

**SCS ENGINEERS**

November 18, 2011  
File No. 02199312.07-2

Mr. Lee Squires  
Facility Manager  
Wake County Solid Waste Management Division  
PO Box 550  
Raleigh, NC 27602



Subject: Landfill Gas Monitoring Results – November 9, 2011  
North Wake Landfill – Wake County, North Carolina

Dear Lee:

SCS Engineers, PC (SCS) is pleased to submit the results of the Monthly Landfill Gas (LFG) Monitoring Event, performed at the North Wake Landfill on November 9, 2011. This monitoring was performed in accordance with the current Landfill Gas Remediation Plan, dated July 12, 2007. Correspondence serving as notification of the methane exceedance detected at LFG monitoring probe M-26 was submitted to NCDENR on October 3, 2011. Monitoring probe M-26 exhibited methane levels in excess of the regulatory limit during the 3<sup>rd</sup> Quarter 2011 probe monitoring event on September 26, 2011.

On November 9, 2011, SCS used a GEM-2000 Infrared Gas Analyzer to measure subsurface concentrations of methane, carbon dioxide, oxygen, balance gas, and pressure at probe M-26, which previously exhibited methane levels in excess of the regulatory limit. LFG probe M-26 exhibited methane concentrations lower than the regulatory compliance threshold of 5.0 percent, which is equivalent to the lower explosive limit (LEL) for methane. LFG probe monitoring results for M-26 are attached in Exhibit 1.

This is most likely attributed to the LFG Collection and Control System operator, DTE Biomass, manually pumping liquids from the adjacent condensate sump, which relieved a partial header blockage on perimeter migration control wells, R-8 and R-9, which are located adjacent to monitoring probe M-26. SCS and DTE replaced the Grundfos condensate sump pump on November 9, 2011 due to low flow rate, which provided more sufficient flow. The Coyote automated pump regulator does not pump automatically, but will manually pump liquids from the sump. SCS strongly suggests Wake County replace this automated pump regulator, so condensate can be pumped automatically based on liquid levels in the sump.

This is the second consecutive month SCS has recorded methane concentrations in probe M-26 below the regulatory limit of 5 percent. In accordance with the LFG Remediation Plan, M-26 must exhibit a methane concentration below the regulatory limit of five percent for one additional consecutive month before monitoring can resume on a quarterly basis.



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Therefore, SCS will continue to coordinate with Wake County and WGP to monitor subsurface methane levels at perimeter LFG monitoring probe M-26 in December 2011.

If you have questions or require additional information, please feel free to contact either of the undersigned.

Sincerely,



D. Brandon King  
Project Scientist



Scott N. Mortimer  
Senior Project Professional  
**SCS ENGINEERS, PC**

DBK/SNM:asd

cc: Jim Onofrio, WGP  
Jackie Drummond, NCDENR

Enclosure

**EXHIBIT 1. LANDFILL GAS MONITORING EXCEEDANCE PROBES  
NORTH WAKE LANDFILL - WAKE COUNTY, NORTH CAROLINA**

Date: November 9, 2011  
 Project No: 02199312.07-2  
 Weather: Sunny, 65°F

Personnel: DBK  
 Equipment: GEM-2000

Date (mm/dd/yy)	Monitoring Probe No.	Time (24-hr)	Methane (% vol)	Carbon Dioxide (% vol)	Oxygen (% vol)	Balance Gas (% vol)	Static Pressure (in-wc)
11/9/11	M-26	17:35	2.5	3.6	17.7	76.2	-0.1

Notes:



Project No: 02199312.07-2      Facility: North Wake County Landfill  
 Date: 11-9-2011      Personnel: Brandon King

**CALIBRATION LOG****GAS ANALYZER**

Model: GEM-2000      Serial No: 08176      Calibration Date: 9/13/11

**GAS CYLINDER**

ID	Exp. Date	Time	Gas	Concentration % Vol	Results
40263-07	9/1/13	13:20	CH4	15 / 50	50.0 %
40263-07	9/1/13	13:20	CO2	15 / 35	35.1 %
40263-03	9/1/13	13:22	O2	4	4.1 %

**FLAME IONIZATION DETECTOR**

Model: \_\_\_\_\_      Serial No: \_\_\_\_\_      Calibration Date: \_\_\_\_\_

**GAS CYLINDER**

Pre-Sampling:

ID	Exp. Date	Time	Gas	Concentration PPM	Results
_____	_____	_____	CH4	500	_____ ppm
_____	_____	_____	ZERO AIR	0	_____ ppm
Background:					
_____	_____	_____	UPWIND	_____	_____ ppm
_____	_____	_____	DOWNWIND	_____	_____ ppm

**WEATHER CONDITIONS**

Temperature: 65.0 °F      Barometric Pressure: 29.92 "Hg  
 Current Conditions: Sunny

