



Engineering

Planning

Architecture

September 12, 1994

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3301 <i>Mine</i>	7/15/94	DIN 14406

Mr. Edward F. Mussler
NC Department of Environment Health
and Natural Resources
Solid Waste Section
P. O. Box 27687
Raleigh, NC 27611-7687

Re: Permanent Methane Monitoring Plan
Edgecombe County Landfill Transition Plan
Permit No. 33-01
Response to August 16, 1994 Letter with Comments

Dear Mr. Mussler:

The following responses are made to the comments contained in your letter dated August 16, 1994:

301 W. 14th Street
Suite B
Greenville, NC
27834

919-757-1096

- 1) The County has retained a geotechnical firm to install the methane gas monitoring wells as shown on Sheet 14 of 15 of the Transition Plan. The current schedule calls for construction, sampling and a report of the results prior to the October 9, 1994 deadline. Temporary sampling was done prior to the submission of the Transition Plan but systematic record keeping of the results was not done. We know only that none of the samples indicated methane concentrations higher than the maximum allowable. Edgecombe County has not as yet been able to obtain a device to perform the temporary sampling suggested in the Transition Plan. Since it appears unlikely that results of temporary monitoring will affect the layout of the permanent sampling points, and since the deadline for implementation of a permanent monitoring system is approaching, the County has decided to implement the permanent plan without the results of temporary monitoring.
- 2) Five methane monitoring wells are shown on the plans. Please refer to Sheet 14 of 15 of the plans.
- 3) A methane monitoring well is shown on the Transition Plan approximately 40 feet north of the maintenance building. This places the well between the waste and the structures in the southeastern portion of the site. This well is flanked on either side by additional wells. In addition, monitoring will take place within all closed buildings on the site.
- 4) There are no existing structures situated above old waste disposal areas according to Mr. Larry Hathaway, the landfill manager.
- 5) The methane monitoring well spacing is no more than 500 feet. This is based upon the opinion of the geotechnical consultant, S&ME, that this spacing is satisfactory for the site. Should significant concentrations of methane be detected with these wells, the County would consider adding additional wells. The Transition Plan also calls for quarterly monitoring of all occupied buildings on the site. Please let us know if this approach is satisfactory to the Solid Waste Section.

Since 1936

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- 6) The depth of the wells will be to the top of the groundwater surface at the time of well installation. The anticipated average depth is 8 feet below the ground surface.
- 7) SECTION 3.7 EMERGENCY RESPONSE TO THE PRESENCE OF METHANE GAS has been added to the Transition Plan. Enclosed are two copies for insertion into the Transition Plan copies previously sent to your office.

We believe this information addressed the concerns expressed in your August 16, 1994 letter. Please let us know if you require additional information.

Sincerely,

THE WOOTEN COMPANY

By 
Todd A. Tripp, PE

TAT/hw

Enclosures

cc: Mr. Joseph K. Durham
Mr. Larry Hathaway
Mr. Bob Harding
Mr. Terry Dover

3.7 EMERGENCY RESPONSE TO THE PRESENCE OF METHANE GAS

This section of the Transition Plan shall be posted on the landfill office bulletin board for reference should methane gas be detected. Since methane is an explosive gas, safety procedures shall be followed carefully.

3.7.1 METHANE GAS DETECTED WITHIN LANDFILL OFFICE OR MAINTENANCE BUILDINGS

Should methane gas be detected within any occupied or unoccupied buildings, the following steps should be taken.

1. Note the concentration. If the concentration is higher than 25% of the lower explosive limit (LEL) immediate steps to protect human safety must be taken.

- a. Minimize Spark Hazards:

- i. Do not smoke or use matches, or lighters for any reason.
- ii. Do not operate any electrical devices, light switches, stoves, fans, etc. either to switch them off or on. Electrical switches generate sparks which could ignite methane.
- iii. Avoid causing metal to metal contact in and around the area of the methane concentration.

- b. Ventilate:

If windows or doors are near the site of the methane concentration open them so that the methane is allowed to escape the building.

- c. Follow-Up:

Recalibrate the methane gas monitor and repeat the test to confirm the methane concentration. If the methane concentration is safe (less than 25% LEL) monitor several locations within the building and within the building crawl space (if any). If a methane gas concentration of 25% LEL is obtained in any of the follow up reading, leave the building and radio the County Operations Center from a mobile radio (this allows personnel to avoid using a phone in the presence of explosive gas) and have the Operations Center contact the County Response Team, open any exterior panels, doors, or windows adjacent to the site of the methane concentration, vacate the buildings and secure the area. All personnel and visitors should leave the landfill. Have an employee remain at the entrance to prevent others from entering the site until the site is secured by Emergency Personnel.

2. If methane is detected but is less than 25% LEL, contact the Solid Waste Section immediately and obtain guidance as to the necessary procedures to safeguard personnel.

3.7.2 METHANE GAS DETECTED IN A GAS MONITORING WELL

1. Note the concentration. If the concentration is higher than 25% of the lower explosive limit (LEL) immediate steps to protect human life must be taken.

a. Minimize Spark Hazards:

See 3.7.1. a.

b. Follow-Up:

Recalibrate the methane gas monitor and repeat the test to confirm the methane concentration. If the methane concentration is safe (less than 25% LEL), hand auger test holes near (10' radius) the well and monitor the methane concentration in these test holes. If any follow up readings indicate concentrations higher than 25% LEL, leave the area and contact the Edgecombe County Emergency Response Team, vacate the site and secure the area. All personnel and visitors should leave the landfill. Have an employee remain at the entrance to prevent others from entering the site until the site is secured by emergency personnel.

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director

Mr. Todd Tripp
The Wooten Co.
301 W. 14 Street Suite B
Greenville, NC 27529

August 16, 1994

RE: Permanent Methane Monitoring Plan, Edgecombe County Landfill Transition Plan,
Permit No. 33-01

Dear Mr. Tripp,

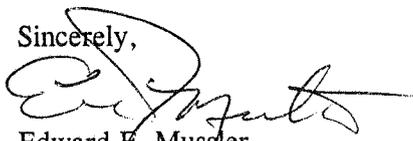
In accordance with 15A NCAC 13B .1626(4), owners or operators of all municipal solid waste landfill (MSWLF) units must implement a permanent methane monitoring program on or before October 9, 1994. The permanent methane monitoring plan in the referenced transition plan should include a response plan for situations in which methane gas levels are exceeded, in addition to, proposed probe or well location, depth, and construction.

The plan stated that a temporary monitoring program would be implemented and the permanent system adjusted if necessary. Has this been done and are there any modifications? The written plan states that five wells will be used but only 3 are identified on the plans. Are any wells proposed or needed around the structures in the SE corner of the site? Are there any structures located over old waste disposal areas?

The methane monitoring plan should describe the permanent monitoring system including a rationale as to why the particular spacing was chosen and the anticipated depth of the proposed wells. The factors of Rule .1626(4)(b)(i) should be addressed in the design of the permanent methane monitoring system. Other factors to consider are the depth to groundwater and the type of soils in and around the landfill.

The methane monitoring plan should include an emergency response plan, to be implemented in the event that gas is detected, particularly in or around buildings. The plan should address the steps to be taken to ensure protection of human health (see Rule .1626(4)(c)(i)). In addition the sampling protocol could be expanded, instruments identified, and sampling locations in and around structures on-site identified. A comprehensive monitoring sampling and analysis plan, similar to groundwater procedures, is recommended since the County plans to have one of its employees do the monitoring.

Please submit this information to the Solid Waste Section within 30 days from the issuance date of this letter to avoid compliance action by the Section. If you have any questions regarding this matter, please contact me or Sherri Hoyt at (919)733-0692.

Sincerely,

Edward F. Mussler
Environmental Engineer
Solid Waste Section

cc: Bob Harding
Terry Dover

File

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