

NC DENR  
Division of Waste Management - Solid Waste

**Environmental Monitoring Reporting Form**

**Notice:** This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

**Instructions:**

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

**Solid Waste Monitoring Data Submittal Information**

Name of entity submitting data (laboratory, consultant, facility owner):

SCS Engineers, PC

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Brandon King Phone: 804.598.9480  
E-mail: bking@scsengineers.com



Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
North Wake County Landfill	9004 Deponie Drive Raleigh, NC 27615	92-09	.1600	September 23 and 25, 2009

**Environmental Status: (Check all that apply)**

- Initial/Background Monitoring  Detection Monitoring  Assessment Monitoring  Corrective Action

**Type of data submitted: (Check all that apply)**

- Groundwater monitoring data from monitoring wells  Methane gas monitoring data  
 Groundwater monitoring data from private water supply wells  Corrective action data (specify) \_\_\_\_\_  
 Leachate monitoring data  Other(specify) \_\_\_\_\_  
 Surface water monitoring data

**Notification attached?**

- No. No groundwater or surface water standards were exceeded.  
 Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.  
 Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

**Certification**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

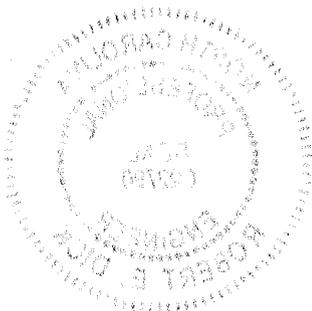
Robert E Dick / SCS Engineers, PC Project Director 804.598.9480

Facility Representative Name (Print) Title (Area Code) Telephone Number

*Robert E. Dick* 10.15.09  
Signature Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:





**SCS ENGINEERS**

October 16, 2009

File No. 02199312.02-2

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

Subject: Third Quarter Landfill Gas Monitoring Event – September 23 and 25, 2009  
North Wake Landfill – Wake County, North Carolina

Dear Johnny:

SCS Engineers, PC (SCS) is pleased to submit the results of the Third Quarter Landfill Gas (LFG) Monitoring Event for 2009, performed at the North Wake Landfill (Permit No. 92-09) on September 23 and 25, 2009.

The monitoring was performed in accordance with 15A NCAC 13B.1626(4) at the compliance boundary monitoring probes and on-site structures at the facility. At the facility property boundary, the concentration of methane gas is not to exceed the Lower Explosive Limit (LEL) which is 5 percent by volume (50,000 ppmv). Inside facility structures the concentration of methane gas is not to exceed 25 percent of the LEL (equivalent to 12,500 ppmv).

At each monitoring probe, SCS recorded the subsurface LFG composition (concentrations of methane, carbon dioxide, and oxygen) and pressure using a GEM-2000 Infrared Gas Analyzer. Measurements inside facility structures were obtained at critical locations such as conduit penetrations, junction boxes, floor drains, etc. using a Gas-Trac Model No. NGX-6. The results of the probe and on-site structure monitoring are attached as Exhibit 1.

Monitoring was conducted at a total of twenty-six (26) LFG monitoring probes and four (4) on-site structures on September 23, 2009. Two (2) of the LFG monitoring probes, M-3 and M-10, exhibited subsurface methane concentrations above the regulatory limit. SCS immediately notified Wake Gas Producers (WGP) who operates and maintains the facility's LFG active and perimeter migration control systems, to make necessary operational adjustments. Likewise, electronic mail notification regarding the methane exceedances at probes M-3 and M-10 was submitted to NCDENR on October 1, 2009.

A verification monitoring event was conducted at the two (2) LFG exceedance probes on September 25, 2009. Probes M-3 and M-10 exhibited methane concentrations below the regulatory limit during this verification event. The results of LFG exceedance probe verification monitoring are attached as Exhibit 2. However, due to the immediate adjustments to the collection systems and demonstration of compliance within two (2) days



Mr. Johnny Beal  
October 16, 2009  
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of the 3<sup>rd</sup> Quarter initial event, SCS does not suggest any additional corrective action at this time. Furthermore, SCS suggests these two (2) LFG probes remain on a quarterly monitoring schedule in lieu of monthly monitoring. None of the on-site structures monitored during this event detected significant concentrations of methane.

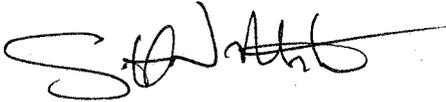
SCS observed the probe conditions and addressed basic probe repair and maintenance needs during monitoring activities. SCS will notify Wake County of the proposed schedule for the fourth round of Quarterly LFG Compliance Boundary Probe Monitoring for 2009 (to be performed prior to December 31, 2009).

Please contact either of the undersigned if you have questions or require additional information.

Respectfully Submitted,



D. Brandon King  
Staff Scientist



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

DBK/SNM:asd

cc: Jaclynne Drummond, NCDENR

Enclosure

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

Date: September 23, 2009

Project No: 02199312.02-2

Weather: Cloudy, Occasional Rain 80°F

Personnel: DBK

Equipment: GEM-2000, Gas-Trac

Monitoring Probe No.	Time (24-hr)	Methane (% vol)	Carbon Dioxide (% vol)	Oxygen (% vol)	Balance Gas (% vol)	Pressure (in-wc)	Interior Monitoring Location	Methane (% vol)
M 1	9:37	0.0	0.1	20.2	79.7	0.0	<b>Scale House</b>	ND
M 2	9:44	0.0	0.1	20.2	79.7	0.1	Front Office	ND
M 3	9:52	6.6	7.7	13.8	71.9	0.1	Bathrooms (2)	ND
M 4	9:59	0.0	1.7	18.8	79.5	0.1	Hallway	ND
M 5	10:09	0.0	11.0	10.1	78.9	-2.4	Kitchen	ND
M 6R	10:15	0.0	11.1	9.4	79.5	0.0	<b>Admin. Offices</b>	ND
M 7	9:07	0.0	0.1	20.1	79.8	0.0	Offices (4)	ND
M 8	9:14	0.0	0.1	20.1	79.8	0.0	Reception Area	ND
M 9	9:25	0.0	0.1	20.1	79.8	0.0	Bathrooms (2)	ND
M 10	10:33	5.0	11.4	1.2	82.4	0.0	Conference Area	ND
M 11	12:17	0.0	0.7	19.9	79.4	0.0	Kitchen	ND
M 12	11:34	0.0	0.9	19.4	79.7	0.0	Storage Area	ND
M 13	11:42	0.0	0.3	20.1	79.6	0.0	<b>Drop Off/Transfer</b>	ND
M 14	11:48	0.0	4.6	15.5	79.9	0.0	Office	ND
M 15	11:53	0.0	5.7	14.8	79.5	0.0	Service Bay	ND
M 16	11:59	0.0	0.4	20.0	79.6	0.0	<b>Maintenance Shop</b>	ND
M 17	12:04	0.0	0.6	19.3	80.1	0.1	Service Bay	ND
M 18	12:10	0.0	2.6	17.8	79.6	0.1		
M 19R	8:40	0.1	1.0	19.1	79.8	0.0		
M 20	8:45	0.1	0.4	20.0	79.5	0.0		
M 21	8:50	0.0	0.2	20.1	79.7	-0.1		
M 22	8:56	0.0	0.1	20.1	79.8	0.0		
M 23	9:20	0.0	0.1	20.2	79.7	0.0		
M 24	9:30	0.0	0.1	20.2	79.7	-0.1		
M 25	10:21	0.0	5.4	14.4	80.2	0.0		
M 26	10:25	0.0	1.3	19.9	78.8	0.0		

Notes: ND = No Detection; Samples below 0.1% (1000 ppm) methane



**EXHIBIT 2. LANDFILL GAS MONITORING PROBES  
NORTH WAKE LANDFILL - WAKE COUNTY, NORTH CAROLINA**

Date: September 25, 2009  
 Project No: 02199312.02-2  
 Weather: Sunny, 85°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)	Pressure (in-wc)
9/25/09	M 3	11:45	1.5	2.5	17.6	78.4	0.2
9/25/09	M 10	11:51	2.5	11.2	0.4	85.9	0.0

Notes:

