DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

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: 804.378.7440

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 Landfill	9004 Deponie Road Raleigh, NC 27615	92-09	.1600	September 26, 2011

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
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☐ Surface water monitoring data
☒ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify)

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	804.378.7440
Facility Representative Name (Print)	Title	(Area Code) Telephone Number

Signature Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

Revised 01/2007

NC Division of Waste Management - Solid Waste Section

Landfill Gas Monitoring Data 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).

Facility Name: North Wake Landfill Permit Number: 92-09

Date of Sampling: 9/26/11 NC Landfill Rule (.0500 or .1600): .1600

Name and Position of Sample Collector: Brandon King Project Scientist

Type and Serial Number of Gas Meter: GEM-2000 / GM08176 Calibration Date of Gas Meter: 9/13/11

Date and Time of Field Calibration: 9/26/11 15:20

Type of Field Calibration Gas (15/15 or 35/50): 35/50 Expiration Date of Field Calibration Gas Canister: 5/2013

Pump Rate of Gas Meter: 500 mL

Ambient Air Temperature: 80 F Barometric Pressure: 29.93 General Weather Conditions: sunny

Instructions: Under "Location or LFG Well" identify the monitoring wells or describe the location for other tests (e.g., inside buildings). A drawing showing the location of test must be attached. Report methane readings in both % LEL and % methane by volume. A reading in percent methane by volume can be converted to % LEL as follows: % methane by volume = % LEL/20

Location or LFG Well ID	Sample Tube Purge	Time	Time Pumped (s)	Initial %LEL	Stabilized %LEL	%CH4 by Volume	%O2	%CO2	Notes
All Wells	375 mL		45						see Exhibit 1

If your facility has more gas monitoring locations than there is room on this form, please attach additional sheets listing the same information as contained on this form.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

SIGNATURE

Project Scientist
TITLE

Environmental Consultants

15521 Midlothian Turnpike
Suite 305
Midlothian, VA 23113-7313

804 378-7440
Fax 804 378-7433
www.scsengineers.com

SCS ENGINEERS

October 3, 2011
File No. 02199312.02-2

Ms. Jackie Drummond
NCDENR
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: Notification of Methane Exceedances at Landfill Gas Monitoring Probes
North Wake County Landfill – Raleigh, North Carolina

Dear Ms. Drummond:

On behalf of Wake County (the County), SCS Engineers, PC (SCS) is submitting this letter to formally notify NCDENR of a methane exceedance detected at perimeter landfill gas (LFG) monitoring probe M-26 at the North Wake County Landfill (Permit No. 92-09, the Landfill). In accordance with 15A NCAC 13B Section .1626(4)(c), the County must:

i. Immediately take all necessary steps to ensure protection of human health and notify NCDENR; and

ii. Within seven days of a detected exceedance, place in the operating record the methane gas levels recorded, and a description of the steps taken to protect human health.

During the Third Quarter 2011 routine monitoring event performed on September 26, 2011, one perimeter LFG monitoring probe at the Landfill, probe M-26, exhibited methane concentrations greater 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 this event are attached in Exhibit 1. Probe M-26 is located on the southeast side of the closed, unlined cell. SCS notified NCDENR of these exceedances via electronic mail on October 3, 2011.

Upon detection, SCS immediately notified the County and the LFG control system operator, Wake Gas Producers (WGP) of the exceedance at perimeter monitoring probe M-26. WGP is currently implementing operational adjustments to the LFG control system in this area at this time and is continuing to monitor the adjacent LFG extraction components and probe M-26. SCS would also note no detectable methane concentration was recorded in any monitored structure during this most recent event.

As required by 15A NCAC 13B Section .1626(4)(c)(iii), the Facility has implemented a LFG Remediation Plan, most recently updated on July 12, 2007. In accordance with the Plan, the frequency for monitoring LFG probes exhibiting non-compliant methane concentrations will be monthly until such time that the probes have demonstrated compliant concentrations for three consecutive months or further LFG remediation activities are warranted.

The referenced regulations also require completing an update to the LFG Remediation Plan, within 60 days of the initial exceedance, to consist of a description of proposed remedies to correct the exceedances. As described above, operational adjustments have been made to increase the LFG perimeter migration control system effectiveness in controlling subsurface LFG migration in the area of concern. Therefore, SCS believes that an update to the LFG Remediation Plan is not necessary at this time. If additional remediation efforts are warranted based on subsequent monitoring results, the County will revisit the requirements to update the existing LFG Remediation Plan.

A copy of the NCDENR Environmental Reporting Form is attached. A NC engineer sealed copy will be provided under separate cover. If you have questions or comments regarding the County's notification, please feel free to contact Lee Squires of Wake County at (919) 625-5969 or Bob Dick at (804) 378-7440.

Sincerely,

D. Brandon King

D. Brandon King
Project Scientist

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

cc: Lee Squires – Wake County

SCS ENGINEERS

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

Date: September 26, 2011
Project No: 02199312.07-1
Weather: Sunny, 80°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)
9/26/11	M-26	14:20	18.5	14	4.9	62.6

Notes: