



GAI Consultants - NC, Inc.

3812-H Tarheel Drive  
Raleigh, NC 27609  
919/878-4478  
FAX 919/878-4032

June 13, 1996

Mr. Jim Bateson  
Hydrogeologist  
North Carolina Department of Environment,  
Health, and Natural Resources  
Division of Solid Waste Management  
Post Office Box 27687  
Raleigh, North Carolina 27611-7687

Re: Responses to Requested Amendments  
Surface Water Sampling and Analysis Plan  
Closed Avery County Landfill, Permit #06-01  
Ingalls, North Carolina  
Project No. 95144.02

Fac/Perm/Co ID #	Date	Doc ID#
06-01 juba	7/29/2011	DIN 14599

Dear Mr. Bateson:

**INTRODUCTION**

Responses are made herein to the requested amendments in your letter of May 1, 1996 for the Surface Water Sampling and Analysis Plan for the Closed Avery County Sanitary Landfill, Permit #06-01.

**RESPONSES TO SUGGESTED AMENDMENTS**

- Amendment: The monitoring plan need not include reference to total organic halogens (TOX) analyses.
- Response: References to TOX analyses have been deleted from the enclosed Water Quality Monitoring Plan.
- Amendment: Samples will need to be analyzed for the following field parameters: pH, temperature, and specific conductivity. Procedures for measuring these parameters need to be described in the monitoring plan. A copy of *Sampling and Analysis Requirements for Construction and Demolition Landfills* is attached for reference.
- Response: As discussed during our phone conversation of June 7, 1996, you agreed that the requirements for measuring pH, temperature, and specific conductivity and the measuring procedures in the enclosed Water Quality Monitoring Plan are adequate.
- Amendment: In order that the document can serve as a comprehensive monitoring plan, it would be better if well construction records for the three monitoring wells were included in the document, and the title of the document changed to "Water Quality Monitoring Plan."
- Response: GAI was involved in the abandonment of Monitoring Well 1 and the installation of Monitoring Well 1R. The well construction record for Monitoring Well 1R along with a well construction

Mr. Jim Bateson  
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sheet for Groundwater Monitoring Wells 2 and 3 is attached to the letter of transmittal for the Water Quality Monitoring Plan.

CLOSURE

This letter responds to requested amendments of Mr. Jim Bateson on the Closed Avery County Landfill.

Respectfully submitted,  
GAI Consultants - NC, Inc.

*Kathleen Armstrong for*

Thomas J. Rossbach, Ph.D., L.G.  
Staff Geologist

*Wendell W. Parker*

Wendell W. Parker, Ph.D., P.E.  
Vice President

Copy to: Wayne Sullivan, Municipal Engineering Services Company

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

June 4 '96

Post-It™ brand fax transmittal memo 7671

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To	WENDELL PARKER	From	JIM BATESON
Co.	GAI	Co.	SOLID WASTE
Dept.		Phone #	919 733 0692 x 342
Fax #	878-4032	Fax #	

DEHNR

May 1, 1996

Ms. Cheryl Marks  
GAI Consultants - NC, Inc.  
3812-H Tarheel Drive  
Raleigh, NC 27609

RE: Monitoring Plan for Closed Avery County Sanitary Landfill  
Permit #06-01

Dear Ms. Marks,

I have reviewed the Surface Water Sampling and Analysis Plan for the above referenced landfill, submitted by your office on April 9, 1996. Several amendments are needed in the document before final copies are forwarded to Avery County and to our office:

1. The monitoring plan need not include reference to total organic halogens (TOX) analyses.
2. Samples will need to be analyzed for the following field parameters: pH, temperature, and specific conductivity. Procedures for measuring these parameters need to be described in the monitoring plan. A copy of *Sampling and Analysis Requirements for Construction and Demolition Landfills and Closed Sanitary Landfills* is attached for reference.
3. In order that the document can serve as a comprehensive monitoring plan, it would be better if well construction records for the three monitoring wells were included in the document, and the title of the document changed to "Water Quality Monitoring Plan".

Please call me at the Solid Waste Section, (919) 733-0692, ext. 342 if you have any questions.

Sincerely,

Jim Bateson  
Hydrogeologist  
Solid Waste Section

cc: Bobby Lutfy

**FROM LANDFILL COVER**  
**LABORATORY TEST RESULTS**  
**Avery County Landfill**  
**Project No. 94179.06**  
**October 31, 1994**

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<u>Sample</u>	<u>Date</u>	<u>Description</u>	<u>Dry Density (pcf)</u>	<u>Moisture Content (%)</u>	<u>Permeability (cm/sec)</u>
1	9-27-94	Red silty clay	85.2	33.8	$3.3 \times 10^{-8}$
2	9-27-94	Red silty clay	88.3	31.2	$5.3 \times 10^{-8}$
3	9-27-94	Red silty clay	88.1	29.8	$1.9 \times 10^{-7}$
4	9-27-94	Red silty clay	92.2	24.0	$1.9 \times 10^{-6}$

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OPERATION/CONSTRUCTION MANAGERS

CIVIL/SANITARY ENGINEERS

**Municipal  
Services**



**Engineering  
Company, P.A.**

P.O. Box 97, Garner, North Carolina 27529 (919)772-5393

P.O. Box 349, Boone, North Carolina 28607 (704)262-1767

January 11, 1995

Ms. Janis D. McHargue, P.E.  
Western Area Engineer  
Solid Waste Section  
585 Waughtown Rd  
Winston-Salem, NC 27101



Re: Closure Documentation - Avery County Sanitary Landfill  
Project No. G93136.

Dear Ms. McHargue:

Enclosed you will find two (2) copies of a closure plan and permeability test results from the existing landfill cover.

The permeability tests were conducted according to Corp of Engineers Laboratory Testing Manual EM 1110-2-1906, 30 NOV 70, Appendix VII, Permeability Tests.

If you have any questions, please advise.

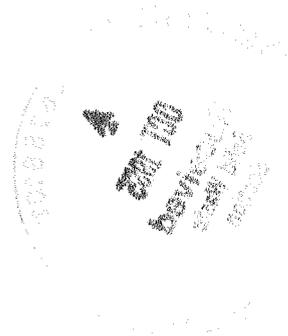
Very truly yours,  
MUNICIPAL ENGINEERING SERVICES CO., PA

D. Wayne Sullivan  
Project Manager

DWS:cd

Enclosures

cc: Mr. Randall Fletcher, County Manager



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

July 7, 1995

Mr. Randall Fletcher  
Avery County Manager  
P.O. Box 54  
Newland, NC 28657

SUBJECT: Closure of the Avery County Landfill  
Permit #06-01

Dear Mr. Fletcher:

The Solid Waste Section has received and reviewed documentation submitted by your consultant on your behalf regarding the subject facility. Upon review of this information, the Section has determined that the water quality monitoring system needs to be upgraded for post-closure monitoring in order to ensure the early detection of any release of hazardous constituents. Some of the existing monitoring wells are greater than 250 feet from the waste boundary or have design or maintainance conditions that make upgrading of the monitoring system necessary.

Within 60 days of receipt of this letter, Avery County, or its consultants, needs to submit to the Solid Waste Section a plan for upgrading the water quality monitoring system at the subject facility.

If there are any questions regarding this letter, please call the Solid Waste Section Hydrogeologist at (919) 733-0692.

Sincerely,

A handwritten signature in black ink that reads "Jim Bateson". The signature is written in a cursive style with a prominent initial "J".

Jim Bateson,  
Hydrogeologist  
Solid Waste Section

cc: Bobby Lutfy; Solid Waste Section  
Jan McHargue; SWS Western Area Engineer