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September 8, 1995

Mr. G. Steven Clayton
Wilson County Department of Solid Waste Management
P.O. Box 1728
Wilson, North Carolina 27894-1728

RE: Explosive Gas Monitoring Report
Wilson County MSWLF
EI Project # 14-503-235

Fac/Perm/Co ID #	Date	Doc ID#
98-01	7/15/2011	DIN 14389

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Dear Mr. Clayton:

Enclosed please find the referenced report for the August monitoring event. A copy of this report should be placed in the facility's Operating Record. This represents second quarter 1995 gas probe monitoring conducted at the Wilson County Municipal Solid Waste Landfill.

Please call me at (919) 544-7500, if you have any questions concerning the report.

Sincerely,

Asa B. Rogerson Jr., E.I.T.
Environmental Engineer

J. Grandon Tew Jr., P.E.
Principal Engineer



cc: Ed Mussler



METHANE GAS PROBE MONITORING

Environmental Investigations personnel conducted explosive gas monitoring according to the requirements of 15A NCAC 13B .1626(4). The third quarter 1995 monitoring event for the Wilson County Landfill Facility was completed on August 22, 1995.

This monitoring report includes a general description of the hydrogeologic and hydraulic conditions, test methods, weather conditions, and a summary of the monitoring results.

Gas Monitoring Program

The Gas Monitoring Program for the Wilson County Landfill Facility included sampling gas concentrations in the upper soil zone for the presence of methane and all buildings located on the site. Two monitoring locations were spaced along the northeastern property line, where the landfill is in close proximity to the property line and adjacent residences. The third probe will be located on the southern buffer zone as soon as this land becomes available.

Test Methods

The *MSA 300L Gascope* was used to measure explosive gas concentrations as a percentage of the Lower Explosive Limit (LEL) for methane. Methane concentrations in steady-state landfill gas typically range from 50 to 65 percent. Carbon Dioxide and trace gases constitute the remaining fraction in landfill gas. Methane is a commercial fuel, commonly known as *natural gas*. Similar to the process which forms methane in the landfill, the presence of methanogenic bacteria in wetland soils can convert organic matter to methane. Methane associated with wetlands is often referred to as *swamp or marsh gas*. At monitoring locations exceeding the LEL, supplemental readings were obtained for the total concentration of methane to further identify the possible source(s) of methane production.

The test methods used at the Wilson County Landfill Facility for the monitoring program met or exceeded the standard practices for detecting explosive gas migration from landfills.

Monitoring Results

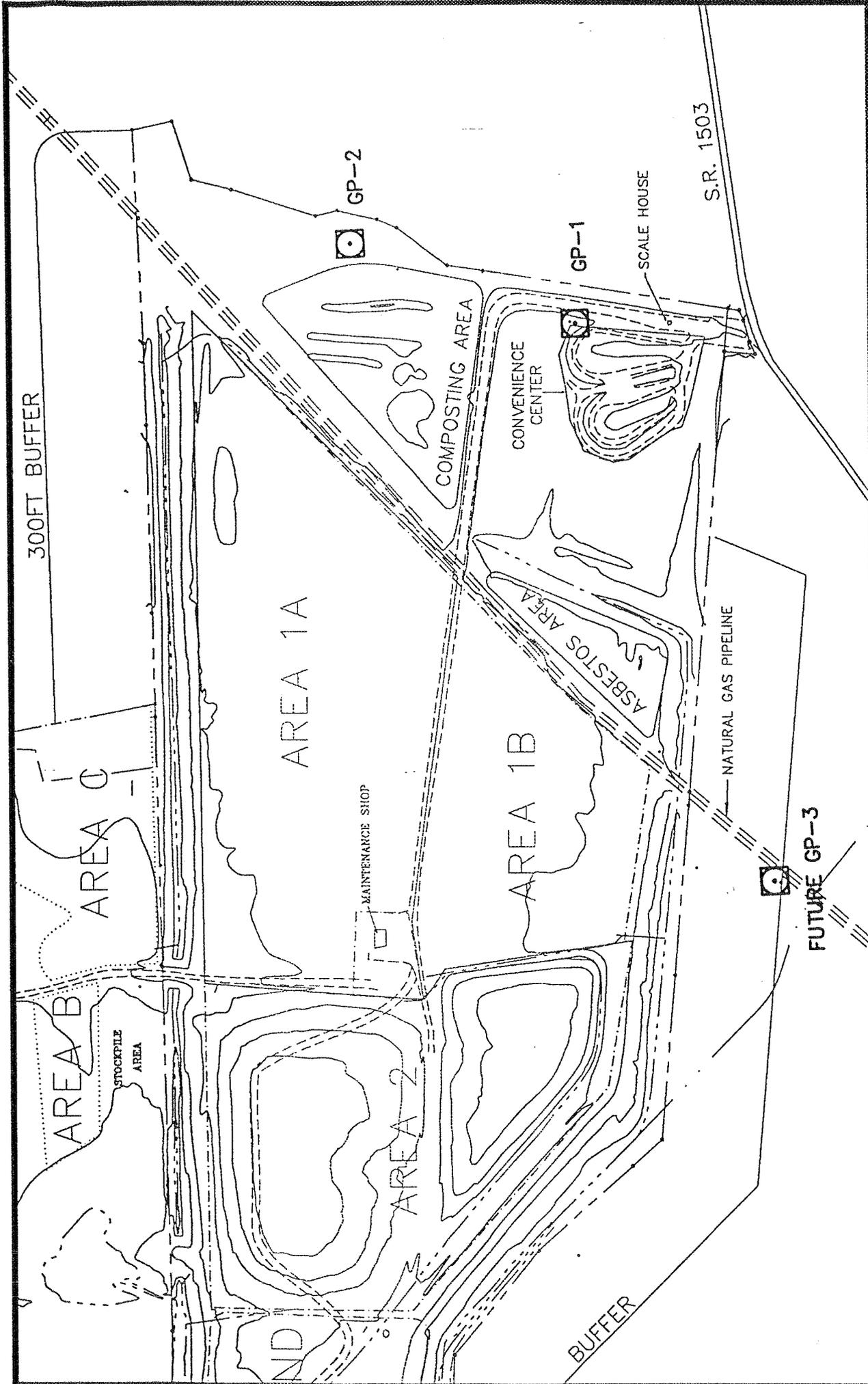
Monitoring locations are generally identified on Figure 1. Monitoring was conducted by Asa Rogerson of EI on August 22, 1995 from 9:30 to 12:30 hours. The dry conditions noted on the day of the site visit are typically favorable for gas migration. Table 1 summarizes all measurements collected from the sampling locations. GP-1 measured an LEL of 2%. The observed conditions is most likely the reason the gas migrated to GP-1. This well will be closely monitored to determine if there is a trend of gas migration in this area. The Solid Waste Section will be notified of any findings.

TABLE 1

Gas Probe Sampling Data
 8/22/95
 Wilson County Landfill Facility
 Wilson County, North Carolina

GP ID	Depth	% LEL	% CH ₄
GP-1	Shallow	2	--
GP-2	Shallow	0	--
Shop	--	0	--
Scale Building	--	0	--

Notes: GP = Gas Probe
 LEL = Lower Explosive Limit
 CH₄ = Methane Gas



JOB NO. 14-503-235

SCALE: 1" = 400'

Figure 1

Wilson County MSWLF
 Wilson County, North Carolina

Gas Probe Locations
 8/22/95

