



May 31, 2012

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

**RE: Operations, Monitoring, and Maintenance Report – May 2012
Avery County Closed MSW Landfill
Spruce Pine, North Carolina**

Dear Ms. Drummond:

This report provides information concerning the operation and monitoring (O&M) of the Avery County Closed MSW Landfill (Permit No. 06-01) Landfill Gas Collection and Control System (LFGCCS). This report covers the May 2012 monitoring period. Mr. Don Misenheimer with RSG, performed the May site visit on May 24, 2012. Details of this inspection are provided below.

ACTION LIST

RSG has identified the following items to be addressed in order for the LFGCCS to operate as designed:

1. **W-1 and W-3:** These wells have been determined to be watered out/totally clogged. RSG is currently evaluating options to address this condition. Well rehabilitation will likely occur in FY 2012-2013.
2. **W-2 and W-4:** These wells have been determined to be partially watered out/partially clogged and are only able have minimal system pressure applied for LFG extraction. RSG is currently evaluating options for well rehabilitation to address this condition. Well rehabilitation activities will likely occur in FY 2012-2013.
3. **Flare:** Flare “blow out” and re-lighting problems seem to be present during steady wind conditions. An extended flare collar should be considered. RSG and Avery County discussed this issue while both parties were on site. Avery County is determining the best process to get an extended collar welded onto the flare; in the meantime, it was discussed to have RSG obtain a new igniter to replace the existing igniter during the next site visit.

LFG EXTRACTION WELL MONITORING REQUIREMENTS

As set forth in the *Off-site Landfill Gas Mitigation Plan*¹, approved, via letter, on February 10,

¹ *Off-Site Gas Mitigation Plan*. Richardson Smith Gardner and Assoc. January 18, 2011

2011 by NCDENR Division of Waste Management², monthly monitoring of the LFGCCS will include the following:

- CH₄, O₂, CO₂, and Pressure monitoring at each extraction well head;
- CH₄, O₂, CO₂, and Pressure monitoring at the flare station; and
- adjustment of LFGCCS to balance recovery and ensure safe operation of the system.

The County will maintain this LFGCCS for a period of at least 12 months 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.

RSG has submitted the revised Landfill Gas Monitoring Plan. As this plan is approved, monitoring requirements may be updated.

LFG EXTRACTION WELL MONITORING ACTIVITIES

RSG performed the flare station and well field monitoring on May 24, 2012. When RSG arrived to the site, there was approximately 40 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**.

The following actions were taken at the well field and flare station during this period:

Well Field

- **W-1 through W-8:** RSG 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).
- **Orifice Plates:** RSG will continue to evaluate orifice plate sizes on wells W-5 through W-8 as necessary.

Flare Station

- The flare was not burning when RSG arrived at the site. RSG manually restarted the flare twice during the site visit. The igniter was observed to be operational. Steady winds were present during the site visit and may be causing flare “blow out” and relighting problems. An extended flare collar should be considered. RSG and Avery County discussed this issue while both parties were on site. Avery County is determining the best process to get an extended collar welded onto the flare; in the meantime, it was discussed to have RSG obtain a new igniter to replace the existing igniter, during the next site visit.

² *Off-Site Gas Mitigation Plan*- Approval. Letter from Jaclynne Drummond, NCDENR, February 10, 2011

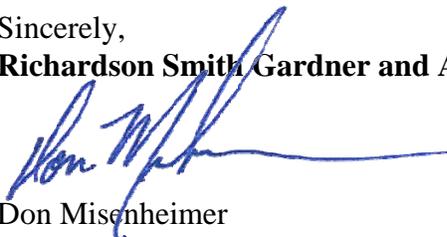
- The Landfill Gas Collection Blower System has been determined to be appropriately sized for the current operation of the well field. Should conditions change, the blower size may need to be evaluated further.
- Options to increase gas flow are being evaluated.
- During the May site visit, the condensate tank on-site that had been previously been observed to have a high liquid level was pumped into an adjacent empty storage tank which was already present on site. Avery County plans to have this “holding tank” pumped out in coordination with leachate removal pumping from the Avery County MSW Transfer Station in the next few months. **RSG will continue to monitor the liquid level of the condensate tank.**

LFG MONITORING WELL (PERIMETER) MONITORING

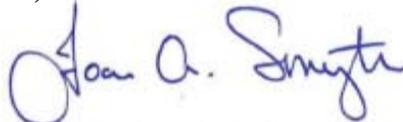
RSG personnel conducted the May 2012 monitoring of the perimeter LFG monitoring wells on May 24, 2012. Results of this monitoring event are included in **Attachment 1**. Monitoring wells P1, P7 and P11 each measured over the 100% LEL or 5% by volume of CH₄. Monitoring well P3 and P13 measured less than 50% LEL or 2.5% by volume of CH₄, while all other wells had no detectable concentrations of CH₄. These wells will continue to be monitored and data will be submitted in this reporting format.

The next routine monitoring event is tentatively scheduled for the third week of June 2012. 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,
Richardson Smith Gardner and Associates, Inc.



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



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

Attachments

CC: Buddy Norris – Avery County
Deb Aja – NCDENR
Stacey Smith, P.E. – RSG
File

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Table

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DATE: May 31, 2012

BY: DMM

**Table 1
Avery County Closed MSW Landfill
Landfill Gas Collection and Control System Monitoring
May 2012**

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	5/24/2012 10:23	68.8	27.8	0	3.4	72	-40.6	-40.6	0.004	<<>>	2	-40.61
Avery-W2	5/24/2012 10:26	49.9	26.4	0.4	23.3	73	-35.5	-35.5	0.004	2	2	-40.61
Avery-W3	5/24/2012 10:29	60.2	27.3	0.3	12.2	74	-39.2	-39.1	0.003	1	2	-40.67
Avery-W4	5/24/2012 10:32	25.3	21.9	0.2	52.6	74	-30.9	-30.9	0.004	2	1	-40.69
Avery-W5	5/24/2012 10:36	28.2	24	0.8	47	72	-25.8	-26	1.53	3	3	-40.85
Avery-W6	5/24/2012 10:39	11.3	20.4	0.2	68.1	73	-4.4	-4.4	0.174	1	1	-40.86
Avery-W7	5/24/2012 10:44	14	22.3	0.5	63.2	74	-3.4	-3.5	3.716	0	0	-38.87
Avery-W8	5/24/2012 10:41	29.2	26.5	0	44.3	74	-4.8	-4.8	0.14	3	<<>>	-40.76
Flare Station	5/24/2012 10:49	34.8	23.4	1.6	40.2	N/A	0.9	N/A	0.469	<<>>	16	40.9

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.

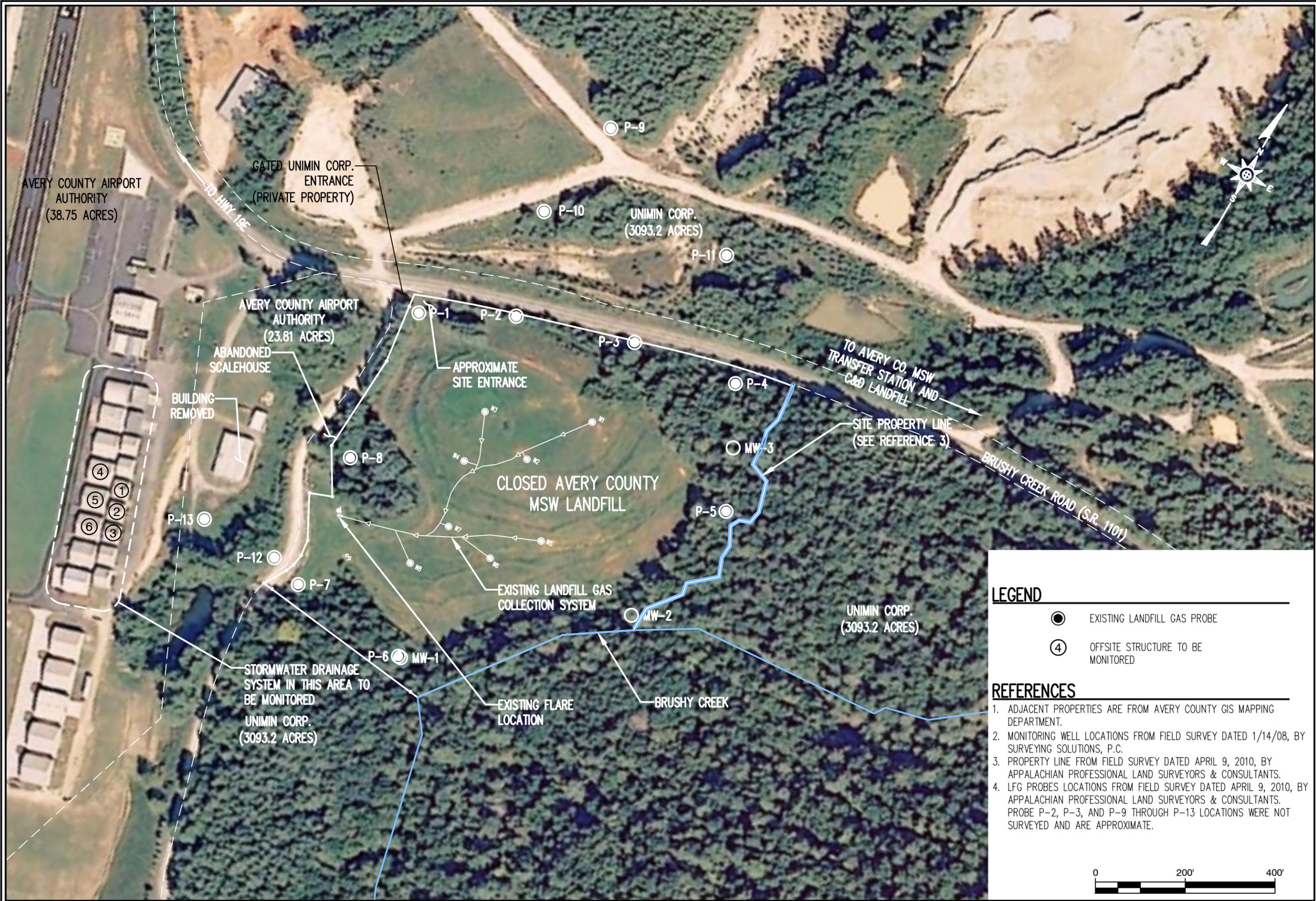
<<>> = measurement out of range of GEM 2000 meter. The reading was likely too low for measurement by the instrument.

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Figure

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G:\CAD\Avery County\Avery 10-2\sheets\AVERY-B0173.dwg - 12/20/2011 4:36 PM



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.



RICHARDSON SMITH GARDNER & ASSOCIATES
INC. LIC. NO. C-0828 (Engineering)
 www.rsgengineers.com

ph: 919-826-0577
 fax: 919-826-3899

FIGURE NO.	1	FILE NAME	AVERY-B0173
SCALE:	AS NOTED	PROJECT NO.	AVERY 11-6
CHECKED BY:	J.A.S.	DATE:	Dec. 2011
DRAWN BY:	C.T.J.		

TITLE:
 LANDFILL GAS
 MONITORING SYSTEM
 AVERY COUNTY CLOSED MSWLF
 SPRUCE PINE, NC

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Attachment 1

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DENR USE ONLY:

Paper Report

Electronic Data - Email CD (data loaded: Yes / No)

Doc/Event #:

NC DENR

Environmental Monitoring Reporting Form

Division of Waste Management - Solid Waste

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):

Richardson Smith Gardner and Associates, Inc.

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

Name: Joan A. Smyth, P.G.

Phone: 919-828-0577 x 221

E-mail: joan@rsgengineers.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Avery County Closed MSW Landfill	Brushy Creek Road Spruce Pine, NC	06-01	.0500	5-24-12

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.

Joan A. Smyth, P.G.

Senior Hydrogeologist

919-828-0577 x 221

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Affix NC Licensed/ Professional Geologist Seal

Joan A. Smyth
Signature

5/31/12

Date

14 N. Boylan Avenue Raleigh, NC 27603

Facility Representative Address

C-0828

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009



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: 5.24.12 NC Landfill Rule (.0500 or .1600): .0500

Name and Position of Sample Collector: DON MISENHEIMER (RSG)

Type and Serial Number of Gas Meter: GM 07002 LEM 2000 Calibration Date of Gas Meter: 9.20.12

Date and Time of Field Calibration: 5.24.12 10:51a

Type of Field Calibration Gas (15/15 or 35/50): 15/15 Expiration Date of Field Calibration Gas Canister: 4.13

Pump Rate of Gas Meter: 0.54m

Ambient Air Temperature: 75 Barometric Pressure: 27.15 General Weather Conditions: clear/wind

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 P1-P10 contain gas monitoring data.

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 Don Misener (RSG)

TITLE PROJECT SCIENTIST

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: _____

Type and Serial Number of Gas Meter: [SEE PAGE 1] 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	11:36a	768s	7100	7100	34.2	6.6	16.5	
P12	760s	10:58a	760s	0	0	0	19.1	0.2	
P13	760s	11:41a	760s	46	46	2.3	9.3	6.2	

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

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	11:43a	760s	0	0	0	20.1	0.1	
NW Corner	760s	11:45a	760s	0	0	0	20.2	0.1	
SE Corner	760s	11:47a	760s	0	0	0	20.1	0.2	
SW Corner	760s	11:49a	760s	0	0	0	20.2	0.2	
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

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

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. Includes data for Avery County Airport Structure #2 at NE, NW, SE, and SW corners.

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.

Handwritten signature and initials (RSG) over a line labeled SIGNATURE

PROJECT SCIENTIST over a line labeled 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 #3									
NE Corner	760s	11:59a	760s	0	0	0	21.1	0.1	
NW Corner	760s	12:01p	760s	0	0	0	21.1	0.2	
SE Corner	760s	12:03p	760s	0	0	0	21.2	0.1	
SW Corner	760s	12:05p	760s	0	0	0	21.1	0.3	
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.

Jon M. [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

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	12:07p	760s	0	0	0	20.9	0.2	
NW Corner	760s	12:09p	760s	0	0	0	20.9	0.2	
SE Corner	760s	12:11p	760s	0	0	0	20.9	0.2	
SW Corner	760s	12:13p	760s	0	0	0	21.0	0.2	
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

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 #5									
NE Corner	760s	12:15p	760s	0	0	0	21.1	0.2	
NW Corner	760s	12:18p	760s	0	0	0	21.1	0.1	
SE Corner	760s	12:19p	760s	0	0	0	21.2	0.1	
SW Corner	760s	12:21p	760s	0	0	0	21.2	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]
PROSPECT SCIENTIST RSG
SIGNATURE

TITLE

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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	7605	12:23p	7605	0	0	0	21.2	0.1	
NW Corner	7605	12:25p	7605	0	0	0	21.2	0.2	
SE Corner	7605	12:27p	7605	0	0	0	21.2	0.2	
SW Corner	7605	12:29p	7605	0	0	0	21.1	0.2	
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