>	>500 ppm	Well W312 casing
010917-F <sub>2</sub>	>500 ppm	Well W267 casing

Based on these results, and in accordance with 40 CFR 60, Subpart WWW, 60.755(c)(4)(ii), AQSI will return to the site on or before January 19, 2017, to perform a "10-day" re-monitoring event of the exceedance location.

The attachment contains the FID calibration error and drift-check data, and a site map with the approximate traverse pattern and exceedance locations (if applicable).

Please contact me at (248) 887-7565 if you have any questions.

Sincerely,

**AIR QUALITY SPECIALIST, INC.**



Andrew D. Secord  
Environmental Scientist

Attachments: FID Calibration Data  
Site Map



Attachments  
BFI – Arbor Hills Landfill  
Calibration Data Sheets and Site Map

**USEPA METHOD 21**

**Determination of Volatile Organic Compound Leaks  
AQSI Surface Monitoring Calibration Data Sheet**

Client: Arbor Hills- Section F Date: 1/9/2017  
 Technician / FID: JMC/TVA-1000-TE Temperature: 21°F

Calibration Standards	Cylinder Identification	Concentration (ppm, Methane)
Zero Gas	<u>Ambient</u>	<u>&lt;5</u>
Span Gas	<u>GAG-150A-500-3</u>	<u>518</u>

Allow the instrument to warm-up for 5 to 10 minutes. Introduce zero gas and set the zero value. Introduce span gas and set the span concentration. Record stable span concentration: = 504

**Calibration Precision Demonstration:**

Make a total of three measurements by alternatively using zero gas and the specified calibration gas. Record the meter readings.

Test Number	Stable Value	Absolute Deviation	Response Time
Zero <sub>1</sub> =	<u>3.5</u>	0.0 ppm	
Span <sub>1</sub> =	<u>512</u>	0.0 ppm	<u>5 seconds</u>
Zero <sub>2</sub> =	<u>4.1</u>	0.0 ppm	
Span <sub>2</sub> =	<u>519</u>	0.0 ppm	<u>5 seconds</u>
Zero <sub>3</sub> =	<u>4.0</u>	0.0 ppm	
Span <sub>3</sub> =	<u>514</u>	0.0 ppm	<u>6 seconds</u>

Absolute Average Zero Deviation: \_\_\_\_\_  
 Absolute Average Span Deviation: \_\_\_\_\_  
 Percent Zero Calibration Precision: \_\_\_\_\_  
 Percent Span Calibration Precision: \_\_\_\_\_

Average response time to 90% of stable value must be <30s. \_\_\_\_\_

**Average Background Concentration:** \_\_\_\_\_

Upwind: 3.1 Downwind: 7.4

**Post-test Calibration Error and Drift Check:**

Make no adjustments to the instrument or sample system. Allow instrument to sample zero air. Record the stable value. Re-introduce the span gas to the measurement system. Record response time and stable span gas value.

Post-zero = 4.9 (< 10% of span)\*  
 Response time = 6 seconds (< 30s)\*  
 Post-span = 513 (< 10% deviation)\*

\* if these criteria are all met, test is considered valid without comment.

# USEPA METHOD 21

## Determination of Volatile Organic Compound Leaks AQSI Surface Monitoring Calibration Data Sheet

Client: BFI - Arbor, "Area F" Date: January 9, 2017  
Technician / FID: JMC / TVA 1000B (TE) Temperature: 21 °F

<u>Calibration Standards</u>	<u>Cylinder Identification</u>	<u>Concentration (ppm, Methane)</u>
Zero Gas	Ambient	~ 5.0
Span Gas	GAQ-150A-500-3	518

Allow the instrument to warm-up for 5 to 10 minutes. Introduce zero gas and set the zero value. Introduce span gas and set the span concentration. Record stable span concentration: = 504.0 ppm

### Calibration Precision Demonstration:

Make a total of three measurements by alternatively using zero gas and the specified calibration gas. Record the meter readings.

<u>Test Number</u>	<u>Stable Value</u>	<u>Absolute Deviation</u>	<u>Response Time</u>
Zero <sub>1</sub> =	<u>3.5 ppm</u>	1.5 ppm	
Span <sub>1</sub> =	<u>512.0 ppm</u>	6.0 ppm	5.0 s
Zero <sub>2</sub> =	<u>4.1 ppm</u>	0.9 ppm	
Span <sub>2</sub> =	<u>519.0 ppm</u>	1.0 ppm	5.0 s
Zero <sub>3</sub> =	<u>4.0 ppm</u>	1.0 ppm	
Span <sub>3</sub> =	<u>514.0 ppm</u>	4.0 ppm	6.0 s

Absolute Average Zero Deviation: 1.1 ppm

Absolute Average Span Deviation: 3.7 ppm

Percent Zero Calibration Precision: 0.2%

Percent Span Calibration Precision: 0.7%

Average response time to 90% of stable value must be <30s. 5.3 s

Average Background Concentration: 5.3 ppm

Upwind: 3.1 ppm Downwind: 7.4 ppm

### Post-test Calibration Error and Drift Check:

Make no adjustments to the instrument or sample system. Allow instrument to sample zero air. Record the stable value. Re-introduce the span gas to the measurement system. Record response time and stable span gas value.

Post-zero = 4.9 ppm (< 10% of span)\*

Response time = 6.0 s (< 30s)\*

Post-span = 513.0 ppm (< 10% deviation)\*

\* if these criteria are all met, test is considered valid without comment.

V09/2017

1-7,000 PPM,  
leaking at  
casing WW-312

2- $\phi > 3\%$ ,  
leaking at casing  
ww-267, heavy  
odor

