

**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)).
  - 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: John Whitehead Phone: 864.574.2360  
 E-mail: jwhitehead@smeinc.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Duke Energy Marshall Steam Station FGD Landfill	8320 East Hwy 150 Terrell, Catawba County, NC	18-09	.0500	September 8, 2010

**Environmental Status: (Check all that apply)**  
 Initial/Background Monitoring  Detection Monitoring  Assessment Monitoring  Corrective Action

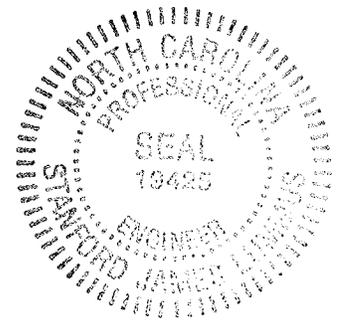
**Type of data submitted: (Check all that apply)**  
 Groundwater monitoring data from monitoring wells  
 Groundwater monitoring data from private water supply wells  
 Methane gas monitoring data  
 Leachate monitoring data  
 Corrective action data (specify) \_\_\_\_\_  
 Surface water monitoring data  Other(specify) Hydrogen Sulfide Monitoring

**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.

Stanford Lummus, P.E. Senior Engineer 864.574.2360  
 Facility Representative Name (Print) Title (Area Code) Telephone Number  
 November 9, 2010 Affix NC Licensed/ Professional Geologist Seal  
 Signature Date

301 Zima Park Drive, Spartanburg, South Carolina 29301  
 Facility Representative Address  
 F-0176  
 NC PE Firm License Number (if applicable effective May 1, 2009)





November 9, 2010

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

**Reference:** **Semi-Annual Hydrogen Sulfide Monitoring Report**  
Duke Energy Carolinas – Marshall Steam Station  
Flue Gas Desulfurization (FGD) Landfill  
Permit # 18-09  
S&ME Project 1411-09-047

Dear Ms. Drummond:

On behalf of Duke Energy, S&ME, Inc. (S&ME) is providing this semi-annual hydrogen sulfide (H<sub>2</sub>S) 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 September 8, 2010, H<sub>2</sub>S measurements were obtained from the two leachate collection clean-out pipes. The sampling locations, FGD-LCCP-1 and FGD-LCCP-2, are shown 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 H<sub>2</sub>S in the concentration range of 0 to 999 parts per million (ppm).

H<sub>2</sub>S was not detected in either pipe; both measurements exhibited H<sub>2</sub>S concentrations of 0 ppm. The field data sheet for the sampling event is attached. The data suggests that H<sub>2</sub>S is not being generated by the material stored in the landfill. The next hydrogen sulfide monitoring event will be conducted in March 2011.

**CLOSURE**

If you have questions or require additional information, please contact us at  
864.574.2360.

Sincerely,

**S&ME, Inc.**

  
John Whitehead  
Senior Geologist



North Carolina Professional Engineering Firm License No. F-0176

Attachments: Figure 1, Sample Location Map  
Field Data Sheet

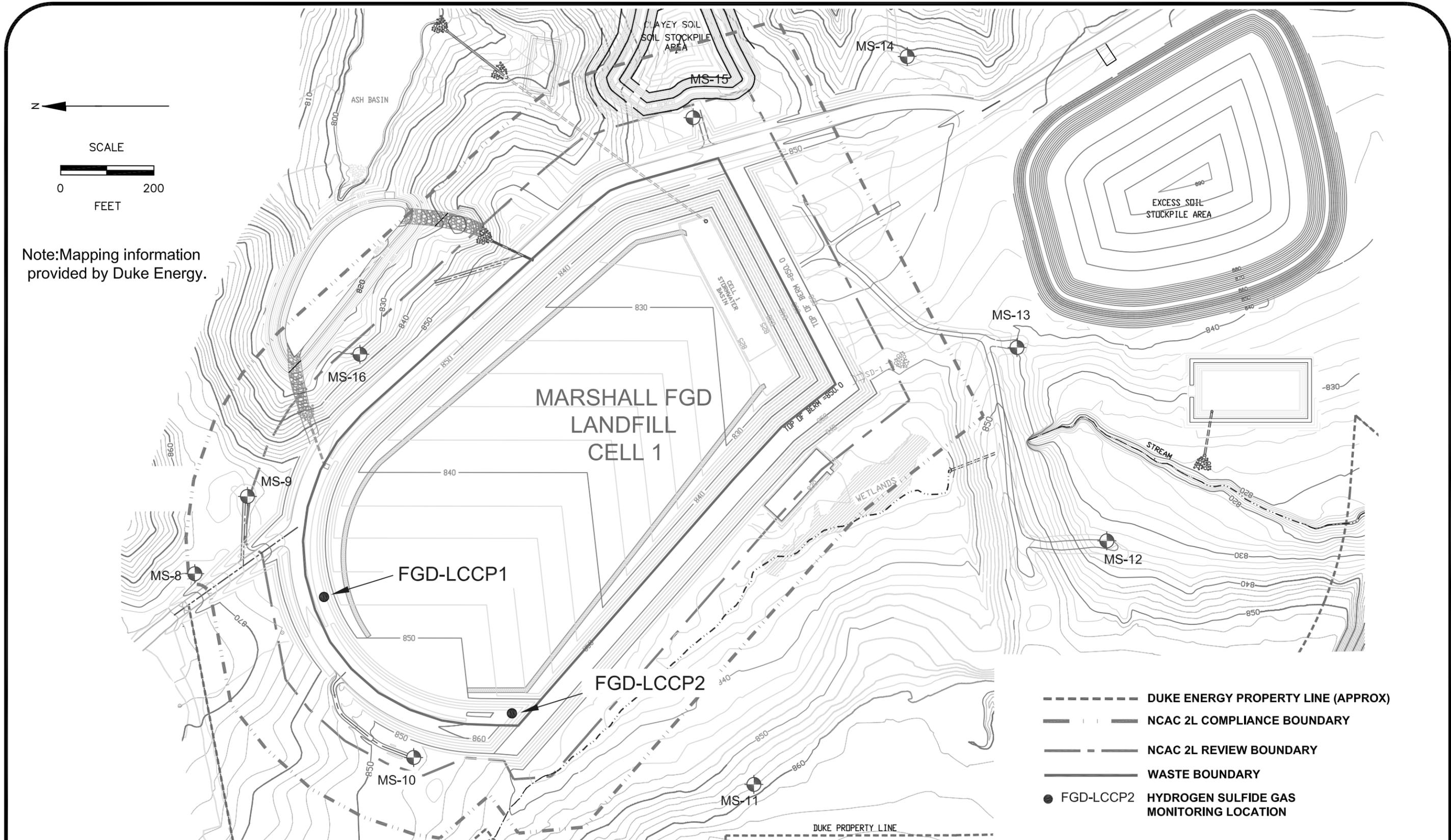
*S:\ENVIRON\2009\1411 Projects\1411-09-047 Duke Landfill GW Reports\Marshall FGD Landfill\september 2010 groundwater sampling event\sept 2010 gas monitoring\marshall fgd landfill h2s report (sept 2010).doc*

cc:

Duke Energy  
Marshall Steam Station  
8320 East Highway 150  
Terrell, North Carolina 28682  
Attn: Donna Burrell, Environmental Coordinator

Duke Energy  
526 South Church Street  
Charlotte, North Carolina 28201  
Attn: Ed Sullivan, P.E. Mail Code EC13K

Duke Energy  
526 South Church Street  
Charlotte, North Carolina 28201  
Attention: Tim Hunsucker, Mail Code EC13K



SCALE:	DATE:
AS SHOWN	October 29, 2010
PROJECT NO.	DRAWN BY:
1411-09-047	j. whitehead
	CHECKED BY:
	s. lummus



301 Zima Park Drive  
Spartanburg, SC 29304  
Phone 864.574.2360  
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**DUKE ENERGY MARSHALL STEAM STATION  
FLUE GAS DESULFURIZATION (FGD) LANDFILL - PERMIT #18-09  
HYDROGEN SULFIDE GAS MONITORING LOCATIONS**



**DUKE ENERGY**  
LEACHATE COLLECTION CLEANOUT PIPES (LCCP)  
HYDROGEN SULFIDE (H<sub>2</sub>S) MONITORING

LOCATION:	MARSHALL STEAM STATION	PROCEDURE NO:	NA
PROJECT NAME:	FGD Landfill / Hydrogen Sulfide Monitoring	ITX Serial Number	07090SF006
SAMPLING DATE(s):	8-Sep-2010 <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	WC 9/8/10	

PERMIT # **18-09**

FIELD CREW: **LDC, RLW**

SAMPLING EQUIPMENT **Industrial Scientific Corp / ITX Multi-Gas Monitor**

Location	Time	H2S (ppm)	LEL (%)	Collector
FGD-LCCP-1	1155	0	0	LDC / RLW
FGD-LCCP-2	1205	0	0	LDC / RLW

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