



February 20, 2008

Ms. Jaclyne Drummond
Division of Waste Management - Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Methane Monitoring Status
Lee County Landfill - Sanford, NC
NCDWM-Solid Waste Section Permit # 53-01
TerraQuest Project No. 02296

Dear Ms. Drummond:

On behalf of the Lee County Public Works Department, TerraQuest Environmental Consultants, P.C. is hereby reporting the status of methane monitoring for the Lee County Landfill located south of Sanford, NC.

On January 29 – 30, 2008, methane monitoring points M1 – M23 were installed at the locations shown on the attached Figure 1. The wells were constructed of 2"-diameter PVC pipe with a screened portion rising across the vadose zone that terminated approximately two feet below ground level. Bentonite and concrete seals were placed around solid casing from 2 feet BGL to the surface to prevent a preferential pathway for methane gas to escape without being detected in the well. The wells were finished with plastic end caps that were pushed tightly on the top and each well was surrounded with a metal stickup protective box. Both a ball valve for gas monitoring and a removable plug to allow the advancement of a water level meter probe were installed into the plastic cap of each well.

TerraQuest personnel used a Thermo Electron Corporation's Innova GT Series catalytic organic vapor meter on February 12, 2008 to measure any volatile organic vapors, such as methane, that might have accumulated in each of the recently installed methane monitoring points. The results, detailed on the attached Table 1, revealed the presence of volatile gases at concentrations registered as 100-percent of the lower explosive limits in monitoring points M2, M8, M9, and M13. Depth-to-water measurements from each methane monitoring point are also detailed on Table 1. Water was encountered during drilling operations and these measurements were collected to recognize any pattern that would indicate the water's presence was hindering methane detection. If such hindrances were noted, TerraQuest could fill the saturated portion of each well with sand, however, no discernable pattern is apparent. Note that following the February 12, 2008 LEL detections, TerraQuest notified the NCDWM-SW during a telephone conversation on February 14, 2008. The results are summarized on the attached NCDWM-SW Environmental Monitoring Reporting Form.

To verify the February 12, 2008 recorded LEL violations, TerraQuest personnel returned to the landfill on February 19, 2008 and again checked monitoring points M2, M8, M9, and M13. Each of these monitoring points again recorded 100% LEL detection on a recently-calibrated organic vapor meter. Organic odors were also noted at each of these points. During the February 19, 2008 visit, TerraQuest took pictures of each methane monitoring point with a violation. Those pictures follow:

At MW2 looking west:



Pole barn seen in distance (no apparent vapor accumulation areas noted):



Behind M2 looking back into landfill (looking east):



At M8 looking north:...and.....West to east from M8 toward M9 (landfill to right(south)):



At M9 looking north:



At M13 looking south:.....again looking south at slope:



At bottom of slope (scale house straight ahead (west), creek to left (south), M13 to right (north)):



In accordance with the NCDWM-approved Methane Monitoring Plan, TerraQuest proposes to perform assessment of the methane LEL violation extent by installing three additional monitoring points at each violation location. Vadose-zone monitoring points will be installed laterally along the property line in each direction away from the point currently registering a violation and one new point will be installed closer toward the property boundary. With three new points at each of four violations, this totals twelve (12) new methane monitoring points.

Once the points are installed, TerraQuest will begin monitoring and reporting the LEL percentages of the wells on a bi-monthly basis. Should the proposed wells be insufficient for violation delineation, TerraQuest will consult with the NCDWM-SW regarding the installation of additional points. Once the extent of LEL violations is known, venting trenches will be installed as per the Methane Monitoring Plan. Should structures on or offsite appear to be in danger of methane gas accumulation, methane monitoring alarms will be considered as recommended by the NCDWM.

TerraQuest requests that the NCDWM-SW review the aforementioned and provide acceptance of the proposed actions or alternate efforts. Please contact Ryan Kerins at (919) 563-9091 with said thoughts. Thanks so much for your help.

Sincerely,

TERRAQUEST ENVIRONMENTAL CONSULTANTS, P.C.

A handwritten signature in black ink, appearing to read 'R. Kerins', with a stylized flourish at the end.

Ryan D. Kerins
Project Manager

Attachments: Figure 1 – Site Layout Map – Aerial View
 Table 1 – Methane Monitoring
 NCDWM-SW Environmental Monitoring Reporting Form

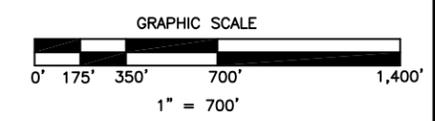
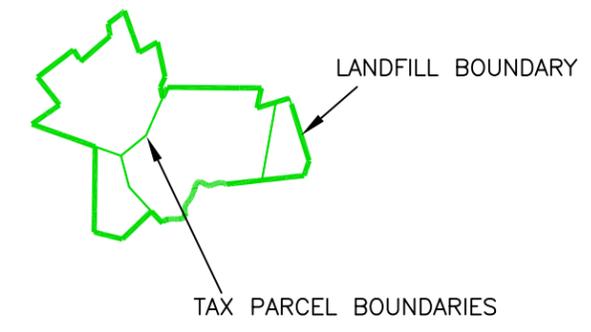
cc: Joe Cherry – Lee County Public Works Department



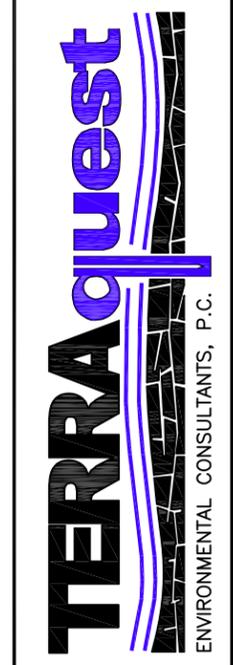
LEGEND

△ APPROVED METHANE MONITORING WELL

AREAS 1 - 6 CLOSED MSW
C&D AREA STILL ACTIVE



(NOTE: MAP ADAPTED FROM INFORMATION PROVIDED BY THE LEE COUNTY DEPARTMENT OF STRATEGIC SERVICES)



SITE LAYOUT MAP - AERIAL VIEW
LEE COUNTY LANDFILL
SANFORD, LEE COUNTY, NC

LEE COUNTY PUBLIC WORKS	PROJECT NO: 02296	CHECKED BY: MJB	FIGURE NO. 1	SANFORD, NC
SCALE: 1" = 700'		DRAWN BY: RDK	DATE: 2/20/08	

Table 1		METHANE MONITORING					
Date: 2/20/08		Facility Name: Lee County Landfill					
FACILITY PERMIT	WELL ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	COLLECT DATE
53-01	M1			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M1	SW318	318	Depth To Water	7.79	feet	2/12/2008
53-01	M2			methane gas - OVM reading	100	%LEL	2/12/2008
53-01	M2	SW318	318	Depth To Water	7.93	feet	2/12/2008
53-01	M3			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M3	SW318	318	Depth To Water	well dry	feet	2/12/2008
53-01	M4			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M4	SW318	318	Depth To Water	5.92	feet	2/12/2008
53-01	M5			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M5	SW318	318	Depth To Water	8.72	feet	2/12/2008
53-01	M6			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M6	SW318	318	Depth To Water	7.14	feet	2/12/2008
53-01	M7			methane gas - OVM reading	1	%LEL	2/12/2008
53-01	M7	SW318	318	Depth To Water	9.32	feet	2/12/2008
53-01	M8			methane gas - OVM reading	100	%LEL	2/12/2008
53-01	M8	SW318	318	Depth To Water	4.76	feet	2/12/2008
53-01	M9			methane gas - OVM reading	100	%LEL	2/12/2008
53-01	M9	SW318	318	Depth To Water	4.76	feet	2/12/2008
53-01	M10			methane gas - OVM reading	1	%LEL	2/12/2008
53-01	M10	SW318	318	Depth To Water	5.43	feet	2/12/2008
53-01	M11			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M11	SW318	318	Depth To Water	well dry	feet	2/12/2008
53-01	M12			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M12	SW318	318	Depth To Water	well dry	feet	2/12/2008
53-01	M13			methane gas - OVM reading	100	%LEL	2/12/2008
53-01	M13	SW318	318	Depth To Water	9.04	feet	2/12/2008
53-01	M14			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M14	SW318	318	Depth To Water	9.00	feet	2/12/2008
53-01	M15			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M15	SW318	318	Depth To Water	7.18	feet	2/12/2008
53-01	M16			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M16	SW318	318	Depth To Water	4.53	feet	2/12/2008
53-01	M17			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M17	SW318	318	Depth To Water	4.26	feet	2/12/2008
53-01	M18			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M18	SW318	318	Depth To Water	8.28	feet	2/12/2008
53-01	M19			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M19	SW318	318	Depth To Water	8.88	feet	2/12/2008
53-01	M20			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M20	SW318	318	Depth To Water	9.79	feet	2/12/2008
53-01	M21			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M21	SW318	318	Depth To Water	8.67	feet	2/12/2008
53-01	M22			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M22	SW318	318	Depth To Water	3.77	feet	2/12/2008
53-01	M23			methane gas - OVM reading	0	%LEL	2/12/2008
53-01	M23	SW318	318	Depth To Water	3.73	feet	2/12/2008
53-01	M2			methane gas - OVM reading	100	%LEL	2/19/2008
53-01	M2	SW318	318	Depth To Water	7.10	feet	2/19/2008
53-01	M8			methane gas - OVM reading	100	%LEL	2/19/2008
53-01	M8	SW318	318	Depth To Water	11.40	feet	2/19/2008
53-01	M9			methane gas - OVM reading	100	%LEL	2/19/2008
53-01	M9	SW318	318	Depth To Water	3.80	feet	2/19/2008
53-01	M13			methane gas - OVM reading	100	%LEL	2/19/2008
53-01	M13	SW318	318	Depth To Water	8.90	feet	2/19/2008

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):

TerraQuest Environmental Consultants, P.C.

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

Name: Ryan Kerins

Phone: (919) 563-9091

E-mail: rdkerins@terraquestpc.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Lee County Landfill	331 Landfill Rd, Sanford, NC 27332	53-01	.1600 (closed MSW) .0500 (active C&D)	February 12 and 19, 2008

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.

Ryan Kerins

Project Manager

(919) 563-9091

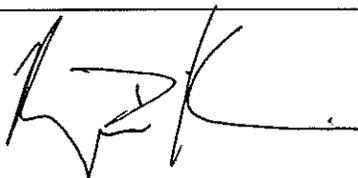
Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Signature

Date

 2/20/08

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

