

November 1, 2013

Ms. Jaclynne Drummond
NCDENR DWM Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

RE: **Operations, Monitoring, and Maintenance Report – October 2013**
Avery County Closed MSW Landfill
Spruce Pine, North Carolina

Dear Ms. Drummond:

This report provides information concerning the operation and maintenance (O&M) of the Avery County Closed MSW Landfill (Permit No. 06-01) Landfill Gas Collection and Control System (LFGCCS) as well as monitoring of the landfill gas probes located both on- and off-site. This report covers the October 2013 monitoring period. Mr. Don Misenheimer with Smith Gardner, Inc. (S+G) performed the site visit on October 9, 2013. Details of this site visit are provided below.

ACTION LIST

S+G previously identified the following items to be addressed in order for the LFGCCS to operate as designed:

1. **LFGCCS System:** An expansion of the LFGCCS system, as proposed in the *Annual Landfill Gas Monitoring Report*¹, was previously approved² by the division of Waste Management. **Phase One of the expansion project has been completed and is currently being evaluated for effectiveness.**
2. **LFG Extraction Wellfield:** S+G performed liquid level measurements at all LFG extraction wells during the October site visit as a method to evaluate low flow on the well field.
3. **Monitoring:** Monthly monitoring will continue at the site.

LFG EXTRACTION WELL MONITORING PROGRAM

Monthly monitoring of the LFGCCS will continue and shall include the following items:

- CH₄, O₂, CO₂, and Pressure monitoring at each extraction well head;
- CH₄, O₂, CO₂, and Pressure monitoring at the flare station; and

¹ *Annual Landfill Gas Monitoring Report*, Closed Avery County MSW Landfill. Submitted by Smith Gardner, November 2012.

² Approval response letter, Closed Avery County MSW Landfill (Annual Landfill Gas Monitoring Report). Sent by Jaclynne Drummond, Solid Waste Section, November 15, 2012.

- Adjustment of LFGCCS to balance recovery and ensure safe operation of the system.

The County will maintain this LFGCCS and will continue to evaluate the effectiveness of increased LFG recovery from the waste mass in alleviating off-site migration of LFG. During this time, LFG monitoring at the landfill and for off-site properties will be continued on a monthly basis. Reporting of these results will be accordance with the approved LFG Monitoring Plan.

LFG EXTRACTION WELL MONITORING ACTIVITIES

S+G performed the flare station and well field monitoring on October 9, 2013. When S+G arrived to the site, there was between approximately 40 and 43 inches of available vacuum at each of the LFG wells across the well field. The results of this event are summarized below. Recommended actions are made in **bold**. Well field data and flare station data are provided in the **attached Table 1**.

LFG Extraction Well Field

- **W-1 through W-10:** S+G performed CH₄, O₂, CO₂, and pressure monitoring and any required/needed adjustment at each extraction well head (adjustments consisted of slight changes of applied vacuum to the well).
- **LFG Extraction Wells:** Several wells have been at system pressure with little to no flow during monthly monitoring. This condition indicates that the water level in these wells is above any open pipe perforations. S+G performed a liquid level survey at all LFG extraction wells during this site visit, and results are provided as **Table 2**.

In general, liquid levels at the LFG extraction wells have slightly increased since 2011. Wells W-1 through W-4 continue to exhibit evidence that a majority of well perforations as being partially or completely clogged. Newly installed well W-9 shows liquid levels at or just below the solid pipe, completely blocking all perforations. **S+G will continue to evaluate this condition.**

- **Orifice Plates:** S+G continues to evaluate orifice plate sizes on the site as necessary.

Flare Station

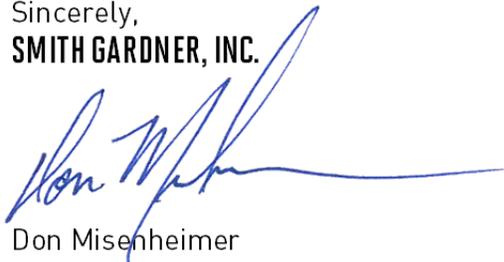
- **Condensate Tank:** The condensate tank was observed during this site visit; the liquid was at an acceptable level. **S+G will continue to monitor the liquid level of the condensate tank.**
- **Filter Tank:** The filter tank was observed during this site visit; the liquid was at an acceptable level. **S+G will continue to monitor the liquid level of the filter tank.**

LFG MONITORING WELL (PERIMETER) MONITORING PROGRAM

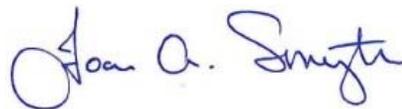
S+G personnel also performed monitoring of the perimeter LFG monitoring network. Monitoring wells P1, P3, P7 and P11 each measured over the 100% LEL or 5% by volume of CH₄. All other wells had no detectable concentrations of CH₄. Results of this monitoring event are included in **Attachment 1**. These wells will continue to be monitored and data will be submitted in this reporting format.

The next routine monitoring event is scheduled for the second week of November 2013. If you have any questions, or require additional information, please contact us at your earliest convenience at 919-828-0577 or by e-mail (address below).

Sincerely,
SMITH GARDNER, INC.



Don Misenheimer
Project Scientist, ext. 224
don@smithgardnerinc.com



Joan A. Smyth, P.G.
Senior Hydrogeologist ext. 221
joan@smithgardnerinc.com

Attachments

CC: Buddy Norris – Avery County
Deb Aja – NCDENR
File

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FIGURE

**Operations Monitoring and Maintenance Report - LFGCCS
Avery County Closed MSW Landfill
Permit No. 06-91**

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LEGEND

- EXISTING LANDFILL GAS PROBE
- ④ OFFSITE STRUCTURE TO BE MONITORED

REFERENCES

1. ADJACENT PROPERTIES ARE FROM AVERY COUNTY GIS MAPPING DEPARTMENT.
2. MONITORING WELL LOCATIONS FROM FIELD SURVEY DATED 1/14/08, BY SURVEYING SOLUTIONS, P.C.
3. PROPERTY LINE FROM FIELD SURVEY DATED APRIL 9, 2010, BY APPALACHIAN PROFESSIONAL LAND SURVEYORS & CONSULTANTS.
4. LFG PROBES LOCATIONS FROM FIELD SURVEY DATED APRIL 9, 2010, BY APPALACHIAN PROFESSIONAL LAND SURVEYORS & CONSULTANTS. PROBE P-2, P-3, AND P-9 THROUGH P-13 LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

PREPARED BY: _____ NC LIC. NO. C-0828 (ENGINEERING)

SMITH+GARDNER
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

DRAWN: W.R.B.	APPROVED: D.M.M.	SCALE: AS SHOWN	FIGURE NO: 1
DATE: Oct 2012	PROJECT NO: AVERY 12-6	FILENAME: AVERY-B0192	

**LANDFILL GAS MONITORING SYSTEM
AVERY COUNTY CLOSED MSWLF
SPRUCE PINE, NORTH CAROLINA**

PREPARED FOR: _____

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TABLE

**Operations, Monitoring and Maintenance Report - LFGCCS
Avery County Closed MSW Landfill
Permit No. 06-91**

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TABLE 1
Avery County Closed MSW Landfill
Landfill Gas Collection and Control System Monitoring
October 2013

DataField CS - GEM Mode Data Output

Device ID	Date/Time mm/dd/yyyy	CH4 %	CO2 %	O2 %	Balance %	Adj. Temperature degF	Init. Static Pressure in H2O	Adj. Static Pressure in H2O	Adj. Diff. Pressure in H2O	Init. Flow Scfm	Adj. Flow Scfm	System Pressure in H2O
AVERY-W1	10/9/2013 9:13	69.7	27.8	0	2.5	72	-42.9	-42.9	-0.003	<<>>	<<>>	-42.85
AVERY-W2	10/9/2013 9:17	61.4	27.2	0.5	10.9	73	-42.8	-42.8	-0.005	<<>>	<<>>	-42.79
AVERY-W3	10/9/2013 9:31	67.5	29.9	0	2.6	72	-43.2	-43.1	-0.022	<<>>	<<>>	-43.08
AVERY-W4	10/9/2013 9:21	14.6	21	1.8	62.6	73	-41.9	-40.1	-0.015	<<>>	<<>>	-42.88
AVERY-W5	10/9/2013 10:04	27.9	23.5	0.8	47.8	75	-40.6	-40.6	2.778	5	5	-43.09
AVERY-W6	10/9/2013 10:09	65.9	28.5	0.2	5.4	75	-3.2	-10.7	-0.042	<<>>	<<>>	-40.91
Avery-W7	10/9/2013 10:14	41.6	27.7	0	30.7	75	-0.4	-0.8	1.668	0	0	-40.33
Avery-W8	10/9/2013 10:12	13.1	23.4	0.3	63.2	75	-14.6	-14.6	0.004	2	4	-40.52
Avery-W9	10/9/2013 9:15	6.6	16.8	4.8	71.8	72	-41.8	-41.7	-1.143	<<>>	<<>>	-42.97
AveryW10	10/9/2013 9:33	39.6	22.1	6.9	31.4	73	-43	-43	-0.032	<<>>	<<>>	-43.2
Flare Station	10/9/2013 10:22	26.8	23.1	0.8	49.3	N/A	1.6	N/A	N/A	20	N/A	N/A

The differential pressure measurement should be positive. A negative differential pressure indicates no gas flow. Negative differential pressure may be the result of dirt or water obstructing the pitot tube perforations. Overpulling by adjacent extraction wells may also result in negative pressure being displayed.

<<>> = measurement out of range of GEM 2000 meter. The reading was likely too low for measurement by the instrument.

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Table 2
Avery County MSW Landfill
Landfill Gas Extraction Well Construction Data*
10/9/2013

Well	Well ¹ Location Northing	Well ¹ Location Easting	Depth to Water (feet)	Depth to Bottom (feet)	Solid Pipe (feet)	Perforated Pipe (feet)	Assumed Partially Impacted ² (feet)	Assumed Completely Impacted ³ (feet)
W-1	813351.3864	1114313.802	54.5	75	0 - 20	20 - 75	27 - 33	33 - 75
W-2 ⁴	813207.3408	1114229.216	67	88	0 - 15	15 - 88	30 - 62	62 - 88
W-3 ⁴	813252.1912	1114095.673	52.5	75	0 - 15	15 - 75	40 - 52.5	52.5 - 75
W-4 ⁴	813134.1978	1114110.049	46.5	62	0 - 20	20 - 62	40 - 46.5	46.5 - 62
W-5	813065.6697	1114347.228	Dry	36.5	0 - 16.5	16.5 - 36.5	16.5 - 36.5	--
W-6	812975.9401	1114268.297	Dry	36.5	0 - 16.5	16.5 - 36.5	--	--
W-7	812990.7506	1114152.843	19.5	23	0 - 7	7 - 23	--	19.5 - 23
W-8	812877.468	1114119.3	Dry	22	0 - 7	7 - 22	--	--
W-9	--	--	12	35	0-10	10 - 35	10 - 12	12 - 35
W-10	--	--	23	35	0-10	10 - 35	--	23 - 35

* Solid and perforated pipe lengths, as well as perforation condition for wells W-1 through W-8 are estimated from downhole camera evaluation on April 6-7, 2011. Lengths for W-9 and W-10 were from well construction records from April 8, 2013.

All measurements (footages) are from the ground surface and were measured on October 9, 2013.

Notes:

1. Locations from field survey dated April 9, 2010, by Appalachian Professional Land Surveyors and Consultants.
2. Assumed partially impacted means that the the perforations appear to be at least partially blocked causing reduced or no flow of LFG.
3. Assumed completely impacted means that the the perforations appear to be completely blocked causing no flow of LFG.
4. Depth to water on these wells was hard to determine because of material build up on the water level indicator. Downhole camera data was combined with water level indicator readings to produce these numbers.

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Attachment 1

**Operations, Monitoring and Maintenance Report - LFGCCS
Avery County Closed MSW Landfill
Permit No. 06-91**

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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: Avery County Closed MSW Landfill Permit Number: 06-01

Date of Sampling: 10.9.13 NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: DON MISENHEIMER

Type and Serial Number of Gas Meter: LEM 2000 07002 Calibration Date of Gas Meter: 8.29.15

Date and Time of Field Calibration: ~~10.9.13~~ 10.9.13 10:31am

Type of Field Calibration Gas (15/15 or 35/50): 15/15 Expiration Date of Field Calibration Gas Canister: 2016

Pump Rate of Gas Meter: 0.5 L/min

Ambient Air Temperature: 72° Barometric Pressure: 27.41 General Weather Conditions: P. 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
P1	7605	11:09a	7605	7100	7100	8.1	5.3	17.1	
P2	7605	11:07a	7605	0	0	0	16.2	2.4	
P3	7605	11:08a	7605	7100	7100	50.4	3.2	27.1	
P4	7605	11:01a	7605	0	0	0	19.3	3.7	
P5	7605	10:53a	7605	0	0	0	19.8	0.5	
P6	7605	10:40a	7605	0	0	0	17.0	4.6	
P7	7605	10:37a	7605	7100	7100	32.1	1.4	16.4	
P8	7605	10:33a	7605	0	0	0	20.0	2.0	
P9	7605	11:16a	7605	0	0	0	18.9	2.1	
P10	7605	11:18a	7605	0	0	0	18.0	3.5	

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.

Don Misener (Signature) PROJECT SCIENTIST (Title)

NC Division of Waste Management - Solid Waste Section

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Facility Name: Avery County Closed MSW Landfill Permit Number: 06-01

Date of Sampling: _____ NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: _____ Calibration Date of Gas Meter: _____

Date and Time of Field Calibration: _____

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

Pump Rate of Gas Meter: _____

Ambient Air Temperature: _____ Barometric Pressure: _____ General Weather Conditions: _____

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
P11	760s	11:24a	760s	7100	7100	54.2	1.1	33.1	
P12	760s	10:35a	760s	0	0	0	20.0	2.0	
P13	760s	11:36a	760s	0	0	0	4.6	5.0	

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[Signature]
SIGNATURE

PROJECT SCIENTIST
TITLE

NC Division of Waste Management - Solid Waste Section

Landfill Gas Monitoring Data Form

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Facility Name: Avery County Closed MSW Landfill Permit Number: 06-01

Date of Sampling: _____ NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: _____ Calibration Date of Gas Meter: _____

Date and Time of Field Calibration: _____

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

Pump Rate of Gas Meter: _____

Ambient Air Temperature: _____ Barometric Pressure: _____ General Weather Conditions: _____

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
AVERY COUNTY AIRPORT STRUCTURE #1									
NE Corner	760s	11:39	760s	0	0	0	20.9	0	
NW Corner	760s	11:40	760s	0	0	0	20.7	0	
SE Corner	760s	11:42	760s	0	0	0	20.9	0	
SW Corner	760s	11:44	760s	0	0	0	21.0	0	
ADD ANY ADDITIONAL LOCATIONS AT OR NEAR STRUCTURE WITH METHANE PRESENT BELOW OR ON ADDITIONAL SHEETS									

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]
SIGNATURE

PROJECT SCIENTIST
TITLE

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Facility Name: Avery County Closed MSW Landfill Permit Number: 06-01

Date of Sampling: NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: Calibration Date of Gas Meter:

Date and Time of Field Calibration:

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

Pump Rate of Gas Meter:

Ambient Air Temperature: Barometric Pressure: General Weather Conditions:

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

Table with 10 columns: Location or LFG Well ID, Sample Tube Purge, Time, Time Pumped (s), Initial %LEL, Stabilized %LEL, %CH4 by Volume, %O2, %CO2, Notes. Rows include data for NE, NW, SE, and SW corners of Avery County Airport Structure #2, with handwritten values for time and gas percentages.

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: [Handwritten Signature] (StG)

TITLE: PROJECT SCIENTIST

NC Division of Waste Management - Solid Waste Section

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Facility Name: Avery County Closed MSW Landfill Permit Number: 06-01

Date of Sampling: _____ NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: _____ Calibration Date of Gas Meter: _____

Date and Time of Field Calibration: _____

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

Pump Rate of Gas Meter: _____

Ambient Air Temperature: _____ Barometric Pressure: _____ General Weather Conditions: _____

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
AVERY COUNTY AIRPORT STRUCTURE #3									
NE Corner	7605	11:54a	7605	0	0	0	20.9	0	
NW Corner	7605	11:56a	7605	0	0	0	20.9	0	
SE Corner	7605	11:59a	7605	0	0	0	20.8	0	
SW Corner	7605	12:00p	7605	0	0	0	20.8	0	
ADD ANY ADDITIONAL LOCATIONS AT OR NEAR STRUCTURE WITH METHANE PRESENT BELOW OR ON ADDITIONAL SHEETS									

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.

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[Signature] (SIC) PROJECT SCIENTIST
 SIGNATURE TITLE

NC Division of Waste Management - Solid Waste Section

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Date of Sampling: _____ NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: _____ Calibration Date of Gas Meter: _____

Date and Time of Field Calibration: _____

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

Pump Rate of Gas Meter: _____

Ambient Air Temperature: _____ Barometric Pressure: _____ General Weather Conditions: _____

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
AVERY COUNTY AIRPORT STRUCTURE #4									
NE Corner	760s	12:02p	760s	0	0	0	20.9	0	
NW Corner	760s	12:04p	760s	0	0	0	21.0	0	
SE Corner	760s	12:06p	760s	0	0	0	21.0	0	
SW Corner	760s	12:08p	760s	0	0	0	21.0	0	
ADD ANY ADDITIONAL LOCATIONS AT OR NEAR STRUCTURE WITH METHANE PRESENT BELOW OR ON ADDITIONAL SHEETS									

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[Signature]
SIGNATURE

PROJECT SCIENTIST
TITLE

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Date of Sampling: _____ NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: _____ Calibration Date of Gas Meter: _____

Date and Time of Field Calibration: _____

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

Pump Rate of Gas Meter: _____

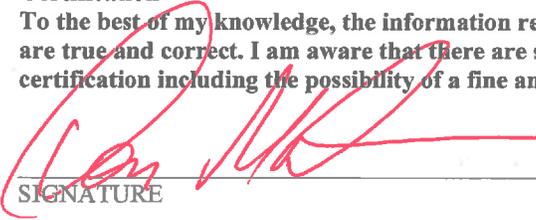
Ambient Air Temperature: _____ Barometric Pressure: _____ General Weather Conditions: _____

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
AVERY COUNTY AIRPORT STRUCTURE #5									
NE Corner	760s	12:10p	760s	0	0	0	21.0	0	
NW Corner	760s	12:12p	760s	0	0	0	21.0	0	
SE Corner	760s	12:14p	760s	0	0	0	21.1	0	
SW Corner	760s	12:16p	760s	0	0	0	21.0	0.1	
ADD ANY ADDITIONAL LOCATIONS AT OR NEAR STRUCTURE WITH METHANE PRESENT BELOW OR ON ADDITIONAL SHEETS									

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.

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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: Avery County Closed MSW Landfill Permit Number: 06-01

Date of Sampling: _____ NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: [SEE PAGE 1]

Type and Serial Number of Gas Meter: _____ Calibration Date of Gas Meter: _____

Date and Time of Field Calibration: _____

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

Pump Rate of Gas Meter: _____

Ambient Air Temperature: _____ Barometric Pressure: _____ General Weather Conditions: _____

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
AVERY COUNTY AIRPORT STRUCTURE #6									
NE Corner	760s	12:18p	760s	0	0	0	20.9	0.1	
NW Corner	760s	12:20p	760s	0	0	0	20.9	0	
SE Corner	760s	12:22p	760s	0	0	0	20.9	0	
SW Corner	760s	12:24p	760s	0	0	0	20.9	0.1	
ADD ANY ADDITIONAL LOCATIONS AT OR NEAR STRUCTURE WITH METHANE PRESENT BELOW OR ON ADDITIONAL SHEETS									

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] (SIC) PROJECT SCIENTIST
 SIGNATURE TITLE