Mr. John J. Gay Air Compliance and Enforcement FDEP Northeast District Office 7825 Baymeadows Way. Suite B200 Jacksonville, Florida 32256 RECEIVED

MAY 05 2009

BUREAU OF AIR REGULATION

RE:

North Municipal Solid Waste Landfill

Surface Scan

Permit No. 0310340-005-AV

Dear Mr. Gay:

This is the report for the surface scan conducted on the City of Jacksonville, North Municipal Solid Waste Landfill for March 21st and 22nd, 2009. There were no detections of methane above the 500 ppm limit during the surface scan event. Attached are the surface scan route maps.

This surface scan is currently being conducted on an annual basis. There were no detections over 500 ppm for more than four consecutive quarters. Therefore, in accordance with 40 CFR60.756(f), the surface scan frequency is annually.

If you have any questions or comments regarding this report, please call me at (904)-472-4720.

Very truly yours.

Rem -. Man

Ronald L. Moore Project Manager AECOM/Earth Tech

Attachment

Cc: Florida DEP, (Tallahassee, FL)
Wayne Tutt, (City of JAX, Air Quality Division)
Chris Pearson, (City of JAX, Solid Waste)
Mike Beaudoin, (AECOM)

40 CFR 60.755(d)(3) requires performance evaluation of response factor, response time and calibration precision according to the section 4.4 of 40 CFR 60 Appendix A, Method 21. The requirements are presented below along with locations to record the evaluations.

Response Factor:

Response factor is the ratio of the known concentration of a VOC compound to the observed meter reading when measured using an instrument calibrated with the reference compound specified in the applicable regulation. Since the monitoring instrument is being used to detect methane and the calibration reference compound is methane, the response factor by definition is one. No further evaluation is required.

Response Time:

Response time is the time interval from a step change in VOC concentration at the input of the sampling system to the time at which 9 percent of the corresponding final value is reached as displayed on the instrument readout meter.

Performance Requirement: Section 3.1.2(b) of Method 21 requires the instrument response time to be equal to or less than 30 seconds.

Evaluation Frequency: Prior to placing instrument into service (for the first time or after it was out of service for maintenance or repair). If modification to the sample pumping system or flow configuration is made that would change the response time, a new test is required prior to further use.

Evaluation Procedure: (Section 4.4.3 of Method 21) Calibrate instrument with the methane calibration gas. Introduce zero gas into the instrument sample probe. When the meter reading has stabilized, switch quickly to the specified calibration gas. Measure the time from switching to when 90 percent of the final stable reading is attained. Perform this test sequence three times and record the results. Calculate the average response time. Use the form below or a similar format to document this procedure.

Date: 3/21/09
Operator Name: Ron Moore

Facility: North Landfill (Jacksonville, FL)

Instrument ID: Photovac microFiD I/S

Calibration Gas Conc.: 500 ppm CH4
90% of Calib. Gas Conc.: 450 ppm CH4

<u>Trial No.</u>	Time to reach 90% gas value
1 .	<u>20.0</u> seconds
2	<u>21.0</u> seconds
3	19.0 seconds
Average	<u>20.0</u> seconds

Is instrument response time less than or equal to 30 seconds? (If yes, then performance is acceptable)

X Yes No

(cont.)

Calibration Precision:

Calibration precision is the degree of agreement between measurements of the same known value, expressed as the relative percentage of the average difference between the meter readings and the known concentration to the known concentration.

Performance Requirement: The calibration precision must be equal to or less than 10 percent of the calibration gas value.

Evaluation Frequency: Must be completed prior to placing instrument into service, and at subsequent 3-month intervals or at the next use whichever is later.

Evaluation Procedure: (Section 4.4.2 of Method 21) Calibrate instrument with the methane calibration gas. Make a total of three measurements by alternately using zero gas and the specified calibration gas. Record the meter readings. Calculate the average algebraic difference between the meter readings and the known value. Divide this average difference by the known calibration value and multiply by 100 to express the resulting calibration precision as a percentage.

Date: 3/21/09
Operator Name: Ron Moore

Facility: North Landfill (Jacksonville, FL)

Instrument ID: <u>Photovac microFiD I/S</u>

Calibration Gas Conc.: 500 ppm CH4

Trial No.	Meter Reading After Zero Gas	Meter Reading with Cal Gas	Difference Between Cal Gas and Meter Reading
1	0.0 ppm	490 ppm	10.0 ppm
2	0.0 ppm	<u>490 ppm</u>	<u>10.0 ppm</u>
3	<u>0.0 ppm</u>	<u>490 ppm</u>	<u>10.0 ppm</u>

Average Difference: 10.0 ppm

Calibration Precision = Average Difference/Calibration Gas Conc. X 100
=
$$\frac{10.0}{2.0\%}$$
 / $\frac{500}{2.0\%}$ X $\frac{100}{2.0\%}$

Is calibration precision equal to or less than 10 percent of the calibration gas value? (If yes, then performance is acceptable):

X	Yes	No
Λ	1 65	INC

Table 2 Instrument Calibration and Monitoring Procedures Surface Monitoring Design Plan

The calibration procedures in section 4.2 of 40 CFR 60 Appendix A, Method 21 must be conducted immediately before commencing a surface monitoring survey. [40 CFR 60.755(d)(4)] Calibration, background readings and monitoring details can be recorded using this form.

Calibration Procedure:

The calibration gas should be methane in air at a nominal concentration of 500 ppm. [See section 3.2 of Method 21 for further calibration gas requirements.]

Assemble and start up the analyzer according to the manufacturer's instructions. After the appropriate warm-up period and zero internal calibration procedure, introduce the calibration gas into the instrument sample probe. Adjust the instrument meter readout to correspond to the calibration gas value. Record the calibration information in the table below.

Background Concentration:

Determine the background concentration by moving the probe inlet upwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. Record the background concentration and location in the table below.

General Information:

Date: 3/21/09
Operator Name: Ron Moore

Facility: North Landfill (Jacksonville, FL)

Instrument ID: Photovac microFiD I/S

Wind Direction: Northeast
Approximate Wind Speed 15 mph

General Weather: 61 °F

clear, partly cloudy, overcast: <u>clear</u> (circle one or write in)

no precip, drizzle, rain, snow: no precip (circle one or write in)

Calibration Information:

Calibration Gas Conc.: 500 ppm CH4

Conduct internal zero calibration? Yes

Instrument reading after calibration: 500 ppm CH4 (should be same as above)

Time of Calibration: 09:00 a.m.

Background Concentration Information:

Background concentration upwind of site: 0 ppm Average Background:

Location of background reading: <u>NE side of landfill</u> <u>0 ppm</u>

Background concentration downwind of site: <u>0 ppm</u> New "Leak" definition:

Location of background reading: <u>SW side of landfill</u> <u>500 ppm</u>

40 CFR 60.755(d)(3) requires performance evaluation of response factor, response time and calibration precision according to the section 4.4 of 40 CFR 60 Appendix A, Method 21. The requirements are presented below along with locations to record the evaluations.

Response Factor:

Response factor is the ratio of the known concentration of a VOC compound to the observed meter reading when measured using an instrument calibrated with the reference compound specified in the applicable regulation. Since the monitoring instrument is being used to detect methane and the calibration reference compound is methane, the response factor by definition is one. No further evaluation is required.

Response Time:

Response time is the time interval from a step change in VOC concentration at the input of the sampling system to the time at which 90 percent of the corresponding final value is reached as displayed on the instrument readout meter.

Performance Requirement: Section 3.1.2(b) of Method 21 requires the instrument response time to be equal to or less than 30 seconds.

Evaluation Frequency: Prior to placing instrument into service (for the first time or after it was out of service for maintenance or repair). If modification to the sample pumping system or flow configuration is made that would change the response time, a new test is required prior to further use.

Evaluation Procedure: (Section 4.4.3 of Method 21) Calibrate instrument with the methane calibration gas. Introduce zero gas into the instrument sample probe. When the meter reading has stabilized, switch quickly to the specified calibration gas. Measure the time from switching to when 90 percent of the final stable reading is attained. Perform this test sequence three times and record the results. Calculate the average response time. Use the form below or a similar format to document this procedure.

Date: 3/22/09
Operator Name: Ron Moore

Facility: North Landfill (Jacksonville, FL)

Instrument ID: Photovac microFiD 1/S

Calibration Gas Conc.: 500 ppm CH4 90% of Calib. Gas Conc.: 450 ppm CH4

Trial No.	Time to reach 90% gas value
1	22.0 seconds
2	21.0 seconds
3	21.0 seconds
Average	21.3 seconds

Is instrument response time less than or equal to 30 seconds? (If yes, then performance is acceptable)

X	Yes	No

(cont.)

Calibration Precision:

Calibration precision is the degree of agreement between measurements of the same known value, expressed as the relative percentage of the average difference between the meter readings and the known concentration to the known concentration.

Performance Requirement: The calibration precision must be equal to or less than 10 percent of the calibration gas value.

Evaluation Frequency: Must be completed prior to placing instrument into service, and at subsequent 3-month intervals or at the next use whichever is later.

Evaluation Procedure: (Section 4.4.2 of Method 21) Calibrate instrument with the methane calibration gas. Make a total of three measurements by alternately using zero gas and the specified calibration gas. Record the meter readings. Calculate the average algebraic difference between the meter readings and the known value. Divide this average difference by the known calibration value and multiply by 100 to express the resulting calibration precision as a percentage.

Date: 3/22/09
Operator Name: Ron Moore

Facility: North Landfill (Jacksonville, FL)

Instrument ID: Photovac microFiD I/S

Calibration Gas Conc.: 500 ppm CH4

	Meter Reading	Meter Reading	Difference Between
Trial No.	After Zero Gas	with Cal Gas	Cal Gas and Meter Reading
1	<u>0.0 ppm</u>	480 ppm	20.0 ppm
2	<u>0.0 ppm</u>	<u>490 ppm</u>	10.0 ppm
3	<u>0.0_ppm</u>	490 ppm	<u>10.0 ppm</u>

Average Difference:

13.3 ppm

Is calibration precision equal to or less than 10 percent of the calibration gas value? (If yes, then performance is acceptable):

X Yes ___ No

Table 2 **Instrument Calibration and Monitoring Procedures** Surface Monitoring Design Plan

The calibration procedures in section 4.2 of 40 CFR 60 Appendix A. Method 21 must be conducted immediately before commencing a surface monitoring survey. 60.755(d)(4)] Calibration, background readings and monitoring details can be recorded using this form.

Calibration Procedure:

The calibration gas should be methane in air at a nominal concentration of 500 ppm. [See section 3.2 of Method 21 for further calibration gas requirements.]

Assemble and start up the analyzer according to the manufacturer's instructions. After the appropriate warm-up period and zero internal calibration procedure, introduce the calibration gas into the instrument sample probe. Adjust the instrument meter readout to correspond to the calibration gas value. Record the calibration information in the table below.

Background Concentration:

Determine the background concentration by moving the probe inlet upwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. Record the background concentration and location in the table below.

General Information:

Date:

3/22/09

Operator Name:

Ron Moore North Landfill (Jacksonville, FL)

Facility: Instrument ID:

Photovac microFiD I/S

Wind Direction:

Northeast

Approximate Wind Speed

10 mph

General Weather:

58 °F

clear, partly cloudy, overcast:

partly cloudy

(circle one or write in)

no precip, drizzle, rain, snow:

no precip

(circle one or write in)

Calibration Information:

Calibration Gas Conc.:

500 ppm CH4

Conduct internal zero calibration?

Yes

Instrument reading after calibration:

500 ppm CH4 (should be same as above)

Time of Calibration:

09:00 a.m.

Background Concentration Information:

Background concentration upwind of site:

Average Background: 0 ppm

Location of background reading: NE side of landfill

0 ppm

Background concentration downwind of site: New "Leak" definition: 0 ppm

Location of background reading: SW side of landfill 500 ppm













