

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):

S&ME, Inc. (consultant)

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

Name: William M. Miller

Phone: (828) 687-9080 Ext 315

E-mail: wmliller@smeinc.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Marshall Steam Station FGD Residue Landfill	8320 East Hwy 150 Terrell, Catawba County, North Carolina	18-09	0.0500	April 23, 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) Hydrogen Sulfide
 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.

William M. Miller, P.E.

Senior Project Engineer

(828) 687-9080 Ext 315

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

William M. Miller
Signature

6/5/2009
Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:



*S+ME
44 Buck Shoals Rd Suite C-3
Asheboro, NC 28704*



June 5, 2009

Ms. Jackie Drummond
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, N.C. 27699-1646

Reference: **Duke Energy Carolinas – Marshall Steam Station**
Flue Gas Desulfurization (FGD) Landfill
Permit # 18-09
Hydrogen Sulfide Monitoring Report
S&ME Project 1411-08-140

Dear Ms. Drummond:

On behalf of Duke Energy, Inc. (Duke Energy), S&ME, Inc. (S&ME) is providing hydrogen sulfide (H₂S) monitoring data for the Marshall Steam Station (MSS) Flue Gas Desulfurization (FGD) Landfill located in Terrell, North Carolina. This data is being provided in accordance with the facility's Permit to Operate.

On April 23, 2009, H₂S measurements were obtained from the two leachate collection clean-out pipes located on the northwest side of the landfill. The sample locations are indicated on **Figure 1**. The measurements were taken by Duke Energy personnel using an Industrial Scientific Corp./ITX Multi-Gas Monitor that was calibrated for the detection of H₂S in the concentration range of 0 to 999 parts per million (ppm).

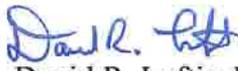
H₂S was not detected in either pipe; both measurements exhibited H₂S concentrations of 0 ppm. The field data sheets for the sampling event are attached. The data suggests that H₂S is not being generated by the material stored in the landfill. The next hydrogen sulfide monitoring event will be conducted in October 2009.

CLOSURE

If you have questions or require additional information, please contact us at 828-687-9080.

Sincerely,

S&ME, Inc.


David R. Loftis, P.E.
Project Professional


William M. Miller, P.E.
Senior Project Engineer



Senior Reviewer – Mr. Larry Armstrong, P.E.

DRL/WMM/LA/jmm

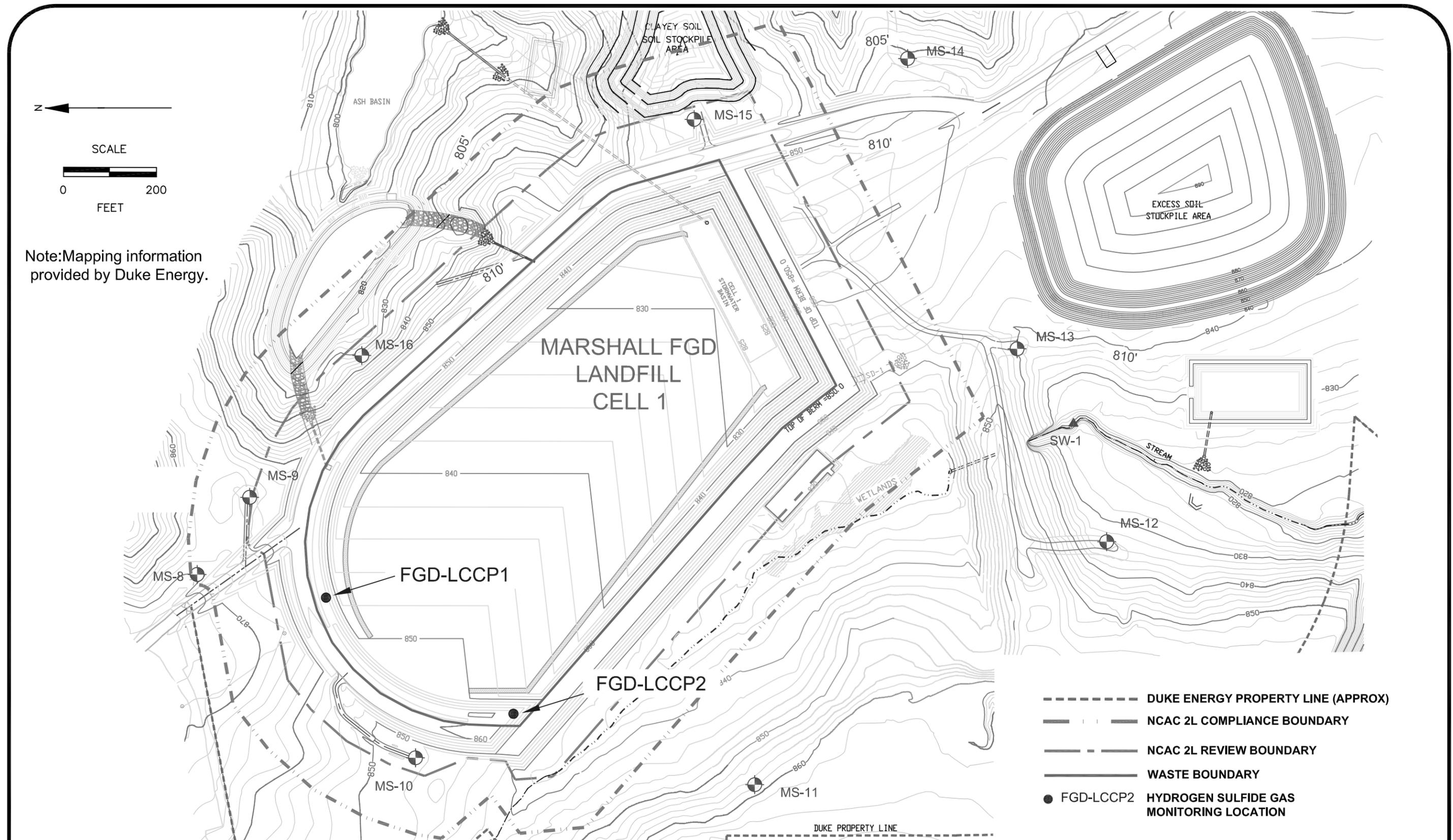
S:\2008 PROJECTS\141\ENVIRONMENTAL PROJECTS\11 08 140 Duke Energy - General Consulting Services\Groundwater Monitoring Reports\MSS FGD LF GW Report\April 2009 H2S\NCDENR-MSS FGD LF H2S Report-FINAL.doc

Attachments: Figure 1, Sample Location Map
Field Data Sheets

cc: Duke Energy
526 South Church Street
Charlotte, North Carolina 28201
Attention: Mr. Ed Sullivan, P.E.

Duke Energy
Marshall Steam Station
8320 East Highway 150
Terrell, North Carolina 28682
Attention: Ms. Donna Burrell

Duke Energy
526 South Church Street
Charlotte, North Carolina 28201
Attention: Tim Hunsucker



Note: Mapping information provided by Duke Energy.

SCALE: AS SHOWN
 PROJECT NO. 1411-08-140

DATE: MAY 21, 2009
 DRAWN BY: W. Miller
 CHECKED BY: L. Armstrong



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**DUKE ENERGY MARSHALL STEAM STATION
 FLUE GAS DESULPHURIZATION (FGD) LANDFILL - PERMIT #18-09
 HYDROGEN SULFIDE GAS MONITORING LOCATIONS
 APRIL 23 2009**

FIGURE NO. 1



DUKE ENERGY

LEACHATE COLLECTION CLEANOUT PIPES (LCCP) HYDROGEN SULFIDE (H₂S) MONITORING

LOCATION:	MARSHALL STEAM STATION	PROCEDURE NO:	NA
PROJECT NAME:	FGD Landfill / Hydrogen Sulfide Monitoring	ITX Serial Number	09020ZW011
SAMPLING DATE(s):	23-Apr-2009 <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

FIELD CREW: **LDC, TSH**

SAMPLING EQUIPMENT	Industrial Scientific Corp / ITX Multi-Gas Monitor
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Location	Time	Reading (ppm)	Collector
FGD-LCCP-1	830	0	LDC
FGD-LCCP-2	840	0	LDC

NOTES ITX Multi-Gas Monitor is checked out from the Marshall Station pre-calibrated for Hydrogen Sulfide (Range 0 to 999 ppm)
Calibration documentation available from Marshall upon request