RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES

June 30, 2010

Mr. Bill Wagner
Environmental Senior Specialist
Division of Waste Management – NCDENR
2090 US Highway 70
Swannanoa, North Carolina 28778

RE: **Explosive Gas Concentration Notification**
Avery County MSW Landfill
NC Solid Waste Permit No. 06-01

Dear Bill:

On behalf of Avery County, Richardson Smith Gardner & Associates (RSG) is hereby providing notification of explosive gas concentrations above the LEL, in accordance with the Landfill Gas Monitoring Plan[1]. The **attached** LFG monitoring log shows the exceedences to be in probes P-3 and P-7. These locations are shown on the **attached** site map. In accordance with the Landfill Gas Monitoring Plan, the County has:

- Notified RSG;
- Notified the County Fire Marshall
- Notified the County Environmental Management Department

At this time, RSG is preparing for a site visit to determine the extent of LFG migration. It is our opinion that no LFG receptors or critical migration pathways exist in the near vicinity of the site. The greenhouse on the adjacent property is the only structure near-by and it already utilizes the LFG for heating purposes.

We appreciate your attention and we are prepared to respond immediately to any questions or concerns. Please feel free to contact us by phone at (919) 828-0577 or by email below.

Sincerely,

Richardson Smith Gardner & Associates, Inc.

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

Stacey A. Smith, P.E.
Project Manager, ext. 127
stacey@rsgengineers.com

cc: Mr. Henry "Buddy" Norris
File

H:\Projects\Avery County (NC)\Avery-09-8 (Landfill Gas Management Plan)\letter_063010.wpd

[1] Landfill Gas Monitoring Plan, Avery County MSW Landfill, Richardson Smith Gardner and Associates, Inc., January 2010.

DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

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).
- 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

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

Name: Don Misenheimer Phone: (919)828-0577

E-mail: don@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 MSW Landfill	Approximately 1 mile east of US 19E on Brushy Creek road, about 2000 feet east of the Avery County Airport.	06-01	.1600	June 30, 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
☐ Leachate monitoring data
☐ Surface water monitoring data
☒ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

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.

Don Misenheimer — Project Scientist — 919 828 0577

Facility Representative Name (Print) — Title — (Area Code) Telephone Number

Signature — 06/30/10 — Date

Affix NC Licensed/ Professional Geologist Seal

14 N. Boylan Ave. Raleigh NC, 27603

Facility Representative Address

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

LFG MONITORING LOG
AVERY COUNTY MSW LANDFILL
NC SOLID WASTE PERMIT NO. 06-01

Measurement date: 6/30/2010

Meter Used: RKI® GX 2003

Meter Calibration date: 6/29/2010

Meter Calibration Type: Factory or Gas (circle one)

Barometric Pressure:

Error: +/-10% per the manufacturer (RKI)

Weather: CALM

Gas Monitoring Locations	% LEL (5% CH_4 = 100% LEL)	% O_2	H_2S (ppm)	CO (ppm)	Is % LEL reading equal to or above 100% in probes? *, ** (circle yes or no)
P-1	Ø	16.2	Ø	Ø	Y or N
P-2	12.0	0.7	Ø	2.0	Y or N
P-3	100.0	Ø	1.0	1.0	Y or N
P-4	1.0	15.5	Ø	Ø	Y or N
P-5	Ø	20.9	Ø	Ø	Y or N
P-6	Ø	18.0	Ø	Ø	Y or N
P-7	100.0	Ø	Ø	2.0	Y or N
P-8	Ø	20.8	Ø	Ø	Y or N

* If yes, contact RSG immediately at (919) 828-0577.

** Notification to DWM must be provided if levels exceed limits.

The following is to collect information about the maintenance of the gas probes. This checklist focuses on the physical characteristics of the probe and its vicinity.

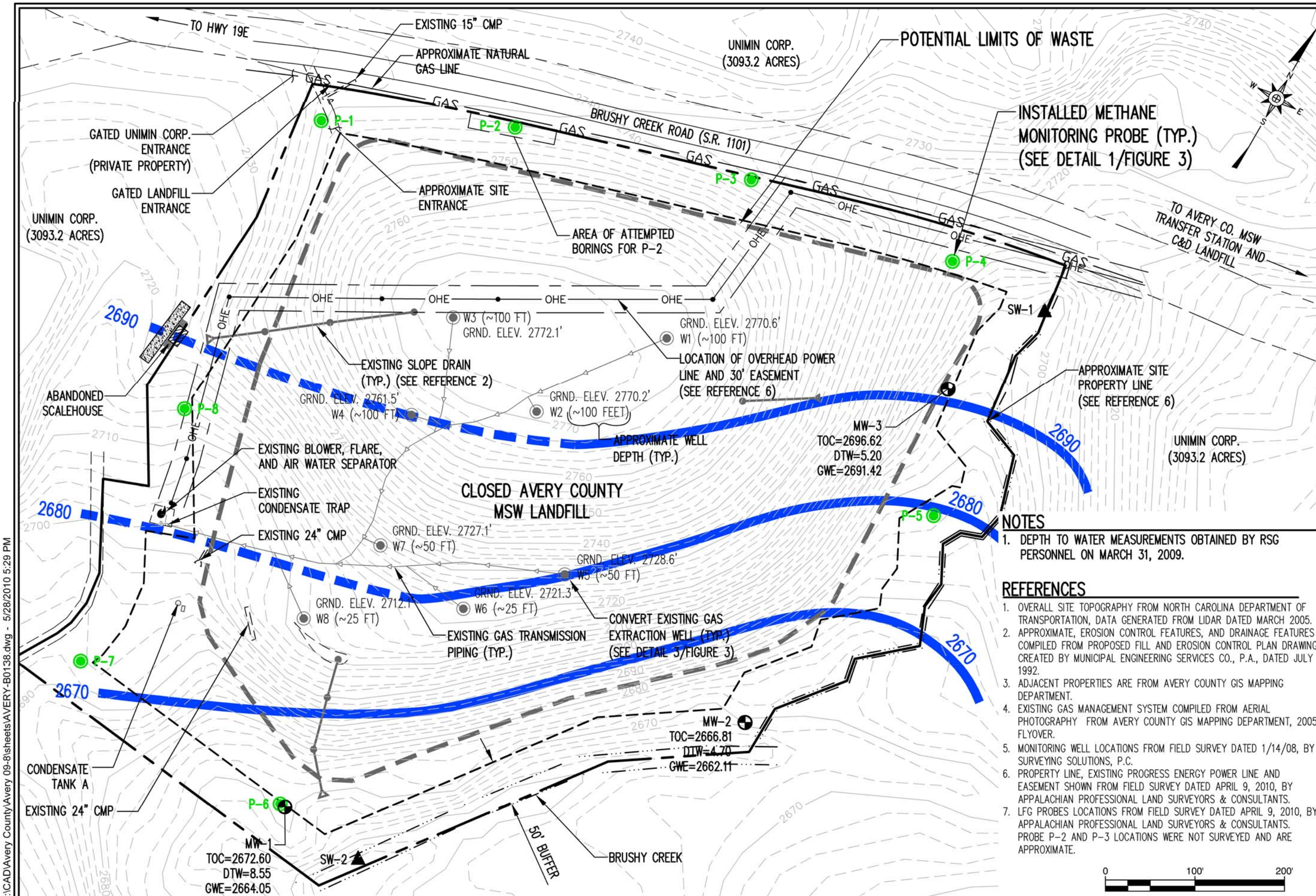
Please circle yes or no for the following areas of concern. If you answer NO, please explain in the comment box.

AREA OF CONCERN	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Probe is accessible and surrounding area is safe for employees.	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
Lock operates properly.	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
Concrete pad is present and in good condition.	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
Steel casing is not movable and cemented in, and is in good working condition.	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N

Comments/ items addressed or to be addressed:

Measurements taken by: Buddy Norris

Signature: Don Monk (RSG) FOR BUDDY NORRIS



NOTES

1. DEPTH TO WATER MEASUREMENTS OBTAINED BY RSG PERSONNEL ON MARCH 31, 2009.

REFERENCES

1. OVERALL SITE TOPOGRAPHY FROM NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, DATA GENERATED FROM LIDAR DATED MARCH 2005.
2. APPROXIMATE, EROSION CONTROL FEATURES, AND DRAINAGE FEATURES COMPILED FROM PROPOSED FILL AND EROSION CONTROL PLAN DRAWING CREATED BY MUNICIPAL ENGINEERING SERVICES CO., P.A., DATED JULY 1992.
3. ADJACENT PROPERTIES ARE FROM AVERY COUNTY GIS MAPPING DEPARTMENT.
4. EXISTING GAS MANAGEMENT SYSTEM COMPILED FROM AERIAL PHOTOGRAPHY FROM AVERY COUNTY GIS MAPPING DEPARTMENT, 2005 FLYOVER.
5. MONITORING WELL LOCATIONS FROM FIELD SURVEY DATED 1/14/08, BY SURVEYING SOLUTIONS, P.C.
6. PROPERTY LINE, EXISTING PROGRESS ENERGY POWER LINE AND EASEMENT SHOWN FROM FIELD SURVEY DATED APRIL 9, 2010, BY APPALACHIAN PROFESSIONAL LAND SURVEYORS & CONSULTANTS.
7. LFG PROBES LOCATIONS FROM FIELD SURVEY DATED APRIL 9, 2010, BY APPALACHIAN PROFESSIONAL LAND SURVEYORS & CONSULTANTS. PROBE P-2 AND P-3 LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

RICHARDSON SMITH GARDNER & ASSOCIATES
NC LIC. NO. C-0828 (Engineering)
www.rsgengineers.com
14 N. Boylan Ave.
Raleigh, N.C. 27603
ph: 919-828-0577
fax: 919-828-3899

FIGURE NO.	1
FILE NAME	AVERY-B0138
SCALE:	AS NOTED
PROJECT NO.	AVER 09-8
CHECKED BY:	S.A.S
DRAWN BY:	W.R.B.
DATE:	May. 2010

TITLE: LANDFILL GAS MONITORING PROBE LOCATIONS WITH POTENTIOMETRIC SURFACE AVERY COUNTY CLOSED MSWLF

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