N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
STATE LABORATORY OF PUBLIC HEALTH
P. O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH 27611

Site Number 0500000001B Field Sample Number 23
Name of Site Ashe Co L-F Site Location W Jefferson
Collected By Walter Patterson Glaser ID# Date Collected 8/2/84 Time 1200
Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater	Solid	Well B
Surface Water	Liquid	
Soil	Sludge	
Other	Other	

INORGANIC CHEMISTRY

Extractables Parameter	Results mg/l	Total Parameter	Results mg/l	Parameter	Results mg/l
Arsenic		✓ Arsenic	<0.01	✓ Chloride	10
Barium		✓ Barium	0.3	✓ Conductivity	405 µmhos
Cadmium		✓ Cadmium	<0.005	✓ Copper	<0.05
Chromium		✓ Chromium	<0.01	✓ Fluoride	<0.10
Lead		✓ Lead	<0.03	✓ Iron	2.38
Mercury		✓ Mercury	<0.0002	✓ Manganese	1.37
Selenium		✓ Selenium	<0.005	✓ Nitrate	<1.0
Silver		✓ Silver	<0.05	✓ pH	6.7
				✓ Sulfates	<1
				✓ TDS	244
				✓ Zinc	32.40
				✓ TOC	7

RECEIVED SEP 14 1984 DIVISION OF HAZARDOUS WASTE MANAGEMENT BRANCH

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
Endrin		Toxaphene		PCB's	
Lindane		2,4-D		Petroleum	
Methoxychlor		2,4,5-TP(Silvex)		EDB	
✓ Total				✓ TOX	

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
Gross Alpha	
Gross Beta	

Date Received Date Reported 9-13-84
Date Extracted Date Analyzed
Reported By Lab Number 39593 AUG 68

DHS 3191 (Revised 2/84)
Solid and Hazardous Waste

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
STATE LABORATORY OF PUBLIC HEALTH
P. O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH 27611

ite Number 050000000001A Field Sample Number 11
Name of Site Ashe Co LF Site Location W Jefferson
Collected By Masters Peterson ID# Date Collected 8/2/84 Time 1100
Type of Sample: Glass

Environmental	Concentrate	Comments
✓ Groundwater	___ Solid	Well A
___ Surface Water	___ Liquid	
___ Soil	___ Sludge	
___ Other	___ Other	

INORGANIC CHEMISTRY

Extractables Parameter	Results mg/l	Total Parameter	Results mg/l	Parameter	Results mg/l
___ Arsenic		___ Arsenic		___ Chloride	
___ Barium		___ Barium		___ Conductivity	
___ Cadmium		___ Cadmium		___ Copper	
___ Chromium		___ Chromium		___ Fluoride	
___ Lead		___ Lead		___ Iron	
___ Mercury		___ Mercury		___ Manganese	
___ Selenium		___ Selenium		___ Nitrate	
___ Silver		___ Silver		___ pH	
				___ Sulfates	
				___ TDS	
				___ Zinc	
				___ TOC	

RECEIVED AUG 21 1984 SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
✓ Endrin	<0.0001	✓ Toxaphene	<0.002	___ PCB's	
✓ Lindane	<0.0004	✓ 2,4-D	<0.001	___ Petroleum	
✓ Methoxychlor	<0.001	✓ 2,4,5-TP(Silvex)	<0.001	___ EDB	
✓ VOA	N.D.			✓ TOX	0.005 mg/l

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
___ Gross Alpha	
___ Gross Beta	

Date Received 8/7/84 Date Reported Pest 8-7
Date Extracted Pest 8-6 BD Neb 8/10/84 Date Analyzed TOX 8/6/84 JM Pest 8-7-84 BD Neb 8/13
Reported By John R. Neal Lab Number 404320

DHS 3191 (Revised 2/84)
Solid and Hazardous Waste

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
STATE LABORATORY OF PUBLIC HEALTH
P. O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH 27611

Site Number 05 000000001B Field Sample Number 12
Name of Site Ashe Co LF Site Location W Jefferson
Collected By Marlen Patterson ID# Date Collected 8/2/84 Time 1200
Type of Sample: Glass

Environmental	Concentrate	Comments
✓ Groundwater	___ Solid	Well B
___ Surface Water	___ Liquid	
___ Soil	___ Sludge	
___ Other	___ Other	

INORGANIC CHEMISTRY

Extractables Parameter	Results mg/l	Total Parameter	Results mg/l	Parameter	Results mg/l
___ Arsenic		___ Arsenic		___ Chloride	
___ Barium		___ Barium		___ Conductivity	
___ Cadmium		___ Cadmium		___ Copper	
___ Chromium		___ Chromium		___ Fluoride	
___ Lead		___ Lead		___ Iron	
___ Mercury		___ Mercury		___ Manganese	
___ Selenium		___ Selenium		___ Nitrate	
___ Silver		___ Silver		___ pH	
				___ Sulfates	
				___ TDS	
				___ Zinc	
				___ TOC	

RECEIVED AUG 21 1984 SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
✓ Endrin	<0.0001	✓ Toxaphene	<0.002	___ PCB's	
✓ Lindane	<0.0004	✓ 2,4-D	<0.001	___ Petroleum	
✓ Methoxychlor	<0.001	✓ 2,4,5-TP(Silvex)	<0.001	___ EDB	
✓ VOA	N.D.			✓ TOX	0.04 a-11

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
___ Gross Alpha	
___ Gross Beta	

Date Received 8/3/84 Date Reported 8-7 Pat Neut. 8/10/84 ALG
Date Extracted 8-6 Pat BD 8/10/84 ALG Date Analyzed TOX 8/6/84 Pat 8-7-84 BD
Reported By John C. Rea Lab Number

DHS 3191 (Revised 2/84)
Solid and Hazardous Waste

RECEIVED
MAY 4 1984
SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
STATE LABORATORY OF PUBLIC HEALTH
P. O. BOX 28047 - 306 N. Wilmington St., Raleigh 27611

Site Number DS-000000015 Field Sample Number 000047 Lab ID #

Name of "Site" Ashe Co Landfill Site Location SR 1558
Ashe Co.

Collected by: [illegible] ID # 01 Date Collected 4-18-84 Time 2:00 pm

Type of Sample:

Environmental	Concentrate
__ Ground	__ Solid
✓ Surface H2O	__ Liquid
__ Soil	__ Sludge
__ Other	__ Other

Comments:

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results	Parameter	Results	Parameter	Results
__ Arsenic		__ Arsenic		__ Chloride	
__ Barium		__ Barium		__ Conductivity	
__ Cadmium		__ Cadmium		__ Copper	
__ Chromium		__ Chromium		__ Fluoride	
__ Lead		__ Lead		__ Iron	
__ Mercury		__ Mercury		__ Manganese	
__ Selenium		__ Selenium		__ Nitrate	
__ Silver		__ Silver		__ pH	
				__ Sulfates	
				__ TDS	
				__ Zinc	
				TOC	<5

Date Received _____ Date Reported 5/2/84 Date Analyzed _____

Reported by _____ Lab Number 33734 APR27 84

DHS 3191
Solid and Hazardous Waste

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES
N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 – 306 N. WILMINGTON ST., RALEIGH 27611

RECEIVED MAR 25 1983 SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

INORGANIC CHEMICAL ANALYSES – PUBLIC WATER SYSTEM

Complete All Items Above Heavy Line
(See Instructions on Reverse Side)

05-01

Name of System: Ashe County Landfill (New Site) (Site)

Address:

ZIP

County: Ashe

Report To: Gary B. Bibb

Address: P.O. Box 2091

Raleigh, N.C. ZIP 27602

Telephone Number: (919) 733 - 2178

Collected By: Bob Agee

Date Collected: 3/7/83 Time: 1 05 AM PM

Location of Sampling Point: Spring at base of landfill
(Address where sample was collected)

Remarks: + EPA

Type of System:
( ) Community
( ) Non-Community

Source of Water:
( ) Ground ( ) Both
( ) Surface ( ) Purchased

Source of Sample:
( ) Distribution Tap ( ) House Tap
( ) Well Tap

Type of Sample:
( ) Raw ( ) Treated

Type of Treatment:
( ) None ( ) Lime
( ) Chlorinated ( ) Soda Ash
( ) Fluoridated ( ) Polyphosphate
( ) Filtered ( ) Water Softener
( ) Alum ( ) Other

Type of Sample:
( ) Regular ( ) Private
( ) Check ( ) Special

WATER SYSTEM I.D. NUMBER (COPY FROM MAILING LABEL

☐☐-☐☐-☐☐☐

State Drinking Water Parameters (Required)

	Results			Optional Parameters (List as needed)	Results
Arsenic	<0.01	mg/l	2	[redacted]	5/4 mhos
Barium	0.1	mg/l	2	Chloride	
Cadmium	<0.005	mg/l	3	Hardness	<0.05
Chromium	<0.01	mg/l	2	Alk.	62
Fluoride	<0.10	mg/l	2	Sulfate	
Lead	<0.03	mg/l	2	Zinc	<0.05
Mercury	<0.0002	mg/l	4	TOC	<5
Nitrate (as N)	0.28	mg/l	2		
Selenium	<0.005	mg/l	3		
Silver	<0.05	mg/l	2		
pH	6.7	units	1		
Iron	2.6	mg/l	2		
Manganese	0.04	mg/l	2		

Date Received _____ Date Reported 3/22/83 Reported By _____

Date Analyzed _____ Laboratory Number 06579 MAR 15 83

DHS Form 2887 7/79
Laboratory

OWNER

Mildred A. Kerbaugh
Director

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES
N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 – 306 N. WILMINGTON ST., RALEIGH 27611

RECEIVED MAR 25 1983 SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

INORGANIC CHEMICAL ANALYSES – PUBLIC WATER SYSTEMS

Complete All Items Above Heavy Line
(See Instructions on Reverse Side)

05-01

Name of System: Ashe Co. Landfill (old site) B (56)

Address:

ZIP

County: Ashe

Report To: Gary Bass

Address: P.O. Box 2091

Raleigh, N.C. ZIP 27602

Telephone Number: (919) 733-2178

Collected By: Bob Apple

Date Collected: 3/8/83 Time: 1:05 AM (PM)

Location of Sampling Point: discharge at base of old landfill
(Address where sample was collected)

Remarks: + EPA

Type of System:
( ) Community
( ) Non-Community

Source of Water:
( ) Ground ( ) Both
( ) Surface ( ) Purchased

Source of Sample:
( ) Distribution Tap ( ) House Tap
( ) Well Tap

Type of Sample:
( ) Raw ( ) Treated

Type of Treatment:
( ) None ( ) Lime
( ) Chlorinated ( ) Soda Ash
( ) Fluoridated ( ) Polyphosphate
( ) Filtered ( ) Water Softener
( ) Alum ( ) Other

Type of Sample:
( ) Regular ( ) Private
( ) Check ( ) Special

WATER SYSTEM I.D. NUMBER (COPY FROM MAILING LABEL

☐☐-☐☐-☐☐☐

State Drinking Water Parameters (Required)

	Results		
Arsenic	<0.01	mg/l	2
Barium	0.4	mg/l	2
Cadmium	<0.005	mg/l	3
Chromium	<0.01	mg/l	2
Fluoride	<0.10	mg/l	2
Lead	<0.03	mg/l	2
Mercury	<0.0002	mg/l	4
Nitrate (as N)	0.75	mg/l	2
Selenium	<0.01	mg/l	3
Silver	<0.05	mg/l	2
pH	6.7	units	1
Iron	25	mg/l	2
Manganese	18.76	mg/l	2

Optional Parameters (List as needed)

	Results
Conductivity	1600 µmhos
Chloride	Interference
Color	<0.05
[redacted]	
TDS	988
Sulfate	3
Chlorine	0.05
TOC	27.1

Date Received _____ Date Reported 3/22/83 Reported By _____

Date Analyzed _____ Laboratory Number 06583 MAR 15 83

DHS Form 2887 7/79
Laboratory

WNFR

Mildred A. Kerbaugh
Director

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES
N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 – 306 N. WILMINGTON ST., RALEIGH 27611

1982 WASTE MANAGEMENT

INORGANIC CHEMICAL ANALYSES – PUBLIC WATER SYSTEM

2 containers

Complete All Items Above Heavy Line
(See Instructions on Reverse Side)

Name of System: Ashe County Landfill
Address: Ashe Co. Administration Bldg
Jefferson, N.C. ZIP
County: Ashe Co.
Report To: Gary Babb
Address: Solid + Hazardous Waste Branch
P.O. Box 2091, Raleigh, NC ZIP 27602
Telephone Number: (919) 733-2178
Collected By: Bob Apple
Date Collected: 5/10/82 Time: 1:30 AM (PM)
Location of Sampling Point: Spring below landfill
(Address where sample was collected)
Remarks: + EPA

Type of System:
( ) Community
(X) Non-Community

Source of Water:
( ) Ground ( ) Both
(X) Surface ( ) Purchased

Source of Sample:
( ) Distribution Tap ( ) House Tap
( ) Well Tap

Type of Sample:
(X) Raw ( ) Treated

Type of Treatment:
(X) None ( ) Lime
( ) Chlorinated ( ) Soda Ash
( ) Fluoridated ( ) Polyphosphate
( ) Filtered ( ) Water Softener
( ) Alum ( ) Other

Type of Sample:
( ) Regular ( ) Private
( ) Check (X) Special

WATER SYSTEM I.D. NUMBER (COPY FROM MAILING LABEL
☐☐-☐☐-☐☐☐

State Drinking Water Parameters (Required)

	Results		
Arsenic	<0.10	mg/l	2
Barium	<0.1	mg/l	2
Cadmium	<0.005	mg/l	3
Chromium	<0.01	mg/l	2
Fluoride	<0.10	mg/l	2
Lead	<0.03	mg/l	2
Mercury	<0.0004	mg/l	4
Nitrate (as N)	0.18	mg/l	2
Selenium	<0.005	mg/l	3
Silver	<0.02	mg/l	2
pH	7.0	units	1
Iron	0.38	mg/l	2
Manganese	<0.03	mg/l	2

Optional Parameters (List as needed)

	Results
Conductivity	45 umhos
Chloride	1
Copper	<0.05
Color	8
TDS	62
Sulfate	6
Zinc	<0.05
TOC	3
BOD	3

Date Received 5/17/82 Date Reported 5/26/82 Reported By

Date Analyzed Laboratory Number [redacted] 8911

DHS Form 2887 7/79
Laboratory

OWNER

Mildred A. Kerbaugh
Director

NORTH CAROLINA DEPARTMENT OF HUMAN RESOURCES

CHEMICAL ANALYSIS OF WATER

Division of Health Services, Laboratory Section
P. O. Box 28047, Raleigh, North Carolina 27611

Complete all items above Heavy Line
(see instructions on reverse side)

Name of Owner or Supply: DICK MILLER (CO. MGR.) ASHE CO.

Address: ASHE CO. ADMINISTRATION OFFICE
JEFFERSON, N.C.

Well No.

County: ASHE

Report to: BOB APPLE

Address: 219 HAMPTON HEIGHTS
LENOIR, N.C. 28645

Collected by: BOB APPLE

Date Collected: 2/16/79 Time: 2:30

Remarks: SAMPLE COLLECTED FROM STREAM BELOW LANDFILL; STREAM ORIGINATES AT FOOT OF LANDFILL DYKE.

Type of Supplier:
[ ] 1-Municipal
[ ] 2-Sanitary District
[ ] 3-Mobile Home Park
[ ] 4-Community
[ ] 5-Association
[ ] 6-Industrial
[ ] 7-Institution
[ ] 8-Private
[ ] 9-Other

Source of Water:
[ ] 1-Ground
[ ] 2-Surface
[x] 3-Both
[ ] 4-Purchased

Source of Sample:
[ ] 1-Well tap
[ ] 2-House Tap
[ ] 3-Distribution Tap

Type of Sample:
[x] 1-Raw
[ ] 2-Treated

Type of Treatment:
[x] 0-None
[ ] 1-Chlorinated
[ ] 2-Fluoridated
[ ] 3-Filtered
[ ] 4-Alum
[ ] 5-Lime
[ ] 6-Soda Ash
[ ] 7-Polyphosphate
[ ] 8-Water Softener
[ ] 9-Other

Analysis Desired:
[x] 1-Complete analysis (18 tests)+ AA Metals
[ ] 2-Partial analysis (9 tests)

ANALYSIS

Color	--- units	pH	6.9

Results in Parts per Million

Alkalinity-$CaCO_3$	60	Fluoride	
Total Hardness-$CaCO_3$		Arsenic	0.01
Iron	13.50	Cadmium	< 0.01
Manganese	2.70	Chromium^{+6}	< 0.05
Turbidity	---	Copper	< 0.05
Acidity-$CaCO_3$	16	Lead	< 0.05
Chloride	7	Zinc	< 0.05
Calcium			
Magnesium			

Date received 2/26/79 Date reported 3/8/79

Date analyzed Reported by

Lab. No. 07651

NORTH CAROLINA DEPARTMENT OF HUMAN RESOURCES

CHEMICAL ANALYSIS OF WATER

Division of Health Services, Laboratory Section
P. O. Box 28047, Raleigh, North Carolina 27611

Complete all Items above Heavy Line
(see instructions on reverse side)

Name of Owner or Supply: DICK MILLER (CO. MGR.) ASHE CO.

Address: ASHE COUNTY ADMINISTRATION OFFICE

JEFFERSON, N.C. Well No.

County: ASHE

Report to: BOB APPLE - DIST. SAN.

Address: 219 HAMPTON HEIGHTS

LENOIR, N.C. 28645

Collected by: BOB APPLE

Date Collected: 2/16/79 Time: 3:00

Remarks:

SAMPLE COLLECTED FROM
WELL APPROXIMATELY 1/4 MILE
BELOW ASHE CO.LANDFILL

Type of Supplier:
[ ] 1-Municipal
[ ] 2-Sanitary District
[ ] 3-Mobile Home Park
[ ] 4-Community
[ ] 5-Association
[ ] 6-Industrial
[ ] 7-Institution
[x] 8-Private
[ ] 9-Other

Source of Water:
[x] 1-Ground
[ ] 2-Surface
[ ] 3-Both
[ ] 4-Purchased

Source of Sample:
[ ] 1-Well tap
[x] 2-House Tap
[ ] 3-Distribution Tap

Type of Sample:
[x] 1-Raw
[ ] 2-Treated

Type of Treatment:
[x] 0-None
[ ] 1-Chlorinated
[ ] 2-Fluoridated
[ ] 3-Filtered
[ ] 4-Alum
[ ] 5-Lime
[ ] 6-Soda Ash
[ ] 7-Polyphosphate
[ ] 8-Water Softener
[ ] 9-Other

Analysis Desired:
[x] 1-Complete analysis (18 tests)
[ ] 2-Partial analysis (9 tests)

ANALYSIS

Color	0 units	pH	6.9

Results in Parts per Million

Alkalinity-$CaCO_3$	28	Fluoride	0.10
Total Hardness-$CaCO_3$	20	Arsenic	< 0.01
Iron	0.10	Cadmium	< 0.01
Manganese	< 0.03	Chromium^{+6}	< 0.05
Turbidity	0.25	Copper	< 0.05
Acidity-$CaCO_3$	10	Lead	< 0.05
Chloride	< 1	Zinc	0.25
Calcium	4.8		
Magnesium	1.9		

Date received 2/26/79 Date reported 2/28/79

Date analyzed Reported by

Lab. No. 07648

NORTH CAROLINA DEPARTMENT OF HUMAN RESOURCES

CHEMICAL ANALYSIS OF WATER

Division of Health Services, Laboratory Section
P. O. Box 28047, Raleigh, North Carolina 27611

Complete all Items above Heavy Line
(see instructions on reverse side)

ame of Owner r Supply: DICK MILLER (CO. MGR.) ASHE CO.

ddress: ASHE COUNTY ADMINISTRATION OFFICE

JEFFERSON, N.C. 28640 Well No.

ounty: ASHE

eport to: BOB APPLE

ddress: 219 HAMPTON HEIGHTS

LENOIR, N.C. 28645

ollected by: BOB APPLE

ate Collected: 2/16/79 Time: 2:00

emarks: SAMPLE COLLECTED FROM LEACHATE AT BASE OF DYKE

Type of Supplier:
[ ] 1-Municipal
[ ] 2-Sanitary District
[ ] 3-Mobile Home Park
[ ] 4-Community
[ ] 5-Association
[ ] 6-Industrial
[ ] 7-Institution
[ ] 8-Private
[ ] 9-Other

Source of Water:
[ ] 1-Ground
[ ] 2-Surface
[x] 3-Both
[ ] 4-Purchased

Source of Sample:
[ ] 1-Well tap
[ ] 2-House Tap
[ ] 3-Distribution Tap

Type of Sample:
[x] 1-Raw
[ ] 2-Treated

Type of Treatment:
[x] 0-None
[ ] 1-Chlorinated
[ ] 2-Fluoridated
[ ] 3-Filtered
[ ] 4-Alum
[ ] 5-Lime
[ ] 6-Soda Ash
[ ] 7-Polyphosphate
[ ] 8-Water Softener
[ ] 9-Other

Analysis Desired:
[x] 1-Complete analysis (18 tests) + AA Metals
[ ] 2-Partial analysis (9 tests)

ANALYSIS

olor	--- units	pH	6.8

Results in Parts per Million

lkalinity-$CaCO_3$	3,000	Fluoride	
otal Hardness-$CaCO_3$		Arsenic	0.04
ron	498.00	Cadmium	0.01
langanese	55.00	Chromium^{+6}	< 0.05
urbidity	---	Copper	< 0.05
cidity-$CaCO_3$	360	Lead	0.07
hloride	210	Zinc	24.00
alcium			
agnesium			

ate received 2/26/79 Date reported 3/8/79 Lab. No. 07652

ate analyzed _____ Reported by _____

GENERAL INFORMATION

A sample analyses request form (DHS 3191) must be completed for each type of evaluation requested (e.g., inorganic, organic, microbiology, radiochemistry). For sampling conditions which require more than one (1) container (i.e., ground or surface water from landfills) a sample label must be affixed to one of the containers. The collector must then write the site and sample number on the duplicate.

Do not submit an analysis request sheet with no parameters indicated.

Equivalent measurements:

ppm = μg/ml = mg/l = μg/g = mg/kg
ppb = μg/l = μg/1000g = μg/kg

DEFINITIONS/INSTRUCTIONS

Site Number - A twelve-digit site/location identifier, assigned only by the district field representative.

Field Sample Number - A six-digit sample identifier which is pre-printed on the sample label.

Name of Site - Name of landfill, facility, etc.

Site Location - Address, street number, state road, etc.

Collected By - Name and ID of sample collector.

Date and Time Collected - Self-explanatory.

Environmental - A sample of a naturally occurring substance such as groundwater, surface water or soils which may be contaminated.

Concentrate - A sample of a waste, including but not limited to, sludges, resins, treatment effluents or drummed wastes.

Comments - Lists details regarding sample or sample point, including but limited to, phase separation, and/or odors.

Inorganic Chemistry - Check (✓) the desired parameters to be analyzed. Extractables are only performed on a solid or semi-solid. For routine landfill samples, check all parameters in the second and third columns.

Organic Chemistry - Check (✓) the desired parameter to be analyzed. If not listed, enter the name in the space provided.

Microbiology and Radiochemistry - The Raleigh office should be consulted prior to sampling for either of these.

INSTRUCTIONS

Using typewriter or ball point pen, fill in all requested information on the top portion of form front. Please print legibly if typewriter is not available.

Before taking the sample, remove the two "freeze packs" from the styrofoam mailer and place in a freezer overnight. (SAMPLES NOT PRESERVED BY ICING DURING SHIPMENT WILL NOT BE TESTED.)

SAMPLE COLLECTION:

1) Remove the two 1-quart plastic containers and inflate by mouth, if uninflated.
2) Let the water (to be sampled) run for 5 minutes to assure that the water is from the distribution system.
3) Rinse each plastic container two or three times, and discard the water.
4) After rinsing, fill each container to within approximately one inch of top of the sampling container. Then cap the container securely. Check samples (see Types of Samples below), samples from non-community systems, and special samples may contain only one 1-quart sampling container, rather than two.

SAMPLE SHIPMENT:

1) After collection of the sample(s), replace the two frozen "freeze packs" in the styrofoam mailer.
2) Next, place the two 1-quart samples into the mailer and cap.
3) After capping the styrofoam mailer, place the report from (UNFOLDED) on top, then seal the cardboard box. Mail immediately to the State Laboratory using the supplied label. The sender is required to pay shipping costs.

The analysis takes several days for completion, and the report will be mailed back as soon as possible. Please do not call the laboratory to request "early" results, unless absolutely necessary.

LIMITS OF ALLOWABLE CONCENTRATIONS FOR DRINKING WATER ARE LISTED BELOW:

Parameters	Limits (mg/l)	Methods (EPA–600/4–79–020)
Arsenic	0.05	AA, furnace technique, pp. 206.2-1 – 206.2-2
Barium	1.0	AA, direct aspiration, pp. 208.1-1 – 208.1-2
Cadium	0.010	AA, furnace technique, pp. 213.2-1 – 213.2-2
Chromium	0.05	AA, furnace technique, pp. 218.2-1 – 218.2-2
Fluoride (Temperature Dependent)	1.4-2.4	Ion Selective Electrode, pp. 340.2-1 – 340.2-3
Lead	0.05	AA, furnace technique, pp. 239.2-1 – 239.2-2
Mercury	0.002	Manual Cold Vapor technique, pp. 245.1-1 – 245.1-6
Nitrate (as N)	10.0	Colorimetric, Brucine, pp. 352.1-1 – 352.1-3
Selenium	0.01	AA, furnace technique, pp. 270.2-1 – 270.2-3
Silver	0.05	AA. direct aspiration, pp. 272.1-1 – 272.1-2
Iron	0.3	AA, direct aspiration, pp. 236. 1-1 – 236.1-2
Manganese	0.05	AA, direct aspiration, pp. 243.1-1 – 243.1-2
pH	not less than 6.5 units	pH Electrometric, pp. 150.1-1 – 150.1-3

If sample concentrations are greater than the allowable concentrations, a check sample(s) will be required.

TYPES OF SAMPLES

Regular: A sample(s) submitted to meet the monitoring requirements of the North Carolina Drinking Water Act, GS 130 – Article 13D.

Check: A sample(s) submitted when a previous sample has exceeded the allowable concentration. The check sample should be taken from the same sample distribution tap as the previous sample.

Private: A sample(s) from a private water supply submitted by a licensed physician, sanitarian or other health department representative.

Special: A sample(s) submitted by an engineer working with the State or the E.P.A., a sample taken by the owner/operator of a water system for a new well, a landfill test well sample or other non-categorized sample.

CHEMICAL ANALYSIS

Please fill out the sample description completely listed above the heavy line (single copy). These items ar necessary so that the sample may be properly identified and to determine which analyses are to be performed. Tl partial analysis consist of the following: color, pH, alkalinity, total hardness iron, manganese, turbidity, acidi id chloride.

The analysis of a private water supply sample is performed only when sent by a licensed physician, sanitaria or other health department representative who certifies the type of supply and the need of the examination in tl interest of public health. The results will only be reported to the one authorizing the analysis.

Chemical analysis requires one quart of sample. The sample must be submitted in a chemically clean plast bottle approved by this laboratory.

RECOMMENDED LIMITS FOR DRINKING WATER ARE LISTED BELOW:

Color	15 units	Calcium	No established limits
pH	No established limits	Magnesium	No established limits
Alkalinity	No established limits	Fluoride	Controlled (0.8 - 1.20 p. p. m.)
Total Hardness	No established limits	Arsenic	0.05 p. p. m.
Iron	0.30 p. p. m.	Cadmium	0.01 p. p. m.
Manganese	0.05 p. p. m.	Chromium^{+6}	0.05 p. p. m.
Turbidity	5 units	Copper	1.00 p. p. m.
Acidity	No established limits	Lead	0.05 p. p. m.
Chloride	250 p. p. m.	Zinc	5.00 p. p. m.

FOR LABORATORY USE ONLY

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box 11846, Winston-Salem, NC 27106 (919) 767-8807
910-724-6794

RECEIVED
APR 4 1988
SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

March 31, 1988

Mike Babuin
Department of Hazardous Waste
Solid and Hazardous Wastes Branch
Post Office Box 2091
Raleigh, N.C. 27602-2091

Dear Mr. Babuin:

Enclosed is a copy of the Chain of Custody and laboratory results of the annual groundwater sampling of the Ashe County Landfill. Wells 1 and 2 were sampled on January 21, 1988. We have not yet received a map of the landfill; a scetch is included. Inorganics such as barium, lead, zinc, iron, and manganese were significantly above the Interim Primary Drinking Water Standard in well 1. Indicator parameters such as BOD, COD, TDS, and TOC are also exceeding drinking water standards in well 1. Please contact our office, if there are any questions.

Sincerely,

ENGINEERING TECTONICS P.A.

Dawn M. Babcock

Dawn M. Babcock
Biologist

05-01

BLACK & VEATCH, INC.
CONSULTING ENGINEERS
TEL. (919) 672-3600

ENVIRONMENTAL LABORATORY DEPARTMENT

110 WEST WALKER AVENUE
ASHEBORO, NORTH CAROLINA 27203

MAILING ADDRESS: P.O. BOX NO. 728
ASHEBORO, NORTH CAROLINA 27204-0728

REPORT OF ANALYSIS

Lab I.D. Number: 8-01-250
B&V Project No.: 3255.821

Client: Engineering Tectonics
Sample Point: Ashe County Well 1 Deep Well
Date Sampled: 01/21/88 (1030--1430 Hours)
Received by Lab: 01/25/88 @ 1310 Hours
Analyst: Busick, Pugh, Smith, Spivey, Willett, I.E.A. Lab
Date Reported: 03/07/88

Certified by: Walter L Miller

PARAMETERS	RESULTS	Interim Primary Drinking Water Standard
BOD, 5-Day (mg/l)	400	
Chloride (mg/l)	91	
COD (mg/l)	600	
Fluoride (mg/l)	<0.1	
Nitrate-Nitrogen (mg/l)	0.61	
Total Dissolved Solids (mg/l)	1200	
Sulfate (mg/l)	<2	
Silver (mg/l)	0.003	
Arsenic (mg/l)	<0.050	
Barium (mg/l)	1.84	1.0 mg/L
Cadmium (mg/l)	<0.002	
Total Chromium (mg/l)	0.007	
Copper (mg/l)	0.038	
Iron (mg/l)	148	0.3 mg/L
Mercury (mg/l)	<0.0005	
Manganese (mg/l)	33.1	.05 mg/L
Lead (mg/l)	5.99	.05 mg/L
Selenium (mg/l)	<0.010	
Zinc (mg/l)	16.4	5 mg/L
TOH (mg/l)	0.06	
TOC (mg/l)	310	

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ENVIRONMENTAL LABORATORY DEPARTMENT

110 WEST WALKER AVENUE
ASHEBORO, NORTH CAROLINA 27203

MAILING ADDRESS: P.O. BOX NO. 728
ASHEBORO, NORTH CAROLINA 27204-0728

REPORT OF ANALYSIS

Lab I.D. Number: 8-01-251
B&V Project No.: 3255.821

Client: Engineering Tectonics
Sample Point: Ashe County Well 2
Date Sampled: 01/21/88
Received by Lab: 01/25/88 @ 1310 Hours
Analyst: Busick, Pugh, Smith, Spivey
Date Reported: 03/02/88

Certified by: Walter L. Miller

PARAMETERS	RESULTS	Interim Primary Drinking water Standard
BOD, 5-Day (mg/l)	4.3	
Chloride (mg/l)	1.2	
COD (mg/l)	11	
Fluoride (mg/l)	0.15	
Nitrate-Nitrogen (mg/l)	0.43	
Total Dissolved Solids (mg/l)	126	
Sulfate (mg/l)	3	
Silver (mg/l)	<0.002	
Arsenic (mg/l)	<0.050	
Barium (mg/l)	<0.10	
Cadmium (mg/l)	<0.002	
Total Chromium (mg/l)	<0.005	
Copper (mg/l)	0.009	
Iron (mg/l)	2.66	.3 mg/L
Mercury (mg/l)	<0.0005	
Manganese (mg/l)	0.589	.05 mg/L
Lead (mg/l)	<0.02	
Selenium (mg/l)	<0.010	
Zinc (mg/l)	0.023	
TOH (mg/l)	<0.01	
TOC (mg/l)	4.8	

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box 11846, Winston-Salem, NC 27106

RECEIVED APR 4 1988 SOLID & HAZARDOUS WASTE MANAGEMENT BRANCH

FIELD SAMPLING INFORMATION SHEET
CHAIN OF CUSTODY RECORD
(Hazardous Materials and Others)

This form must be completed prior to processing samples in Laboratory. (No samples will be processed without Job No. and Billing Instructions.)

Job No.: 88-103 Laboratory Sample No.: _____ (Lab Use Only)

Client or System Name: Ashe County Landfill

County: Ashe

Address: P.O. Box 633 Jefferson NC 28640

Date Collected: 1-21-88 Time Collected: 10:30-12:30 (Hrs.)

Sample Location or Description: Well 1 (103-001) Well 2 (103-002)

Type of Sample: [X] Water [ ] Wastewater [ ] Sludge [ ] Hazardous Waste [ ] Other _____

If Hazardous: Type Code (if any): _____ DOT or EPA ID No.: _____

Field Information/Comments (or) Sample Handling Precautions: _____

I hereby certify that the above information is correct.

Collector's Certification: Dawn Babcock (Signature)

"Sample Allocation" and "Chain of Possession": (Sign & Date in Ink)

	Signature	Date	Time (Hrs.)
1. Sample Collector:	Dawn M Babcock	1-21-88	10:30-12
2. Sample Transporter:	Dawn M. Babcock	1-25-88	1:10
3. Sample Received in Lab:	Patricia M. Griffin	1/25/88	13:10
4. Sample Analysis Completed:			

Lab Test Requested (List Below):

Arsenic	Chromium	Lead
Barium	Copper	Manganese
Cadium	Fluoride	Mercury
Chloride	Iron	Nitrate

Lab Billing Instruction: Engineering Tectonics PA

Special Instructions or Comments: filter

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box 11846, Winston-Salem, NC 27106 (919) 767-8807

RECEIVED
AUG 04 1989
SOLID WASTE BRANCH

August 1, 1989

Don Houck
Ashe County Landfill
P.O. Box 1327
W. Jefferson, NC 28694

Dear Mr. Houck:

Enclosed are laboratory results from the samples collected at the Ashe County Sanitary Landfill on April 17, 1989. Please forgive me for allowing this to take so long to reach you. As you can see the original lab results were reported on June 1, 1989, but were not certified by the chemist. When I realized this I requested that the lab review their data from the tests to ensure that the reported results were accurate and send me another copy of the results with a signature to indicate that the results had actually been reviewed. The signed copy of the analytical report was recieved by Engineering Tectonics on July 24, 1989.

I have noted (by highlighting) all of the concentrations which are not within Primary Drinking Water Standards.

A copy of these results has been forwarded to the NC DHS as per our agreement.

If you have any questions concerning the lab results, or if we may be of assistance in any way, please do not hesitate to contact us.

Sincerely:
ENGINEERING TECTONICS, P.A.

Julianne M. Braun

Julianne M. Braun
Hydrology Technician

Enclosures

cc: Mike Babuin, NC DHS

Ashe Co. 05-01

BLACK & VEATCH, INC.
A BLACK & VEATCH COMPANY

TEL. (919) 672-3600

ENVIRONMENTAL LABORATORY DEPARTMENT

110 WEST WALKER AVENUE
ASHEBORO NORTH CAROLINA 27203
MAILING ADDRESS: P.O. BOX NO. 728
ASHEBORO, NORTH CAROLINA 27204-0728
FAX: (919) 672-3640

REPORT OF ANALYSIS

Lab I.D. Number: 9-04-205
B&V Project No.: 3461.821

Client: Engineering Tectonics
Sample Point: Ashe County Landfill Well #1 Deep Well ~~Shallow Well~~
Received by Lab: 04/18/89 @ 1100 Hours
Analyst: Busick, C.E.T. Lab, Daly, Maske, Pugh
Date Reported: 06/01/89

Certified by: J. Allen Spivey

PARAMETERS	RESULTS
BOD, 5-Day (mg/l)	940
Chloride (mg/l)	193
COD (mg/l)	1400
Conductivity (umhos)	2400
Fluoride (mg/l)	0.1
Nitrate-Nitrogen (mg/l)	0.10
pH (units)	6.4
Total Dissolved Solids (mg/l)	2450
Sulfate (mg/l)	<5
TOC (mg/l)	54.9
TOX (mg/l)	0.061
Silver (mg/l)	<0.003
Arsenic (mg/l)	0.003
Barium (mg/l)	1.8
Cadmium (mg/l)	<0.002
Total Chromium (mg/l)	<0.005
Copper (mg/l)	0.02
Iron (mg/l)	38
Mercury (mg/l)	<0.001
Manganese (mg/l)	60
Lead (mg/l)	0.24
Selenium (mg/l)	<0.01
Zinc (mg/l)	1.8

NCNRCD LAB CERT. NO. 18

NCSDWA LAB CERT. NO. 37700

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ENVIRONMENTAL LABORATORY DEPARTMENT

110 WEST WALKER AVENUE
ASHEBORO, NORTH CAROLINA 27203
MAILING ADDRESS: P.O. BOX NO 728
ASHEBORO, NORTH CAROLINA 27204-0728
FAX: (919) 672-3640

REPORT OF ANALYSIS

Lab I.D. Number: 9-04-206
B&V Project No.: 3461.821

Client: Engineering Tectonics
Sample Point: Ashe County Landfill Well #2 ~~[illegible]~~ Shallow Well
Received by Lab: 04/18/89 @ 1100 Hours
Analyst: Busick, C.E.T. Lab, Daly, Maske, Pugh
Date Reported: 06/01/89

Certified by: [illegible]

PARAMETERS	RESULTS
BOD, 5-Day (mg/l)	<1.0
Chloride (mg/l)	3.8
COD (mg/l)	10
Conductivity (umhos)	130
Fluoride (mg/l)	1.0
Nitrate-Nitrogen (mg/l)	0.12
pH (units)	6.3
Total Dissolved Solids (mg/l)	89
Sulfate (mg/l)	<5
TOC (mg/l)	4.7
TOX (mg/l)	<0.001
Silver (mg/l)	<0.003
Arsenic (mg/l)	0.020
Barium (mg/l)	0.15
Cadmium (mg/l)	<0.002
Total Chromium (mg/l)	0.006
Copper (mg/l)	0.02
Iron (mg/l)	9.6
Mercury (mg/l)	<0.001
Manganese (mg/l)	1.1
Lead (mg/l)	<0.02
Selenium (mg/l)	<0.002
Zinc (mg/l)	0.02

№ 00 40

GLASSWAR' 'ELEASE
CHAIN OF CU DY RECORD

COMPUCHEM LAB TORIES

ACCT. NO	PROJECT NAME
	Ashe Co. Landfill

SAMPLERS: (Signature) Juliann M Brown

BOX NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	EMPTY: AMBER LITERS	EMPTY: CLEAR LITERS	EMPTY: 500 ML PLASTICS	EMPTY: 40 ML VIALS	EMPTY: 4 OZ JARS	FILLED: AMBER LITERS	FILLED: CLEAR LITERS	FILLED: 500 ML PLASTICS	FILLED: 40 ML VIALS	FILLED: 4 OZ JARS	(Other)	(Other)	REMARKS
					LABORATORY GLASSWARE														RELEASE ONLY
	4-17-89	11:50			Well 1	3						3							See Below
	4-17-89	12:30			Well 2	3						3							

Prepared By: (Signature)	Date/Time		Relinquished By: (Signature)	Date/Time		Received by: (Signature)
Juliann M. Brown	4-18-89	10:00 am	ENGINEERING TECTONICS, P.A	Juliann M. Brown	4-18-89	11 AM
Pat Griffin						

Relinquished By: (Signature)	Date/Time	Received by: (Signature)	Relinquished By: (Signature)	Date/Time	Received by: (Signature)

Relinquished By: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Remarks ANALYZE FOR: As, Ba, Cd, Cl⁻, Cr, Cu
Fl⁻, Fe, Pb, Mn, Hg, Se, Ag, Zn, NITRATE
SULFATES, TOC, TOX, TDS, BOD, COD
pH, CONDUCTIVITY

Distribution: Original Accompanies Shipment; Copy to Field Files

C. Department of Human Resources
ision of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

e Number 05-000000-2001 Field Sample Number 7387
ame of Site ASHE CO. LANDFILL Site Location SR-1558, ASHE CO.
ollected By OLEN SETZER ID# 36 Date Collected 9/14/89 Time 11:00 AM.

ype of Sample:

Environmental
- ___ Groundwater (1)
- ✓ Surface Water (2)
- ___ Soil (3)
- ___ Other (4)

Concentrate
- ___ Solid (5)
- ___ Liquid (6)
- ___ Sludge (7)
- ___ Other (8)

Comments: SAMPLES COLLED FROM STREAM BELOW LANDFILL.

RECEIVED SOLID WASTE BRANCH

INORGANIC CHEMISTRY

Extractables

Parameter	Results mg/1
Arsenic	
Barium	
Cadmium	
Chromium	
Lead	
Mercury	
Selenium	
Silver	

Total

Parameter	Results mg/1	Parameter	Results mg/1
✓ Arsenic	<0.01	✓ Silver	<0.05
✓ Barium	<0.1	✓ Sulfates	1.44
✓ Cadmium	<0.005	✓ Zinc	—
✓ Chloride	5	✓ Ph	—
✓ Chromium	<0.01	✓ Conductivity	—
✓ Copper	<0.05	✓ TDS	—
✓ Fluoride	—	✓ TOC	—
✓ Iron	0.28		
✓ Lead	<0.03		
✓ Manganese	0.12		
✓ Mercury	<0.0002		
✓ Nitrate	—		
✓ Selenium	—		

Only 1 sample container received; therefore only metals can be run. pgc 9/18/89

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
P&T:GC/MS		EDB		Methoxychlor	
Acid:B/N Ext.		PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received
Date Extracted
Reported By

Date Reported 10/3/89
Date Analyzed
Lab Number 17774 SEP 18 89

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Chain of Custody Record

Hazardous Waste Materials Inorganic

Location of Sampling: ___ Generator ___ Transporter ___ Treatment Facility
___ Storage Facility ___ Disposal Facility ✓ Landfill
___ Other: _____

Company's Name ASHE COUNTY Telephone (919) 246-3721

Address PO BOX 321, WEST JEFFERSON, N.C. 28694

Collector's Name [illegible] Telephone (704) 244-2307
signature

Date Sampled 9/14/89 Time Sampled 11:00 A.M.

Type of Process Generating Waste SMALL STREAM

Field Information

Sample collected from sitting basin at Ashe County Landfill

Field Sample No. 7387

Chain of Possession:

	signature	title	inclusive dates
1.	[illegible]	Water Hydrologist	9/14/89
2.	Arnold Hall	Chemical Analyst II	9-18-89.
3.			

Results reported

signature title date

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

SOLID WASTE BRANCH
401 OBERLIN ROAD

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

RECEIVED OCT 05 1989 SOLID WASTE BRANCH

Site Number 05-000000-2001 Field Sample Number C4622-
Name of Site ASHE CO LANDFILL Site Location SR 1535 ASHE CO.
Collected By GREG SETZER ID# 36 Date Collected 9/14/89 Time 11:00 A.M.
Type of Sample: * Sample in 2 bottles *

Environmental	Concentrate
____ Groundwater (1)	____ Solid (5)
✓ Surface Water (2)	____ Liquid (6)
____ Soil (3)	____ Sludge (7)
____ Other (4)	____ Other (8)

Comments: SAMPLE PULLED FROM STREAM BELOW LANDFILL.

INORGANIC CHEMISTRY

Extractables Parameter	Results mg/1	Total Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS	*	EDB		Methoxychlor	
✓ Acid:B/N Ext.	QNS	PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 9-18-89 XB Date Reported 10-3-89
Date Extracted Date Analyzed 10-2-89 MW
Reported By John L. Neal #902710 Lab Number 902710

QNS - Insufficient quantity for BN/A extraction

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH

Chain of Custody Record

Hazardous Waste Materials

Organic

Location of Sampling: ___ Generator ___ Transporter ___ Treatment Facility
___ Storage Facility ___ Disposal Facility ✓ Landfill
___ Other: _____

Company's Name ASHE COUNTY Telephone (919) 246-3721

Address PO BOX 321 WEST JEFFERSON, N.C. 28694

Collector's Name [signature] Telephone (704) 244-2309
signature

Date Sampled 9/14/89 Time Sampled 11:00 A.M.

Type of Process Generating Waste SMALL STREAMS

Field Information

Sample collected from stream bank at bottom Ashe County Landfill.

Field Sample No. 4622

Chain of Possession:

signature	title	inclusive dates
1. [signature]	Water Mgt Specialist	9/14/89
2. [signature]	Chemical Analyst II	9/18/89
3. [signature]	Lab Tech	9/18/89

Results reported

signature	title	date

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	902710					
	FIELD #	46022					
COMPOUND	TYPE	(2)	( )	( )	( )	( )	( )
	UNITS	(µg/l) µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
chloromethane	10	U					
bromomethane	10						
dichlorodifluoromethane	5						
vinyl chloride	10						
chloroethane	10						
methylene chloride	5						
trichlorofluoromethane							
ethene, 1,1-dichloro							
ethane, 1,1-dichloro-							
1,2-trans-dichloroethene							
chloroform							
ethane, 1,2-dichloro-							
ethane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
propane, 1,2-dichloro-							
1,3-trans-dichloropropene							
trichloroethylene							
chlorodibromomethane							
enzene							
ethane, 1,1,2-trichloro-							
1,3-cis-dichloropropene							
2-chloroethyl vinyl ether	10						
bromoform	5						
ethane, 1,1,2,2-tetrachloro-							
ethene, tetrachloro-							
toluene							
chlorobenzene							
ethylbenzene							
acetone	10	U					
2-butanone	10						
carbondisulfide	5						
2-hexanone	10						
4-methyl-2-pentanone	10						
styrene	5						
vinyl acetate	10						
xylenes (total)	5						
	↑MDL↑						

J - Estimated value.
" - Actual value is known to be less than value given.
- Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services

DHS 3068-O (4/86 Laboratory)

ASHECO. L.F. 05-01

AnalytiKEM

March 22, 1990
Sampling

IV. Analytical Results

Metals, total

Parameter	Method Blank		A60262-1 Well 1		A60262-2 Well 2		A60262-3 Branch / Sew.	
	Sample Designation							
Arsenic	10	U	10	U	10	U	10	U
Barium	200	U	7,100		2,700		51	J
Cadmium	2.0	U	0.26	J	2.0	U	2.0	U
Chromium	10	U	13		10	U	10	U
Copper	25	U	490		23	J	25	U
Iron	100	U	390,000		38,000		870	
Lead	5.0	U	5.0	U	5.0	U	5.0	U
Manganese	15	U	30,000		58,000		140	
Mercury	0.2	U	0.2	U	0.2	U	0.2	U
Selenium	5.0	U	5.0	U	5.0	U	5.0	U
Silver	10	U	10	U	10	U	10	U
Zinc	20	U	1,000		1,700		9.0	J
Units	(ug/l)		(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

IV. Analytical Results (Cont'd)

General Chemistry

Parameter	Method Blank		A60262-1 Well 1		A60262-2 Well 2		A60262-3 Branch	
	Sample Designation							
pH, units	--		7.8		6.4		7.3	
Total Organic Halogen	5.0	U	150		860		10	
Total Dissolved solids	10,000	U	160,000		2,700,000		77,000	
Coductivity, umhos/cm @25°C	--		120		3,200		97	
Sulfate	1,000	U	1,000	U	1,000	U	1,000	U
Chloride	1,000	U	6,200		16,000		6,200	
Fluoride	150	U	150	U	150	U	150	U
Chemical Oxygen Demand	--		10,000		1,300,000		16,000	
Biochemical Oxygen Demand	1,000	U	5,400		35,000		1,000	U
Total Organic Carbon	--		35,000		1,000	U	75,000	
Nitrate-N	100	U	100	U	100	U	550	
Units	(ug/l)		(ug/l)		(ug/l)		(ug/l)	

NOTE: pH, Biochemical Oxygen Demand and Nitrate-N were analyzed outside of holding time.

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box 11846, Winston-Salem, NC 27116 (919) 767-8807

SOLID WASTE SECTION
MAY 08 1990

RECEIVED
PWSS
MAY 7 1990
PLAN REVIEW BRANCH

May 2, 1990

N.C. Department of Environment, Health & Natural Resources
Division of Health Services
P.O. Box 2091
Raleigh, NC 27602

To Whom it may concern:

Enclosed you should find one copy of the results of analyses of 2 groundwater samples and one surface water sample which were collected from the Ashe County Sanitary Landfill on March 22, 1990.

Should you require additional information concerning the collection or analysis of these samples, please do not hesitate to contact us.

Sincerely:

ENGINEERING TECTONICS, P.A.

Julianne M. Braun

Julianne M. Braun
Hydrogeologic Technician

enclosure

cc: Don Houck, Ashe Co. Solid Waste Dept.
Larry South, Ashe County Manager

RECEIVED
MAY 0 8 1990
HAZARDOUS WASTE SECTION

DHS

AnalytiKEM *An American NuKEM Company*

AnalytiKEM Inc.
28 Springdale Road
Cherry Hill, NJ 08003
609/751-1122
215/923-2068

TEST REPORT NO. A60262

April 12, 1989

RECEIVED
PWSS
MAY 7 1990
PLAN REVIEW BRANCH

Prepared for:

Engineering Tectonics
2518 Reynolda Road
Winston-Salem, NC 27106

Attention: Julianne Braun

Project: Ashe County Landfill

Date of Sample Receipt: March 23, 1990

NJ Certification No. NJ 04012

NY Certification No. NY 10815

SC Certification No. SC 94004

NC Certification No. NC 258

PA Certification No. PA 68-366

Reviewed & Approved by: _____

Name Edward J. Palmer, Jr.

Title Technical Manager

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AnalytiKEM

I. Definition of Terms

Term	Definition
D	Detected; result must be greater than zero.
DI	Deionized Water
J	Compound was detected at levels below the practical quantitation limit. The level reported is approximate.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
NTU	Nephelometric Turbidity Units
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
TON	Threshold Odor Number
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
ppb	Parts-per-billion; may be converted to ppm by dividing by 1,000.
ppm	Parts-per-million; may be converted to ppb by multiplying by 1,000.
ug/l	Micrograms of constituent per liter of sample; equivalent to parts-per-billion.
ug/kg	Micrograms of constituent per kilogram of sample; equivalent to parts-per-billion.
ug/kg dw	Micrograms of constituent per kilogram of sample reported on a dry weight basis.
CCC	Calibration Check Compound; used to verify the precision of a GC/MS calibration curve.
SPCC	System Performance Check Compound; used to verify the correct operation of a GC/MS instrument.
PQL	Practical Quantitation Limit; the minimum level at which compounds can be dependably quantitated.

AnalytiKEM

II. Sample Designations

AnalytiKEM Designation	Client Designation	Matrix	Date Sampled
A60262-1	Well 1	Aqueous	3/22/90
A60262-2	Well 2	Aqueous	3/22/90
A60262-3	Branch	Aqueous	3/22/90

AnalytiKEM

III. Methodology

All analysis are performed in accordance with methodologies found in the following publications:

- Federal Register, Vol. 49, No. 209, October 26, 1984.
- Federal Register, Vol. 51, No. 114, June 13, 1986.
- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Second Edition, July 1982.
- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, American Public Health Association, 16th Edition, 1985.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, March 1983.
- Annual Book of ASTM Standards (1980 and 1983)
- OI Corporation Model 524C TOC Analyzer Manual, January 1983.

AnalytiKEM

V. Quality Control Data

Metals

Matrix Spike/Matrix Spike Duplicate Recovery Data

Parameter	Sample Spiked	Amount of Spike	Recovery MS	Recovery MSD
Arsenic	A40004-1	100	96	102
Barium	A60262-3	300	87	83
Cadmium	A60262-3	300	87	91
Chromium	A60262-3	300	95	92
Copper	A60262-3	300	89	86
Iron	A21563-2	300	85	82
Lead	A60262-3	300	110	111
Manganese	A21563-2	300	86	85
Mercury	A40007-1	20	85	90
Selenium	A40004-1	300	80	90
Silver	A60262-3	300	30	29
Zinc	A60262-3	300	91	90
Units		(ug)	(%)	(%)

V. Quality Control Data (Cont'd)

General Chemistry

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Parameter	Sample Spiked	Amount of Spike	Recovery MS	Recovery MSD
Nitrate-N	A21565-1	18	99	96
Sulfate	A60262-3	200	115	114
Chloride	A60262-1	50	103	93
Fluoride	A60262-1	25	97	95
Chemical Oxygen Demand	A60262-1	126	104	101
Biochemical Oxygen Demand	A60262-3	200	97	96
Total Organic Carbon	DI Water	20	115	106
Units		(ug)	(%)	(%)

AnalytiKEM An American NuKEM Company

Laboratory Use Only

Chain-of-Custody

Laboratory	Sales Office
2324 Vernsdale Road Rock Hill, South Carolina 29731 (803) 324-5310 Fax: (803) 324-8378	454 South Anderson Road BTC 532 Rock Hill, South Carolina 29730 (803) 329-9690 Fax: (803) 329-9689

Client: ENGINEERING TECTONICS P.A Sample Collector: J. BRAUN

Project: ASHE CO. LANDFILL AnalytiKEM Contact: RIC CANTOR

AKEM # Laboratory Use Only	SAMPLE DESIGNATION	DATE/TIME	MATRIX	Grab or Composite	40 ml vials	950 ml Org. Pres.	ml Unpres.	ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL					PARAMETERS
1	WELL 1	3-22-90	WATER	G		1										See previous Chain of Custody
2	WELL 2	3-22-90	WATER	G		1										
3	BRANCH	3-22-90	WATER	G		2										

I. Field Measurements:

Data Sheets: Y N

Filtered: Y Not Required

II. Field Conditions/Comments:

III. Special Instructions: BACK-UP SAMPLES SENT UPON REQUEST FROM RIC C
(Detection Limits, Data Package, etc.)

Relinquished By:	Time/Date:	Received By:	Time/Date:
Juliana M. Braun	3-26-90 / 7:00 pm	[illegible]	3-29-90 1000

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM # 1 5/89

Chain-of-Custody Record

Program Area: Drinking Water Wastewater Groundwater Solid and Hazardous Waste

Client: ENGINEERING TECTONICS, P.A **Sample Collector:** J. BRAUN

Project: ASHE COUNTY LANDFILL **AnalytiKEM Contact:** RIC CANTOR

Laboratory
2324 Vernadale Road
Rock Hill, South Carolina 29731
(803) 324-5310
Fax: (803) 324-8378

Sales Office
454 South Anderson Road BTC 532
Rock Hill, South Carolina 29730
(803) 329-9690
Fax: (803) 329-9689

ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	40 ml vials	950 ml Org. Pres.	ml Unpres.	ml HNO_3	TOX ml H_2SO_4	ml NaOH	ml HCL				PARAMETERS
1	WELL 1	3-22-90		WATER	G		3			2						As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Se
2	WELL 2	3-22-90		WATER	G		3			2						Ag, Zn, CHLORIDE, FLUORIDE, NITRATES,
3	BRANCH	3-22-90		WATER	G		3			1						SULFATES, TOX, TOC, BOD, COD, pH
4																CONDUCTANCE, TOTAL DISSOLVED SOLIDS
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-3	Juliana M. Braun	8-23-90	3-22-90	
2					
3					
4					

REMARKS
WELL 2 SAMPLE FULL OF GAS, NOT POSSIBLE TO TAKE ZERO HEADSPACE SAMPLE FOR TOX

ANALYZE EACH SAMPLE FOR ALL PARAMETERS ON ABOVE LIST.

SAMPLER'S SIGNATURE Juliana M. Braun

05-01 JE

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box 11846, Winston-Salem, NC 27116 (919) 767-8807

SOLID WASTE SECTION
OCT 1 0 1990

September 27, 1990

NC Department of Environment, Health and Natural Resources
Solid Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687
ATTN: Mr. Bobby Lutfy

Dear Sir: 05-01

At the request of the Ashe County, Engineering Tectonics collected water water samples from 2 monitoring wells and the downstream surface water sampling location at the Ashe County Landfill on August 15, 1990.

pH analyses were performed by Engineering Tectonics at the time of sample collection on August 15,. The pH meter was calibrated using fresh buffer solution of pH 7.00 prior to analysis of each sample. The results were as follows:

Parameter	Well 1	Well 2	Downstream Surface
pH	6.50	6.30	6.35
Conductivity	124.00	2,220	69.0
Temperature	14 ^{o}	14 ^{o}	21 $^{\circ}$

Analyses on the samples were performed by AnalytiKEM laboratories in Cherry Hill, New Jersey (NC Cert. # 258).

A copy of the AnalytiKEM report is included.

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box 11846, Winston-Salem, NC 27106 (919) 767-8807

05-01

SOLID WASTE SECTION
DEC 07 1990

September 27, 1990

NC Department of Environment, Health and Natural Resources
Solid Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687
ATTN: Mr. Bobby Lutfy

Dear Sir: 05-01

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Conductivity	124.00	2,220	69.0
Temperature	14 °	14 °	21 °

Analyses on the samples were performed by AnalytiKEM laboratories in Cherry Hill, New Jersey (NC Cert. # 258).

A copy of the AnalytiKEM r

1990

Ashe Co. 05-01

Well # 2

Conductivity	TDS
Barium	(Chloride)
Iron	(COD)
Manganese	BOD

Should you have any questions concerning the contents of this correspondence, please do not hesitate to contact us.

Sincerely,

ENGINEERING TECTONICS, P.A.

R. Jeff Wyatt
Hydrogeologic Technician

A. Barry Nelson, P.G.
Chief Hydrogeologist

RJW/jg

enclosures

AnalytiKEM An American NuKEM Company

AnalytiKEM Inc.
28 Springdale Road
Cherry Hill, NJ 08003
609/751-1122
215/923-2068

TEST REPORT NO. A60351

September 24, 1990

Prepared for:

Engineering Tectonics
3845 North Patterson Avenue
Winston-Salem, NC 27105-2647

Attention: Julianne Braun

Project: Ashe Co. Landfill

Date of Sample Receipt: August 16, 1990

J Certification No. NJ 04012

Y Certification No. NY 10815

: Certification No. SC 94004

: Certification No. NC 258

:ertification No. PA 68-366

Reviewed &
Approved by:

Name Edward J. Palmer, Jr.

Title Technical Manager

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AnalytiKEM

I. Definition of Terms

Term	Definition
D	Detected; result must be greater than zero.
DI	Deionized Water
J	Compound was detected at levels below the practical quantitation limit. The level reported is approximate.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
NTU	Nephelometric Turbidity Units
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
TON	Threshold Odor Number
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
ppb	Parts-per-billion; may be converted to ppm by dividing by 1,000.
ppm	Parts-per-million; may be converted to ppb by multiplying by 1,000.
ug/l	Micrograms of constituent per liter of sample; equivalent to parts-per-billion.
ug/kg	Micrograms of constituent per kilogram of sample; equivalent to parts-per-billion.
ug/kg dw	Micrograms of constituent per kilogram of sample reported on a dry weight basis.
CCC	Calibration Check Compound; used to verify the precision of a GC/MS calibration curve.
SPCC	System Performance Check Compound; used to verify the correct operation of a GC/MS instrument.
PQL	Practical Quantitation Limit; the minimum level at which compounds can be dependably quantitated.

II. Sample Designations

AnalytiKEM Designation	Client Designation	Matrix	Date Sampled
A60351-1	Well 1	Aqueous	8/15/90
A60351-2	Well 2	Aqueous	8/15/90
A60351-3	Branch	Aqueous	8/15/90

III. Methodology

All analysis are performed in accordance with methodologies found in the following publications:

- Federal Register, Vol. 49, No. 209, October 26, 1984.
- Federal Register, Vol. 51, No. 114, June 13, 1986.
- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Second Edition, July 1982.
- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, American Public Health Association, 16th Edition, 1985.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, March 1983.
- Annual Book of ASTM Standards (1980 and 1983)
- OI Corporation Model 524C TOC Analyzer Manual, January 1983.

IV. Analytical Results

Metals, total

Parameter	Method Blank		A60351-1 Well 1		A60351-2 Well 2		A60351-3 Branch	
			Sample Designation					
Arsenic	10	U	10	U	10	U	10	U
Barium	200	U	610		2,100		42	J
Cadmium	10	U	10	U	10	U	10	U
Chromium	50	U	50	U	50	U	50	U
Copper	50	U	19	J	50	U	50	U
Iron	100	U	4,500		18,000		550	
Lead	50	U	50	U	50	U	50	U
Manganese	15	U	4,800		6,300		82	
Mercury	2.0	U	2.0	U	2.0	U	2.0	U
Selenium	10	U	10	U	10	U	10	U
Silver	40	U	40	U	24	J	17	J
Zinc	20	U	33		1,200		62	
Units	(ug/l)		(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

IV. Analytical Results (Cont'd)

General Chemistry

Parameter	Method Blank	A60351-1 Well 1	A60351-2 Well 2	A60351-3 Branch
	Sample Designation			
Total Dissolved Solids	10,000 U	140,000	3,000,000	73,000
Nitrate-N	100 U	150	270	120
Sulfate	--	8,000	11,000	14,000
Chloride	--	6,000	230,000	4,000
Fluoride	150 U	150 U	150 U	150 U
Chemical Oxygen Demand	--	4,300	1,000,000	10,000
Biochemical Oxygen Demand, 5-day	1,000 U	3,800	630,000	2,100
Total Organic Carbon ?	--	1,000 U	1,000 U ?	1,000 U
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)

Note: The Total Organic Halogen analysis was subcontracted to Par Laboritories. A copy of their report is attached.

V. Quality Control Data

Metals

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Parameter	Sample Spiked	Amount of Spike	Recovery MS	Recovery MSD
Arsenic	A60351-1	100	98	105
Barium	A60351-1	300	129	134
Barium	DI Water	300	112	--
Cadmium	A60351-1	300	97	97
Chromium	A60351-1	300	103	100
Copper	A60351-1	300	106	102
Iron	A60351-1	300	140	159
Iron	DI Water	300	96	--
Lead	A60351-1	300	106	102
Magnesium	A60351-1	300	123	120
Magnesium	DI Water	300	94	--
Mercury	A60351-2	20	106	116
Selenium	A60351-1	100	75	82
Silver	A60351-1	300	64	33
Silver	DI Water	300	36	--
Zinc	A60351-1	300	95	93
Units		(ug)	(%)	(%)

Springdale Road
Cherry Hill, New Jersey 08003
(609) 751-1122 • (215) 925-2059
Fax (609) 751-0624

Chain-of-Custody

Fax (603) 529-9013

Client: ENGINEERING TECTONICS

Project: ASHE CO. LANDFILL

AnalytiKEM Contact: RICK CANTOR

SAMPLE DESIGNATION	DATE	MATRIX	40 ml vials	950 ml Org. Pres.	950 ml Unpres.	ml HNO_3	250 ml H_2SO_4 w/ Extra	ml NaOH	ml HCL	500 ml UNPRES			PARAMETERS
WELL 1	8-15-90	AQUEOUS			4		1			1			As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Hg
WELL 2	8-15-90	AQUEOUS			4		1			1			Se, Ag, Zn, Chloride, Fluoride
BRANCH	8-15-90	AQUEOUS		4			1			1			Nitrates, Sulfates, TOC, TOX, BOD
													COD, Total Dissolved Solids

I. Field Measurements:

Data Sheets: Y N

Filtered: Y Not Required

II. Field Conditions/Comments:

III. Special Instructions: NORMAL DETECTION LIMITS, ANALYZE ALL METALS AS TOTALS, ANALYZE EACH SAMPLE FOR ALL PARAMETERS
(Detection Limits, Data Package, etc.)

Relinquished By:	Time/Date:	Received By:	Time/Date:
[signature]	4:45 PM 8-15-90 VIA FED EX	[signature]	1000 8/16/90

V. Quality Control Data (Cont'd)

General Chemistry

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Parameter	Sample Spiked	Amount of Spike	Recovery MS	Recovery MSD
Nitrate-N	A22560-5	19	66	64
Nitrate-N	DI Water	19	103	--
Sulfate	A22495-2	1,200	53	54
Sulfate	DI Water	1,200	91	--
Chloride	A60351-3	1,000	111	111
Fluoride	A60351-2	45	104	105
Chemical Oxygen Demand	A22572-8	50	98	88
Biochemical Oxygen Demand	DI Water	200	96	92
Total Organic Carbon	A22567-1	10	82	68
Units		(ug)	(%)	(%)

PAR Laboratories, Inc.
2217 GRAHAM PARK DRIVE
P.O. BOX 411483
CHARLOTTE, NC 28241-1483
704/588-8333

SEPTEMBER 5, 1990

REFERENCE NO: 90 2594

MADE FOR: ANALYTIKEM INC.
28 SPRINGDALE ROAD
CHERRY HILL, NJ 08003

ATTENTION: MELISSA GERSTENBACHER

ANALYSES OF: SUBMITTED SAMPLES

MARKED: REQUISITION NO. A-8747; 60351 & AS LISTED

RECEIVED ON: 8/27/90

ANALYSES:

SAMPLE	TOX (PPB)
1	<5
2	<5
3	<5

RESPECTFULLY SUBMITTED:
PAR LABORATORIES, INC.

JOHN S. RICE
LABORATORY DIRECTOR

COPY FAXED TO ELISHA TEEWINCKLE PER RICK CANTOR'S REQUEST

05-01

:. Department of Human Resources
.sion of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

: Number 05-01 Field Sample Number 007228
ne of Site Ashe County Landfill Site Location S.R. 1558
lected By Lutty ID# 062 Date Collected 8-15-90 Time 3:30
pe of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	Well #1
___ Surface Water (2)	___ Liquid (6)	Split Samples With Engineering Technics
___ Soil (3)	___ Sludge (7)	pH - 6.5
___ Other (4)	___ Other (8)	Cond - 124 µohms
		Temp 14°C

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		✓ Arsenic	<0.02	✓ Silver	<0.05
___ Barium		✓ Barium	1.25	✓ Sulfates	<15
___ Cadmium		✓ Cadmium	<0.005	✓ Zinc	0.12
___ Chromium		✓ Chloride	6	[redacted]	
___ Lead		✓ Chromium	0.05	[redacted]	
Mercury		✓ Copper	0.08	✓ TDS	132
___ Selenium		✓ Fluoride	<0.10	✓ TOC	8
___ Silver		✓ Iron	44.45	✓ COD	<8
		✓ Lead	0.048		
		✓ Manganese	6.06		
		✓ Mercury	<0.02		
		✓ Nitrate(as N)	<1.00		
		✓ Selenium	<0.005		

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

ate Received ___ Date Reported ___
ate Extracted ___ Date Analyzed ___
eported By ___ Lab Number 016152 AUG 16 90

HS 3191 (Revised 7/85)

Department of Human Resources
on of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

Number 05-01 Field Sample Number 007224
ne of Site Ashe County Landfill Site Location S.R. 1558
lected By Lutfy ID# 062 Date Collected 8-15-90 Time 3:00

pe of Sample:

Environmental
- ✓ Groundwater (1)
- ___ Surface Water (2)
- ___ Soil (3)
- ___ Other (4)

Concentrate
- ___ Solid (5)
- ___ Liquid (6)
- ___ Sludge (7)
- ___ Other (8)

Comments
Well # 2 - DEEP WELL -
Split Samples With Engineering Technics
COND 220
pH 6.30
TEMP 14.0 °C

INORGANIC CHEMISTRY

Extractables Parameter	Results mg/1	Total Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		✓ Arsenic	<0.02	✓ Silver	<0.05
Barium		✓ Barium	2.42	✓ Sulfates	<3
Cadmium		✓ Cadmium	<0.005	✓ Zinc	1.25
Chromium		✓ Chloride	244	~~pH~~	
Lead		✓ Chromium	<0.01	✓ ~~Conductivity~~	
Mercury		✓ Copper	<0.05	✓ TDS	2384
Selenium		✓ Fluoride	<0.10	✓ TOC	440
Silver		✓ Iron	41.66	✓ COD	1075
		✓ Lead	0.040		
		✓ Manganese	52.90		
		✓ Mercury	<0.02		
		✓ Nitrate (as N)	<1.00		
		✓ Selenium	<0.005		

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
P&T:GC/MS		EDB		Methoxychlor	
Acid:B/N Ext.		PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received
Date Extracted
Reported By

Date Reported
Date Analyzed
Lab Number 016153 AUG 16 90

05-01

. C. Department of Human Resources
..ion of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
..N. Wilmington Street
Raleigh, 27611

SOLID WASTE SECTION
OCT 9 1990

Field Sample Number 001323

..ite Number 05-01

Site Location SR-1558

Name of Site ASHE CO. LANDFILL

Date Collected 8-15-90 Time 4:15

..Collected By KATHY ... ID# 059/162

Type of Sample:

Environmental	Concentrate
___ Groundwater (1)	___ Solid (5)
✓ Surface Water (2)	___ Liquid (6)
___ Soil (3)	___ Sludge (7)
___ Other (4)	___ Other (8)

Comments

Stream Sample
pH - 6.35 Temp. 21°C Cond. 69
SPLIT SAMPLES WITH ENG. TECTONICS

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		✓ Arsenic	<0.02	✓ Silver	<0.05
___ Barium		✓ Barium	0.08	✓ Sulfates	<3
___ Cadmium		✓ Cadmium	<0.005	✓ Zinc	0.05
___ Chromium		✓ Chloride	6	[redacted]	
___ Lead		✓ Chromium	<0.01	[redacted]	
___ Mercury		✓ Copper	<0.05	✓ TDS	68
___ Selenium		✓ Fluoride	<0.10	✓ TOC	<5
___ Silver		✓ Iron	2.24	✓ COD	<8
		✓ Lead	<0.005		
		✓ Manganese	0.13		
		✓ Mercury	<0.02		
		✓ Nitrate(as N)	2.13		
		✓ Selenium	<0.005		

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received

Date Reported

Date Extracted

Date Analyzed

Reported By

Lab Number 016151 AUG 16 90

DHS 3191 (Revised 7/85)

Chain of Custody Record

Hazardous Waste Materials

Location of Sampling: ____Generator ____Transporter ____Treatment Facilit
____Storage Facility ____Disposal Facility ✓ Landfill 05-01
____Other:

Company's Name Aiken County Landfill Telephone ( )

Address P.O. Box 1558 Aiken County

Collector's Name Bobby Ruff Telephone (803) 733 2692
-signature

Date Sampled 8-15-90 Time Sampled

Type of Process Generating Waste Sanitary Landfill

Field Information

Field Sample No. 007323 007324 007323

Chain of Possession:

signature	title	inclusive dates
Bobby Ruff	Hydrogeologist	8/15-16/90
[illegible]	Chemist	16 Aug 90

Results reported

signature	title	date
[illegible]	Chemist	2 Oct 90

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

Site Number 05-01 Field Sample Number 1005495
Name of Site Ashe County Landfill Site Location SR 1558
Collected By Luffy ID# 062 Date Collected 8-15-90 Time 3:30

Type of Sample:

Environmental	Concentrate
✓ Groundwater (1)	___ Solid (5)
___ Surface Water (2)	___ Liquid (6)
___ Soil (3)	___ Sludge (7)
___ Other (4)	___ Other (8)

Comments: Well #1
Split Samples With Engineering Technicians

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
Gross Alpha	
Gross Beta	

Date Received 8-16-90 BLC
Date Reported 9-13-90
Date Extracted 8-23 90 AA, NW
Date Analyzed BNA 8-29-90 BLC PT 9-10-90 MLC
Reported By John R. Neal
Lab Number 906280

#906280 - 906282

DHS 3191 (Revised 7/85)

C. Department of Human Resources
ision of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

e Number 05-01 Field Sample Number 005496
ime of Site Ashe County Landfill Site Location S.R. 1558
llected By Lilly ID# 002 Date Collected 8-15-90 Time 3:00
pe of Sample:

Environmental
✓ Groundwater (1)
___ Surface Water (2)
___ Soil (3)
___ Other (4)

Concentrate
___ Solid (5)
___ Liquid (6)
___ Sludge (7)
___ Other (8)

Comments
Well #2 (Deep Well)
Split Samples With Engineering Technics

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

ate Received 8-16-90 BD Date Reported
ate Extracted 8-23-90 AA, NW Date Analyzed BNA 8-29-90 BD PT 9-10-90 MW
eported By Lab Number 906281

HS 3101 (Revised 7/85)

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 28047
306 N. Wilmington Street
Raleigh, 27611

Site Number 015-01 Field Sample Number 005497

Name of Site [illegible] Site Location SR-1558

Collected By [illegible] ID# [illegible] Date Collected 8-15-90 Time 4:15

Type of Sample:

Environmental	Concentrate	Comments
___ Groundwater (1)	___ Solid (5)	
✓ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	SPLIT SAMPLES WITH ENGINEERING SECTION
___ Other (4)	___ Other (8)	

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/1
✓ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 8-16-90 BD Date Reported

Date Extracted 8-23-90 AA, MW Date Analyzed BNA 8-30-90 BD PT 9-10-90 MW

Reported By Lab Number 906282

3191 (Revised 7/85)

Chain of Custody Record

Hazardous Waste Materials

Location of Sampling: ____Generator ____Transporter ____Treatment Facilit
____Storage Facility ____Disposal Facility ✓ Landfill 05-01
____Other:

Company's Name Ashe County Landfill Telephone ( )

Address S.R. 1558 Ashe County

Collector's Name Bobby Huffy Telephone (919) 733-0692
-signature

Date Sampled 8-15-90 Time Sampled

Type of Process Generating Waste Sanitary Landfill

Field Information

Field Sample No. 005495 005496 005497

Chain of Possession:

signature	title	inclusive dates
Bobby Huffy	Hydrogeologist	8/15-16/90
William DeMent	Chemist	8-16-90

Results reported

signature	title	date
John L. Neal	Chemist	9-13-90

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

Well 1 Well-2 S.W.

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	906280	906281	906282			
	FIELD #	5495	5496	5497			
COMPOUND	TYPE	(1)	(1)	(2)	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
N-nitrosodimethylamine	10/330	U	U	U			
bis(2-chloroethyl)ether	↓	↓	↓	↓			
2-chlorophenol			↓				
phenol			13				
1,3-dichlorobenzene			U				
1,4-dichlorobenzene			↓				
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether	↓		↓				
diethyl phthalate	↓		160				
4,6-dinitro-o-cresol	50/1650		U				
diphenylamine	↓		↓				
azobenzene	↓						
4-bromophenylphenylether	10/330						
hexachlorobenzene	10/330						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene	↓						
dibutyl phthalate							
fluoranthene	↓	↓	↓	↓			

MDL
H_2O/SOIL

J - Estimated value.
Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services
DHS 3068-0 (4/86 Laboratory)

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

Well-1 Well-2 S.W.

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	906280	906281	906282			
	FIELD #	5495	5496	5497			
COMPOUND	TYPE	(1)	(1)	(2)	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
pyrene	10/330	U	U	U			
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene							
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene							
aniline	50/1650	U	U	U			
benzoic acid			1,465				
benzyl alcohol			U				
4-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							
2-methylphenol			10K				
4-methylphenol			405				
2-nitroaniline	50/1650		U				
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol							
CAPROLACTAM	10	10K	97	U			
CARBOXYLIC ACIDS	+/-	(-)	(+)	(-)			

MDL
H_2O/ 50/L

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	906280	906281	906282			
	FIELD #	5495	5496	5497			
COMPOUND	TYPE	(1)	(1)	(2)	( )	( )	( )
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
chloromethane	10ppb	u	u	u			
bromomethane	10						
dichlorodifluoromethane	5						
vinyl chloride	10						
chloroethane	10						
methylene chloride	5						
trichlorofluoromethane							
ethene, 1,1-dichloro							
ethane, 1,1-dichloro-			10				
1,2-trans-dichloroethene			u				
chloroform							
ethane, 1,2-dichloro-							
ethane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
propane, 1,2-dichloro-							
1,3-trans-dichloropropene							
trichloroethylene			trace				
chlorodibromomethane			u				
benzene			2J				
ethane, 1,1,2-trichloro-			u				
1,3-cis-dichloropropene							
2-chloroethyl vinyl ether	10						
bromoform	10						
ethane, 1,1,2,2-tetrachloro-	5						
ethene, tetrachloro-							
toluene			542				
chlorobenzene			u				
ethylbenzene			2J				
acetone	10	u	2357	u			
2-butanone	10		4198				
carbondisulfide	5		u				
2-hexanone	10		11u				
4-methyl-2-pentanone	10		221				
styrene	5		u				
vinyl acetate	10						
xylenes (total)	5		12				
Diethyl ether	5	u	79	u			
	↑MDL↑						

J - Estimated value.
< - Actual value is known to be less than value given.
- Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. = MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services

DHS 3068-O (4/86 Laboratory)

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Well #3 Grab 11/1/91

WORK ORDER #: 91-11-018-01

COLLECTED: 11/01/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT	
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	1.0	mg/L
Chemical Oxygen Demand	EPA 410.4	11/13/91	11/13/91	13.1	mg/L
Chloride 250	EPA 325.2	11/16/91	11/16/91	<1.0	mg/L
Fluoride 2.0	EPA 340.2	11/15/91	11/15/91	0.21	mg/L
Nitrate, Nitrogen 10.0	EPA 353.1	11/14/91	11/14/91	<0.10	mg/L
pH 6.5-8.5	SM 16 423	11/01/91	11/01/91	5.7	SU
Solids, Total Dissolved 500	EPA 160.1	11/05/91	11/06/91	276	mg/L
Specific Conductance 1000	EPA 120.1	11/01/91	11/01/91	150	umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	15.5	mg/L
Total Organic Carbon 10	EPA 415.1	11/12/91	11/12/91	3	mg/L
Total Organic Halides 0.1	EPA 9020	11/08/91	11/08/91	0.033	mg/L
Arsenic, Total by GF 0.05	EPA 206.2	11/07/91	11/08/91	<0.005	mg/L
Barium, Total 1.0	EPA 208.2	11/05/91	11/14/91	0.12	mg/L
Cadmium, Total 0.005	EPA 213.1	11/05/91	11/13/91	<0.005	mg/L
Chromium, Total 0.05	EPA 218.1	11/05/91	11/14/91	<0.05	mg/L
Copper, Total 1.0	EPA 220.1	11/05/91	11/12/91	<0.01	mg/L
Iron, Total 0.3	EPA 236.1	11/05/91	11/12/91	1.04	mg/L
Lead, Total 0.05	EPA 239.1	11/05/91	11/14/91	<0.05	mg/L
Manganese, Total 0.05	EPA 243.1	11/05/91	11/13/91	0.95	mg/L
Mercury, Total 0.0002	EPA 245.2	11/12/91	11/13/91	<0.0002	mg/L
Selenium, Total by GF 0.01	EPA 270.2	11/07/91	11/11/91	<0.005	mg/L
Silver, Total 0.05	EPA 272.1	11/05/91	11/14/91	<0.01	mg/L
Zinc, Total 5.0	EPA 289.1	11/05/91	11/12/91	0.062	mg/L

TOC 10 ppm
Total Organic Halides

Burlington Research

Post Office Box 2481 • 615 Huffman Mill Road • (919) 584-5561 • Burlington, NC 27216-2481

ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Well #4 Grab 11/1/91

WORK ORDER #: 91-11-018-02

COLLECTED: 11/01/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT	
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	<1.0	mg/L
Chemical Oxygen Demand	EPA 410.4	11/13/91	11/13/91	31.5	mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	17.4	mg/L
Fluoride	EPA 340.2	11/15/91	11/15/91	<0.10	mg/L
Nitrate, Nitrogen	EPA 353.1	11/14/91	11/14/91	0.41	mg/L
pH	SM 16 423	11/01/91	11/01/91	5.8	SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	280	mg/L
Specific Conductance	EPA 120.1	11/01/91	11/01/91	200	umhos/cm @ 250
Sulfate	EPA 375.4	11/06/91	11/06/91	<30.0	mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	20	mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.290	mg/L
Arsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005	mg/L
Barium, Total	EPA 208.2	11/05/91	11/14/91	0.86	mg/L
Cadmium, Total	EPA 213.1	11/05/91	11/13/91	<0.005	mg/L
Chromium, Total	EPA 218.1	11/05/91	11/14/91	<0.05	mg/L
Copper, Total	EPA 220.1	11/05/91	11/12/91	0.01	mg/L
Iron, Total	EPA 236.1	11/05/91	11/12/91	41.89	mg/L
Lead, Total	EPA 239.1	11/05/91	11/14/91	<0.05	mg/L
Manganese, Total	EPA 243.1	11/05/91	11/13/91	1.61	mg/L
Mercury, Total	EPA 245.2	11/12/91	11/13/91	<0.0002	mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005	mg/L
Silver, Total	EPA 272.1	11/05/91	11/14/91	<0.01	mg/L
Zinc, Total	EPA 289.1	11/05/91	11/12/91	0.080	mg/L

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Well #5 Grab 10/31/91

WORK ORDER #: 91-11-018-03

COLLECTED: 10/31/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	131 mg/L
Chemical Oxygen Demand	EPA 410.4	11/07/91	11/07/91	285 mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	56.7 mg/L
EPA8240, VOLATILES, liqd	EPA8240/8260	11/11/91	11/11/91	Attached
EPA8270,B/N/A EXTS.,LIQUID	EPA8250/8270	11/05/91	11/06/91	Attached
Fluoride	EPA 340.2	11/15/91	11/15/91	0.15 mg/L
Nitrate, Nitrogen	EPA 353.1	11/14/91	11/14/91	<0.10 mg/L
pH	SM 16 423	10/31/91	10/31/91	5.7 SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	870 mg/L
Specific Conductance	EPA 120 1	10/31/91	10/31/91	1,200 umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	<12.0 mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	90 mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.790 mg/L
Arsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005 mg/L
Barium, Total	EPA 208.2	11/05/91	11/14/91	1.33 mg/L
Cadmium, Total	EPA 213.1	11/05/91	11/13/91	<0.005 mg/L
Chromium, Total	EPA 218.1	11/05/91	11/14/91	<0.05 mg/L
Copper, Total	EPA 220.1	11/05/91	11/12/91	0.02 mg/L
Iron, Total	EPA 236.1	11/05/91	11/14/91	57.63 mg/L
Lead, Total	EPA 239.1	11/05/91	11/14/91	<0.05 mg/L
Manganese, Total	EPA 243.1	11/05/91	11/13/91	25.8 mg/L
Mercury, Total	EPA 245.2	11/12/91	11/13/91	<0.0002 mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005 mg/L
Silver, Total	EPA 272.1	11/05/91	11/14/91	<0.01 mg/L
Zinc, Total	EPA 289.1	11/05/91	11/12/91	0.061 mg/L

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EPA METHOD 8250/8270 ACID EXTRACTABLES - LIQUIDS

WORK ORDER NUMBER(S) : 91-11-018-03
METHOD QUANTITATION LIMIT (MQL) : see below

##	ANALYTE	MQL	CONCENTRATION	##
1	BENZYL ALCOHOL	25 ug/L	*	1
2	2-CHLOROPHENOL	10 ug/L	*	2
3	4-CHLORO-3-METHYLPHENOL (p-Chloro-m-Cresol)	10 ug/L	*	3
4	CRESOLS, TOTAL (Methyl Phenols)	10 ug/L	50.0	4
5	2,4-DICHLOROPHENOL	10 ug/L	*	5
6	2,6-DICHLOROPHENOL	50 ug/L	*	6
7	2,4-DIMETHYLPHENOL	10 ug/L	*	7
8	2,4-DINITROPHENOL	50 ug/L	*	8
9	2-METHYL-4,6-DINITROPHENOL (4,6-Dinitro-o-Cresol)	50 ug/L	*	9
10	2-NITROPHENOL	10 ug/L	*	10
11	4-NITROPHENOL	10 ug/L	*	11
12	PENTACHLOROPHENOL	10 ug/L	*	12
13	PHENOL	10 ug/L	11.2	13
14	2,4,6-TRICHLOROPHENOL	10 ug/L	*	14
15	2,4,5-TRICHLOROPHENOL	25 ug/L	*	15

* BELOW QUANTITATION LIMIT EXCEPT WHERE NOTED

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EPA 8240/8260 VOLATILE ORGANICS ANALYSIS BY GC/MS - LIQUIDS

WORK ORDER NUMBER(S): 91-11-018-03
METHOD QUANTITATION LIMIT (MQL): See below

##	ANALYTE	MQL	CONC. (ug/L)	##
1	ACETONE	100.0	309	1
2	ACROLEIN	10.0	*	2
3	ACRYLONITRILE	10.0	*	3
4	BENZENE	4.0	*	4
5	BROMOBENZENE	4.0	*	5
6	BROMOCHLOROMETHANE	4.0	*	6
7	BROMODICHLOROMETHANE	4.0	*	7
8	BROMOMETHANE	4.0	*	8
9	BUTANONE, 2- (MEK)	30.0	686	9
10	BUTENE, 1,4-DICHLORO-2-	100.0	*	10
11	BUTYLBENZENE, n-	4.0	*	11
12	BUTYLBENZENE, sec-	4.0	*	12
13	BUTYLBENZENE, tert-	4.0	*	13
14	CARBON DISULFIDE	20.0	*	14
15	CARBON TETRACHLORIDE	4.0	*	15
16	CHLOROBENZENE	4.0	*	16
17	CHLOROETHANE	4.0	*	17
18	CHLOROETHYLVINYL ETHER, 2-	4.0	*	18
19	CHLOROMETHANE	4.0	*	19
20	CHLOROTOLUENE, 2-	4.0	*	20
21	CHLOROTOLUENE, 4-	4.0	*	21
22	DIBROMOCHLOROMETHANE	4.0	*	22
23	DIBROMOETHANE, 1,2- (EDB)	4.0	*	23
24	DIBROMOMETHANE	4.0	*	24
25	DICHLOROBENZENE, 1,2-	4.0	*	25
26	DICHLOROBENZENE, 1,3-	4.0	*	26
27	DICHLOROBENZENE, 1,4-	4.0	*	27
28	DICHLORODIFLUOROMETHANE	100.0	*	28
29	DICHLOROETHANE, 1,1-	4.0	23	29
30	DICHLOROETHANE, 1,2-	4.0	*	30
31	DICHLOROETHENE, 1,1-	4.0	*	31
32	DICHLOROETHENE, cis-1,2-	4.0	5	32
33	DICHLOROETHENE, trans-1,2-	4.0	*	33
34	DICHLOROMETHANE(METHYLENE CHLORIDE)	4.0	*	34
35	DICHLOROPROPANE, 1,2-	4.0	*	35
36	DICHLOROPROPANE, 1,3-	4.0	*	36
37	DICHLOROPROPANE, 2,2-	4.0	*	37
38	DICHLOROPROPENE, 1,1-	4.0	*	38
39	DICHLOROPROPENE, cis-1,3-	4.0	*	39
40	DICHLOROPROPENE, trans-1,3-	4.0	*	40
41	ETHYLBENZENE	4.0	*	41
42	HEXACHLOROBUTADIENE	4.0	*	42

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WORK ORDER NUMBER(S): 91-11-018-03

##	ANALYTE	MQL	CONC. (ug/L)	##
43	HEXANONE, 2- (MBK)	20.0	*	43
44	IODOMETHANE	4.0	*	44
45	ISOPROPYLBENZENE (CUMENE)	4.0	7	45
46	ISOPROPYLTOLUENE, para-	4.0	*	46
47	NAPHTHALENE	4.0	*	47
48	PENTANONE, 4-METHYL-2- (MIBK)	20.0	32	48
49	PROPANE, 1,2-DIBROMO-3-CHLORO- (DBCP)	4.0	*	49
50	PROPYLBENZENE, n-	4.0	*	50
51	STYRENE	10.0	*	51
52	TETRACHLOROETHANE, 1,1,1,2-	4.0	*	52
53	TETRACHLOROETHANE, 1,1,2,2-	4.0	*	53
54	TETRACHLOROETHENE	4.0	*	54
55	TOLUENE	4.0	15	55
56	TRIBROMOMETHANE (BROMOFORM)	4.0	*	56
57	TRICHLOROBENZENE, 1,2,3-	4.0	*	57
58	TRICHLOROBENZENE, 1,2,4-	4.0	*	58
59	TRICHLOROETHANE, 1,1,1-	4.0	*	59
60	TRICHLOROETHANE, 1,1,2-	4.0	*	60
61	TRICHLOROETHENE	4.0	*	61
62	TRICHLOROFLUOROMETHANE	4.0	*	62
63	TRICHLOROMETHANE (CHLOROFORM)	4.0	*	63
64	TRICHLOROPROPANE, 1,2,3-	4.0	*	64
65	TRIMETHYLBENZENE, 1,2,4-	4.0	*	65
66	TRIMETHYLBENZENE, 1,3,5-	4.0	*	66
67	VINYL ACETATE	30.0	*	67
68	VINYL CHLORIDE	4.0	*	68
69	XYLENES (TOTAL)	4.0	11	69

*BELOW QUANTITATION LIMITS EXCEPT WHERE NOTED

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EPA 8250/8270 BASE/NEUTRAL EXTRACTABLES - LIQUIDS

WORK ORDER #: 91-11-018-03
METHOD QUANTITATION LIMIT : see below

##	BASE/NEUTRAL ANALYTE	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
1	ACENAPHTHENE	10	*	1
2	ACENAPHTHYLENE	10	*	2
3	ACETOPHENONE	10	*	3
4	AMINOBIPHENYL, 4-	20	*	4
5	ANILINE	10	*	5
6	ANTHRACENE	10	*	6
7	BENZ (a) ANTHRACENE	10	*	7
8	BENZIDINE	50	*	8
9	BENZO (a) PYRENE	10	*	9
10	BENZO (b) FLUORANTHENE	10	*	10
11	BENZO (ghi) PERYLENE	10	*	11
12	BENZO (k) FLUORANTHENE	10	*	12
13	BIS (2-CHLOROETHOXY) METHANE	10	*	13
14	BIS (2-CHLOROETHYL) ETHER	10	*	14
15	BIS (2-CHLOROISOPROPYL) ETHER	10	*	15
16	BIS (2-ETHYLHEXYL) PHTHALATE	10	*	16
17	BROMOPHENYL PHENYL ETHER, 4-	10	*	17
18	BUTYLBENZYL PHTHALATE	10	*	18
19	CHLOROANILINE, 4-	20	*	19
20	CHLORONAPHTHALENE, 2-	10	*	20
21	CHLOROPHENYL PHENYL ETHER, 4-	10	*	21
22	CHRYSENE	10	*	22
23	DI-n-BUTYL PHTHALATE	10	10.0	23
24	DI-n-OCTYL PHTHALATE	10	*	24
25	DIBENZ (a,h) ANTHRACENE	10	*	25
26	DIBENZOFURAN	10	*	26
27	DICHLOROBENZENE, 1,2-	10	*	27
28	DICHLOROBENZENE, 1,3-	10	*	28
29	DICHLOROBENZENE, 1,4-	10	*	29
30	DICHLOROBENZIDINE, 3,3'-	20	*	30
31	DIETHYL PHTHALATE	10	12.7	31
32	DIMETHYL PHTHALATE	10	*	32
33	DIMETHYLAMINOAZOBENZENE, 4-	20	*	33
34	DIMETHYLBENZO(a)ANTHRACENE, 7,12-	20	*	34
35	DIMETHYLPHENETHYLAMINE, a,a-	20	*	35
36	DINITROTOLUENE, 2,6-	10	*	36
37	DINITROTOLUENE, 2,4-	10	*	37
38	DIPHENYLAMINE	10	*	38
39	DIPHENYLHYDRAZINE, 1,2-	10	*	39
40	ETHYL METHANESULFONATE	25	*	40

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WORK ORDER #: 91-11-018-03

##	BASE/NEUTRAL	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
41	FLUORANTHENE	10	*	41
42	FLUORENE	10	*	42
43	HEXACHLOROBENZENE	10	*	43
44	HEXACHLOROBUTADIENE	10	*	44
45	HEXACHLOROCYCLOPENTADIENE	10	*	45
46	HEXACHLOROETHANE	10	*	46
47	HEXACHLOROPROPENE	10	*	47
48	INDENO (1,2,3-cd) PYRENE	10	*	48
49	ISOPHORONE	10	*	49
50	METHYL CHOLANTHRENE, 3-	20	*	50
51	METHYL METHANESULFONATE	20	*	51
52	METHYL NAPHTHALENE, 2-	10	*	52
53	N-NITROSODI-n-BUTYLAMINE	10	*	53
54	N-NITROSODI-n-PROPYLAMINE	10	*	54
55	N-NITROSODIMETHYLAMINE	20	*	55
56	N-NITROSODIPHENYLAMINE	25	*	56
57	N-NITROSOPIPERIDINE	10	*	57
58	NAPHTHYLAMINE, 1- (alpha)	10	*	58
59	NAPHTHYLAMINE, 2- (beta)	10	*	59
60	NAPHTHALENE	10	*	60
61	NITRO ANILINE, 2-	20	*	61
62	NITRO ANILINE, 3-	20	*	62
63	NITRO ANILINE, 4-	20	*	63
64	NITRO-o-TOLUIDINE, 5-	10	*	64
65	NITROBENZENE	10	*	65
66	PENTACHLOROBENZENE	10	*	66
67	PENTACHLORONITROBENZENE	10	*	67
68	PHENACETIN	20	*	68
69	PHENANTHRENE	10	*	69
70	PICOLENE, 2-	20	*	70
71	PRONAMIDE	25	*	71
72	PYRENE	10	*	72
73	PYRIDINE	10	*	73
74	TETRACHLOROBENZENE, 1,2,4,5-	10	*	74
75	TRICHLOROBENZENE, 1,2,4-	10	*	75

* = BELOW QUANTITATION LIMIT

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Well #6 Grab 10/31/91

WORK ORDER #: 91-11-018-04

COLLECTED: 10/31/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	422 mg/L
Chemical Oxygen Demand	EPA 410.4	11/07/91	11/07/91	792 mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	235 mg/L
EPA8240, VOLATILES, liqd	EPA 240/8260	11/11/91	11/11/91	Attached
EPA8270,B/N/A EXTS.,LIQUID	EPA8250/8270	11/05/91	11/06/91	Attached
Fluoride	EPA 340.2	11/15/91	11/15/91	0.13 mg/L
Nitrate, Nitrogen	EPA 353.2	11/14/91	11/14/91	0.11 mg/L
pH	SM 16 423	10/31/91	10/31/91	5.5 SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	2,000 mg/L
Specific Conductance	EPA 120.1	10/31/91	10/31/91	1,500 umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	<6.0 mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	288 mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.150 mg/L
Arsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005 mg/L
Barium, Total	EPA 208.2	11/05/91	11/14/91	2.65 mg/L
Cadmium, Total	EPA 213.1	11/05/91	11/13/91	<0.005 mg/L
Chromium, Total	EPA 218.1	11/05/91	11/14/91	<0.05 mg/L
Copper, Total	EPA 220.1	11/05/91	11/12/91	0.01 mg/L
Iron, Total	EPA 236.1	11/05/91	11/12/91	54.0 mg/L
Lead, Total	EPA 239.1	11/05/91	11/14/91	<0.05 mg/L
Manganese, Total	EPA 243.1	11/05/91	11/13/91	60.6 mg/L
Mercury, Total	EPA 245.2	11/12/91	11/13/91	<0.0002 mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005 mg/L
Silver, Total	EPA 272.1	11/05/91	11/14/91	<0.01 mg/L
Zinc, Total	EPA 289.1	11/05/91	11/12/91	0.041 mg/L

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EPA METHOD 8250/8270 ACID EXTRACTABLES - LIQUIDS

WORK ORDER NUMBER(S) : 91-11-018-[illegible]
METHOD QUANTITATION LIMIT (MQL) : see below

##	ANALYTE	MQL	CONCENTRATION	##
1	BENZYL ALCOHOL	20 ug/L	*	1
2	2-CHLOROPHENOL	10 ug/L	*	2
3	4-CHLORO-3-METHYLPHENOL (p-Chloro-m-Cresol)	10 ug/L	*	3
4	CRESOLS, TOTAL (Methyl Phenols)	10 ug/L	576.6	4
5	2,4-DICHLOROPHENOL	10 ug/L	*	5
6	2,6-DICHLOROPHENOL	50 ug/L	*	6
7	2,4-DIMETHYLPHENOL	10 ug/L	*	7
8	2,4-DINITROPHENOL	50 ug/L	*	8
9	2-METHYL-4,6-DINITROPHENOL (4,6-Dinitro-o-Cresol)	50 ug/L	*	9
10	2-NITROPHENOL	10 ug/L	*	10
11	4-NITROPHENOL	10 ug/L	*	11
12	PENTACHLOROPHENOL	10 ug/L	*	12
13	PHENOL	10 ug/L	63.8	13
14	2,4,6-TRICHLOROPHENOL	10 ug/L	*	14
15	2,4,5-TRICHLOROPHENOL	20 ug/L	*	15

* BELOW QUANTITATION LIMIT EXCEPT WHERE NOTED

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EPA 8240/8260 VOLATILE ORGANICS ANALYSIS BY GC/MS - LIQUIDS

WORK ORDER NUMBER(S): 91-11-018-04
METHOD QUANTITATION LIMIT (MQL): See below

	##	ANALYTE	MQL	CONC. (ug/L)	##
	1	ACETONE	100.0	3,126	1
	2	ACROLEIN	10.0	*	2
	3	ACRYLONITRILE	10.0	*	3
0.001	4	BENZENE	4.0	7	4
	5	BROMOBENZENE	4.0	*	5
	6	BROMOCHLOROMETHANE	4.0	*	6
	7	BROMODICHLOROMETHANE	4.0	*	7
	8	BROMOMETHANE	4.0	*	8
0.17	9	BUTANONE, 2- (MEK)	30.0	2,261	9
	10	BUTENE, 1,4-DICHLORO-2-	100.0	*	10
	11	BUTYLBENZENE, n-	4.0	*	11
	12	BUTYLBENZENE, sec-	4.0	*	12
	13	BUTYLBENZENE, tert-	4.0	*	13
	14	CARBON DISULFIDE	20.0	*	14
	15	CARBON TETRACHLORIDE	4.0	*	15
	16	CHLOROBENZENE	4.0	*	16
	17	CHLOROETHANE	4.0	*	17
	18	CHLOROETHYLVINYL ETHER, 2-	4.0	*	18
	19	CHLOROMETHANE	4.0	*	19
	20	CHLOROTOLUENE, 2-	4.0	*	20
	21	CHLOROTOLUENE, 4-	4.0	5	21
	22	DIBROMOCHLOROMETHANE	4.0	*	22
	23	DIBROMOETHANE, 1,2- (EDB)	4.0	*	23
	24	DIBROMOMETHANE	4.0	*	24
	25	DICHLOROBENZENE, 1,2-	4.0	*	25
	26	DICHLOROBENZENE, 1,3-	4.0	*	26
	27	DICHLOROBENZENE, 1,4-	4.0	*	27
	28	DICHLORODIFLUOROMETHANE	100.0	*	28
	29	DICHLOROETHANE, 1,1-	4.0	17	29
	30	DICHLOROETHANE, 1,2-	4.0	*	30
	31	DICHLOROETHENE, 1,1-	4.0	*	31
0.07	32	DICHLOROETHENE, cis-1,2-	4.0	5	32
	33	DICHLOROETHENE, trans-1,2-	4.0	*	33
0.005	34	DICHLOROMETHANE(METHYLENE CHLORIDE)	4.0	59	34
	35	DICHLOROPROPANE, 1,2-	4.0	*	35
	36	DICHLOROPROPANE, 1,3-	4.0	*	36
	37	DICHLOROPROPANE, 2,2-	4.0	*	37
	38	DICHLOROPROPENE, 1,1-	4.0	*	38
	39	DICHLOROPROPENE, cis-1,3-	4.0	*	39
	40	DICHLOROPROPENE, trans-1,3-	4.0	*	40
0.029	41	ETHYLBENZENE	4.0	9	41
	42	HEXACHLOROBUTADIENE	4.0	*	42

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WORK ORDER NUMBER(S): 91-11-013-04

	##	ANALYTE	MQL	CONC. (ug/L)	##
	43	HEXANONE, 2- (MBK)	20.0	*	43
	44	IODOMETHANE	4.0	*	44
	45	ISOPROPYLBENZENE (CUMENE)	4.0	15	45
	46	ISOPROPYLTOLUENE, para-	4.0	6	46
	47	NAPHTHALENE	4.0	*	47
	48	PENTANONE, 4-METHYL-2- (MIBK)	20.0	*	48
	49	PROPANE, 1,2-DIBROMO-3-CHLORO- (DBCP)	4.0	*	49
	50	PROPYLBENZENE, n-	4.0	*	50
	51	STYRENE	10.0	*	51
	52	TETRACHLOROETHANE, 1,1,1,2-	4.0	*	52
	53	TETRACHLOROETHANE, 1,1,2,2-	4.0	*	53
	54	TETRACHLOROETHENE	4.0	*	54
1.0	55	TOLUENE	4.0	160	55
	56	TRIBROMOMETHANE (BROMOFORM)	4.0	*	56
	57	TRICHLOROBENZENE, 1,2,3-	4.0	*	57
	58	TRICHLOROBENZENE, 1,2,4-	4.0	*	58
	59	TRICHLOROETHANE, 1,1,1-	4.0	*	59
	60	TRICHLOROETHANE, 1,1,2-	4.0	*	60
	61	TRICHLOROETHENE	4.0	4	61
	62	TRICHLOROFLUOROMETHANE	4.0	*	62
	63	TRICHLOROMETHANE (CHLOROFORM)	4.0	*	63
	64	TRICHLOROPROPANE, 1,2,3-	4.0	*	64
	65	TRIMETHYLBENZENE, 1,2,4-	4.0	*	65
	66	TRIMETHYLBENZENE, 1,3,5-	4.0	*	66
	67	VINYL ACETATE	30.0	*	67
	68	VINYL CHLORIDE	4.0	*	68
0.4	69	XYLENES (TOTAL)	4.0	30	69

*BELOW QUANTITATION LIMITS EXCEPT WHERE NOTED

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EPA 8250/8270 BASE/NEUTRAL EXTRACTABLES - LIQUIDS

WORK ORDER #: 91-11-018-04
METHOD QUANTITATION LIMIT : see below

##	BASE/NEUTRAL ANALYTE	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
1	ACENAPHTHENE	10	*	1
2	ACENAPHTHYLENE	10	*	2
3	ACETOPHENONE	10	*	3
4	AMINOBIPHENYL, 4-	20	*	4
5	ANILINE	10	*	5
6	ANTHRACENE	10	*	6
7	BENZ (a) ANTHRACENE	10	*	7
8	BENZIDINE	50	*	8
9	BENZO (a) PYRENE	10	*	9
10	BENZO (b) FLUORANTHENE	10	*	10
11	BENZO (ghi) PERYLENE	10	*	11
12	BENZO (k) FLUORANTHENE	10	*	12
13	BIS (2-CHLOROETHOXY) METHANE	10	*	13
14	BIS (2-CHLOROETHYL) ETHER	10	*	14
15	BIS (2-CHLOROISOPROPYL) ETHER	10	*	15
16	BIS (2-ETHYLHEXYL) PHTHALATE	10	*	16
17	BROMOPHENYL PHENYL ETHER, 4-	10		17
18	BUTYLBENZYL PHTHALATE	10	*	18
19	CHLOROANILINE, 4-	20	*	19
20	CHLORONAPHTHALENE, 2-	10	*	20
21	CHLOROPHENYL PHENYL ETHER, 4-	10	*	21
22	CHRYSENE	10	*	22
23	DI-n-BUTYL PHTHALATE	10	81.1	23
24	DI-n-OCTYL PHTHALATE	10	*	24
25	DIBENZ (a,h) ANTHRACENE	10	*	25
26	DIBENZOFURAN	10	*	26
27	DICHLOROBENZENE, 1,2-	10	*	27
28	DICHLOROBENZENE, 1,3-	10	*	28
29	DICHLOROBENZENE, 1,4-	10	*	29
30	DICHLOROBENZIDINE, 3,3'-	20	*	30
31	DIETHYL PHTHALATE	10	51.5	31
32	DIMETHYL PHTHALATE	10	*	32
33	DIMETHYLAMINOAZOBENZENE, 4-	20	*	33
34	DIMETHYLBENZO(a)ANTHRACENE, 7,12-	20	*	34
35	DIMETHYLPHENETHYLAMINE, a,a-	20	*	35
36	DINITROTOLUENE, 2,6-	10	*	36
37	DINITROTOLUENE, 2,4-	10	*	37
38	DIPHENYLAMINE	10	*	38
39	DIPHENYLHYDRAZINE, 1,2-	10	*	39
40	ETHYL METHANESULFONATE	25	*	40

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WORK ORDER #: 91-11-018-04

##	BASE/NEUTRAL	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
41	FLUORANTHENE	10	*	41
42	FLUORENE	10	*	42
43	HEXACHLOROBENZENE	10	*	43
44	HEXACHLOROBUTADIENE	10	*	44
45	HEXACHLOROCYCLOPENTADIENE	10	*	45
46	HEXACHLOROETHANE	10	*	46
47	HEXACHLOROPROPENE	10	*	47
48	INDENO (1,2,3-cd) PYRENE	10	*	48
49	ISOPHORONE	10	*	49
50	METHYL CHOLANTHRENE, 3-	20	*	50
51	METHYL METHANESULFONATE	20	*	51
52	METHYL NAPHTHALENE, 2-	10	*	52
53	N-NITROSODI-n-BUTYLAMINE	10	*	53
54	N-NITROSODI-n-PROPYLAMINE	10	*	54
55	N-NITROSODIMETHYLAMINE	20	*	55
56	N-NITROSODIPHENYLAMINE	25	*	56
57	N-NITROSOPIPERIDINE	10	*	57
58	NAPHTHYLAMINE, 1- (alpha)	10	*	58
59	NAPHTHYLAMINE, 2- (beta)	10	*	59
60	NAPHTHALENE	10	*	60
61	NITRO ANILINE, 2-	20	*	61
62	NITRO ANILINE, 3-	20	*	62
63	NITRO ANILINE, 4-	20	*	63
64	NITRO-o-TOLUIDINE, 5-	10	*	64
65	NITROBENZENE	10	*	65
66	PENTACHLOROBENZENE	10	*	66
67	PENTACHLORONITROBENZENE	10	*	67
68	PHENACETIN	20	*	68
69	PHENANTHRENE	10	*	69
70	PICOLENE, 2-	20	*	70
71	PRONAMIDE	25	*	71
72	PYRENE	10	*	72
73	PYRIDINE	10	*	73
74	TETRACHLOROBENZENE, 1,2,4,5-	10	*	74
75	TRICHLOROBENZENE, 1,2,4-	10	*	75

* = BELOW QUANTITATION LIMIT

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Well #7 Grab 10/31/91

WORK ORDER #: 91-11-018-05

COLLECTED: 10/31/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	509 mg/L
Chemical Oxygen Demand	EPA 410.4	11/13/91	11/13/91	775 mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	325 mg/L
EPA8240, VOLATILES, liqd	EPA8240/8260	11/13/91	11/13/91	Attached
EPA8270,B/N/A EXTS.,LIQUID	EPA8250/8270	11/05/91	11/06/91	Attached
Fluoride	EPA 340.2	11/15/91	11/15/91	0.22 mg/L
Nitrate, Nitrogen	EPA 353.1	11/14/91	11/14/91	<0.10 mg/L
pH	SM 16 423	10/31/91	10/31/91	5.8 SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	2,170 mg/L
Specific Conductance	EPA 120 1	10/31/91	10/31/91	2,200 umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	<3.0 mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	329 mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.300 mg/L
Arsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005 mg/L
Barium, Total	EPA 208.2	11/07/91	11/14/91	2.62 mg/L
Cadmium, Total	EPA 213.1	11/07/91	11/13/91	<0.005 mg/L
Chromium, Total	EPA 218.1	11/07/91	11/14/91	<0.05 mg/L
Copper, Total	EPA 220.1	11/07/91	11/12/91	0.01 mg/L
Iron, Total	EPA 236.1	11/07/91	11/12/91	47.4 mg/L
Lead, Total	EPA 239.1	11/07/91	11/14/91	<0.05 mg/L
Manganese, Total	EPA 243.1	11/07/91	11/13/91	56.8 mg/L
Mercury, Total	EPA 245.2	11/12/91	11/13/91	<0.0002 mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005 mg/L
Silver, Total	EPA 272.1	11/07/91	11/14/91	<0.01 mg/L
Zinc, Total	EPA 289.1	11/07/91	11/12/91	0.82 mg/L

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EPA METHOD 8250/8270 ACID EXTRACTABLES - LIQUIDS

WORK ORDER NUMBER(S) : 91-11-018[illegible]05
METHOD QUANTITATION LIMIT (MQL) : s e below

##	ANALYTE	MQL	CONCENTRATION	##
1	BENZYL ALCOHOL	25 ug/L	*	1
2	2-CHLOROPHENOL	10 ug/L	*	2
3	4-CHLORO-3-METHYLPHENOL (p-Chloro-m-Cresol)	10 ug/L	*	3
4	CRESOLS, TOTAL (Methyl Phenols)	10 ug/L	657.1	4
5	2,4-DICHLOROPHENOL	10 ug/L	*	5
6	2,6-DICHLOROPHENOL	50 ug/L	*	6
7	2,4-DIMETHYLPHENOL	10 ug/L	*	7
8	2,4-DINITROPHENOL	50 ug/L	*	8
9	2-METHYL-4,6-DINITROPHENOL (4,6-Dinitro-o-Cresol)	50 ug/L	*	9
10	2-NITROPHENOL	10 ug/L	*	10
11	4-NITROPHENOL	10 ug/L	*	11
12	PENTACHLOROPHENOL	10 ug/L	*	12
13	PHENOL	10 ug/L	*	13
14	2,4,6-TRICHLOROPHENOL	10 ug/L	*	14
15	2,4,5-TRICHLOROPHENOL	25 ug/L	*	15

* BELOW QUANTITATION LIMIT EXCEPT WHERE NOTED

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EPA 8240/8260 VOLATILE ORGANICS ANALYSIS BY GC/MS - LIQUIDS

WORK ORDER NUMBER(S): 91-11-018-05
METHOD QUANTITATION LIMIT (MQL): See below

	##	ANALYTE	MQL	CONC. (ug/L)	##
	1	ACETONE	100.0	2,453	1
	2	ACROLEIN	10.0	*	2
	3	ACRYLONITRILE	10.0	*	3
0.001	4	BENZENE	4.0	8	4
	5	BROMOBENZENE	4.0	*	5
	6	BROMOCHLOROMETHANE	4.0	*	6
	7	BROMODICHLOROMETHANE	4.0	*	7
	8	BROMOMETHANE	4.0	*	8
0.17	9	BUTANONE, 2- (MEK)	30.0	2,726	9
	10	BUTENE, 1,4-DICHLORO-2-	100.0	*	10
	11	BUTYLBENZENE, n-	4.0	*	11
	12	BUTYLBENZENE, sec-	4.0	*	12
	13	BUTYLBENZENE, tert-	4.0	*	13
	14	CARBON DISULFIDE	20.0	*	14
	15	CARBON TETRACHLORIDE	4.0	*	15
	16	CHLOROBENZENE	4.0	*	16
	17	CHLOROETHANE	4.0	*	17
	18	CHLOROETHYLVINYL ETHER, 2-	4.0	*	18
	19	CHLOROMETHANE	4.0	*	19
	20	CHLOROTOLUENE, 2-	4.0	*	20
	21	CHLOROTOLUENE, 4-	4.0	*	21
	22	DIBROMOCHLOROMETHANE	4.0	*	22
	23	DIBROMOETHANE, 1,2- (EDB)	4.0	*	23
	24	DIBROMOMETHANE	4.0	*	24
	25	DICHLOROBENZENE, 1,2-	4.0	*	25
	26	DICHLOROBENZENE, 1,3-	4.0	*	26
	27	DICHLOROBENZENE, 1,4-	4.0	*	27
	28	DICHLORODIFLUOROMETHANE	100.0	*	28
	29	DICHLOROETHANE, 1,1-	4.0	16	29
	30	DICHLOROETHANE, 1,2-	4.0	*	30
	31	DICHLOROETHENE, 1,1-	4.0	*	31
0.07	32	DICHLOROETHENE, cis-1,2-	4.0	6	32
	33	DICHLOROETHENE, trans-1,2-	4.0	*	33
	34	DICHLOROMETHANE(METHYLENE CHLORIDE)	4.0	*	34
	35	DICHLOROPROPANE, 1,2-	4.0	*	35
	36	DICHLOROPROPANE, 1,3-	4.0	*	36
	37	DICHLOROPROPANE, 2,2-	4.0	*	37
	38	DICHLOROPROPENE, 1,1-	4.0	*	38
	39	DICHLOROPROPENE, cis-1,3-	4.0	*	39
	40	DICHLOROPROPENE, trans-1,3-	4.0	*	40
	41	ETHYLBENZENE	4.0	*	41
	42	HEXACHLOROBUTADIENE	4.0	*	42

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WORK ORDER NUMBER(S): 91-11-018-05

	##	ANALYTE	MQL	CONC. (ug/L)	##
	43	HEXANONE, 2- (MBK)	20.0	*	43
	44	IODOMETHANE	4.0	*	44
	45	ISOPROPYLBENZENE (CUMENE)	4.0	17	45
	46	ISOPROPYLTOLUENE, para-	4.0	*	46
	47	NAPHTHALENE	4.0	113	47
	48	PENTANONE, 4-METHYL-2- (MIBK)	20.0	197	48
	49	PROPANE, 1,2-DIBROMO-3-CHLORO- (DBCP)	4.0	*	49
	50	PROPYLBENZENE, n-	4.0	*	50
	51	STYRENE	10.0	*	51
	52	TETRACHLOROETHANE, 1,1,1,2-	4.0	*	52
	53	TETRACHLOROETHANE, 1,1,2,2-	4.0	*	53
	54	TETRACHLOROETHENE	4.0	*	54
1.0	55	TOLUENE	4.0	172	55
	56	TRIBROMOMETHANE (BROMOFORM)	4.0	*	56
	57	TRICHLOROBENZENE, 1,2,3-	4.0	*	57
	58	TRICHLOROBENZENE, 1,2,4-	4.0	*	58
	59	TRICHLOROETHANE, 1,1,1-	4.0	*	59
	60	TRICHLOROETHANE, 1,1,2-	4.0	*	60
	61	TRICHLOROETHENE	4.0	*	61
	62	TRICHLOROFLUOROMETHANE	4.0	*	62
	63	TRICHLOROMETHANE (CHLOROFORM)	4.0	*	63
	64	TRICHLOROPROPANE, 1,2,3-	4.0	*	64
	65	TRIMETHYLBENZENE, 1,2,4-	4.0	*	65
	66	TRIMETHYLBENZENE, 1,3,5-	4.0	*	66
	67	VINYL ACETATE	30.0	*	67
	68	VINYL CHLORIDE	4.0	*	68
0.4	69	XYLENES (TOTAL)	4.0	28	69

*BELOW QUANTITATION LIMITS EXCEPT WHERE NOTED

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EPA 8250/8270 BASE/NEUTRAL EXTRACTABLES - LIQUIDS

WORK ORDER #: 91-11-018-03
METHOD QUANTITATION LIMIT : see below

##	BASE/NEUTRAL ANALYTE	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
1	ACENAPHTHENE	10	*	1
2	ACENAPHTHYLENE	10	*	2
3	ACETOPHENONE	10	*	3
4	AMINOBIPHENYL, 4-	20	*	4
5	ANILINE	10	*	5
6	ANTHRACENE	10	*	6
7	BENZ (a) ANTHRACENE	10	*	7
8	BENZIDINE	50	*	8
9	BENZO (a) PYRENE	10	*	9
10	BENZO (b) FLUORANTHENE	10	*	10
11	BENZO (ghi) PERYLENE	10	*	11
12	BENZO (k) FLUORANTHENE	10	*	12
13	BIS (2-CHLOROETHOXY) METHANE	10	*	13
14	BIS (2-CHLOROETHYL) ETHER	10	*	14
15	BIS (2-CHLOROISOPROPYL) ETHER	10	*	15
16	BIS (2-ETHYLHEXYL) PHTHALATE	10	*	16
17	BROMOPHENYL PHENYL ETHER, 4-	10	*	17
18	BUTYLBENZYL PHTHALATE	10	*	18
19	CHLOROANILINE, 4-	20	*	19
20	CHLORONAPHTHALENE, 2-	10	*	20
21	CHLOROPHENYL PHENYL ETHER, 4-	10	*	21
22	CHRYSENE	10	*	22
23	DI-n-BUTYL PHTHALATE	10	10.9	23
24	DI-n-OCTYL PHTHALATE	10	*	24
25	DIBENZ (a,h) ANTHRACENE	10	*	25
26	DIBENZOFURAN	10	*	26
27	DICHLOROBENZENE, 1,2-	10	*	27
28	DICHLOROBENZENE, 1,3-	10	*	28
29	DICHLOROBENZENE, 1,4-	10	*	29
30	DICHLOROBENZIDINE, 3,3'-	20	*	30
31	DIETHYL PHTHALATE	10	71.0	31
32	DIMETHYL PHTHALATE	10	*	32
33	DIMETHYLAMINOAZOBENZENE, 4-	20	*	33
34	DIMETHYLBENZO(a)ANTHRACENE, 7,12-	20	*	34
35	DIMETHYLPHENETHYLAMINE, a,a-	20	*	35
36	DINITROTOLUENE, 2,6-	10	*	36
37	DINITROTOLUENE, 2,4-	10	*	37
38	DIPHENYLAMINE	10	*	38
39	DIPHENYLHYDRAZINE, 1,2-	10	*	39
40	ETHYL METHANESULFONATE	25	*	40

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WORK ORDER #: 91-11-018-05

##	BASE/NEUTRAL	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
41	FLUORANTHENE	10	*	41
42	FLUORENE	10	*	42
43	HEXACHLOROBENZENE	10	*	43
44	HEXACHLOROBUTADIENE	10	*	44
45	HEXACHLOROCYCLOPENTADIENE	10	*	45
46	HEXACHLOROETHANE	10	*	46
47	HEXACHLOROPROPENE	10	*	47
48	INDENO (1,2,3-cd) PYRENE	10	*	48
49	ISOPHORONE	10	*	49
50	METHYL CHOLANTHRENE, 3-	20	*	50
51	METHYL METHANESULFONATE	20	*	51
52	METHYL NAPHTHALENE, 2-	10	*	52
53	N-NITROSODI-n-BUTYLAMINE	10	*	53
54	N-NITROSODI-n-PROPYLAMINE	10	*	54
55	N-NITROSODIMETHYLAMINE	20	*	55
56	N-NITROSODIPHENYLAMINE	25	*	56
57	N-NITROSOPIPERIDINE	10	*	57
58	NAPHTHYLAMINE, 1- (alpha	10	*	58
59	NAPHTHYLAMINE, 2- (beta)	10	*	59
60	NAPHTHALENE	10	*	60
61	NITRO ANILINE, 2-	20	*	61
62	NITRO ANILINE, 3-	20	*	62
63	NITRO ANILINE, 4-	20	*	63
64	NITRO-o-TOLUIDINE, 5-	10	*	64
65	NITROBENZENE	10	*	65
66	PENTACHLOROBENZENE	10	*	66
67	PENTACHLORONITROBENZENE	10	*	67
68	PHENACETIN	20	*	68
69	PHENANTHRENE	10	*	69
70	PICOLENE, 2-	20	*	70
71	PRONAMIDE	25	*	71
72	PYRENE	10	*	72
73	PYRIDINE	10	*	73
74	TETRACHLOROBENZENE, 1,2,4,5-	10	*	74
75	TRICHLOROBENZENE, 1,2,4-	10	*	75

* = BELOW QUANTITATION LIMIT

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Well #8 Grab 11/1/91

WORK ORDER #: 91-11-018-06

COLLECTED: 11/01/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	<1.0 mg/L
Chemical Oxygen Demand	EPA 410.4	11/13/91	11/13/91	<10 mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	13.7 mg/L
EPA8240, VOLATILES, liqd	EPA8240/8260	11/13/91	11/13/91	Attached
EPA8270,B/N/A EXTS.,LIQUID	EPA8250/8270	11/05/91	11/06/91	Attached
Fluoride	EPA 340.2	11/15/91	11/15/91	<0.10 mg/L
Nitrate, Nitrogen	EPA 353.1	11/14/91	11/14/91	0.36 mg/L
pH	SM 16 423	11/01/91	11/01/91	5.8 SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	162 mg/L
Specific Conductance	EPA 120 1	11/01/91	11/01/91	190 umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	<3.0 mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	5 mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.050 mg/L
Arsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005 mg/L
Barium, Total	EPA 208.2	11/07/91	11/14/91	0.42 mg/L
Cadmium, Total	EPA 213.1	11/07/91	11/13/91	<0.005 mg/L
Chromium, Total	EPA 218.1	11/07/91	11/14/91	<0.05 mg/L
Copper, Total	EPA 220.1	11/07/91	11/12/91	0.02 mg/L
Iron, Total	EPA 236.1	11/07/91	11/12/91	14.0 mg/L
Lead, Total	EPA 239.1	11/07/91	11/14/91	<0.05 mg/L
Manganese, Total	EPA 243.1	11/07/91	11/13/91	1.48 mg/L
Mercury, Total	EPA 245.2	11/12/91	11/13/91	<0.0002 mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005 mg/L
Silver, Total	EPA 272.1	11/07/91	11/14/91	<0.01 mg/L
Zinc, Total	EPA 289.1	11/07/91	11/12/91	0.034 mg/L

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EPA METHOD 8250/8270 ACID EXTRACTABLES - LIQUIDS

WORK ORDER NUMBER(S) : 91-11-018-06
METHOD QUANTITATION LIMIT (MQL) : see below

##	ANALYTE	MQL	CONCENTRATION	##
1	BENZYL ALCOHOL	25 ug/L	*	1
2	2-CHLOROPHENOL	10 ug/L	*	2
3	4-CHLORO-3-METHYLPHENOL (p-Chloro-m-Cresol)	10 ug/L	*	3
4	CRESOLS, TOTAL (Methyl Phenols)	10 ug/L	*	4
5	2,4-DICHLOROPHENOL	10 ug/L	*	5
6	2,6-DICHLOROPHENOL	50 ug/L	*	6
7	2,4-DIMETHYLPHENOL	10 ug/L	*	7
8	2,4-DINITROPHENOL	50 ug/L	*	8
9	2-METHYL-4,6-DINITROPHENOL (4,6-Dinitro-o-Cresol)	50 ug/L	*	9
10	2-NITROPHENOL	10 ug/L	*	10
11	4-NITROPHENOL	10 ug/L	*	11
12	PENTACHLOROPHENOL	10 ug/L	*	12
13	PHENOL	10 ug/L	*	13
14	2,4,6-TRICHLOROPHENOL	10 ug/L	*	14
15	2,4,5-TRICHLOROPHENOL	25 ug/L	*	15

* BELOW QUANTITATION LIMIT EXCEPT WHERE NOTED

8270AE.LIQ
Revised 3/91

Burlington Research

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EPA 8240/8260 VOLATILE ORGANICS ANALYSIS BY GC/MS - LIQUIDS

WORK ORDER NUMBER(S): 91-11-018-06
METHOD QUANTITATION LIMIT (MQL): See below

##	ANALYTE	MQL	CONC. (ug/L)	##
1	ACETONE	100.0	*	1
2	ACROLEIN	10.0	*	2
3	ACRYLONITRILE	10.0	*	3
4	BENZENE	4.0	*	4
5	BROMOBENZENE	4.0	*	5
6	BROMOCHLOROMETHANE	4.0	*	6
7	BROMODICHLOROMETHANE	4.0	*	7
8	BROMOMETHANE	4.0	*	8
9	BUTANONE, 2- (MEK)	30.0	*	9
10	BUTENE, 1,4-DICHLORO-2-	100.0	*	10
11	BUTYLBENZENE, n-	4.0	*	11
12	BUTYLBENZENE, sec-	4.0	*	12
13	BUTYLBENZENE, tert-	4.0	*	13
14	CARBON DISULFIDE	20.0	*	14
15	CARBON TETRACHLORIDE	4.0	*	15
16	CHLOROBENZENE	4.0	*	16
17	CHLOROETHANE	4.0	*	17
18	CHLOROETHYLVINYL ETHER, 2-	4.0	*	18
19	CHLOROMETHANE	4.0	*	19
20	CHLOROTOLUENE, 2-	4.0	*	20
21	CHLOROTOLUENE, 4-	4.0	*	21
22	DIBROMOCHLOROMETHANE	4.0	*	22
23	DIBROMOETHANE, 1,2- (EDB)	4.0	*	23
24	DIBROMOMETHANE	4.0	*	24
25	DICHLOROBENZENE, 1,2-	4.0	*	25
26	DICHLOROBENZENE, 1,3-	4.0	*	26
27	DICHLOROBENZENE, 1,4-	4.0	*	27
28	DICHLORODIFLUOROMETHANE	100.0	*	28
29	DICHLOROETHANE, 1,1-	4.0	*	29
30	DICHLOROETHANE, 1,2-	4.0	*	30
31	DICHLOROETHENE, 1,1-	4.0	*	31
32	DICHLOROETHENE, cis-1,2-	4.0	*	32
33	DICHLOROETHENE, trans-1,2-	4.0	*	33
34	DICHLOROMETHANE(METHYLENE CHLORIDE)	4.0	*	34
35	DICHLOROPROPANE, 1,2-	4.0	*	35
36	DICHLOROPROPANE, 1,3-	4.0	*	36
37	DICHLOROPROPANE, 2,2-	4.0	*	37
38	DICHLOROPROPENE, 1,1-	4.0	*	38
39	DICHLOROPROPENE, cis-1,3-	4.0	*	39
40	DICHLOROPROPENE, trans-1,3-	4.0	*	40
41	ETHYLBENZENE	4.0	*	41
42	HEXACHLOROBUTADIENE	4.0	*	42

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Testing Services • NPDES Testing • Reporting & Data
PMN Aquatic Bioassay Evaluations

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WORK ORDER NUMBER(S): 91-11-018-06

##	ANALYTE	MQL	CONC. (ug/L)	##
43	HEXANONE, 2- (MBK)	20.0	*	43
44	IODOMETHANE	4.0	*	44
45	ISOPROPYLBENZENE (CUMENE)	4.0	134	45
46	ISOPROPYLTOLUENE, para-	4.0	*	46
47	NAPHTHALENE	4.0	*	47
48	PENTANONE, 4-METHYL-2- (MIBK)	20.0	*	48
49	PROPANE, 1,2-DIBROMO-3-CHLORO- (DBCP)	4.0	*	49
50	PROPYLBENZENE, n-	4.0	*	50
51	STYRENE	10.0	*	51
52	TETRACHLOROETHANE, 1,1,1,2-	4.0	*	52
53	TETRACHLOROETHANE, 1,1,2,2-	4.0	*	53
54	TETRACHLOROETHENE	4.0	*	54
55	TOLUENE	4.0	*	55
56	TRIBROMOMETHANE (BROMOFORM)	4.0	*	56
57	TRICHLOROBENZENE, 1,2,3-	4.0	*	57
58	TRICHLOROBENZENE, 1,2,4-	4.0	*	58
59	TRICHLOROETHANE, 1,1,1-	4.0	*	59
60	TRICHLOROETHANE, 1,1,2-	4.0	*	60
61	TRICHLOROETHENE	4.0	*	61
62	TRICHLOROFLUOROMETHANE	4.0	*	62
63	TRICHLOROMETHANE (CHLOROFORM)	4.0	*	63
64	TRICHLOROPROPANE, 1,2,3-	4.0	*	64
65	TRIMETHYLBENZENE, 1,2,4-	4.0	*	65
66	TRIMETHYLBENZENE, 1,3,5-	4.0	*	66
67	VINYL ACETATE	30.0	*	67
68	VINYL CHLORIDE	4.0	*	68
69	XYLENES (TOTAL)	4.0	*	69

*BELOW QUANTITATION LIMITS EXCEPT WHERE NOTED

8240VOA.LIQ
Revised 6/91

Burlington Research

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EPA 8250/8270 BASE/NEUTRAL EXTRACTABLES - LIQUIDS

WORK ORDER #: 91-11-018-06
METHOD QUANTITATION LIMIT : see below

##	BASE/NEUTRAL ANALYTE	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
1	ACENAPHTHENE	10	*	1
2	ACENAPHTHYLENE	10	*	2
3	ACETOPHENONE	10	*	3
4	AMINOBIPHENYL, 4-	20	*	4
5	ANILINE	10	*	5
6	ANTHRACENE	10	*	6
7	BENZ (a) ANTHRACENE	10	*	7
8	BENZIDINE	50	*	8
9	BENZO (a) PYRENE	10	*	9
10	BENZO (b) FLUORANTHENE	10	*	10
11	BENZO (ghi) PERYLENE	10	*	11
12	BENZO (k) FLUORANTHENE	10	*	12
13	BIS (2-CHLOROETHOXY) METHANE	10	*	13
14	BIS (2-CHLOROETHYL) ETHER	10	*	14
15	BIS (2-CHLOROISOPROPYL) ETHER	10	*	15
16	BIS (2-ETHYLHEXYL) PHTHALATE	10	*	16
17	BROMOPHENYL PHENYL ETHER, 4-	10	*	17
18	BUTYLBENZYL PHTHALATE	10	*	18
19	CHLOROANILINE, 4-	20	*	19
20	CHLORONAPHTHALENE, 2-	10	*	20
21	CHLOROPHENYL PHENYL ETHER, 4-	10	*	21
22	CHRYSENE	10	*	22
23	DI-n-BUTYL PHTHALATE	10	191.2	23
24	DI-n-OCTYL PHTHALATE	10	*	24
25	DIBENZ (a,h) ANTHRACENE	10	*	25
26	DIBENZOFURAN	10	*	26
27	DICHLOROBENZENE, 1,2-	10	*	27
28	DICHLOROBENZENE, 1,3-	10	*	28
29	DICHLOROBENZENE, 1,4-	10	*	29
30	DICHLOROBENZIDINE, 3,3'-	20	*	30
31	DIETHYL PHTHALATE	10	*	31
32	DIMETHYL PHTHALATE	10	*	32
33	DIMETHYLAMINOAZOBENZENE, 4-	20	*	33
34	DIMETHYLBENZO(a)ANTHRACENE, 7,12-	20	*	34
35	DIMETHYLPHENETHYLAMINE, a,a-	20	*	35
36	DINITROTOLUENE, 2,6-	10	*	36
37	DINITROTOLUENE, 2,4-	10	*	37
38	DIPHENYLAMINE	10	*	38
39	DIPHENYLHYDRAZINE, 1,2-	10	*	39
40	ETHYL METHANESULFONATE	25	*	40

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WORK ORDER #: 91-11-018-06

##	BASE/NEUTRAL	QUANTITATION LIMIT (ug/L)	CONCENTRATION (ug/L)	##
41	FLUORANTHENE	10	*	41
42	FLUORENE	10	*	42
43	HEXACHLOROBENZENE	10	*	43
44	HEXACHLOROBUTADIENE	10	*	44
45	HEXACHLOROCYCLOPENTADIENE	10	*	45
46	HEXACHLOROETHANE	10	*	46
47	HEXACHLOROPROPENE	10	*	47
48	INDENO (1,2,3-cd) PYRENE	10	*	48
49	ISOPHORONE	10	*	49
50	METHYL CHOLANTHRENE, 3-	20	*	50
51	METHYL METHANESULFONATE	20	*	51
52	METHYL NAPHTHALENE, 2-	10	*	52
53	N-NITROSODI-n-BUTYLAMINE	10	*	53
54	N-NITROSODI-n-PROPYLAMINE	10	*	54
55	N-NITROSODIMETHYLAMINE	20	*	55
56	N-NITROSODIPHENYLAMINE	25	*	56
57	N-NITROSOPIPERIDINE	10	*	57
58	NAPHTHYLAMINE, 1- (alpha)	10	*	58
59	NAPHTHYLAMINE, 2- (beta)	10	*	59
60	NAPHTHALENE	10	*	60
61	NITRO ANILINE, 2-	20	*	61
62	NITRO ANILINE, 3-	20	*	62
63	NITRO ANILINE, 4-	20	*	63
64	NITRO-o-TOLUIDINE, 5-	10	*	64
65	NITROBENZENE	10	*	65
66	PENTACHLOROBENZENE	10	*	66
67	PENTACHLORONITROBENZENE	10	*	67
68	PHENACETIN	20	*	68
69	PHENANTHRENE	10	*	69
70	PICOLENE, 2-	20	*	70
71	PRONAMIDE	25	*	71
72	PYRENE	10	*	72
73	PYRIDINE	10	*	73
74	TETRACHLOROBENZENE, 1,2,4,5-	10	*	74
75	TRICHLOROBENZENE, 1,2,4-	10	*	75

* = BELOW QUANTITATION LIMIT

8270BN.LIQ
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PMN Aquatic Bioassay Evaluations

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Surface Water A Grab 11/1

WORK ORDER #: 91-11-018-07

COLLECTED: 11/01/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT	
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	1.2	mg/L
Chemical Oxygen Demand	EPA 410.4	11/13/91	11/13/91	<10	mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	8.10	mg/L
Fluoride	EPA 340.2	11/15/91	11/15/91	0.16	mg/L
Nitrate, Nitrogen	EPA 353.1	11/14/91	11/14/91	2.31	mg/L
pH	SM 16 423	11/01/91	11/01/91	6.3	SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	68.0	mg/L
Specific Conductance	EPA 120 1	11/01/91	11/01/91	75	umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	<3.0	mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	2	mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.024	mg/L
Arsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005	mg/L
Barium, Total	EPA 208.2	11/07/91	11/14/91	<0.10	mg/L
Cadmium, Total	EPA 213.1	11/07/91	11/13/91	<0.005	mg/L
Chromium, Total	EPA 218.1	11/07/91	11/14/91	<0.05	mg/L
Copper, Total	EPA 220.1	11/07/91	11/12/91	<0.01	mg/L
Iron, Total	EPA 236.1	11/07/91	11/12/91	1.2	mg/L
Lead, Total	EPA 239.1	11/07/91	11/14/91	<0.05	mg/L
Manganese, Total	EPA 243.1	11/07/91	11/13/91	0.18	mg/L
Mercury, Total	EPA 245.2	11/12/91	11/13/91	<0.0002	mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005	mg/L
Silver, Total	EPA 272.1	11/07/91	11/14/91	<0.01	mg/L
Zinc, Total	EPA 289.1	11/07/91	11/12/91	<0.005	mg/L

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ANALYTICAL REPORT

CUSTOMER: County of Ashe
FACILITY: Jefferson, NC 28640
REPORT TO: Mr. Michael Dixon

SAMPLE: Sanitary Landfill Study
Surface Water B Grab 11/1

WORK ORDER #: 91-11-018-08

COLLECTED: 11/01/91
RECEIVED: 11/01/91
REPORTED: 11/19/91

PARAMETER	METHOD	STARTED	ANALYZED	RESULT	
BOD, 5-Day	EPA 405.1	11/02/91	11/07/91	<1.0	mg/L
Chemical Oxygen Demand	EPA 410.4	11/13/91	11/13/91	<10.0	mg/L
Chloride	EPA 325.2	11/16/91	11/16/91	<1.0	mg/L
Fluoride	EPA 340.2	11/15/91	11/15/91	0.19	mg/L
Nitrate, Nitrogen	EPA 353.1	11/14/91	11/14/91	<0.10	mg/L
pH	SM 16 423	11/01/91	11/01/91	6.4	SU
Solids, Total Dissolved	EPA 160.1	11/05/91	11/06/91	64.0	mg/L
Specific Conductance	EPA 120 1	11/01/91	11/01/91	30	umhos/cm @ 25C
Sulfate	EPA 375.4	11/06/91	11/06/91	<3.0	mg/L
Total Organic Carbon	EPA 415.1	11/12/91	11/12/91	1	mg/L
Total Organic Halides	EPA 9020	11/08/91	11/08/91	0.012	mg/L
rsenic, Total by GF	EPA 206.2	11/07/91	11/08/91	<0.005	mg/L
Barium, Total	EPA 208.2	11/07/91	11/14/91	<0.10	mg/L
Cadmium, Total	EPA 213.1	11/07/91	11/13/91	<0.005	mg/L
Chromium, Total	EPA 218.1	11/07/91	11/14/91	<0.05	mg/L
Copper, Total	EPA 220.1	11/07/91	11/12/91	<0.01	mg/L
Iron, Total	EPA 236.1	11/07/91	11/12/91	2.6	mg/L
Lead, Total	EPA 239.1	11/07/91	11/14/91	<0.05	mg/L
Manganese, Total	EPA 243.1	11/07/91	11/13/91	0.50	mg/L
Mercury, Total	EPA 245.2	11/14/91	11/14/91	<0.0002	mg/L
Selenium, Total by GF	EPA 270.2	11/07/91	11/11/91	<0.005	mg/L
Silver, Total	EPA 272.1	11/07/91	11/14/91	<0.01	mg/L
Zinc, Total	EPA 289.1	11/07/91	11/12/91	0.189	mg/L

N. C. Department of Human Resources
Division of Health Services

Inorganic

SAMPLE ANALYSES REQUEST

State Laboratory of Public Health
P. O. Box 2804
306 N. Wilmington Street
Raleigh, 27611

Number 05-01 Field Sample Number 6620

Name of Site Ashe Co LF Site Location SR 1558

Collected By L. Roe ID# 062 Date Collected 10-31-91 Time 5:10

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	MW-5
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	Split Sample

SOLID WASTE SECTION
NOV 03 1991

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
___ Arsenic		✓ Arsenic	<0.01	✓ Silver	<0.05
___ Barium		✓ Barium	2.46	✓ Sulfates	<6
___ Cadmium		✓ Cadmium	<0.005	✓ Zinc	0.74
___ Chromium		✓ Chloride	57	✓ Ph	6.5
___ Lead		✓ Chromium	0.09	✓ Conductivity	1,100 µmhos
___ Mercury		✓ Copper	<0.05	✓ TDS	680
___ Selenium		✓ Fluoride	0.11	✓ TOC	Equipment down
___ Silver		✓ Iron	105.50	✓ COD	214
		✓ Lead	0.012		
		✓ Manganese	18.08		
		✓ Mercury	<0.0002		
		✓ Nitrate	<1.00		
		✓ Selenium	<0.005		

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
___ Gross Alpha	
___ Gross Beta	

Received ___ Date Reported ___

Date Extracted ___ Date Analyzed ___

Reported By ___ Lab Number ___

U20103 NOV 4 91

DHS 3191 (Revised 7/85)
[illegible] Revised 7/87)

N. C. Department of Human Resources
Division of Health Services

Inorganic

SAMPLE ANALYSES REQUEST

State Laboratory of Public Hea
P. O. Box 28
306 N. Wilmington St
Raleigh, 276

Site Number 05-01 Field Sample Number 6621
Name of Site Ashe Co LF Site Location SR 1558
Collected By L. Rose ID# 062 Date Collected 10-31-91 Time 4:30

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	Solid (5)	MW-6
Surface Water (2)	Liquid (6)	
Soil (3)	Sludge (7)	
Other (4)	Other (8)	Split Sample

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
Arsenic		✓ Arsenic	<0.01	✓ Silver	<0.05
Barium		✓ Barium	2.68	Sulfates	<6
Cadmium		✓ Cadmium	<0.005	✓ Zinc	<0.05
Chromium		✓ Chloride	240	✓ Ph	6.7
Lead		✓ Chromium	<0.01	✓ Conductivity	2750 µmhos
Mercury		✓ Copper	<0.05	✓ TDS	1930
Selenium		✓ Fluoride	<0.10	✓ TOC	Equipment down
Silver		✓ Iron	44.69	✓ COD	738
		✓ Lead	<0.01		
		✓ Manganese	48.44		
		✓ Mercury	<0.0002		
		✓ Nitrate	<1.00		
		✓ Selenium	<0.005		

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
P&T:GC/MS		EDB		Methoxychlor	
Acid:B/N Ext.		PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
Gross Alpha	
Gross Beta	

Date Received
Date Reported
Date Extracted
Date Analyzed
Reported By
Lab Number 020104 NOV 4 91

LS 3191 (Revised 7/85)
Review 7/87)

N. C. Department of Human Resources
Division of Health Services

Inorganic

SAMPLE ANALYSES REQUEST

State Laboratory of Public Heal
P. O. Box 280
306 N. Wilmington Stre
Raleigh, 276

Number 05-01 Field Sample Number 6622

Name of Site Ashe Co LF Site Location SR 1558

Collected By L. Rose ID# 062 Date Collected 10-31-91 Time 445

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	MW-7
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	Split Sample

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
___ Arsenic		✓ Arsenic	<0.01	✓ Silver	<0.05
___ Barium		✓ Barium	2.29	✓ Sulfates	<6
___ Cadmium		✓ Cadmium	<0.005	✓ Zinc	0.63
___ Chromium		✓ Chloride	258	✓ Ph	6.6
___ Lead		✓ Chromium	<0.01	✓ Conductivity	2900 µmhos
___ Mercury		✓ Copper	<0.05	✓ TDS	1864
___ Selenium		✓ Fluoride	<0.10	✓ TOC	Equipment drain
___ Silver		✓ Iron	36.30	✓ COD	825
		✓ Lead	0.019		
		✓ Manganese	42.80		
		✓ Mercury	<0.0002		
		✓ Nitrate	<1.00		
		✓ Selenium	<0.005		

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
___ P&T:GC/MS		___ EDB		___ Methoxychlor	
___ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
___ Gross Alpha	
___ Gross Beta	

Received ___ Date Reported ___

Date Extracted ___ Date Analyzed ___

Reported By ___ Lab Number 020105 NOV 4 91

DHS 3191 (Revised 7/85)
[illegible] (Revised 7/87)

INORGANIC

Location of Sampling: ____Generator ____Transporter ____Treatment F.
____Storage Facility ____Disposal Facility ✓ Landfill
____Other:

Company's Name ASHE Co. LF Telephone (919) 246-3721

Address SR 1558 JEFFERSON NC

Collector's Name Larry Rose Telephone (919) 733-0692
signature

Date Sampled 10-31-91 Time Sampled

Type of Process Generating Waste LF

Field Information

Field Sample No. 6620 6621 6622

Chain of Possession:

signature	title	inclusive da
Larry Rose	Hydrogeological Tech	10-31-91 11-1-91
[illegible]	Chem Tech III	1 nov 91

Results reported

signature	title	date
[illegible]	Chemist	22 Nov 91

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

N. C. Department of Human Resources
Division of Health Services

organic

SAMPLE ANALYSES REQUEST

State Laboratory of Public
P. O. Box
306 N. Wilmington
Raleigh,

Site Number 05-01 Field Sample Number 4944

Name of Site Ashe Co LF Site Location SR 1558

Collected By L. Roye ID# 062 Date Collected 10/31/91 Time 5:10

Type of Sample:

Environmental	Concentrate
✓ Groundwater (1)	Solid (5)
Surface Water (2)	Liquid (6)
Soil (3)	Sludge (7)
Other (4)	Other (8)

Comments: MW-5

Split Sample

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg
✓ P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
Gross Alpha	
Gross Beta	

Date Received 11-1-91 AA Date Reported 11/26/91

Date Extracted 11-12-91 BN, US Date Analyzed BNA 11-15-91 RW PT 11-22-91 MW

Reported By John C. Neal Lab Number 913931

DHS 3191 (Revised 7/85)
[illegible] Review 7/87)

#913931 - 913933

Organic

N. C. Department of Human Resources
Division of Health Services

SAMPLE ANALYSES REQUEST

State Laboratory of Public He.
P. O. Box 28(
306 N. Wilmington Str
Raleigh, 27(

e Number 05-01 Field Sample Number 4945

Name of Site Ashe Co LF Site Location SR 1558

Collected By L. Rose ID# 062 Date Collected 10-31-91 Time 4:20

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	Solid (5)	MW-6
Surface Water (2)	Liquid (6)	
Soil (3)	Sludge (7)	
Other (4)	Other (8)	Split Sample

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
Arsenic		Arsenic		Silver	
Barium		Barium		Sulfates	
Cadmium		Cadmium		Zinc	
Chromium		Chloride		Ph	
Lead		Chromium		Conductivity	
Mercury		Copper		TDS	
Selenium		Fluoride		TOC	
Silver		Iron			
		Lead			
		Manganese			
		Mercury			
		Nitrate			
		Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/l	Parameter	Results mg/l	Parameter	Results mg/l
✓ P&T:GC/MS		EDB		Methoxychlor	
✓ Acid:B/N Ext.		PCB's		Toxaphene	
TOX		Petroleum		2,4-D	
		Endrin		2,4,5-TP (silvex)	
		Lindane			

MICROBIOLOGY

Parameter
(MF) Coliform Colonies/100mls
(MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/l
Gross Alpha	
Gross Beta	

: Received 11-1-91 AA Date Reported

Date Extracted 11-12-91 BN, [illegible] Date Analyzed BNA 11-19-91 BD PT 11-22-91 [illegible]

Reported By Lab Number 913932

DHS 3191 (Revised 7/85)
[illegible] Review 7/87)

N. C. Department of Human Resources
Division of Health Services

organic
SAMPLE ANALYSES REQUEST

State Laboratory of Public
P. O. Box
306 N. Wilmington
Raleigh,

Site Number 05-01 Field Sample Number 4946 *
Name of Site Ash Co LF Site Location SR 1558
Collected By L. Ross ID# 062 Date Collected 10-31-91 Time 4:45

Type of Sample:

Environmental	Concentrate	Comments
✓ Groundwater (1)	___ Solid (5)	Mw 7
___ Surface Water (2)	___ Liquid (6)	
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	Split Sample

INORGANIC CHEMISTRY

Extractables		Total			
Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg
___ Arsenic		___ Arsenic		___ Silver	
___ Barium		___ Barium		___ Sulfates	
___ Cadmium		___ Cadmium		___ Zinc	
___ Chromium		___ Chloride		___ Ph	
___ Lead		___ Chromium		___ Conductivity	
___ Mercury		___ Copper		___ TDS	
___ Selenium		___ Fluoride		___ TOC	
___ Silver		___ Iron			
		___ Lead			
		___ Manganese			
		___ Mercury			
		___ Nitrate			
		___ Selenium			

ORGANIC CHEMISTRY

Parameter	Results mg/1	Parameter	Results mg/1	Parameter	Results mg/
✓ P&T:GC/MS		___ EDB		___ Methoxychlor	
✓ Acid:B/N Ext.		___ PCB's		___ Toxaphene	
___ TOX		___ Petroleum		___ 2,4-D	
		___ Endrin		___ 2,4,5-TP (silvex)	
		___ Lindane			

MICROBIOLOGY

Parameter
___ (MF) Coliform Colonies/100mls
___ (MPN) Coliform Colonies/100mls

RADIOCHEMISTRY

Parameter	Results PCi/1
___ Gross Alpha	
___ Gross Beta	

Date Received 11-1-91 AA Date Reported
Date Extracted 11-12-91 BN, WS Date Analyzed BNA 11-19-91 BD PT 11-22-91 MW
Reported By Lab Number 913930

DHS 3191 (Revised 7/85)
[illegible] (Revised 7/87)

ORGANIC

Location of Sampling: ___ Generator ___ Transporter ___ Treatment
___ Storage Facility ___ Disposal Facility ✓ Landfill
___ Other:

Company's Name ASHE Co LF Telephone (919)

Address SR 1558 JEFFERSON NC

Collector's Name Larry Rose Telephone (919) 733-0692
signature

Date Sampled 10-31-91 Time Sampled

Type of Process Generating Waste LF

Field Information

Partly Cldy - Cool

Field Sample No. 4944 4945 4946

Chain of Possession:

signature	title	inclusive d.
Larry Rose	Hydrogeological Tech	10-31-91
Angela D. Cuttle	Chem Tech	11-1-91

Results reported

signature	title	date
John R. Neal	Chemist	11/26/91

Instructions: Complete all applicable information including signatures, and submit with analysis request forms.

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

MW-5 MW-6 MW-7

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	913931	913932	913933			
	FIELD #	4944	4945	4946			
COMPOUND	TYPE	(/)	(/)	(/)	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
N-nitrosodimethylamine	10/330	u	u	u			
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol		10K					
1,3-dichlorobenzene		u					
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene							
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether							
diethyl phthalate		1.2	4.2	86			
4,6-dinitro-o-cresol	50/1650	u	u	u			
diphenylamine							
azobenzene							
4-bromophenylphenylether	10/330						
hexachlorobenzene	10/330						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene							
dibutyl phthalate							
fluoranthene							

MDL
H_2O/SOIL

J - Estimated value.
" Actual value is known to be less than value given.
Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services
DHS 3068-0 (4/86 Laboratory)

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

MW-5 MW-6 MW-7

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	913931	913932	913933			
	FIELD #	4944	4945	4946			
COMPOUND	TYPE	(1)	(1)	(1)	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
pyrene	10/330	U	U	U			
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene							
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene							
aniline	50/1650	U	U	U			
benzoic acid		50K	7.2	10.2			
benzyl alcohol		U	U	U			
-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							
2-methylphenol							
4-methylphenol		36	16	26			
2-nitroaniline	50/1650	U	U	U			
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol							

MDL
H2O/SOIL

- Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

N.C. Division of Health Services

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	913931	913932	913933			
	FIELD #	4944	4945	4946			
COMPOUND	TYPE	(1)	(1)	(1)	( )	( )	( )
	UNITS	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
		MW-5	MW-6	MW-7			
chloromethane	10 ppb	u	u	u			
bromomethane	↓						
dichlorodifluoromethane	5 ppb						
vinyl chloride							
chloroethane							
methylene chloride							
trichlorofluoromethane							
ethene, 1,1-dichloro		↓	↓	↓			
ethane, 1,1-dichloro-		10	5	4J			
1,2-trans-dichloroethene		u	u	trace			
chloroform				u			
ethane, 1,2-dichloro-							
ethane, 1,1,1-trichloro-							
carbontetrachloride							
bromodichloromethane							
propane, 1,2-dichloro-							
1,3-trans-dichloropropene			↓	↓			
trichloroethylene			trace	trace			
chlorodibromomethane			u	u			
benzene			2J	3J			
ethane, 1,1,2-trichloro-	↓		u	u			
1,3-cis-dichloropropene	10 ppb						
2-chloroethyl vinyl ether	↓						
bromoform	5 ppb						
ethane, 1,1,2,2-tetrachloro-							
ethene, tetrachloro-		↓	↓	↓			
toluene		12	715	761			
chlorobenzene		u	u	u			
ethylbenzene	↓	↓	trace	4J			
acetone	10 ppb	158	1677	1924			
2-butanone	10	226	2586	2872			
carbondisulfide	5	u	u	u			
2-hexanone	10	↓	↓	↓			
4-methyl-2-pentanone	10	15	155	166			
styrene	5	u	u	u			
vinyl acetate	10	↓	↓	↓			
xylenes (total)	5 ↓	trace	5	12			
Methyl-t-butyl ether	10	u	trace	10J,K			
Diethyl ether	10	12	75	94			
Tetrahydrofuran	20	u	244	277			
	MDL↑						

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.
C - SUSPECT LAB CONTAMINATION.

N.C. Division of Health Services

DHS 3068-O (4/86 Laboratory)

GROUNDWATER MONITORING WELL DOCUMENTATION SHEET

-SPLIT SAMPLE

Date: 10-31-91 Site Name: ASHE Co LF Site Desc.: Munic / SANI (munic.-indus./sani.-demo) District:

Permit #: 05-01 County: ASHE Site Address: SR 1558 Site Contact:

Abbreviations: PVC = Polyvinylchloride; GS = Galvanized Steel; S = Steel; SS = Stainless Steel

Well	Type of Casing		Size of Casing		Depth from Top of Outer Casing		Feet of Standing Water	Stickup Height		Comments
	inner	outer	inner	outer	to Bottom	to Water		inner	outer	
MW 5	PVC	GS	2"	4" square	(34.10) 35.00	(22.10) 22.09	12.91	12"	12 gal purged	- cracked pad - new well -6.3 gal to be purged -locked -OK - GRAY SEDIMENT - CLEANED DURING PURGING
MW 6	PVC	GS	2"	4" square	(69.8) 71.[illegible]	(26.[illegible]0) 24.8[illegible]	46.13	17"	23 gal purged	-22 gal to be purged - new well -Locked -OK -GRAY SEDIMENT
MW 7	no inner	GS	[illegible]"	6"	~140'	24.58	116.42	20"		- drinking H_2O type well - not cased to rock -509 gal to be purged by pump -Locked -odor in H_2O - FOAMY -OLD WELL (Temp)
MW 8	PVC	no outer	4"	—	34.5 ~~90~~	10.39	24.11		[illegible]47	- To be pumped ±15 min ([illegible] gal) -OLD WELL
MW 4	PVC	GS	2"	4"	26.30	19.50	6.80	20"		OK -new well Below recent fill area
MW 1	PVC	GS	2"	4"	52.7	49.6	3.10	20"		- Well records show well as 60' deep w/ water level @ 52' - Appears to have large amt of sed. in bottom. - New well -OK
MW 2	PVC	GS	2"	4"	25.80	18.70 [illegible]"	7.10	16"		- Much sediment in bottom -Small pad -OK - new well below new cell
PIEZ 1					26'1"	22'10¾"		22"		
PIEZ 2					18'4¾"	13'8¼"		23"		~~[illegible]~~
[illegible]		1:30 2:17	-1:54 - 4:05							
MW 3	PVC	GS	2"	4"	72.2	64.9	7.30	16"		- OK - Upgradient - next to scale house -no pad or covered - New well
		SS								

Chemical & Environmental Technology, Inc.

ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

SEP 1992
RECEIVED
GAI, INC
CONSULTING ENGINEERS

September 8, 1992

MR. WENDELL PARKER
GAI CONSULTANTS OF NC, INC.
4000 BLUE RIDGE RD.
SUITE 500
RALEIGH, NC 27612

RE: ASHE COUNTY EA
92182.07

SAMPLE HISTORY

CLIENT ID	CET SAMPLE	DATE SAMPLED	DATE RECEIVED
MW-5	62580	8-13-92	8-14-92
MW-6	62581	8-13-92	8-14-92
MW-9	62582	8-13-92	8-14-92
MW-10	62583	8-13-92	8-14-92
MW-11	62584	8-13-92	8-14-92
MW-12	62585	8-13-92	8-14-92
MW-4	62586	8-13-92	8-14-92

CHEMICAL & ENVIRONMENTAL TECHNOLOGY, INC

for TERRIE H. LITZENBERGER
LABORATORY DIRECTOR

8-28-92RE

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-5**
CET SAMPLE: **62580**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	100.0	BDL
BENZENE	5.0	BDL
BROMODICHLOROMETHANE	5.0	BDL
BROMOFORM	5.0	BDL
BROMOMETHANE	10.0	BDL
CARBON TETRACHLORIDE	5.0	BDL
2-BUTANONE	100.0	BDL
CARBON DISULFIDE	5.0	BDL
CHLOROBENZENE	5.0	BDL
CHLOROETHANE	10.0	BDL
2-CHLOROETHYL VINYL ETHER	10.0	BDL
CHLOROFORM	5.0	BDL
CHLOROMETHANE	10.0	BDL
DIBROMOCHLOROMETHANE	5.0	BDL
1,2-DICHLOROBENZENE	5.0	BDL
1,3-DICHLOROBENZENE	5.0	BDL
1,4-DICHLOROBENZENE	5.0	BDL
1,1-DICHLOROETHANE	5.0	BDL
1,2-DICHLOROETHANE	5.0	BDL
1,1-DICHLOROETHENE	5.0	BDL
CIS 1,2-DICHLOROETHENE	5.0	BDL
TRANS-1,2-DICHLOROETHENE	5.0	BDL
1,2-DICHLOROPROPANE	5.0	BDL
CIS-1,3-DICHLOROPROPENE	5.0	BDL
TRANS-1,3-DICHLOROPROPENE	5.0	BDL
ETHYL BENZENE	5.0	BDL
2-HEXANONE	50.0	BDL
METHYLENE CHLORIDE	5.0	BDL
4-METHYL-2-PENTANONE	50.0	BDL
STYRENE	5.0	BDL

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

METHOD 8240 (CONT.)
CLIENT ID: **MW-5**
CET SAMPLE: **62580**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	5.0	BDL
TETRACHLOROETHENE	5.0	BDL
TOLUENE	5.0	BDL
1,1,1-TRICHLOROETHANE	5.0	BDL
1,1,2-TRICHLOROETHANE	5.0	BDL
TRICHLOROETHENE	5.0	BDL
TRICHLOROFLUOROMETHANE	5.0	BDL
VINYL ACETATE	50.0	BDL
VINYL CHLORIDE	10.0	BDL
XYLENES	5.0	BDL

INTERNAL STANDARD RECOVERY

FLUOROBENZENE	109%
1-CHLORO,2-BROMO PROPANE	78.1%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92KE

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-6**
CET SAMPLE: **62581**
DILUTION FACTOR: **10**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	1000	BDL
BENZENE	50	BDL
BROMODICHLOROMETHANE	50	BDL
BROMOFORM	50	BDL
BROMOMETHANE	100	BDL
CARBON TETRACHLORIDE	50	BDL
2-BUTANONE	1000	BDL
CARBON DISULFIDE	50	BDL
CHLOROBENZENE	50	BDL
CHLOROETHANE	100	BDL
2-CHLOROETHYL VINYL ETHER	100	BDL
CHLOROFORM	50	BDL
CHLOROMETHANE	100	BDL
DIBROMOCHLOROMETHANE	50	BDL
1,2-DICHLOROBENZENE	50	BDL
1,3-DICHLOROBENZENE	50	BDL
1,4-DICHLOROBENZENE	50	BDL
1,1-DICHLOROETHANE	50	BDL
1,2-DICHLOROETHANE	50	BDL
1,1-DICHLOROETHENE	50	BDL
CIS 1,2-DICHLOROETHENE	50	BDL
TRANS-1,2-DICHLOROETHENE	50	BDL
1,2-DICHLOROPROPANE	50	BDL
CIS-1,3-DICHLOROPROPENE	50	BDL
TRANS-1,3-DICHLOROPROPENE	50	BDL
ETHYL BENZENE	50	BDL
2-HEXANONE	500	BDL
METHYLENE CHLORIDE	50	BDL
4-METHYL-2-PENTANONE	500	BDL
STYRENE	50	BDL

METHOD 8240 (CONT.)
CLIENT ID: **MW-6**
CET SAMPLE: **62581**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	50	BDL
TETRACHLOROETHENE	50	BDL
TOLUENE	50	6960
1,1,1-TRICHLOROETHANE	50	BDL
1,1,2-TRICHLOROETHANE	50	BDL
TRICHLOROETHENE	50	BDL
TRICHLOROFLUOROMETHANE	50	BDL
VINYL ACETATE	500	BDL
VINYL CHLORIDE	100	BDL
XYLENES	50	BDL

INTERNAL STANDARD RECOVERY	
FLUOROBENZENE	106%
1-CHLORO,2-BROMO PROPANE	74.9%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92RE

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-9**
CET SAMPLE: **62582**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	100.0	BDL
BENZENE	5.0	BDL
BROMODICHLOROMETHANE	5.0	BDL
BROMOFORM	5.0	BDL
BROMOMETHANE	10.0	BDL
CARBON TETRACHLORIDE	5.0	BDL
2-BUTANONE	100.0	BDL
CARBON DISULFIDE	5.0	BDL
CHLOROBENZENE	5.0	BDL
CHLOROETHANE	10.0	BDL
2-CHLOROETHYL VINYL ETHER	10.0	BDL
CHLOROFORM	5.0	BDL
CHLOROMETHANE	10.0	BDL
DIBROMOCHLOROMETHANE	5.0	BDL
1,2-DICHLOROBENZENE	5.0	BDL
1,3-DICHLOROBENZENE	5.0	BDL
1,4-DICHLOROBENZENE	5.0	BDL
1,1-DICHLOROETHANE	5.0	BDL
1,2-DICHLOROETHANE	5.0	BDL
1,1-DICHLOROETHENE	5.0	BDL
CIS 1,2-DICHLOROETHENE	5.0	BDL
TRANS-1,2-DICHLOROETHENE	5.0	BDL
1,2-DICHLOROPROPANE	5.0	BDL
CIS-1,3-DICHLOROPROPENE	5.0	BDL
TRANS-1,3-DICHLOROPROPENE	5.0	BDL
ETHYL BENZENE	5.0	BDL
2-HEXANONE	50.0	BDL
METHYLENE CHLORIDE	5.0	BDL
4-METHYL-2-PENTANONE	50.0	BDL
STYRENE	5.0	BDL

GAL CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

METHOD 8240 (CONT.)
CLIENT ID: **MW-9**
CET SAMPLE: **62582**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	5.0	BDL
TETRACHLOROETHENE	5.0	BDL
TOLUENE	5.0	BDL
1,1,1-TRICHLOROETHANE	5.0	BDL
1,1,2-TRICHLOROETHANE	5.0	BDL
TRICHLOROETHENE	5.0	BDL
TRICHLOROFLUOROMETHANE	5.0	BDL
VINYL ACETATE	50.0	BDL
VINYL CHLORIDE	10.0	BDL
XYLENES	5.0	BDL

INTERNAL STANDARD RECOVERY

FLUOROBENZENE	114%
1-CHLORO,2-BROMO PROPANE	81.1%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92RE

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-10**
CET SAMPLE: **62583**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	100.0	BDL
BENZENE	5.0	BDL
BROMODICHLOROMETHANE	5.0	BDL
BROMOFORM	5.0	BDL
BROMOMETHANE	10.0	BDL
CARBON TETRACHLORIDE	5.0	BDL
2-BUTANONE	100.0	BDL
CARBON DISULFIDE	5.0	BDL
CHLOROBENZENE	5.0	BDL
CHLOROETHANE	10.0	BDL
2-CHLOROETHYL VINYL ETHER	10.0	BDL
CHLOROFORM	5.0	BDL
CHLOROMETHANE	10.0	BDL
DIBROMOCHLOROMETHANE	5.0	BDL
1,2-DICHLOROBENZENE	5.0	BDL
1,3-DICHLOROBENZENE	5.0	BDL
1,4-DICHLOROBENZENE	5.0	BDL
1,1-DICHLOROETHANE	5.0	BDL
1,2-DICHLOROETHANE	5.0	BDL
1,1-DICHLOROETHENE	5.0	BDL
CIS 1,2-DICHLOROETHENE	5.0	BDL
TRANS-1,2-DICHLOROETHENE	5.0	BDL
1,2-DICHLOROPROPANE	5.0	BDL
CIS-1,3-DICHLOROPROPENE	5.0	BDL
TRANS-1,3-DICHLOROPROPENE	5.0	BDL
ETHYL BENZENE	5.0	BDL
2-HEXANONE	50.0	BDL
METHYLENE CHLORIDE	5.0	BDL
4-METHYL-2-PENTANONE	50.0	BDL
STYRENE	5.0	BDL

METHOD 8240 (CONT.)
CLIENT ID: **MW-10**
CET SAMPLE: **62583**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	5.0	BDL
TETRACHLOROETHENE	5.0	BDL
TOLUENE	5.0	BDL
1,1,1-TRICHLOROETHANE	5.0	BDL
1,1,2-TRICHLOROETHANE	5.0	BDL
TRICHLOROETHENE	5.0	BDL
TRICHLOROFLUOROMETHANE	5.0	BDL
VINYL ACETATE	50.0	BDL
VINYL CHLORIDE	10.0	BDL
XYLENES	5.0	BDL

INTERNAL STANDARD RECOVERY	
FLUOROBENZENE	112%
1-CHLORO,2-BROMO PROPANE	83.8%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92RE

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-11**
CET SAMPLE: **62584**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	100.0	BDL
BENZENE	5.0	BDL
BROMODICHLOROMETHANE	5.0	BDL
BROMOFORM	5.0	BDL
BROMOMETHANE	10.0	BDL
CARBON TETRACHLORIDE	5.0	BDL
2-BUTANONE	100.0	BDL
CARBON DISULFIDE	5.0	BDL
CHLOROBENZENE	5.0	BDL
CHLOROETHANE	10.0	BDL
2-CHLOROETHYL VINYL ETHER	10.0	BDL
CHLOROFORM	5.0	BDL
CHLOROMETHANE	10.0	BDL
DIBROMOCHLOROMETHANE	5.0	BDL
1,2-DICHLOROBENZENE	5.0	BDL
1,3-DICHLOROBENZENE	5.0	BDL
1,4-DICHLOROBENZENE	5.0	BDL
1,1-DICHLOROETHANE	5.0	BDL
1,2-DICHLOROETHANE	5.0	BDL
1,1-DICHLOROETHENE	5.0	BDL
CIS 1,2-DICHLOROETHENE	5.0	BDL
TRANS-1,2-DICHLOROETHENE	5.0	BDL
1,2-DICHLOROPROPANE	5.0	BDL
CIS-1,3-DICHLOROPROPENE	5.0	BDL
TRANS-1,3-DICHLOROPROPENE	5.0	BDL
ETHYL BENZENE	5.0	BDL
2-HEXANONE	50.0	BDL
METHYLENE CHLORIDE	5.0	BDL
4-METHYL-2-PENTANONE	50.0	BDL
STYRENE	5.0	BDL

METHOD 8240 (CONT.)
CLIENT ID: **MW-11**
CET SAMPLE: **62584**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	5.0	BDL
TETRACHLOROETHENE	5.0	BDL
TOLUENE	5.0	BDL
1,1,1-TRICHLOROETHANE	5.0	BDL
1,1,2-TRICHLOROETHANE	5.0	BDL
TRICHLOROETHENE	5.0	BDL
TRICHLOROFLUOROMETHANE	5.0	BDL
VINYL ACETATE	50.0	BDL
VINYL CHLORIDE	10.0	BDL
XYLENES	5.0	BDL

INTERNAL STANDARD RECOVERY

FLUOROBENZENE	116%
1-CHLORO,2-BROMO PROPANE	92.3%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92RE

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-12**
CET SAMPLE: **62585**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	100.0	BDL
BENZENE	5.0	BDL
BROMODICHLOROMETHANE	5.0	BDL
BROMOFORM	5.0	BDL
BROMOMETHANE	10.0	BDL
CARBON TETRACHLORIDE	5.0	BDL
2-BUTANONE	100.0	BDL
CARBON DISULFIDE	5.0	BDL
CHLOROBENZENE	5.0	BDL
CHLOROETHANE	10.0	BDL
2-CHLOROETHYL VINYL ETHER	10.0	BDL
CHLOROFORM	5.0	BDL
CHLOROMETHANE	10.0	BDL
DIBROMOCHLOROMETHANE	5.0	BDL
1,2-DICHLOROBENZENE	5.0	BDL
1,3-DICHLOROBENZENE	5.0	BDL
1,4-DICHLOROBENZENE	5.0	BDL
1,1-DICHLOROETHANE	5.0	BDL
1,2-DICHLOROETHANE	5.0	BDL
1,1-DICHLOROETHENE	5.0	BDL
CIS 1,2-DICHLOROETHENE	5.0	BDL
TRANS-1,2-DICHLOROETHENE	5.0	BDL
1,2-DICHLOROPROPANE	5.0	BDL
CIS-1,3-DICHLOROPROPENE	5.0	BDL
TRANS-1,3-DICHLOROPROPENE	5.0	BDL
ETHYL BENZENE	5.0	BDL
2-HEXANONE	50.0	BDL
METHYLENE CHLORIDE	5.0	BDL
4-METHYL-2-PENTANONE	50.0	BDL
STYRENE	5.0	BDL

METHOD 8240 (CONT.)
CLIENT ID: **MW-12**
CET SAMPLE: **62585**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	5.0	BDL
TETRACHLOROETHENE	5.0	BDL
TOLUENE	5.0	BDL
1,1,1-TRICHLOROETHANE	5.0	BDL
1,1,2-TRICHLOROETHANE	5.0	BDL
TRICHLOROETHENE	5.0	BDL
TRICHLOROFLUOROMETHANE	5.0	BDL
VINYL ACETATE	50.0	BDL
VINYL CHLORIDE	10.0	BDL
XYLENES	5.0	BDL

INTERNAL STANDARD RECOVERY	
FLUOROBENZENE	115%
1-CHLORO,2-BROMO PROPANE	92.2%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92RE

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

PURGEABLE HALOCARBONS
METHOD 8240
DATE ANALYZED: **8-20-92**
CLIENT ID: **MW-4**
CET SAMPLE: **62586**
DILUTION FACTOR: **10**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
ACETONE	1000	BDL
BENZENE	50	BDL
BROMODICHLOROMETHANE	50	BDL
BROMOFORM	50	BDL
BROMOMETHANE	100	BDL
CARBON TETRACHLORIDE	50	BDL
2-BUTANONE	1000	BDL
CARBON DISULFIDE	50	BDL
CHLOROBENZENE	50	BDL
CHLOROETHANE	100	BDL
2-CHLOROETHYL VINYL ETHER	100	BDL
CHLOROFORM	50	BDL
CHLOROMETHANE	100	BDL
DIBROMOCHLOROMETHANE	50	BDL
1,2-DICHLOROBENZENE	50	BDL
1,3-DICHLOROBENZENE	50	BDL
1,4-DICHLOROBENZENE	50	BDL
1,1-DICHLOROETHANE	50	BDL
1,2-DICHLOROETHANE	50	BDL
1,1-DICHLOROETHENE	50	BDL
CIS 1,2-DICHLOROETHENE	50	BDL
TRANS-1,2-DICHLOROETHENE	50	BDL
1,2-DICHLOROPROPANE	50	BDL
CIS-1,3-DICHLOROPROPENE	50	BDL
TRANS-1,3-DICHLOROPROPENE	50	BDL
ETHYL BENZENE	50	BDL
2-HEXANONE	500	BDL
METHYLENE CHLORIDE	50	345
4-METHYL-2-PENTANONE	500	BDL
STYRENE	50	BDL

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

METHOD 8240 (CONT.)
CLIENT ID: **MW-4**
CET SAMPLE: **62586**

PARAMETER	DETECTION LIMIT (ug/l)	RESULTS (ug/l)
1,1,2,2-TETRACHLOROETHANE	50	BDL
TETRACHLOROETHENE	50	35.6
TOLUENE	50	BDL
1,1,1-TRICHLOROETHANE	50	108
1,1,2-TRICHLOROETHANE	50	BDL
TRICHLOROETHENE	50	BDL
TRICHLOROFLUOROMETHANE	50	BDL
VINYL ACETATE	500	BDL
VINYL CHLORIDE	100	BDL
XYLENES	50	BDL

INTERNAL STANDARD RECOVERY

FLUOROBENZENE	114%
1-CHLORO,2-BROMO PROPANE	87.9%

BDL - BELOW DETECTION LIMIT.

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

IF A DILUTION IS NEEDED TO DETERMINE THE ANALYTES, THE DETECTION LIMIT HAS BEEN INCREASED BY THAT DILUTION FACTOR.

REPORTED BY A. Link Thrower
LINK THROWER

8-28-92RE

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

BASE NEUTRAL/ACIDS
METHOD 8270
DATE ANALYZED: **9-01-92**
CLIENT ID: **MW-4**
CET SAMPLE: **62586**

BASE NEUTRAL

PARAMETER	DETECTION LIMIT (ug/L)	RESULTS (ug/L)
ACENAPHTHENE	10	BDL
ACENAPHTHYLENE	10	BDL
ANTRACENE	10	BDL
BENZO(A)ANTHRACENE	10	BDL
BENZO(B)FLUORANTHENE	10	BDL
BENZO(K)FLUORANTHENE	10	BDL
BENZO(GHI)PERYLENE	10	BDL
BENZO(A)PYRENE	10	BDL
BENZOIC ACID	50	BDL
BENZYL ALCOHOL	20	BDL
BIS(2-CHLOROETHYL)ETHER	10	BDL
BIS(2-CHLOROETHOXY)METHANE	10	BDL
BIS(2-ETHYLHEXYL)PHTHALATE	10	BDL
BIS(2-CHLOROISOPROPYL)ETHER	10	BDL
4-BROMOPHENYL PHENYL ETHER	10	BDL
BUTYL BENZYL PHTHALATE	10	BDL
4-CHLOROANILINE	20	BDL
2-CHLORONAPHTHALENE	10	BDL
4-CHLOROPHENYL PHENYL ETHER	10	BDL
CHRYSENE	10	BDL
DIBENZO(A,H)ANTHRACENE	10	BDL
DIBENZOFURAN	10	BDL
DI-N-BUTYLPHTHALATE	10	BDL
1,2-DICHLOROBENZENE	10	BDL
1,3-DICHLOROBENZENE	10	BDL
1,4-DICHLOROBENZENE	10	BDL
3,3'-DICHLOROBENZIDINE	20	BDL
DIETHYLPHTHALATE	10	BDL
DIMETHYL PHTHALATE	10	BDL
2,4-DINITROTOLUENE	10	BDL
2,6-DINITROTOLUENE	10	BDL
DI-N-OCTYLPHTHALATE	10	BDL
FLUORANTHENE	10	BDL
FLUORENE	10	BDL
HEXACHLOROBENZENE	10	BDL
HEXACHLOROBUTADIENE	10	BDL
HEXACHLOROETHANE	10	BDL
HEXACHLOROCYCLOPENTADIENE	10	BDL
IDENO(1,2,3-CD)PYRENE	10	BDL
ISOPHORONE	10	BDL
DIAZINON	10	BDL

GAI CONSULTANTS
ASHE COUNTY EA # 92182.07
62580-86
SEPTEMBER 8, 1992

BASE NEUTRAL/ACIDS
METHOD 8270
CLIENT ID: **MW-4**
CET SAMPLE: **62586**

PARAMETER	DETECTION LIMIT (ug/L)	RESULTS (ug/L)
2-METHYLNAPHTHALENE	10	BDL
NAPHTHALENE	10	BDL
2-NITROANILINE	50	BDL
3-NITROANILINE	50	BDL
4-NITROANILINE	50	BDL
NITROBENZENE	10	BDL
N-NITROSODI-N-PROPYLAMINE	10	BDL
N-NITROSODIPHENYLAMINE	10	BDL
PHENANTHRENE	10	BDL
PYRENE	10	BDL
1,2,4-TRICHLOROBENZENE	10	BDL
ACIDS		
2-METHYLPHENOL	10	BDL
4-METHYLPHENOL	10	BDL
4-CHLORO-3-METHYLPHENOL	20	BDL
2-CHLOROPHENOL	10	BDL
2,4-DICHLOROPHENOL	10	BDL
2,4-DIMETHYLPHENOL	10	BDL
2,4-DINITROPHENOL	50	BDL
4,6-DINITRO-2-METHYLPHENOL	50	BDL
2-NITROPHENOL	10	BDL
4-NITROPHENOL	50	BDL
PENTACHLOROPHENOL	50	BDL
PHENOL	10	BDL
2,4,5-TRICHLOROPHENOL	10	BDL
2,4,6-TRICHLOROPHENOL	10	BDL

BDL - BELOW DETECTION LIMIT

"TEST METHODS FOR EVALUATING SOLID WASTES", SW-846, VOLUME 3, SEPTEMBER, 1986

J - Indicates an estimated value. This flag is used when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit.

REPORTED BY: A. Link Thrower
LINK THROWER

8-28-92RE

GAI CONSULT TS, INC.
Chain of Custody Record

Proj. No.	Project Name
92182.07	Ashe County EA

Samplers: (Signature) Gary Jankowski

	Sta. No.	Date	Time	Comp.	Grab	Station Location	No. of containers	8240	8270				Remarks
62586	MW4	8/13	8:30am		X		4	X	X				Two 40ml; Two 1000ml
62580	MW5	8/13	9:00am		X		2	X					Two 40ml
62581	MW6	8/13	9:15am		X		2	X					Two 40ml
62582	MW9	8/13	1:00pm		X		2	X					Two 40ml
62583	MW10	8/13	12:35		X		2	X					Two 40ml
62584	MW11	8/13	11:15		X		2	X					Two 40ml
62585	MW12	8/13	12:00		X		2	X					Two 40ml

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gary Jankowski	8/14 7:45				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	
		[illegible]	8/14/92 7:45	RCVD ON ICE	

DATE	#	Depth (from surface)
8-12-92	MW10	5.1'
8-12-92	MW5	20.7'
8-12-92	MW6	23.4'
8-12-92	MW4	17.4'
8-13-92	MW4	17.4'
8-13-92	MW5	20.7'
8-13-92	MW6	23.4'
8-13-92	MW 11	3.0'
8-13-92	MW 12	5.8'
8-13-92	MW 10	5.6'
8-13-92	MW 9	6.9'

Chemical & Environmental Technology, Inc.

ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

REPORT OF ANALYSES

GAI CONSULTANTS OF NC, INC.
4000 BLUE RIDGE RD.
SUITE 500
RALEIGH, NC 27612-
Attn: GARY JANSHEGO

PROJECT NAME: ASHE COUNTY
DATE: 01/19/93

ASHE COUNTY # 92182.07

SAMPLE NUMBER- 66419 SAMPLE ID- MW2
DATE SAMPLED- 12/16/92 TIME SAMPLED- 1045 SAMPLER- G.JANSHEGO
DATE RECEIVED- 12/16/92 TIME RECEIVED- 1600
DELIVERED BY- GARY JANSHEGO RECEIVED BY- ALT

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
TOTAL ORGANIC CARBON	EPA 415.2			01/04/93		JBR	6.7	mg/l
CHLORIDE	EPA 325.3			01/12/93	1100	MSP	1	mg/l
BIOCHEM.OXY.DEMAND	EPA 405.1			12/17/92	1615	JTC	6	mg/l
CHEM.OXY.DEMAND	EPA 410.4			12/29/92	0800	JTC	37	mg/l
FLUORIDE	EPA340.2			01/06/93	1330	JTC	0.1	mg/l
NITRATE	EPA354.1			12/29/92	1300	JTC	<0.1	mg/l
TOTAL DISS.SOLIDS	EPA160.1			12/17/92	1200	JTC	49	mg/l
SPEC.CONDUCTIVITY	EPA120.1			12/31/92	1330	JTC	70	umhos
SULFATE	EPA375.3			12/30/92	1100	JTC	7	mg/l
TOTAL ORGANIC HALIDES	9020			12/28/92		AQE	< 5.0	ug/l
ARSENIC,TOTAL	206.2	12/18/92	SDL	12/21/92		JMM	<0.005	mg/l
BARIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	6.44	mg/l
CADMIUM,TOTAL	213.2	12/18/92	SDL	01/08/93		JMM	0.0010	mg/L
CHROMIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l
COPPER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.012	mg/l
IRON,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	2.08	mg/l
LEAD,TOTAL	239.2	12/18/92	SDL	01/04/93		JMM	0.002	mg/l
MANGANESE,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	1.18	mg/l
MERCURY,TOTAL	245.1	12/21/92	SDL	12/30/92		SDL	<0.0002	mg/l
SELENIUM,TOTAL	270.2	12/18/92	SDL	01/07/93		JMM	<0.005	mg/l
SILVER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l

Chemical & Environmental Technology, Inc.

ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66419 MW-2

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.055	mg/l

ANALYSES PER FEDERAL REGISTER, VOL. 56, NO. 195, 40 CFR, PART 136.3, OCT. 1991. TOX PER SW-846, THIRD EDITION, NOVEMBER, 1986.

LABORATORY DIRECTOR Irvin Lotzenberger

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JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

REPORT OF ANALYSES

GAI CONSULTANTS OF NC, INC.
4000 BLUE RIDGE RD.
SUITE 500
RALEIGH, NC 27612-
Attn: GARY JANSHEGO

PROJECT NAME: ASHE COUNTY
DATE: 01/19/93

ASHE COUNTY # 92182.07

SAMPLE NUMBER- 66420 SAMPLE ID- MW13
DATE SAMPLED- 12/16/92 TIME SAMPLED- 1045 SAMPLER- G.JANSHEGO
DATE RECEIVED- 12/16/92 TIME RECEIVED- 1600
DELIVERED BY- GARY JANSHEGO RECEIVED BY- ALT

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
TOTAL ORGANIC CARBON	EPA 415.2			01/04/93		JBR	4.1	mg/l
CHLORIDE	EPA 325.3			01/12/93	1100	MSP	2	mg/l
BIOCHEM.OXY.DEMAND	EPA 405.1			12/17/92	1615	JTC	55	mg/l
CHEM.OXY.DEMAND	EPA 410.4			12/29/92	0800	JTC	42	mg/l
FLUORIDE	EPA340.2			01/06/93	1330	JTC	<0.1	mg/l
NITRATE	EPA354.1			12/29/92	1300	JTC	0.1	mg/l
TOTAL DISS.SOLIDS	EPA160.1			12/17/92	1200	JTC	50	mg/l
SPEC.CONDUCTIVITY	EPA120.1			12/31/92	1330	JTC	28	umhos
SULFATE	EPA375.3			12/30/92	1100	JTC	4	mg/l
TOTAL ORGANIC HALIDES	9020			12/28/92		AQE	11.0	ug/l
ARSENIC,TOTAL	206.2	12/18/92	SDL	12/21/92		JMM	<0.005	mg/l
BARIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.866	mg/l
CADMIUM,TOTAL	213.2	12/18/92	SDL	01/08/93		JMM	0.0010	mg/L
CHROMIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l
COPPER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.043	mg/l
IRON,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	1.40	mg/l
LEAD,TOTAL	239.2	12/18/92	SDL	01/04/93		JMM	0.006	mg/l
MANGANESE,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	1.91	mg/l
MERCURY,TOTAL	245.1	12/21/92	SDL	12/30/92		SDL	<0.0002	mg/l
SELENIUM,TOTAL	270.2	12/18/92	SDL	01/07/93		JMM	<0.005	mg/l
SILVER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l

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JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66420 MW-13

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.030	mg/l

ANALYSES PER FEDERAL REGISTER, VOL. 56, NO. 195, 40 CFR, PART 136.3, OCT. 1991. TOX PER SW-846, THIRD EDITION, NOVEMBER, 1986.

LABORATORY DIRECTOR Terri Ritzenberger

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JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

REPORT OF ANALYSES

GAI CONSULTANTS OF NC, INC.
4000 BLUE RIDGE RD.
SUITE 500
RALEIGH, NC 27612-
Attn: GARY JANSHEGO

PROJECT NAME: ASHE COUNTY
DATE: 01/19/93

ASHE COUNTY # 92182.07

SAMPLE NUMBER- 66421 SAMPLE ID- MW14
DATE SAMPLED- 12/16/92 TIME SAMPLED- 1000 SAMPLER- G.JANSHEGO
DATE RECEIVED- 12/16/92 TIME RECEIVED- 1600
DELIVERED BY- GARY JANSHEGO RECEIVED BY- ALT

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
TOTAL ORGANIC CARBON	EPA 415.2			01/04/93		JBR	37.3	mg/l
CHLORIDE	EPA 325.3			01/12/93	1100	MSP	25	mg/l
BIOCHEM.OXY.DEMAND	EPA 405.1			12/17/92	1615	JTC	57	mg/l
CHEM.OXY.DEMAND	EPA 410.4			12/29/92	0800	JTC	189	mg/l
FLUORIDE	EPA340.2			01/06/93	1330	JTC	0.2	mg/l
NITRATE	EPA354.1			12/29/92	1300	JTC	<0.1	mg/l
TOTAL DISS.SOLIDS	EPA160.1			12/17/92	1200	JTC	302	mg/l
SPEC.CONDUCTIVITY	EPA120.1			12/31/92	1330	JTC	350	umhos
SULFATE	EPA375.3			12/30/92	1100	JTC	21	mg/l
TOTAL ORGANIC HALIDES	9020			12/28/92		AQE	12.0	ug/l
ARSENIC,TOTAL	206.2	12/18/92	SDL	12/21/92		JMM	<0.005	mg/l
BARIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	11.8	mg/l
CADMIUM,TOTAL	213.2	12/18/92	SDL	01/08/93		JMM	0.0164	mg/L
CHROMIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.013	mg/l
COPPER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.103	mg/l
IRON,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	24.3	mg/l
LEAD,TOTAL	239.2	12/18/92	SDL	01/04/93		JMM	0.027	mg/l
MANGANESE,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	5.17	mg/l
MERCURY,TOTAL	245.1	12/21/92	SDL	12/30/92		SDL	<0.0002	mg/l
SELENIUM,TOTAL	270.2	12/18/92	SDL	01/07/93		JMM	<0.01	mg/l
SILVER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l

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ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66421 MW-14

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.218	mg/l

ANALYSES PER FEDERAL REGISTER, VOL. 56, NO. 195, 40 CFR, PART 136.3, OCT. 1991. TOX PER SW-846, THIRD EDITION, NOVEMBER, 1986.

LABORATORY DIRECTOR Terri Ritzenberger

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ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

REPORT OF ANALYSES

GAI CONSULTANTS OF NC, INC.
4000 BLUE RIDGE RD.
SUITE 500
RALEIGH, NC 27612-
Attn: GARY JANSHEGO

PROJECT NAME: ASHE COUNTY
DATE: 01/19/93

ASHE COUNTY # 92182.07

SAMPLE NUMBER- 66422 SAMPLE ID- MW15
DATE SAMPLED- 12/16/92 TIME SAMPLED- 0915 SAMPLER- G.JANSHEGO
DATE RECEIVED- 12/16/92 TIME RECEIVED- 1600
DELIVERED BY- GARY JANSHEGO RECEIVED BY- ALT

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
TOTAL ORGANIC CARBON	EPA 415.2			01/04/93		JBR	4.0	mg/l
CHLORIDE	EPA 325.3			01/12/93	1100	MSP	1	mg/l
BIOCHEM.OXY.DEMAND	EPA 405.1			12/17/92	1615	JTC	12	mg/l
CHEM.OXY.DEMAND	EPA 410.4			12/29/92	0800	JTC	27	mg/l
FLUORIDE	EPA340.2			01/06/93	1330	JTC	0.1	mg/l
NITRATE	EPA354.1			12/29/92	1300	JTC	0.1	mg/l
TOTAL DISS.SOLIDS	EPA160.1			12/17/92	1200	JTC	58	mg/l
SPEC.CONDUCTIVITY	EPA120.1			12/31/92	1330	JTC	50	umhos
SULFATE	EPA375.3			12/30/92	1100	JTC	20	mg/l
TOTAL ORGANIC HALIDES	9020			12/28/92		AQE	17.0	ug/l
ARSENIC,TOTAL	206.2	12/18/92	SDL	12/21/92		JMM	<0.005	mg/l
BARIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	5.00	mg/l
CADMIUM,TOTAL	213.2	12/18/92	SDL	01/08/93		JMM	<0.0005	mg/L
CHROMIUM,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l
COPPER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.006	mg/l
IRON,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.98	mg/l
LEAD,TOTAL	239.2	12/18/92	SDL	01/04/93		JMM	0.003	mg/l
MANGANESE,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	1.62	mg/l
MERCURY,TOTAL	245.1	12/21/92	SDL	12/30/92		SDL	<0.0002	mg/l
SELENIUM,TOTAL	270.2	12/18/92	SDL	01/07/93		JMM	<0.005	mg/l
SILVER,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	<0.005	mg/l

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ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66422 MW-15

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC,TOTAL	200.7	12/18/92	SDL	12/22/92		JMM	0.025	mg/l

ANALYSES PER FEDERAL REGISTER, VOL. 56, NO. 195, 40 CFR, PART 136.3, OCT. 1991. TOX PER SW-846, THIRD EDITION, NOVEMBER, 1986.

LABORATORY DIRECTOR Irene Lotzenberger

Quality Environmental Services

REIC Laboratory

Research, Environmental & Industrial Consultants, Inc.

P. O. Box 286 • Beaver, West Virginia 25813 • 1-304-255-2500
1-800-999-0105
FAX 1-304-255-2572

**********ANALYSIS REPORT**********

JOB #: 0993-20563
SERVICES FOR: GAI Consultants, Inc.
DATE SAMPLED: 09-02-93
DATE SUBMITTED: 09-03-93
DATE ANALYZED: Metals - 09-09-93
Volatile Organic Compounds - 09-15-93
DATE COMPLETED: 09-20-93
METHOD OF ANALYSIS: As Noted Below
CUSTOMER JOB IDENTIFICATION: Ashe County Landfill

****

MEMBER: American Chemical Society • Association of Official Analytical Chemists • Petroleum Marketers Association
Rural Water Association • Mining and Reclamation Association

Chemical & Environmental Technology, Inc.

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JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

REPORT OF ANALYSES

GAI CONSULTANTS OF NC, INC.
4000 BLUE RIDGE RD.
SUITE 500
RALEIGH, NC 27612-
Attn: GARY JANSHEGO

PROJECT NAME: ASHE COUNTY
DATE: 01/19/93

ASHE COUNTY # 92182.07

SAMPLE NUMBER- 66418 SAMPLE ID- MW16
DATE SAMPLED- 12/16/92 TIME SAMPLED- 1130 SAMPLER- G.JANSHEGO
DATE RECEIVED- 12/16/92 TIME RECEIVED- 1600
DELIVERED BY- GARY JANSHEGO RECEIVED BY- ALT

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
PURGEABLE HALOCARBONS	8240			12/22/92		ALT		
ACETONE	8240			12/22/92		ALT	< 100.0	ug/l
BENZENE	8240			12/22/92		ALT	5.6	ug/l
BROMODICHLOROMETHANE	8240			12/22/92		ALT	< 5.0	ug/l
BROMOFORM	8240			12/22/92		ALT	< 5.0	ug/l
BROMOMETHANE	8240			12/22/92		ALT	< 10.0	ug/l
CARBON TETRACHLORIDE	8240			12/22/92		ALT	< 5.0	ug/l
2-BUTANONE	8240			12/22/92		ALT	309	ug/l
CARBON DISULFIDE	8240			12/22/92		ALT	< 5.0	ug/l
CHLOROBENZENE	8240			12/22/92		ALT	< 5.0	ug/l
CHLOROETHANE	8240			12/22/92		ALT	< 10.0	ug/l
2-CHLOROVINYL ETHER	8240			12/22/92		ALT	< 10.0	ug/l
CHLOROFORM	8240			12/22/92		ALT	< 5.0	ug/l
CHLOROMETHANE	8240			12/22/92		ALT	< 10.0	ug/l
DIBROMOCHLOROMETHANE	8240			12/22/92		ALT	< 5.0	ug/l
1,2-DICHLOROBENZENE	8240			12/22/92		ALT	< 5.0	ug/l
1,3-DICHLOROBENZENE	8240			12/22/92		ALT	< 5.0	ug/l
1,4-DICHLOROBENZENE	8240			12/22/92		ALT	5.3	ug/l
1,1-DICHLOROETHANE	8240			12/22/92		ALT	16.5	ug/l
1,2-DICHLOROETHANE	8240			12/22/92		ALT	< 5.0	ug/l
1,1-DICHLOROETHENE	8240			12/22/92		ALT	< 5.0	ug/l

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JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66418 MW-16

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
CIS 1,2-DICHLOROETHENE	8240			12/22/92		ALT	10.0	ug/l
TRANS-1,2-DICHLOROETHENE	8240			12/22/92		ALT	< 5.0	ug/l
1,2-DICHLOROPROPANE	8240			12/22/92		ALT	< 5.0	ug/l
CIS 1,3-DICHLOROPROPENE	8240			12/22/92		ALT	< 5.0	ug/l
TRANS-1,3-DICHLOROPROPENE	8240			12/22/92		ALT	< 5.0	ug/l
ETHYL BENZENE	8240			12/22/92		ALT	8.6	ug/l
2-HEXANONE	8240			12/22/92		ALT	< 50.0	ug/l
METHYLENE CHLORIDE	8240			12/22/92		ALT	< 5.0	ug/l
4-METHYL-2-PENTANONE	8240			12/22/92		ALT	241	ug/l
STYRENE	8240			12/22/92		ALT	< 5.0	ug/l
1,1,2-2-TETRACHLOROETHANE	8240			12/22/92		ALT	< 5.0	ug/l
TETRACHLOROETHENE	8240			12/22/92		ALT	< 5.0	ug/l
TOLUENE	8240			12/22/92		ALT	288	ug/l
1,1,1-TRICHLOROETHANE	8240			12/22/92		ALT	< 5.0	ug/l
1,1,2-TRICHLOROETHANE	8240			12/22/92		ALT	< 5.0	ug/l
TRICHLOROETHENE	8240			12/22/92		ALT	< 5.0	ug/l
TRICHLOROFLUOROMETHANE	8240			12/22/92		ALT	< 5.0	ug/l
VINYL ACETATE	8240			12/22/92		ALT	< 50.0	ug/l
VINYL CHLORIDE	8240			12/22/92		ALT	24.1	ug/l
XYLENES	8240			12/22/92		ALT	28.5	ug/l
SURROGATES:	8240			12/22/92		ALT	--------	
TOLUENE-D8	8240			12/22/92		ALT	94.2	PERCENT
BROMOFLUOROBENZENE	8240			12/22/92		ALT	107	PERCENT
BASE NEUTRAL/ACIDS IN WATER	8270	12/21/92	JBR	01/15/93		ALT		
BASE NEUTRAL	8270	12/21/92	JBR	01/15/93		ALT		
ACENAPHTHENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
ACENAPHTHYLENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
ANTHRACENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BENZO(A)ANTHRACENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BENZO(B)FLUORANTHENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BENZO(K)FLUORANTHENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l

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PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66418 MW-16

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
BENZO(GHI)PERYLENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BENZO(A)PYRENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BENZOIC ACID	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
BENZYL ALCOHOL	8270	12/21/92	JBR	01/15/93		ALT	< 20	ug/l
BIS(2-CHLOROETHYL)ETHER	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BIS(2-CHLOROETHOXY)METHANE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BIS(2-ETHYLHEXYL)PHTHALATE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BIS(2-CHLOROISOPROPYL)ETHER	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
4-BROMOPHENYL PHENYL ETHER	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
BUTYL BENZYL PHTHALATE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
4-CHLOROANILINE	8270	12/21/92	JBR	01/15/93		ALT	< 20	ug/l
2-CHLORONAPHTHALENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
4-CHLOROPHENYL PHENYL ETHER	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
CHRYSENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
DIBENZO(A,H)ANTHRACENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
DIBENZOFURAN	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
DI-N-BUTYLPHTHALATE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
1,2-DICHLOROBENZENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
1,3-DICHLOROBENZENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
1,4-DICHLOROBENZENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
3,3'-DICHLOROBENZIDINE	8270	12/21/92	JBR	01/15/93		ALT	< 20	ug/l
DIETHYLPHTHALATE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
DIMETHYL PHTHALATE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,4-DINITROTOLUENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,6-DINITROTOLUENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
DI-N-OCTYLPHTHALATE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
FLUORANTHENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
FLUORENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
HEXACHLOROBENZENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
HEXACHLOROBUTADIENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
HEXACHLOROETHANE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l

Chemical & Environmental Technology, Inc.

ENVIRONMENTAL LABORATORY AND CONSULTING SERVICES

JOHN M. OGLE
PRESIDENT

P. O. BOX 12298
RESEARCH TRIANGLE PARK, N. C. 27709
PHONE (919) 467-3090
FAX (919) 467-3515

CONTINUATION OF DATA FOR SAMPLE NUMBER 66418 MW-16

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
HEXACHLOROCYCLOPENTADIENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
IDENO(1,2,3-CD)PYRENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
ISOPHORONE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2-METHYLNAPHTHALENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
NAPHTHALENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2-NITROANILINE	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
3-NITROANILINE	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
4-NITROANILINE	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
NITROBENZENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
N-NITROSODI-N-PROPYLAMINE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
N-NITROSODIPHENYLAMINE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
PHENANTHRENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
PYRENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
1,2,4-TRICHLOROBENZENE	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
ACIDS	8270	12/21/92	JBR	01/15/93		ALT		
2-METHYLPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
4-METHYLPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
4-CHLORO-3-METHYLPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 20	ug/l
2-CHLOROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,4-DICHLOROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,4-DIMETHYLPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,4-DINITROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
4,6-DINITRO-2-METHYLPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
2-NITROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
4-NITROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
PENTACHLOROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 50	ug/l
PHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,4,5-TRICHLOROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l
2,4,6-TRICHLOROPHENOL	8270	12/21/92	JBR	01/15/93		ALT	< 10	ug/l

ANALYSES PER SW-846, THIRD EDITION, NOVEMBER, 1986.

LABORATORY DIRECTOR Jerri Litzenberger

Chemical & Environmental Technology, Inc.
[illegible]-A Woodwinds Industrial Ct.
[illegible]ary, NC 27511 (919) 467-3090

CHAIN OF CUSTODY RECORD

CLIENT NAME: EHI Consultants-NC, Inc.
ADDRESS: 4000 Six Forks Road Ste 550
RALEIGH, NC 27612
PHONE: (919) 783-4783

BILL TO: Same As Client
ADDRESS:

PURCHASE ORDER NO:

PROJECT NO: 12182.07
PROJECT NAME: Ashe County
COLLECTED BY: (Signature) Mary Sanchez

PRESERVED IN FIELD ☒
PRESERVED IN LAB ☐
RECEIVED ON ICE ☒

ANALYSES REQUIRED: 8210, 8240, Metals List (Attached)

C & ET NO.	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. CONTAINERS	8210	8240	Metals List				REMARKS	NONE	NaOH	H_2SO_4	HNO_3	HCl
	12-8-92	11:30		X	MW 16	3	X	X						1	—	—	—	1
	12-16-92	10:45		X	MW 2	6			X				Metals Parameter List given	2	—	3	1	—
													to TERRY by phone.					
	12-16-92	8:30		X	MW 13	6			X				"	2	—	3	1	—
													"					
	12-16-92	10:00		X	MW 14	6			X				"	2	—	3	1	—
													"					
	12-16-92	9:15		X	MW 15	6			X				"	2	—	3	1	—
													"					

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)
Mary Sanchez	12/16	4:00					

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY:	DATE	TIME	REMARKS:
			[illegible]	12/16	1:00	

Water Depths — Ashe Co.

FROM GROUND SURFACE

MW #	DATE 12-15	DATE 12-16	H_2O TEMP	pH
10:45 2	17'	17	57	7.1
8:30 13	5.5'	5.5'	47°	8.4
10:00 14	39.5'	45'	50°	8.0
9:15 15	4'	4.0	47°	8.3
11:30 16	17.5'	17.5	—	—

Quality Environmental Services

REIC Laboratory

Research, Environmental & Industrial Consultants, Inc.

P. O. Box 286 • Beaver, West Virginia 25813 • 1-304-255-2500
1-800-999-0105
FAX 1-304-255-2572

**********ANALYSIS REPORT**********

JOB #: 0893-19946
SERVICES FOR: GAI Consultants
DATE SAMPLED: 08-03-93 through 08-05-93
DATE SUBMITTED: 08-05-93
DATE ANALYZED: METALS - 08-18-93
TOX - 08-06-93 and 08-09-93
TOC - 08-06-93 and 08-10-93
COD - 08-10-93
TDS - 08-06-93 and 08-11-93
BOD - 08-05-93 and 08-06-93
FLUORIDE - 08-11-93
CHLORIDE - 08-06-93
NITRATE - 08-06-93
SULFATE - 08-06-93
CONDUCTIVITY - 08-11-93
DATE COMPLETED: 09-03-93
METHOD OF ANALYSIS: As Noted Below
CUSTOMER JOB IDENTIFICATION: Ashe Co. landfill
CUSTODY #'s: 16184, 16185, 16186, and 16190

****

REIC SAMPLE #	19946-1			
GAI SAMPLE #	MW #14	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
barium	12.9	200.7	0.10	IL
GENERAL CHEMISTRY				
TOC	5.3	9060	1.0	KC

REIC SAMPLE #	19946-2			
GAI SAMPLE #	MW #1	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
barium	3.94	200.7	0.10	IL

REIC SAMPLE #	19946-3			
GAI SAMPLE #	MW #2	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
barium	17.7	200.7	0.10	IL

REIC SAMPLE #	19946-4			
GAI SAMPLE #	MW #13	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
barium	0.49	200.7	0.10	IL

REIC SAMPLE #	19946-5			
GAI SAMPLE #	MW #15	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
barium	10.7	200.7	0.10	IL

REIC SAMPLE #	19946-6			
GAI SAMPLE #	Stream #1	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	0.14	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	ND	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	9.27	200.7	0.10	IL
lead	ND	239.2	0.010	KP
manganese	3.69	200.7	0.05	IL
mercury	ND	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	ND	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	ND	5210 B	2	CD
COD	30	410.4	10	CW
TDS	138	2540 C	1	DB
TOC	14.0	9060	1.0	KC
Chloride	21.5	300	2.5	JL
Fluoride	223	4500-FC	0.01	MM
Nitrate	0.44	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	363	2510 B	1	DB

REIC SAMPLE #	19946-7			
GAI SAMPLE #	Stream #2	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	ND	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	0.008	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	0.52	200.7	0.10	IL
lead	ND	239.2	0.010	KP
manganese	0.52	200.7	0.05	IL
mercury	ND	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	ND	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	3	5210 B	2	CD
COD	19	410.4	10	CW
TDS	38	2540 C	1	DB
TOC	4.7	9060	1.0	KC
Chloride	7.3	300	2.5	JL
Fluoride	0.10	4500-FC	0.01	MM
Nitrate	4.23	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	123	2510 B	1	DB

REIC SAMPLE #	19946-8			
GAI SAMPLE #	MW #3	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	1.51	200.7	0.10	IL
cadmium	0.040	213.2	0.001	KP
chromium	0.120	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	58.9	200.7	0.10	IL
lead	0.057	239.2	0.010	KP
manganese	10.5	200.7	0.05	IL
mercury	ND	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.80	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	4	5210 B	2	CD
COD	13	410.4	10	CW
TDS	410	2540 C	1	DB
TOC	6.3	9060	1.0	KC
Chloride	2.9	300	2.5	JL
Fluoride	0.05	4500-FC	0.01	MM
Nitrate	ND	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	415	2510 B	1	DB

REIC SAMPLE #	19946-9			
GAI SAMPLE #	MW #4	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	0.67	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	0.038	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	16.5	200.7	0.10	IL
lead	0.014	239.2	0.010	KP
manganese	0.43	200.7	0.05	IL
mercury	ND	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.03	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	2	5210 B	2	CD
COD	20	410.4	10	CW
TDS	246	2540 C	1	DB
TOC	41.7	9060	1.0	KC
Chloride	24.2	300	2.5	JL
Fluoride	0.04	4500-FC	0.01	MM
Nitrate	1.29	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	257	9020	20.0	KC
Conductivity	256	2510 B	1	DB

REIC SAMPLE #	19946-10			
GAI SAMPLE #	MW #5	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	2.74	200.7	0.10	IL
cadmium	0.003	213.2	0.001	KP
chromium	0.089	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	87.0	200.7	0.10	IL
lead	0.021	239.2	0.010	KP
manganese	12.5	200.7	0.05	IL
mercury	0.003	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.18	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	28	5210 B	2	CD
COD	36	410.4	10	CW
TDS	696	2540 C	1	DB
TOC	25.8	9060	1.0	KC
Chloride	40.6	300	2.5	JL
Fluoride	0.09	4500-FC	0.01	MM
Nitrate	1.49	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	37.0	9020	20.0	KC
Conductivity	701	2510 B	1	DB

REIC SAMPLE #	19946-11			
GAI SAMPLE #	MW #6	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	3.00	200.7	0.10	IL
cadmium	0.002	213.2	0.001	KP
chromium	0.029	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	28.1	200.7	0.10	IL
lead	ND	239.2	0.010	KP
manganese	32.1	200.7	0.05	IL
mercury	0.014	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.02	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	56	5210 B	2	CD
COD	120	410.4	10	CW
TDS	2490	2540 C	1	DB
TOC	100	9060	1.0	KC
Chloride	265	300	2.5	JL
Fluoride	0.05	4500-FC	0.01	MM
Nitrate	ND	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	186	9020	20.0	KC
Conductivity	2490	2510 B	1	DB

REIC SAMPLE #	19946-12			
GAI SAMPLE #	MW #8	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	0.76	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	0.049	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	29.5	200.7	0.10	IL
lead	0.021	239.2	0.010	KP
manganese	2.34	200.7	0.05	IL
mercury	ND	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.06	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	ND	5210 B	2	CD
COD	15	410.4	10	CW
TDS	152	2540 C	1	DB
TOC	5.8	9060	1.0	KC
Chloride	11.9	300	2.5	JL
Fluoride	0.06	4500-FC	0.01	MM
Nitrate	0.83	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	205	2510 B	1	DB

REIC SAMPLE #	19946-13			
GAI SAMPLE #	MW #16	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	1.74	200.7	0.10	IL
cadmium	0.004	213.2	0.001	KP
chromium	0.047	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	43.9	200.7	0.10	IL
lead	0.013	239.2	0.010	KP
manganese	32.1	200.7	0.05	IL
mercury	0.005	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.08	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	86	5210 B	2	CD
COD	118	410.4	10	CW
TDS	1640	2540 C	1	DB
TOC	152	9060	1.0	KC
Chloride	153	300	2.5	JL
Fluoride	0.04	4500-FC	0.01	MM
Nitrate	ND	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	311	9020	20.0	KC
Conductivity	2250	2510 B	1	DB

REIC SAMPLE #	19946-14			
GAI SAMPLE #	MW #12	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	5.20	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	0.312	200.7	0.10	KP
copper	ND	200.7	0.10	IL
iron	173	200.7	0.10	IL
lead	0.010	239.2	0.010	KP
manganese	2.68	200.7	0.05	IL
mercury	0.001	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.36	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	ND	5210 B	2	CD
COD	29	410.4	10	CW
TDS	66	2540 C	1	DB
TOC	8.9	9060	1.0	KC
Chloride	ND	300	2.5	JL
Fluoride	0.05	4500-FC	0.01	MM
Nitrate	ND	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	71	2510 B	1	DB

REIC SAMPLE #	19946-15			
GAI SAMPLE #	MW #11	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	2.71	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	0.018	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	12.4	200.7	0.10	IL
lead	ND	239.2	0.010	KP
manganese	10.0	200.7	0.05	IL
mercury	0.001	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.07	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	ND	5210 B	2	CD
COD	19	410.4	10	CW
TDS	50	2540 C	1	DB
TOC	6.8	9060	1.0	KC
Chloride	ND	300	2.5	JL
Fluoride	0.03	4500-FC	0.01	MM
Nitrate	0.60	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	61	2510 B	1	DB

REIC SAMPLE #	19946-16			
GAI SAMPLE #	MW #10	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	2.22	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	0.009	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	10.2	200.7	0.10	IL
lead	ND	239.2	0.010	KP
manganese	7.88	200.7	0.05	IL
mercury	0.002	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.04	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	ND	5210 B	2	CD
COD	19	410.4	10	CW
TDS	60	2540 C	1	DB
TOC	5.3	9060	1.0	KC
Chloride	ND	300	2.5	JL
Fluoride	0.08	4500-FC	0.01	MM
Nitrate	ND	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	69	2510 B	1	DB

REIC SAMPLE #	19946-17			
GAI SAMPLE #	MW #9	METHOD	MQL	ANALYST
	---mg/l---			
METALS				
arsenic	ND	206.2	0.010	KP
barium	2.26	200.7	0.10	IL
cadmium	ND	213.2	0.001	KP
chromium	ND	218.2	0.005	KP
copper	ND	200.7	0.10	IL
iron	2.32	200.7	0.10	IL
lead	ND	239.2	0.010	KP
manganese	0.56	200.7	0.05	IL
mercury	0.002	245.1	0.001	KP
selenium	ND	270.2	0.010	PL
silver	ND	200.7	0.01	PL
zinc	0.05	200.7	0.02	IL
GENERAL CHEMISTRY				
*BOD	ND	5210 B	2	CD
COD	11	410.4	10	CW
TDS	48	2540 C	1	DB
TOC	5.0	9060	1.0	KC
Chloride	ND	300	2.5	JL
Fluoride	0.06	4500-FC	0.01	MM
Nitrate	ND	300	0.20	JL
Sulfate	ND	300	5.0	JL
	---ug/l---			
TOX	ND	9020	20.0	KC
Conductivity	61	5210 B	1	DB

* - BOD's were set up at 7:30 am on 08-05-93 and 10:30 am on 08-06-93
ND - None Detected at MQL
MQL - Minimum Quantifying Level
BOD - Biochemical Oxygen Demand
COD - Chemical Oxygen Demand
TDS - Total Dissolved Solids
TOC - Total Organic Carbon
TOX - Total Organic Halides

DATE: 9-3-93 APPROVED: Claude Scott
Claude Scott

Claude Scott
for Ray Erickson

REIC Laboratory

225 Industrial Park Road
P O Box 286 Beaver WV 25813

Custody № 16184

CHAIN OF CUSTODY RECORD

Date: 8-3-93

Customer Name GAI Consultants
Address 4000 Blue Ridge Rd
Raleigh N.C. ~~27615~~ 27612
Person to Contact Wendell Parker Telephone (919) 783-4783
Billing Address

Sample Collection Information

Sampling Site Ashe Co landfill
Project # Sampler R.T. Whitley
Date of Sample Shipment 8-4-93 How Shipped On Ice

SAMPLE LOG AND ANALYSES REQUEST

Turnaround Requirements
_____ Regular
_____ Rush
_____ FAX Results

Analysis Requested

Sample ID	Containers # and Type	Date	Time	Matrix	Grab / Comp.	TOC	Barium	33 Parameters				Remarks
M.W #14	40ml	8-3-93	12:00pm			✓						
M.W #14	500ml	"					✓					
M.W #1	"	"	1:00pm				✓					
M.W #2	"	"	2:00pm				✓					
M.W #13	"	"	3:00pm				✓					
M.W #15	"	"	4:00pm				✓					
Stream #1	3 containers	"	5:00pm					✓				upstream
Stream #2	3 containers	"	5:45pm					✓				Downstream

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Raymond J Whitley	8-4-93 8:00pm	Wendell Parker			

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Condition on Arrival:
		Jerry Kittles	8/5/93 @ 8:00	

Comments

Possible Interfering Compounds

Requested by

Research, Environmental and Industrial Consultants, Incorporated
P O Box 286 Beaver WV 25813 / 1-800-999-0105 or 304-255-2500 / FAX 304-255-2572

REIC SAMPLE #	20563-4		
GAI SAMPLE #	MW #15	METHOD	PQL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	96	7060	10
barium	2890	6010	100
beryllium	ND	6010	25
cadmium	3	7131	1
chromium	190	7191	5
cobalt	ND	6010	100
copper	310	6010	100
lead	47	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	120	6010	50
zinc	530	6010	20

REIC SAMPLE #	20563-4		
GAI SAMPLE #	MW #15	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	101 %		

REIC SAMPLE #	20563-5		
GAI SAMPLE #	TRIP BLANK	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	103 %		

REIC Laboratory

225 Industrial Park Road
P O Box 286 Beaver WV 25813

Custody № 16185

CHAIN OF CUSTODY RECORD

Date: 8-4-93

Customer Name GAI Consultants
Address 4000 Blue Ridge Rd
Ral. N.C. ~~275~~ 27612
Person to Contact Wendell Parker Telephone (919) 783 4785
Billing Address

Sample Collection Information

Sampling Site Ashe Co landfill
Project # Sampler R.T. Whaley
Date of Sample Shipment 8-4-93 How Shipped On Ice

SAMPLE LOG AND ANALYSES REQUEST

Turnaround Requirements
_____ Regular
_____ Rush
_____ FAX Results

Analysis Requested

Sample ID	Containers # and Type	Date	Time	Matrix	Grab / Comp.	43 parameters						Remarks
M.W #3	3 containers	8-4-93	5:00pm			✓						
M.W #4	"	"	9:30am			✓						
M.W #5	"	"	1:30pm			✓						
M.W #6	"	"	3:00pm			✓						
M.W #8	"	"	10:45pm			✓						
M.W #10	"	"	12:00pm			✓						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date Time	Received by: (Signature)
Raymond T. Whaley	8-4-93 9:00am	Wendell W. Parker			

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Condition on Arrival:
		Mamit Patel	8/5/93 @ 8:00	

Comments Run and report conductivity in accordance N.C. (all samples)

Possible Interfering Compounds

Requested by

Research, Environmental and Industrial Consultants, Incorporated
P O Box 286 Beaver WV 25813 / 1-800-999-0105 or 304-255-2500 / FAX 304-255-2572

14946

REIC Laboratory

225 Industrial Park Road
P O Box 286 Beaver WV 25813

Custody № 16186

CHAIN OF CUSTODY RECORD

Date: 8-6-93

Customer Name GAI Consultants
Address 4000 Blue Ridge Rd.
Ral. N.C. 27612
Person to Contact Wendell Parker Telephone (919) 783-4783
Billing Address

Sample Collection Information

Sampling Site Ashe Co. landfill
Project # Sampler R.T. Whaley
Date of Sample Shipment 8-6-93 How Shipped On Ice

SAMPLE LOG AND ANALYSES REQUEST

Turnaround Requirements
_____ Regular
_____ Rush
_____ FAX Results

Analysis Requested

Sample ID	Containers # and Type	Date	Time	Matrix	Grab / Comp.	23 parameters						Remarks
M.W #12	2 Containers	8-5-93	7:30am			✓						
M.W #11	"	8-5-93	8:30am			✓						
M.W #10	"	8-5-93	9:30am			✓						
M.W # 9	"	8-5-93	10:30am			✓						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Raymond T. Whaley	8-6-93 11:15am				

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Condition on Arrival:
		[signature]	8/7/93 1:30	

Comments Test and report all samples for conductivity as per N.C. Reg.

Possible Interfering Compounds

Requested by

Research, Environmental and Industrial Consultants, Incorporated
P O Box 286 Beaver WV 25813 / 1-800-999-0105 or 304-255-2500 / FAX 304-255-2572

19946

REIC Laboratory

225 Industrial Park Road
P O Box 286 Beaver WV 25813

Custody № 16190

CHAIN OF CUSTODY RECORD

Date: 8-5-93

Customer Name GAI Consultants

Address 4000 Blue Ridge Rd
Raleigh N.C. 27545

Person to Contact Wendell Parker Telephone (919) 783-4783

Billing Address

Sample Collection Information

Sampling Site Ashe Co. landfill

Project # Sampler Raymond J Whaley

Date of Sample Shipment 8-5-93 How Shipped On Ice

SAMPLE LOG AND ANALYSES REQUEST

Turnaround Requirements
_____ Regular
_____ Rush
_____ FAX Results

Analysis Requested: 23 parameters

Sample ID	Containers # and Type	Date	Time	Matrix	Grab / Comp.	23 parameters						Remarks
MW #12		8-5-93	7:30am									
M.W. #11		"	8:30am									
M.W #10		"	9:30am									
M.W #9		"	10:30am									

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Raymond J Whaley	8-5-93 4:45pm				

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Condition on Arrival:
		[illegible]	8/6/93	@10:00

Comments Test and report for conductivity as per N.C. Reg (All samples)

Possible Interfering Compounds

Requested by

Research, Environmental and Industrial Consultants, Incorporated
P O Box 286 Beaver WV 25813 / 1-800-999-0105 or 304-255-2500 / FAX 304-255-2572

3-3-93

TEMPERATURE, pH, AND DEPTH TO WATER
Ashe County Monitoring Wells
Project No. 93152.07
September 10, 1993

Monitoring Well	Depth to Water, ft	Temperature	pH
3	68	54	6.7
4	18.5	57	5.8
5	21.5	54	6.8
6	26	54	6.6
8	10	57	6.9
9	6.5	55	6.7
10	7	54	6.5
11	5	54	6.6
12	5.5	55	6.4
16	21	54	6.6
Upstream Surface Water Sample	NA	60	6.2
Downtream Surface Water Sample	NA	57	6.8

GAI Consultants, Inc.
Job #: 0993-20563

REIC SAMPLE #	20563-1		
GAI SAMPLE #	MW #2	METHOD	POL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	87	7060	10
barium	9190	6010	100
beryllium	ND	6010	25
cadmium	2	7131	1
chromium	138	7191	5
cobalt	ND	6010	100
copper	110	6010	100
lead	23	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	340	6010	50
zinc	590	6010	20

REIC SAMPLE #	20563-1		
GAI SAMPLE #	MW #2	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	103 %		

GAI Consultants, Inc.
Job #: 0993-20563

REIC SAMPLE #	20563-2		
GAI SAMPLE #	MW #13	METHOD	POL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	29	7060	10
barium	370	6010	100
beryllium	ND	6010	25
cadmium	ND	7131	1
chromium	56	7191	5
cobalt	ND	6010	100
copper	ND	6010	100
lead	ND	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	ND	6010	50
zinc	40	6010	20

REIC SAMPLE #	20563-2		
GAI SAMPLE #	MW #13	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	104 %		

REIC SAMPLE #	20563-3		
GAI SAMPLE #	MW #14	METHOD	PQL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	231	7060	10
barium	22500	6010	100
beryllium	ND	6010	25
cadmium	16	7131	1
chromium	307	7191	5
cobalt	230	6010	100
copper	240	6010	100
lead	55	7421	10
nickel	190	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	490	6010	50
zinc	1070	6010	20

REIC SAMPLE #	20563-3		
GAI SAMPLE #	MW #14	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	104 %		

PQL - Practical Quantitation Limit
ND - None Detected at PQL
MSR - Mean Surrogate Recovery

DATE 9-20-93

APPROVED Ray Erickson
Ray Erickson

Claude Scott
Claude Scott

GAI CONSULTANTS, INC.
Chain of Custody Record

Proj. No.	Project Name					No. of containers						Remarks
	ASHE											
Samplers: (Signature)												
Sta. No.	Date	Time	Comp.	Grab	Station Location							
[illegible]	9-2-93	6:47		✓	MW [illegible]	3	✓					CONDUCTIVITY TO
[illegible]	9-2-93	6:[illegible]		✓	MW [illegible]	3	✓					N.S. STANDARDS
MW #14	9-2-93	2:25		✓	MW [illegible]	3	✓					
MW #15	9-2-93	4:45		✓	MW [illegible]	3	✓					

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	9/3/93 2:41				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature) [signature]	Date/Time 9/3/93	2:40	Remarks

Quality Environmental Services

REIC Laboratory

Research, Environmental & Industrial Consultants, Inc.

P. O. Box 286 • Beaver, West Virginia 25813 • 1-304-255-2500
1-800-999-0105
FAX 1-304-255-2572

**********ANALYSIS REPORT**********

JOB #: 0993-20692
SERVICES FOR: GAI Consultants, Inc.
DATE SAMPLED: 09-08-93
DATE SUBMITTED: 09-10-93
DATE ANALYZED: Metals - 09-16-93
Volatile Organic Compounds - 09-19-93
DATE COMPLETED: 09-20-93
METHOD OF ANALYSIS: As Noted Below
CUSTOMER JOB IDENTIFICATION: Ashe County Landfill

****

MEMBER: American Chemical Society • Association of Official Analytical Chemists • Petroleum Marketers Association
Rural Water Association • Mining and Reclamation Association

GAI Consultants, Inc.
Job #: 0993-20692

REIC SAMPLE #	20692-1		
GAI SAMPLE #	MW #2	METHOD	PQL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	ND	7060	10
barium	6070	6010	100
beryllium	ND	6010	25
cadmium	2	7131	1
chromium	67	7191	5
cobalt	ND	6010	100
copper	ND	6010	100
lead	21	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	170	6010	50
zinc	380	6010	20

REIC SAMPLE #	20692-1		
GAI SAMPLE #	MW #2	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	107 %		

GAI Consultants, Inc.
Job #: 0993-20692

REIC SAMPLE #	20692-3		
GAI SAMPLE #	MW 13	METHOD	PQL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	ND	7060	10
barium	340	6010	100
beryllium	ND	6010	25
cadmium	6	7131	1
chromium	26	7191	5
cobalt	ND	6010	100
copper	ND	6010	100
lead	18	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	70	6010	50
zinc	40	6010	20

GAI Consultants, Inc.
Job #: 0993-20692

REIC SAMPLE #	20692-3		
GAI SAMPLE #	MW 13	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	105 %		

GAI Consultants, Inc.
Job #: 0993-20692

REIC SAMPLE #	20692-5	METHOD	PQL
GAI SAMPLE #	MW 14		
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	ND	7060	10
barium	12100	6010	100
beryllium	ND	6010	25
cadmium	10	7131	1
chromium	119	7191	5
cobalt	120	6010	100
copper	130	6010	100
lead	28	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	290	6010	50
zinc	660	6010	20

REIC SAMPLE #	20692-5		
GAI SAMPLE #	MW 14	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	106 %		

REIC SAMPLE #	20692-7		
GAI SAMPLE #	MW 15	METHOD	POL
	----ug/l----		
EXTRACTABLE METALS		3030 C	
antimony	ND	7041	10
arsenic	ND	7060	10
barium	2480	6010	100
beryllium	ND	6010	25
cadmium	3	7131	1
chromium	241	7191	5
cobalt	ND	6010	100
copper	280	6010	100
lead	95	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	140	6010	50
zinc	510	6010	20

REIC SAMPLE #	20692-7		
GAI SAMPLE #	MW 15	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8240	100
acrylonitrile	ND	8240	200
benzene	ND	8020	2.00
bromochloromethane	ND	8240	5.00
bromodichloromethane	ND	8010	1.00
bromoform	ND	8010	2.00
carbon disulfide	ND	8240	100
carbon tetrachloride	ND	8010	1.00
chlorobenzene	ND	8010	2.00
chloroethane	ND	8021	1.00
chloroform	ND	8010	0.50
dibromochloromethane	ND	8010	1.00
1,2-dibromo-3-chloropropane	ND	8021	30.0
1,2-dibromoethane	ND	8021	10.0
o-dichlorobenzene	ND	8021	0.50
p-dichlorobenzene	ND	8240	5.00
trans-1,4-dichloro-2-butene	ND	8240	100
1,1-dichloroethane	ND	8021	0.50
1,2-dichloroethane	ND	8010	0.50
1,1-dichloroethylene	ND	8021	0.50
cis-1,2-dichloroethylene	ND	8010	0.50
trans-1,2-dichloroethylene	ND	8021	0.50
1,2-dichloropropane	ND	8010	0.50
cis-1,3-dichloropropene	ND	8240	10.0
trans-1,3-dichloropropene	ND	8010	5.00
ethylbenzene	ND	8020	2.00
2-hexanone	ND	8240	50.0
methyl bromide	ND	8021	10.0
methyl chloride	ND	8021	10.0
methylene bromide	ND	8240	10.0
methylene chloride	ND	8010	5.00
methyl ethyl ketone	ND	8240	100
methyl iodide	ND	8240	10.0
4-methyl-2-pentanone	ND	8240	100
styrene	ND	8020	1.00
1,1,1,2-tetrachloroethane	ND	8010	0.50
1,1,2,2-tetrachloroethane	ND	8010	0.50
tetrachloroethylene	ND	8021	0.50
toluene	ND	8020	2.00
1,1,1-trichloroethane	ND	8240	5.00
1,1,2-trichloroethane	ND	8240	5.00
trichloroethylene	ND	8010	1.00
trichlorofluoromethane	ND	8240	5.00
1,2,3-trichloropropane	ND	8021	5.00
vinyl acetate	ND	8240	50.0
vinyl chloride	ND	8240	10.0
xylenes	ND	8020	5.00
MSR	107 %		

PQL - Practical Quantitation Limit
ND - None Detected at PQL
MSR - Mean Surrogate Recovery

DATE 9-22-93

APPROVED Ray Erickson
Ray Erickson

for Claude Scott

GAI CONSULTANTS, INC.
Chain of Custody Record

Proj. No.	Project Name					No. of containers						Remarks
	ASHE CO											
Samplers: (Signature)												
Sta. No.	Date	Time	Comp.	Grab	Station Location							
MW 2	9-8-93	12:30		✓	MONIT. WELL	3	✓					CONDUCTIVITY TO N.C. STANDARDS
MW 13	" "	9:05		✓	"	3	✓					
MW 14	" "	11:30		✓	"	3	✓					
MW 15	" "	10:30		✓	"	3	✓					

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	9-9-93 12:00				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	
		[signature]	9/10/10 AM		

Sampling Field Data Sheet

GAI CONSULTANTS, INC.

PROJECT: ASHE CO.

SAMPLERS: PHILIP A. DIFRANCESCO

FIELD DATA SHEET

MONITORING PT. NUMBER	SAMPLE NUMBER	DATE OF COLLECT.	TIME SAMPLED	SAMPLING PARAMETERS					WATER QUALITY PARAMETERS				
				DTH-G.W.	REF. PT.	VOL. PUR.	SAMP. TY.	SAMP.DTH	pH	TEMP.	SP. COND		
MW 2		9-8-93	12:30	12'		6.5	GRAB		7.3	69			
MW 13		9-8-93	9:05	11'		6.5	GRAB		7.2	69			
MW 14		9-8-93	11:30	48'		8 DRY	GRAB		7.2	69			
MW 15		9-8-93	10:30	55'		5 DRY	GRAB		7.4	68			

COMMENTS

APPENDIX V

CHAIN OF CUSTODY AND FIELD SAMPLING DATA SHEET

Sampling Field Data Sheet

GSI CONSULTANTS, INC.

PROJECT: _____ *SAMPLERS:* _____

FIELD DATA SHEET

MONITORING PT. NUMBER	SAMPLE NUMBER	DATE OF COLLECT.	TIME SAMPLED	SAMPLING PARAMETERS					WATER QUALITY PARAMETERS				
				DTH-G.W.	REF. PT.	VOL. PUR.	SAMP. TY.	SAMP.DTH	pH	TEMP.	SP. COND		

COMMENTS

GAI CONSULTANTS, INC.
Chain of Custody Record

Proj. No.	Project Name					No. of con-tainers						Remarks
Samplers: (Signature)												
Sta. No.	Date	Time	Comp.	Grab	Station Location							

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

REIC Laboratory

225 Industrial Park Road
P O Box 286 Beaver WV 25813

Custody № 16187

CHAIN OF CUSTODY RECORD

Date: _____

Customer Name _____

Address _____

_____

Person to Contact _____ Telephone _____

Billing Address _____

_____

Sample Collection Information

Sampling Site _____

Project # _____ Sampler _____

Date of Sample Shipment _____ How Shipped _____

SAMPLE LOG AND ANALYSES REQUEST

Turnaround Requirements

_____ Regular
_____ Rush
_____ FAX Results

Analysis Requested

Sample ID	Containers # and Type	Date	Time	Matrix	Grab / Comp.							Remarks

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Condition on Arrival:

Comments _____

_____

Possible Interfering Compounds _____

Requested by _____

Research, Environmental and Industrial Consultants, Incorporated
P O Box 286 Beaver WV 25813 / 1-800-999-0105 or 304-255-2500 / FAX 304-255-2572

SIGN-OFF

I have read this Safety Plan and understand it. I agree, to the best of my ability to conduct activities as specified, keeping health and safety concerns in the highest priority.

PRINTED NAME	SIGNATURE	DATE

Safety Plan drafted by:

Tracy J. Thomas		
Printed Name	Signature	Date

Safety Plan Reviewed and approved by:

Wendell W. Parker		
Printed Name	Signature	Date

M. SAFETY MEETING CHECKLIST

Discuss the following:

- ☒ Workers with special health, medical, or physical considerations (allergies, medications, hearing, etc.)
- ☒ Personnel requirements (training, responsibilities, etc.)
- ☒ Describe tasks and hazards
- ☒ Coordination of activities
- ☐ Air/medical monitoring
- ☒ Methods and precautions to prevent injuries
- ☒ Emergency planning and procedures
- ☒ Control Areas
- ☒ Worker feedback on health and safety concerns
- ☒ Continuous worker feedback on effectiveness
- ☐ _____
- ☒ Signatures

N. SAFETY INSPECTION CHECKLIST

Periodically evaluate changes in conditions that may affect health and safety.

Inspection time(s) Daily - First thing in the morning

- ☒ Weather conditions
- ☐ Container and containment structures
- ☒ Equipment maintenance
- ☒ Site activities
- ☐ Off-site activities
- ☒ PPE use
- ☐ Air monitoring
- ☐ _____
- ☐ _____

O. DEBRIEFING SESSION/DAILY SAFETY REPORT

- accomplishments
- work remaining
- concerns
- deviations from the Health and Safety Plan
- injuries/exposures

L. SITE STANDARD OPERATING PROCEDURES

- The buddy system will be used. Hand signals will be established.
- During site operations, each worker should consider himself as a safety backup to his partner. Off-site personnel provide emergency assistance. All personnel should be aware of dangerous situations that may develop.
- Visual contact must be maintained between buddies on-site.
- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated as contaminated.
- Prescription drugs should not be taken by personnel where the potential for contact with toxic substance exists, unless specifically approved by a qualified physician. Alcoholic beverage intake is prohibited during the work day.
- No excessive facial hair which interferes with the satisfactory fit of respiratory protection is allowed on personnel required to wear such equipment. Each staff member must pass the fit-testing for respirators.
- Contact lenses will not be permitted at the site.
- Disposable clothing will be used whenever possible to minimize the risk of cross-contamination.
- The number of personnel and amount of equipment in any contaminated area should be minimized, but allow for effective site operations.
- Work areas for various operational activities (equipment testing, decontamination) will be established.
- Procedures for leaving any contaminated area will be planned and reviewed prior to going on-site.
- Work areas and decontamination procedures will be established based on prevailing site conditions and are subject to change.
- Wind indicators will be strategically located on-site.
- Contact with contaminated or potentially contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, mud, or any discolored ground surface; do not kneel on the ground, lean, sit or place equipment on drum, container, vehicles, or on the ground.
- No personnel will be admitted to the site without the proper safety equipment.
- Proper decontamination procedures must be followed before leaving the site.
- All personnel must comply with established safety procedures. Any staff member who does not comply with safety policy, as established by the Health and Safety Office or the Project Manager, will be immediately dismissed from the site.

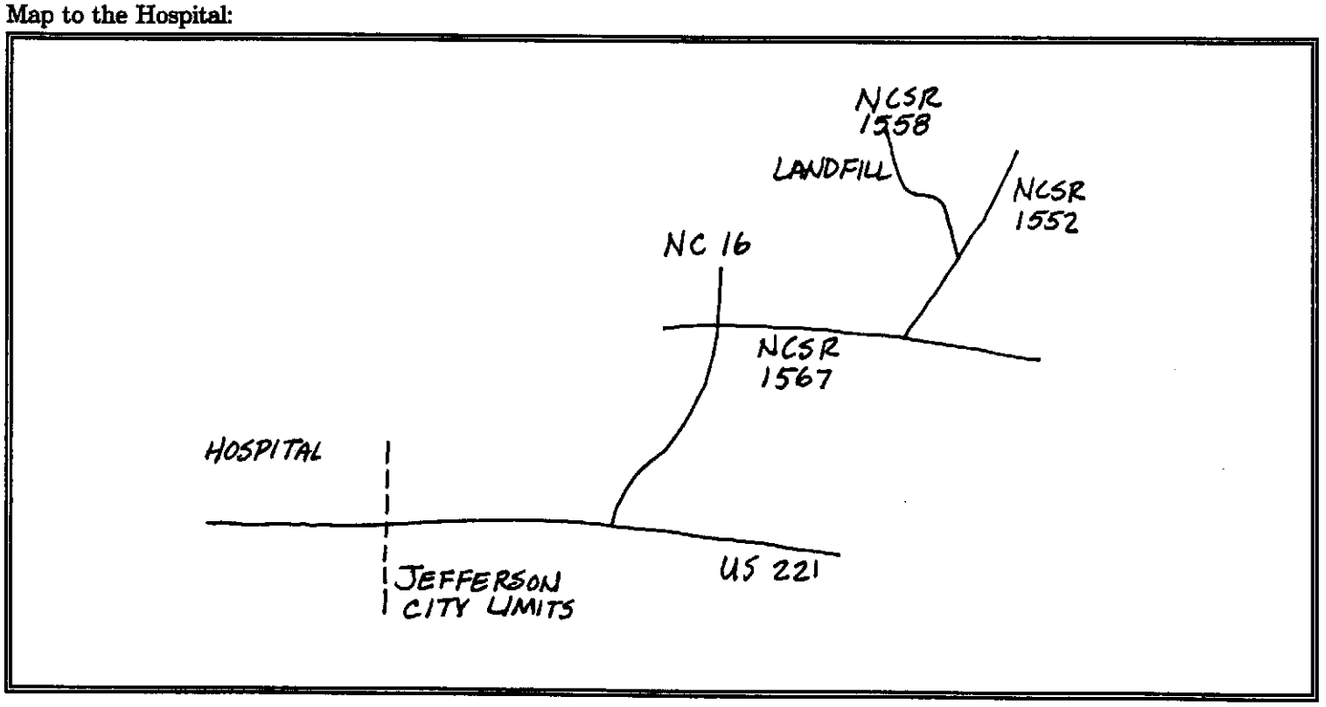
Additional applicable SOP's and safe work practices (i.e., confined space, spill containment, etc.):

1. drilling safety
2. _____
3. _____

7. Emergency Information

Facility	Phone Number	Location
Ambulance	911	Jefferson, NC
Hospital	910-246-7101	Jefferson, NC
Fire Department	911	Jefferson, NC
Police/Sheriff	911	Jefferson, NC
Poison Control Center		
Decontamination Unit (Mobil/Fixed)		
Explosive Unit		
ChemTrec		
National Response Center	800-424-8802	
State Emergency Response		
Occupational Physician		

Map to the Hospital:



4. Site Mapping (see attached Site Map).

Identify the following on Site Map:	Location:
• Site boundaries/features	landfill
• Refuges/safe distances	500 ft from drill site
• Evacuation routes	paths to Command Post
• Emergency decontamination	Command Post
• Medical/first aid station (s)	Command Post

5. Emergency Equipment Available

	Location:
☐ eye wash station	
☐ emergency shower	
☒ first aid	Command Post
☒ fire fighting	Command Post
☐ PPE	
☐ spill containment	
☐ lifeline/harness	
☒ telephone/radio	Command Post
☐ _____	
☐ _____	

6. Emergency (Medical) Decontamination

If decontamination does not interfere with essential treatment, it should be performed. (See Section J - Decontamination.)

- If decontamination can be done: Wash, rinse and/or cut off PPE and equipment.
- If decontamination cannot be done: Wrap the victim in blankets, plastic, or rubber to reduce contamination of other personnel.
- Alert emergency and offsite medical personnel to potential contamination; instruct them about specific decontamination procedures if necessary. Send along site personnel familiar with the incident.
- Minimum 15 minutes for skin/eye water flush.

2. Emergency Procedures

   a. Emergency Notification
      - Alert personnel to the emergency.
      - Sound site alarm.
      - Stop work activities if necessary.
      - Lower background noise in order to speed communication.
      - Begin emergency procedures.
      - Notify onsite emergency personnel.

After notification is completed:

   b. Evaluate (size up) situation.

   c. Conduct rescue/response actions:
      - enforce buddy system
      - survey casualties
      - assess hazards
      - allocate resources
      - request aid
      - evacuate
      - control
      - remove/assist victims
      - decontaminate
      - stabilize
      - transport

   d. Follow-up:
      - notifications
      - restock/clean
      - documentation
      - review/revise Emergency Response Plan
      - critique

3. Communication Procedures

   GAI radio frequency shall be dedicated for personnel in the Exclusion Zone.

   Personnel in the Exclusion Zone shall remain in radio contact or within sight of the Project Team Leader. Any failure of radio communication requires an evaluation by Project Team Leader on whether personnel shall leave the Exclusion Zone.

   A CONTINUOUS HORN BLAST is the emergency signal to indicate that all personnel shall leave the Exclusion Zone.

   The following hand signals will be used in case of failure of radio communications:

   Additional information: _____

   _____

   _____

   - Hand gripping throat ..... Out of air, cannot breathe.
   - Grip partner's wrist or both hands around waist ..... Leave area immediately.
   - Hands on top of head ..... Need assistance.
   - Thumbs up ..... OK, I am all right, I understand.
   - Thumbs down ..... No, negative.

   Command Post phone number: 910-982-2527

2. Personnel decontamination procedures:
   a. Remove and discard gloves
   b. Rinse hard hats, boots, and skin
   c. Change work attire prior to leaving site
   d.
   e.
   f.

   Equipment needed: rinse station, changing area

   Example Level B decontamination measures:

   MINIMUM

   Station
   1. Equipment drop
   2. Outer garment, boots, and gloves wash/rinse
   3. Outer boot and glove removal
   4. Tank change
   5. Inner boots, gloves and outer garment removal
   6. SCBA removal
   7. Field wash

3. Equipment decontamination procedures

   a. steam clean drill equipment
   b. rinse bailers
   c.
   d.
   e.
   f.

   Equipment needed: rinse station

4. Location of Decontamination Stations (see Site Map): Command Post

5. Storage/Disposal of Contaminated Materials generated on site: place in landfill

K. EMERGENCY RESPONSE PLAN

1. Onsite Emergency Personnel/Authority

	NAME	SPECIFIC ROLE
Project Team Leader:	Todd Whaley	notify authorities
Health and Safety Leader:	Driller	administer necessary safety measures
Rescue Team:	Landfill Personnel	follow instructions of Health and Safety Leader
CPR/First Aid Certified Persons:	Driller	

Emergency response personnel shall be trained according to OSHA 29 CFR 1910.120 standards and trained on the site-specific anticipated situation hazards.

H. PERSONNEL MONITORING

Onsite personnel will be monitored for the following:

	HAZARD	MONITORING METHOD
	Radiation	
	Chemical exposure	
	Heat stress	
	Heart rate	
	Oral temperature	
	Cold stress	
	Noise	
	Other	

If the heart rate is ≥ 110 beats/minute or temperature exceeds 99.6°F (36.6°C) at the beginning of the rest period, shorten the next work cycle by one-third. Do not permit a worker to wear a semi-permeable garment when his/her oral temperature exceeds 100°F (38.1°C).

Rest Area Location (drinks): Command Post
Break Schedules: mid morning, noon, mid-afternoon

I. MEDICAL SURVEILLANCE REQUIREMENTS

All injuries or exposures will be reported, including completion of applicable forms.

Employees involved in the following activities shall be covered by a medical surveillance program:

1. Employees who are or may be exposed to hazardous substances or health hazards at or above PEL's (without regard to respirator use) for 30 days or more a year.
2. Employees who wear respirators for 30 days or more a year.
3. Employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards.
4. Members of HAZMAT teams.

Specific medical surveillance required for this project: DNA

J. DECONTAMINATION

1. Contact with contaminated or potentially contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, mud, or any discolored ground surface; do not kneel on the ground, lean, sit, or place equipment on the ground. Movement in and out of zones will be minimized to the extent possible.

LEVEL D

- ☐ Saranex/Tyvek/Acid suit/coveralls
- ☐ hood
- ☐ inside glove:
- ☒ outside glove:
- ☐ footwear: ☐ rubber boot
- ☒ footwear: ☒ steel toed
- ☐ face shield
- ☒ hard hat
- ☐ two-way radio
- ☐ 5-minute emergency bottle
- ☒ other (coveralls)

OTHER (LEVEL E)

- ☒ field work attire

G. ENVIRONMENTAL MONITORING

Initial site entry should include air monitoring (conducted in appropriate PPE) to evaluate, characterize, or verify potential hazardous levels of ionizing radiation (if suspected), IDLH conditions, or other conditions that may cause death or serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances).

TASK	LOCATION	PPE REQUIRED	REQUIRED MONITORING/INSTRUMENT
Initial site entry			
Continuous			
Hourly			
Daily			
Peripheral			
Other			

Monitoring documentation should include the following:

1. calibrations
2. maintenance schedule
3. monitoring times
4. monitoring equipment
5. monitoring locations
6. results
7. limitations/variables
8. procedures

Atmospheric Hazard Guidelines:

HAZARD	AMBIENT LEVEL	ACTION
Explosive atmosphere	< 10% LEL	Continue investigation.
	10%-25% LEL	Continue onsite monitoring with extreme caution as higher levels are encountered.
	>25% LEL	Explosion hazard; withdraw from area immediately.
Oxygen	<19.5%	Monitor wearing SCBA. Note: Combustible gas indicators are not valid in atmospheres with <19.5% O^2.
	19.5%-25%	Continue investigation with caution. SCBA not needed, based on oxygen content only.
	>25%	Discontinue inspection; fire hazard potential. Consult specialist.
Radiation	< 1 mR/hr	Continue investigation. If radiation is detected above background levels, this signifies the presence of possible radiation sources; at this level, more thorough monitoring is advisable. Seek consultation.
	< 10 mR/hr	Potential hazard; evacuate site. Seek consultation.
Organic & Inorganic Vapors/Gas	Depends on species.	Consult standard reference manuals for air concentrations/toxicity data.

EPA criteria for PPE: Total Organics: FOR UNKNOWNS

Level A 0 - 5 ppm total organics above background
Level B 5 - 500 ppm total organics above background
Level C 500 - 1000 ppm total organics above background

Indicate the protection level expected to begin the job and what the criteria will be for a change in protection level.

All personnel wearing respirators shall have been trained in proper use of respirators and successfully passed a fit test.

Based on evaluation of potential hazards, the following levels of PPE have been designated for the applicable work areas:

LOCATION	JOB FUNCTION	LEVEL OF PROTECTION				
		A	B	C	D	OTHER
EXCLUSION (HOT) ZONE	Monitoring Well Installation				X	
	Ground and Surface Water Sampling				X	
CONTAMINATION REDUCTION ZONE	Transportation to and from Exclusion Zone				X	
SUPPORT (CLEAR) ZONE	Support					X

Indicate PPE required for each level of protection:

LEVEL A

- ☐ full encapsulating suit
- ☐ SCBA
- ☐ two-way radio
- ☐ inner glove:
- ☐ outside glove:
- ☐ footwear: ☐ rubber boot
- ☐ footwear: ☐ steeled toed
- ☐ 5-minute emergency bottle
- ☐ other

LEVEL B

- ☐ Saranex/Tyvek/Acid suit
- ☐ SCBA or SAR
- ☐ hood
- ☐ inside glove:
- ☐ outside glove:
- ☐ footwear: ☐ rubber boot
- ☐ footwear: ☐ steel toed
- ☐ face shield
- ☐ hard hat
- ☐ two-way radio
- ☐ 5-minute emergency bottle
- ☐ other

LEVEL C

- ☐ Saranex/Tyvek/Acid suit
- ☐ full face respirator
- ☐ cartridges
- ☐ hood
- ☒ inside glove: latex
- ☒ outside glove: heavy rubber
- ☐ footwear: ☐ rubber boot
- ☒ footwear: ☒ steel toed
- ☐ face shield
- ☒ hard hat
- ☐ two-way radio
- ☐ 5-minute emergency bottle
- ☒ other (coveralls)
- ☒ other (long sleeves)

The following substance(s) are known or suspected to be on site.

Substance	Concentrations	Primary Hazards	Chemical Description Sheet attached?	
			Yes	No
acetone	< 5 ppm	toxic		X
benzene	< 10 ppb	toxic, carcinogenic		X
methyl ethyl ketone	< 5 ppm	toxic		X

E. SITE CONTROL

Landfill personnel have been designated to coordinate and control access and security of the site.

The onsite Command Post and staging area have been established, upwind from the Exclusion Zone, at the following location: landfill scale house

Control boundaries (exclusion zone, hotline, contamination reduction zone, and support/clear zone) have been identified and designated as follows:

Exclusion Zone	within 500 ft of drill site
Contamination Reduction Zone	between Exclusion Zone and Command Post
Support/Clear Zone	Command Post and beyond

SITE MAP: The Site Map should identify the following as applicable:

1. prevailing wind direction
2. work areas and hot zone
3. decontamination zone/sites
4. support/clean zone
5. command post
6. location of emergency shower
7. first aid area
8. rest areas
9. two or more escape routes
10. off-site meeting place (for emergency)
11. well installations
12. problem/containment areas
13. topography
14. roads/air accessibility

F. PERSONAL PROTECTIVE EQUIPMENT

Please remember the protection factor for full face cartridge respirator is 50; for SAR is 2,000; for SCBA is 10,000. Multiply the protection factor x the TLV = the maximum amount of containment in ppm allowed for that respirator. Exception: switch to SAR or SCBA when levels are IDLH or when O^2 is 19.5% or less, or if working in a confined space.

For example: Full face cartridge respirator x TLV Acetic Acid

50 x 10ppm ≤ 500 ppm Acetic Acid with that respirator (IDLH = 1,000 ppm)

Hard hats must be worn for all excavation activities. When hazards are unknown, Level B protection is required. In Level C, 2 hoods should be worn, one under and one over the respirator straps.

C. SITE CHARACTERISTICS/PHYSICAL HAZARDS

Size/Area:	around 220 acres
Topography:	hills and drainage areas (☒ see map attached)
Surrounding Population:	rural

EXISTING FEATURES:
- ☐ drums (#)
- ☒ wells
- ☐ sumps
- ☐ dikes
- ☐ aboveground tanks
- ☐ underground tanks
- ☒ buildings
- ☒ surface water
- ☐ containers
- ☐ debris/junk
- ☒ landfill
- ☐ power lines
- ☐ phone lines
- ☐ buried lines
- ☐
- ☐ trenches
- ☐ animals
- ☒ excavations
- ☐

HISTORY (previous investigations, complaints, etc.): Geotechnical investigations and monitoring well installations

PHYSICAL HAZARDS:
- ☐ heat
- ☐ ice
- ☐ cold
- ☐ turbulent weather
- ☒ slippery ground
- ☐ heavy equipment
- ☐ falls
- ☐ compressed gas
- ☐ electrical/spark
- ☐ confined space
- ☐ oxygen deficiency
- ☒ topography
- ☐ high winds
- ☐ scaffolds
- ☒ excavations
- ☐ radiation
- ☐ trenching
- ☐ buried lines
- ☐ noise

UNUSUAL HAZARDS:

RISKS

Task/Operation	Hazard and Probability (i.e., PEL exceedance, IDLH concentration, O^2 deficiency, explosive potentials, skin or eye irritation, etc.)
1. Monitoring Well Installation	normal drilling safety
	possible contaminated soil cuttings
2. Ground and Surface Water Sampling	exposure to contaminated water
3.	
4.	

D. HAZARDOUS MATERIAL DESCRIPTION

State(s):
- ☐ Contained Liquid
- ☐ Compressed Gas
- ☐ Free Liquid
- ☐ Sludge
- ☐ Solid
- ☒ Contaminated Soil
- ☐ Vapor/Gas
- ☒ Other (contaminated water)

Characteristic(s):
- ☐ Acid
- ☒ Toxic
- ☐ Biological
- ☐ Reactive
- ☐ Radioactive
- ☐ Caustic (Base)
- ☐ Shock Sensitive
- ☐ Oxidizer/Reducer
- ☐ Explosive
- ☐ Ignitable
- ☐ Other
- ☒ Carcinogenic

APPENDIX VI

SITE HEALTH AND SAFETY PLAN

SITE HEALTH AND SAFETY PLAN

SITE ASSESSMENT WORK PLAN
ASHE COUNTY SANITARY LANDFILL

Project Number 92182.07

TABLE OF CONTENTS

A. General Information
B. On-Site Organization/Personnel Requirements
C. Site Characteristics/Physical Hazards
D. Hazardous Materials Description
E. Site Control
F Personal Protective Equipment
G. Environmental Monitoring
H. Personnel Monitoring
I. Medical Surveillance Requirements
J. Decontamination
K. Emergency Response Plan
L. Site Standard Operating Procedures
M. Safety Meeting Checklist
N. Safety Inspection Checklist
O. Debriefing Session/Daily Safety Report

SITE HEALTH AND SAFETY PLAN

The Health and Safety Plan must be reviewed with all employees before work begins. Have employees sign the plan after it is reviewed.

A. GENERAL INFORMATION

Client:	Ashe County	Project Number: 92182.07
Client Contact:	Don Houck	Phone: 910-246-3721
Project Manager:	Wendell Parker	Phone: 919-783-4783
Site Location: NCSR 1558 8 miles northeast of Jefferson, North Carolina		
Work Purpose: Investigation of ground and surface waters for contamination		
Scheduled Dates of Activity: unscheduled		
Background Information:	☒ Complete	☐ Incomplete
Overall Hazard Summary:	☐ Serious ☐ Moderate	☒ Low ☐ Unknown
Weather Conditions:	Temperature: _____ Wind Speed: _____ Precipitation: _____ Wind Direction: _____ Other: dependent on scheduled dates	
Additional Information:		

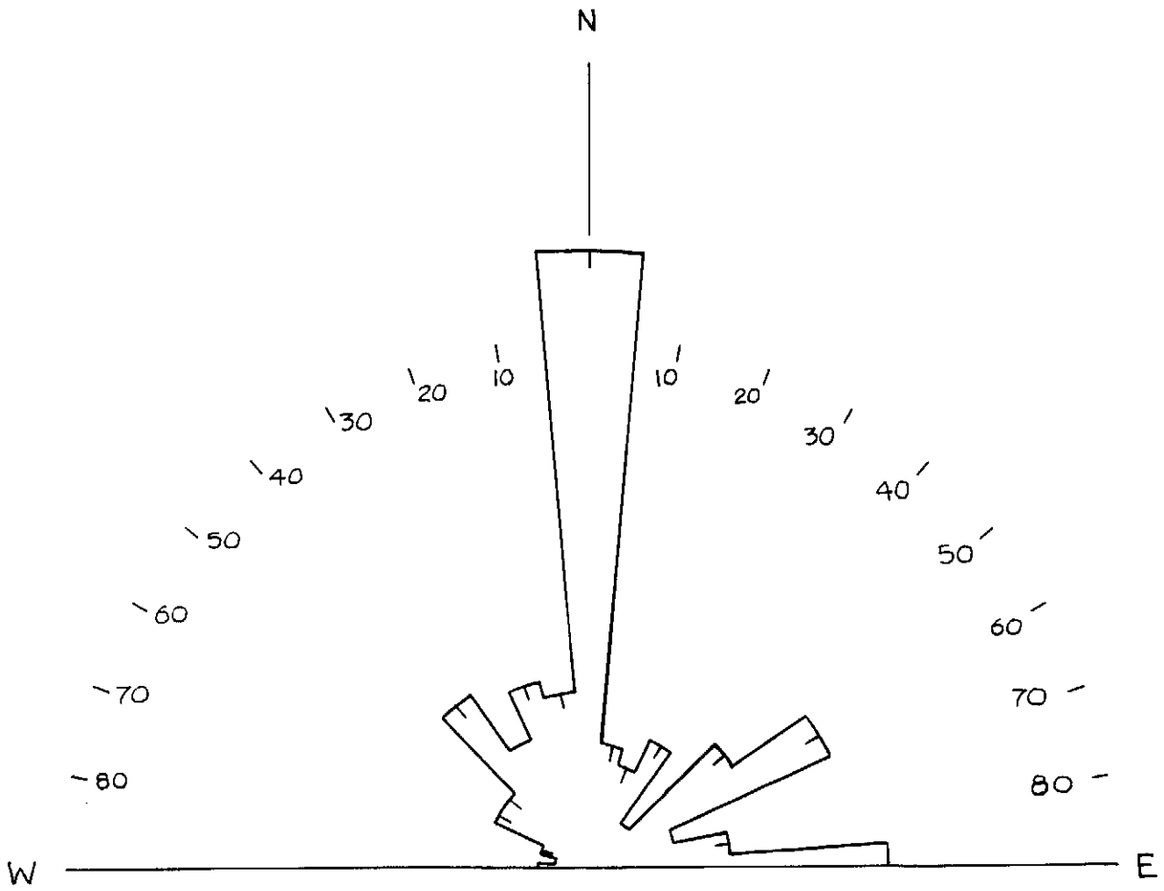
B. ON-SITE ORGANIZATION/PERSONNEL REQUIREMENTS

	Personnel	Function
Project Team Leader:	Todd Whaley	coordinate field activities provide direction for monitoring well installation collect ground and surface water samples
Site Safety Officer:	Driller	enforcement of Site Health and Safety Plan
Command Post Supervisor:	Landfill Personnel	enforcement of Site Health and Safety Plan
Rescue Team Leader:	Driller	supervise rescue effort, if required
Field Team Leader:	Driller	direct field activities
Field Team Members:	Drill Crew	installation of monitoring wells
Subcontractors:		
State/Local/Federal Reps:		

All Personnel arriving or departing the site must log in and out with the Command Post Supervisor.

For all activities involving personal (employee or other) exposure or the reasonable possibility for personal exposure to safety or health hazards, the site personnel shall be properly trained according to applicable regulations including 29 CFR 1910.120 and 29 CFR 1910.1200.

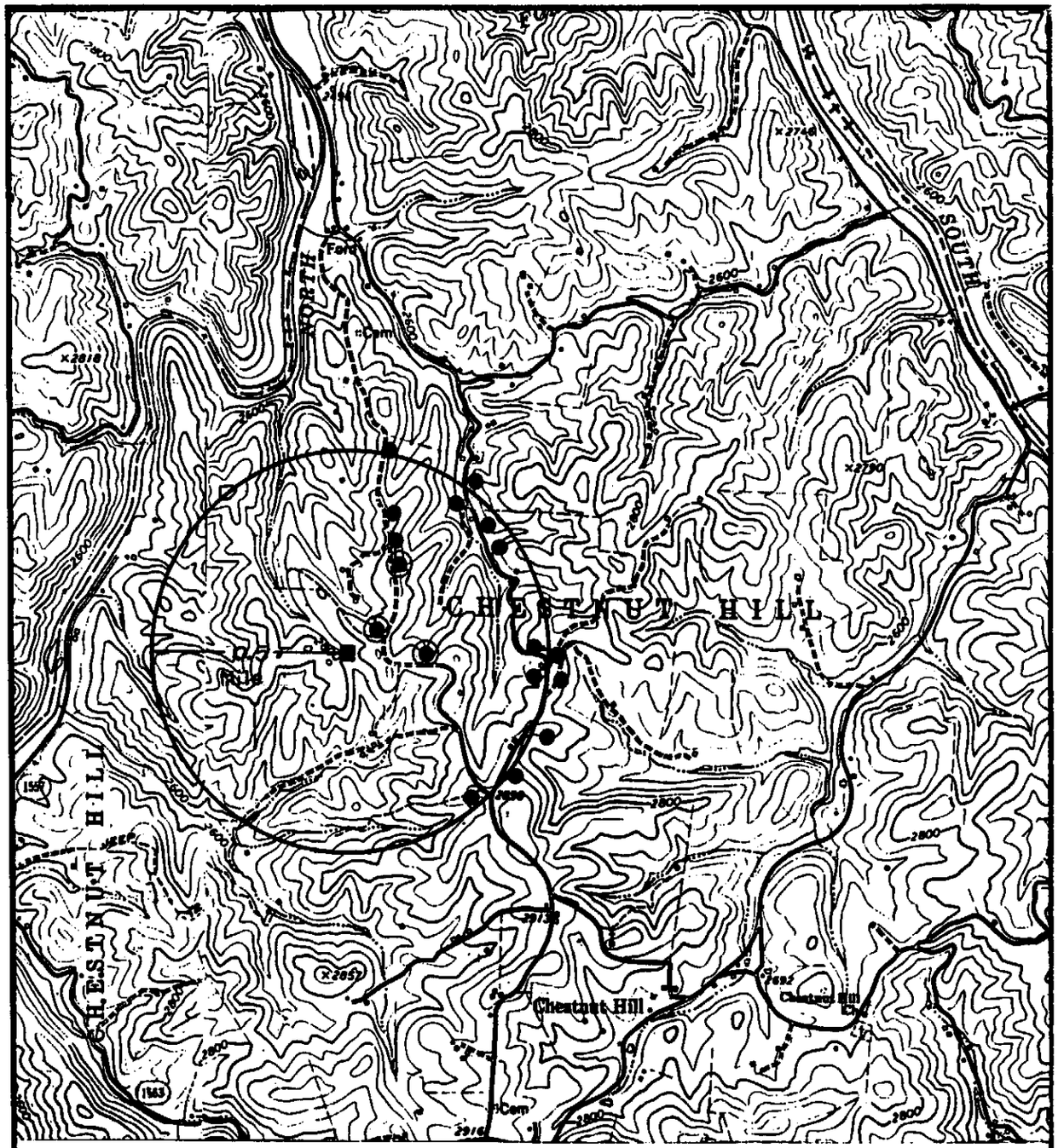
92182.07



Linear Traces Rose Diagram
From USGS 7.5 Minute Grassy Creek and
Mouth of Wilson Topographic Quadrangles

PLATE 7

92182.07

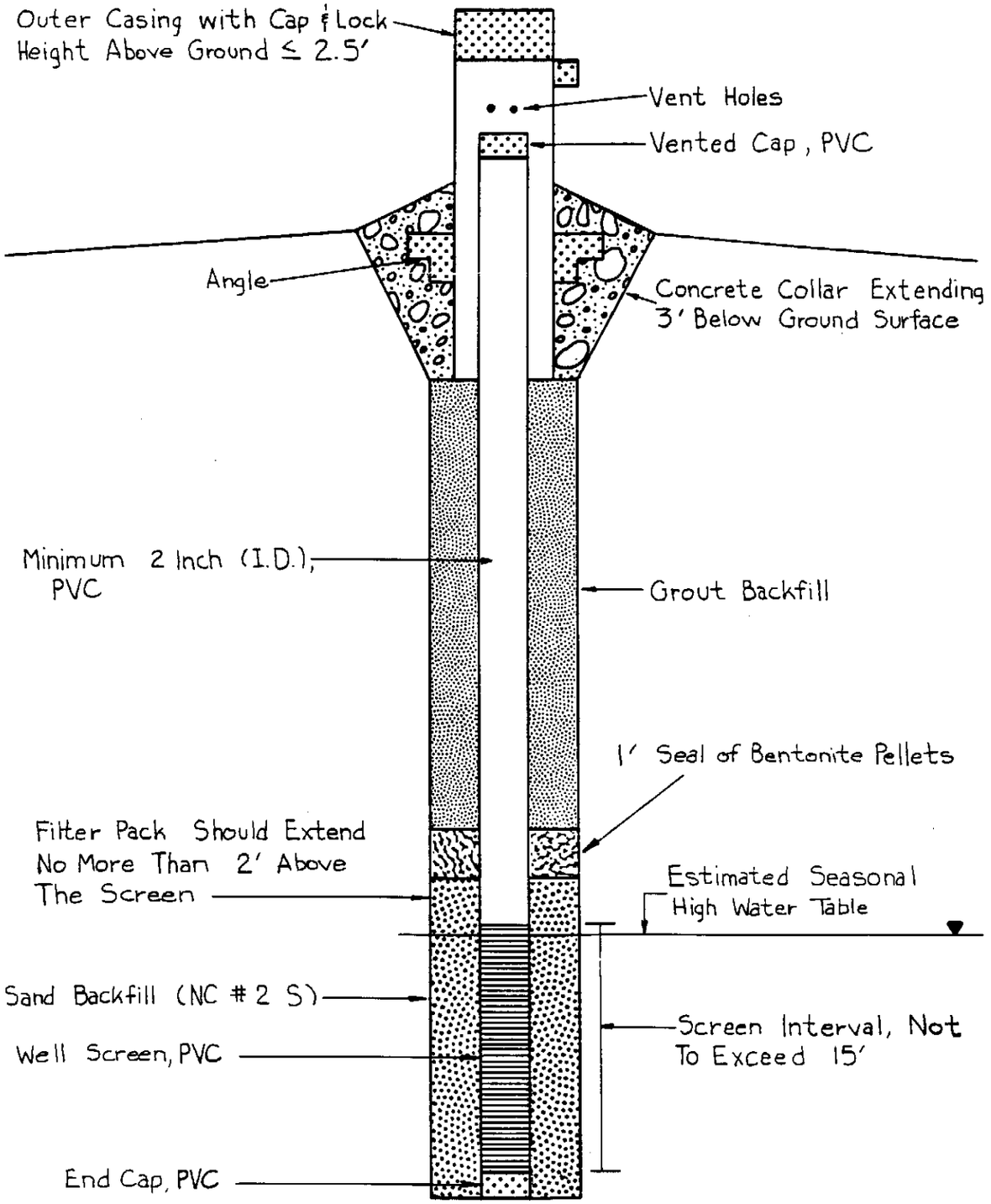


■ Suspected Source of Contamination
● Identified Ground Water Users
⊙ Private Water Wells Proposed For Sampling

N

Scale: 1" = 2000'

Groundwater Users Location Map
Plate 9



TYPICAL MONITORING WELL
PLATE II

Ashe Co. 05-01

SOIL & MATERIAL ENGINEERS INC. ENGINEERING-TESTING-INSPECTION

1903 Harrison Avenue, Box 609, Cary, NC 27511, Phone (919) 481-0397 Horizontal Exp.

January 8, 1985

Fac/Perm/Co ID #	Date	Doc ID#
Ac	6/8/09	DIN

Municipal Engineering Service
P. O. Box 97
Garner, NC 27529

Attention: Mr. Jimmy D. Woodie

Reference: Ashe County Landfill Geologic Study
Ashe County, North Carolina
S&ME Project Number: 055-84-018-A

Gentlemen:

Based on your authorization, Soil & Material Engineers, Inc. (S&ME) has completed a geological investigation for a proposed 78 acre landfill expansion site which is adjacent to the existing Ashe County landfill. This land is located approximately 1¼ miles northwest of Chestnut Hill, North Carolina, off State Road 1558, as depicted on Figure 1. The purpose of this investigation is to describe the subsurface soil, rock, ground water, and topographic and geologic conditions indicated by the test borings, laboratory analysis, and observations, in accordance with Solid and Hazardous Waste Management Branch, regulations for Solid Waste Management 10NCAC 10G. Discussion is also provided regarding the suitability and limitations of this site for landfilling purposes based on the data developed.

This report will be used by Municipal Engineering Service and the County for submittal of a site approval application and ultimately to develop an operations plan. It is our understanding that this landfill is to be used for the disposal of residential and non-toxic industrial wastes. No hazardous wastes will be disposed at this site.

At this time, no surveyed boundary site plan or topographic map for this site is available to us. The mapping used for this investigation was a U.S.G.S. 7.5 minute quadrangle map with property boundaries sketched. Therefore, the elevations and locations of the boreholes on the site and their relationships to existing site features are approximate. After the site has been surveyed and the boring locations and elevations determined, the contents of this report should be reviewed in light of the survey and appropriate revisions or additions made.

REGIONAL GEOLOGY

The proposed landfill site lies in the Blue Ridge Mountains physiographic province of North Carolina. According to geologic mapping prepared by the North Carolina Geologic Survey and the site reconnaissance, this area lies in a complex of metamorphosed rock, probably Late Precambrian hornblende and mica schists belonging to the Blue Ridge belt. These rocks are thought to have been derived from the metamorphism of sedimentary and volcanic rocks. The Blue Ridge belt schist and gneiss overlie older Precambrian basement rocks. These rocks typically weather to brown and reddish brown micaceous silts and clays with feldspathic rock zones within the soil matrix. The thickness of residual soils varies from a few to 60 feet or more, depending on the relative rates of weathering and erosion. A transition zone of weathered rock is generally found between the residual soils and underlaying sound rock.

FIELD EXPLORATION

Eight soil test boring locations were selected and staked in the field by a representative of S&ME using visual estimation, site features, and topography in relation to the U.S.G.S. 7.5-minute quadrangle map. The approximate locations of the boreholes are shown on the attached borehole location map (Figure 2). Elevations of the boreholes were estimated from the U.S.G.S. map.

The field exploration consisted of drilling five soil test borings to a maximum depth of 60 feet or at the point of auger refusal (N-Standard Penetration Resistance in excess of 100 blows per foot). All test borings were drilled by a CME-45 drill rig mounted on an all-terrain carrier. The boreholes were advanced by means of continuous flight hollow stem auger. Representative soil samples were obtained at approximate 5-foot intervals by means of the

split-barrel sampling procedure (ASTM D-1586). All soil samples collected were classified by the Unified Soil Classification System (ASTM D-2487) and recorded on the attached Test Boring Records. In addition to the soil test borings, three auger probes were performed (Borings 1, 7, and 8) to determine depth to rock in areas that were likely to be used as cover material. Visual soil classification was made during the boring and is also contained on the attached Test Boring Records.

At the completion of drilling each borehole, a temporary piezometer was constructed and observations made for water accumulating in the borehole. A representative of S&ME also measured water levels in the boreholes approximately two weeks later. Based on current solid waste and ground water regulations, these temporary monitoring wells must be grouted closed prior to construction of the landfill or after any further water level observations are completed.

SITE CONDITIONS

The proposed landfill site area is estimated to be approximately 78 acres. However, due to perennial drainage features and buffer zones, only approximately 40 to 50 acres are being considered as a proposed landfill. This tract has a high topographic point along its eastern border (elevation 2,800 to 2,840) with a moderate to steep slope to the northwest and overall topographic relief of approximately 200 feet. The drainage at the site is characterized by three northwest trending drainage swales which connect just to the north of the site to a northward draining perennial stream. These swales divide the site into a series of north to northwest trending ridges. During the field reconnaissance, surface water was noticed at the lower (northern) reaches of the the drainage swales near the property boundaries. The perennial stream also crosses the property to the west of the area proposed for landfilling.

A north-south trending ridge to the west of the perennial stream is tentatively proposed as a future borrow area.

The results of the test borings and auger probes indicate that the surface conditions at this site consist of a very thin organic topsoil cover with a number

of rock boulders across the site. From the results of the borings and in conversations with the superintendent of the landfill, these boulders appear to be isolated and do not represent outcrops. This surface veneer is generally underlain by 15 to 60 feet of residual soils. Approximately the upper 2 feet of soil consists of silty clay and clayey silts with the remaining soils consisting of very micaceous slightly clayey silts with inclusions of fine grained sands and other accessory minerals. Below these depths, auger refusal suggests that the soil grades to weakly competent rock. Using the classifications presented in the Test Boring Records, Figures 4 through 6 present simplified soil cross-sections through the proposed site.

Ground water conditions were recorded in the boreholes at the completion of each test boring and approximately two weeks later. These findings are attached in Table 1. Using the apparently stabilized ground water levels, an estimated potentiometric map is depicted in Figure 7.

LABORATORY ANALYSIS

To evaluate the physical parameters of the soil and hydraulic conductivity of the base and cover soils of the proposed site, relatively undisturbed samples (ASTM D-1587) and bag samples were obtained at locations and depths determined by an S&ME field representative. An undisturbed sample was tested to determine its grain size distribution, and natural hydraulic conductivity (vertical). After determining the grain size distribution and moisture density relationships of the bulk samples, one sample was tested to determine its remolded hydraulic conductivity at 95 percent of the maximum laboratory density.

EVALUATION AND CONCLUSIONS

To consider siting of a sanitary landfill, S&ME considered technical factors such as ground water levels, excavation, availability and suitability of cover soils, permeability of base materials, and environmental protection and monitoring. Each of these factors are discussed below regarding use of the site for landfilling.

Ground Water

Ground water was observed in four boreholes ranging between 8.8 and 40.7 feet below ground surface. The phreatic surface is apparently below the bottom of the boreholes at the other test borings. Ground water levels may be expected to fluctuate due to many factors, including precipitation, evapotranspiration, and surface drainage. The North Carolina Department of Human Resources requires that the bottom of the landfill be a minimum of 4 feet above the seasonal high phreatic surface.

It is understood that the proposed method of landfilling at this site will be similar to the adjacent existing site. This is a "terracing" or "stair-stepping" method which will involve disposal in the dry upper portions of the existing swales with cover being excavated from the adjoining ridges. Based on observed water levels, the lower (northern) reaches of the three drainage swales cannot be used for landfilling since ground water is expected to exist at/or within 4 feet of the ground surface.

Excavation

One of the major considerations regarding the use of a landfill site is whether difficult excavation will be encountered due to weathered or sound rock. Although thin rock lenses were encountered in some borings, overall results indicate that the general depth of weathered rock ranges between 15 to 60 feet below land surface. When examining the weathered rock on existing highwalls of the present landfill, there is also a 10 to 20 foot section of weathered saprolite. In communication with the superintendent of the landfill, he explained that the front end loader presently used for excavation has historically had no problems excavating the weathered saprolite. Therefore, S&ME feels that the 15 to 60 foot excavation depths are reasonable figures and that the limiting criteria for depth in most areas will apparently be ground water.

Excavation to the proposed depths will create a number of high temporary slopes. No laboratory soil strength testing or slope stability analysis has been performed as a part of this study. Most soils of this type will stand on 1(v):1(h) temporary slope to heights of 30 to 50 feet. However, all such slopes should be

treated with caution, based on previous experience with the existing landfill. These silty soils are susceptible to sheet erosion and suitable erosion control methods should be used. Final slopes should not exceed 1(v):3(h) unless stabilized for erosion and analysed for stability.

Cover Soils

In several locations, an approximate 2 foot thick silty clay layer was found at the surface at boring locations B-2, B-3, and B-6. This soil appears to be suitable for final cover. These soils should be identified and stockpiled for construction of dikes, landfill base, and especially for use as final cover. The most clayey soils available should be used for final cover. The micaceous slightly clayey silts have been analyzed (see Table 2) and saturated hydraulic conductivity was approximately 5.0×10^{-4} cm/sec. Due to the similarity in natural moisture and grain size distribution, these slightly clayey silts appear to exist rather uniformly throughout the site and will be suitable for use as daily cover.

Reynolds Hyd. Con

Landfill Base Permeability

Saturated hydraulic conductivities of the base soils tested are approximately 7.0×10^{-4} cm/sec. The hydraulic conductivity of the weathered rock may be in excess of this range. This may possibly provide a path for leachate to seep beneath the landfill and into the adjoining stream or ground water. We recommend that where excavation is carried to or into weathered rock, the base of the landfill be lined with a minimum of 3 feet of compacted fine grained silty soil to help seal off the bottom of the landfill. These soils should be, if possible, compacted to about 95 percent of the maximum laboratory density as determined in Table 2 or by testing of the actual soils used.

Environmental Protection and Monitoring

Due to the potential of contamination to the ground water, suitable measures must be taken to prevent seepage from the landfill. The lowest permeability soil available should be used as final cover over the landfill. The final surface must be well compacted and sloped to minimize infiltration, and erosion must be controlled to prevent re-exposure of the refuse. Periodic regrading of the final surface will be required as the wastes decompose. Also,

ground water monitoring wells will be required hydraulically downgradient from the landfill to detect any leachate infiltrating into the ground water.

Also, several deep domestic ground water wells exist along the eastern border of the proposed landfill property. Solid Waste Management Regulations require a minimum distance of 500 feet between domestic wells and buried wastes. It is recommended that at least one ground water monitoring well be located along this boundary and that periodic ground water quality sampling also be performed from the domestic wells to assess any possible contamination.

CONCLUSIONS

Overall, this site appears suitable for a properly designed and operated sanitary landfill. Careful design and operation will be required due to the nearby domestic wells, topographic slopes, and the proximity of shallow ground and surface water at the lower elevations.

We appreciate the opportunity to be of service to you. If you have any questions or if we can be of further assistance, please contact us.

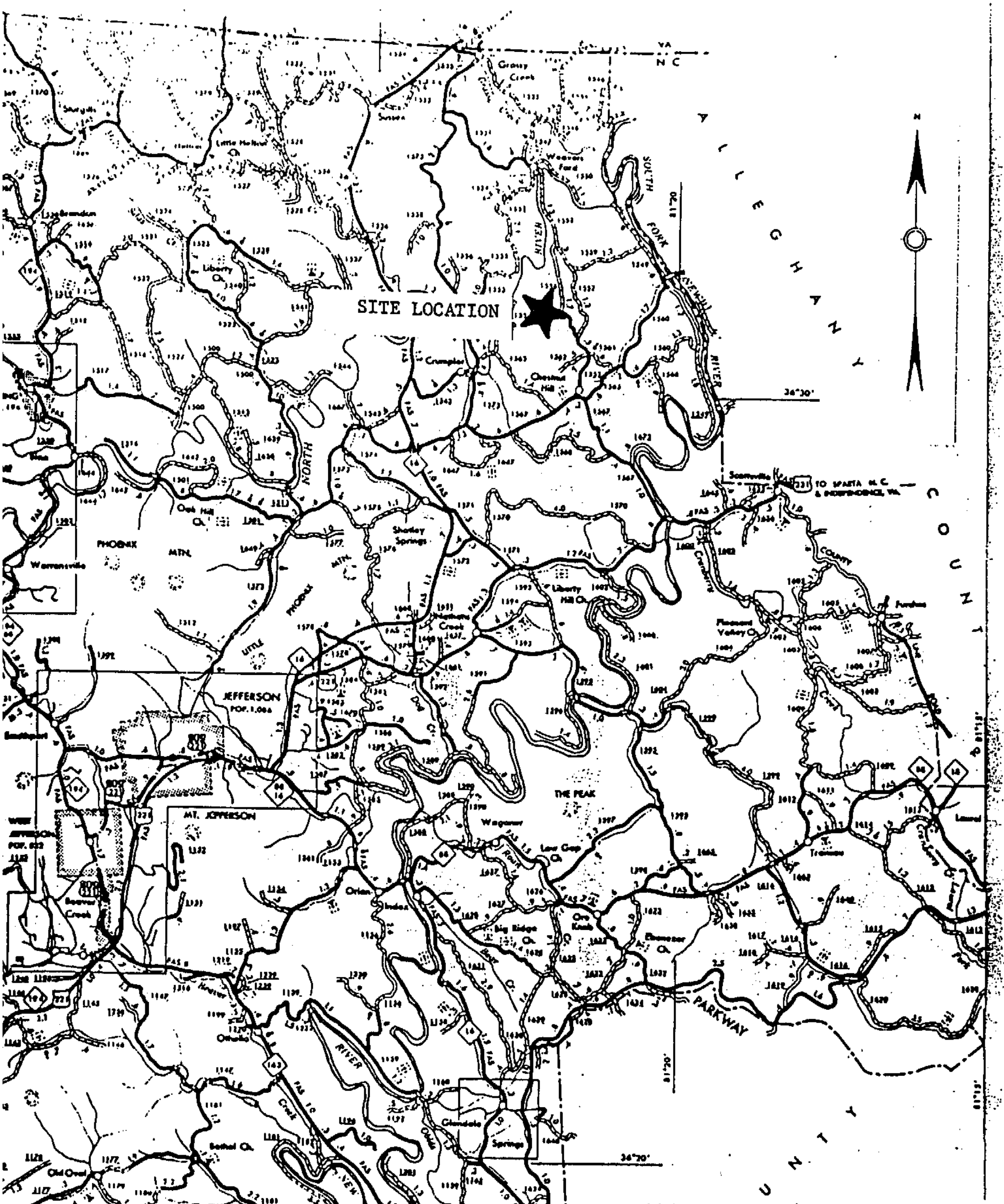
Sincerely yours,
Soil & Material Engineers, Inc.

Phillip L. Rahn, Geologist

Ernest F. Parker, Jr. P.E.

PLR/pjc

Figures

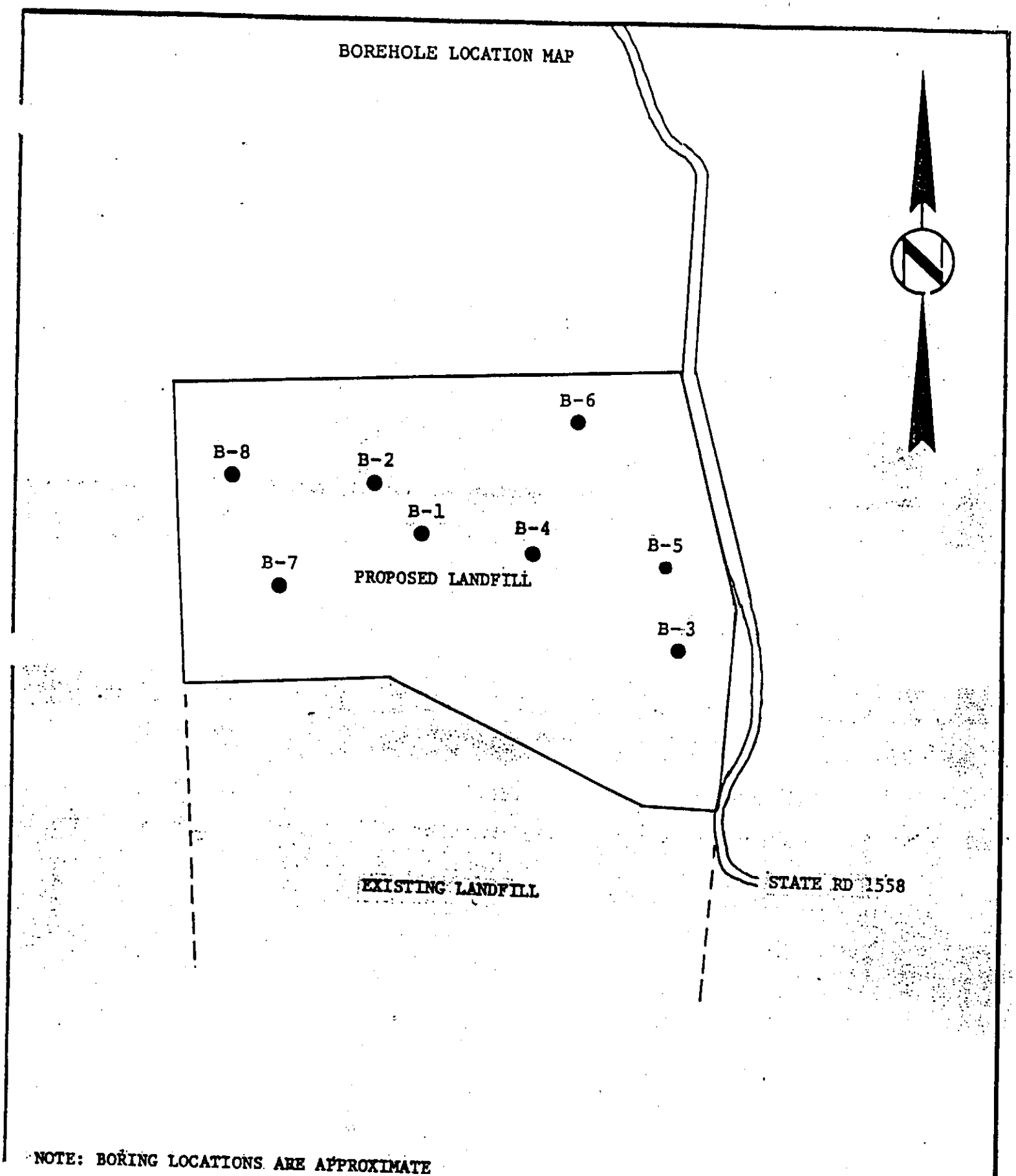


PROJECT
ASHE COUNTY LANDFILL
GEOLOGIC STUDY
CHESTNUT HILL, N.C.

SOIL & MATERIAL ENGINEERS, INC.
RALEIGH, NORTH CAROLINA

SCALE: N.T.S.
JOB NO: 055-84-018A
FIG. NO: 1

DUNCAN-PARNELL, INC., RALEIGH 2/84

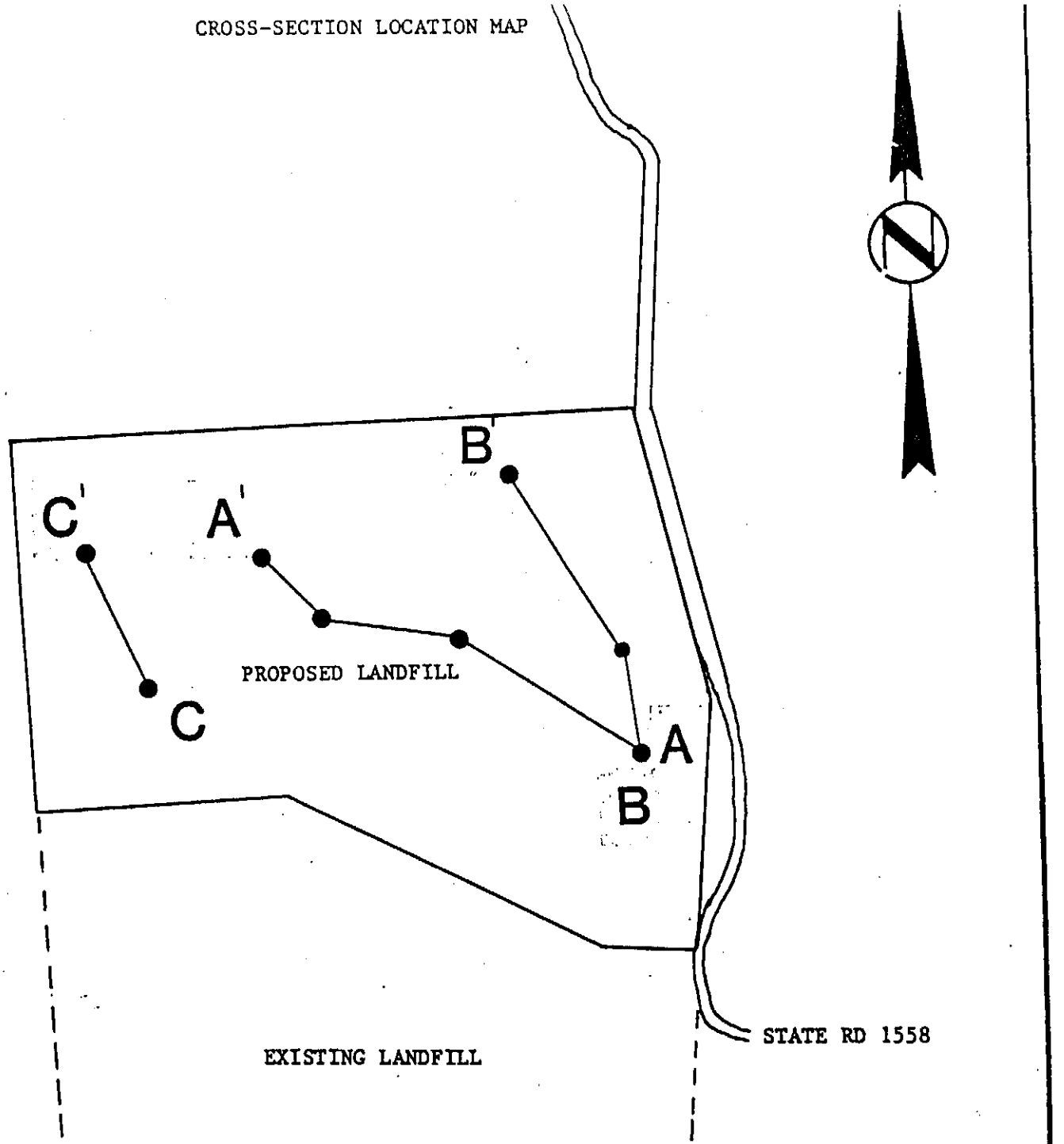


NOTE: BORING LOCATIONS ARE APPROXIMATE

PROJECT	SOIL & MATERIAL ENGINEERS, INC.	SCALE: APPROX. 1"=500'
ASHE COUNTY LANDFILL GEOLOGIC STUDY CHESTNUT HILL, N.C.	RALEIGH, NORTH CAROLINA	JOB NO: 055-84-018A FIG. NO: 2

DUNCAN-PARNELL, INC., RALEIGH 2/84

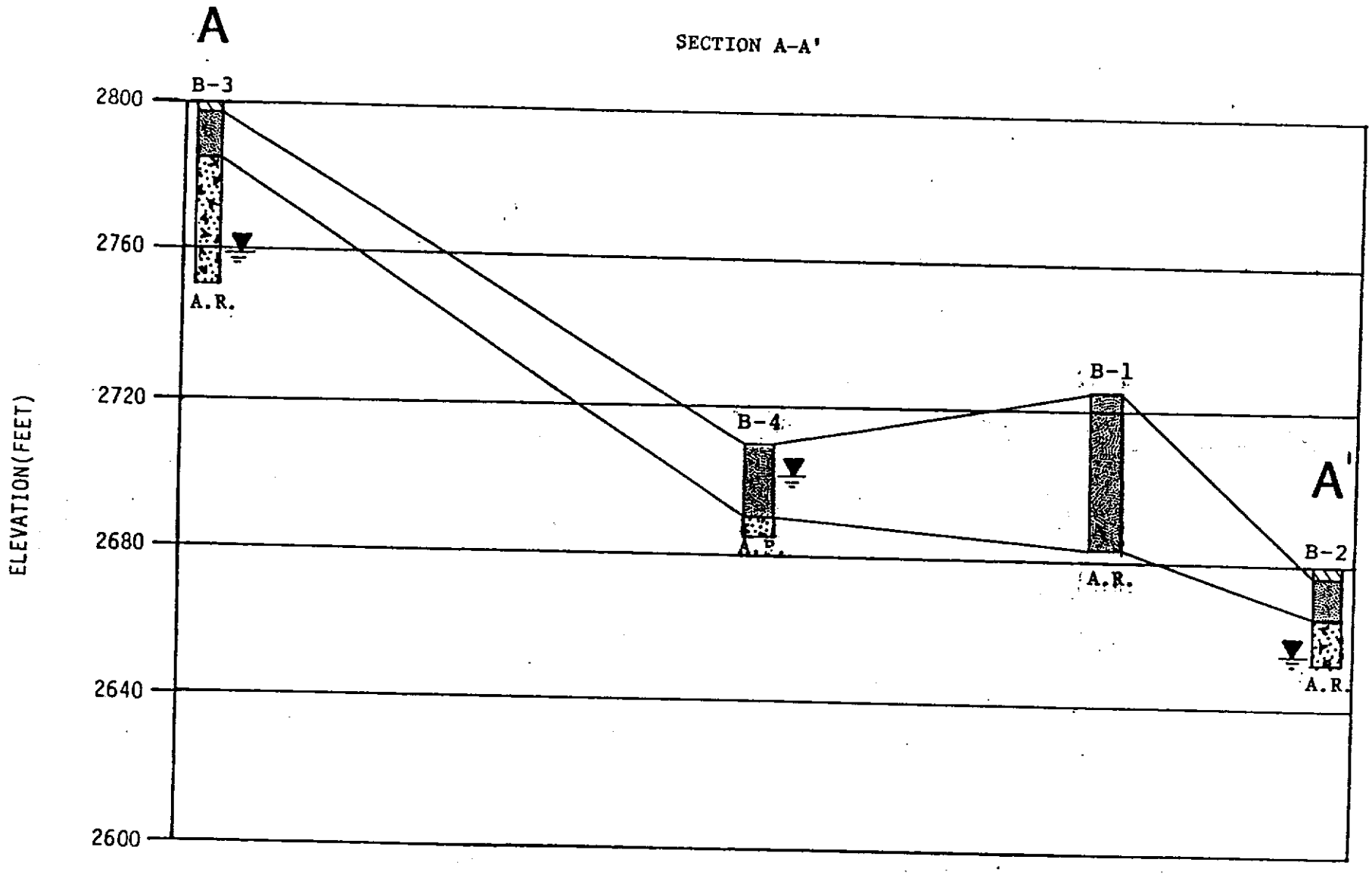
CROSS-SECTION LOCATION MAP



'E: BORING LOCATIONS ARE APPROXIMATE

JECT HE COUNTY LANDFILL OLOGIC STUDY IESTNUT HILL, N.C.	SOIL & MATERIAL ENGINEERS, INC. RALEIGH, NORTH CAROLINA	SCALE: APPROX. 1"=500' JOB NO: 055-84-018A FIG. NO: 3

H-PARNELL, INC., RALEIGH 2/84



A.R.=AUGER REFUSAL

B.T.=BORING TERMINATED

NOTE: TEST BORING ELEVATIONS ARE ESTIMATED

LEGEND:

CLAY, SAND-SILT-CLAY MIXTURE

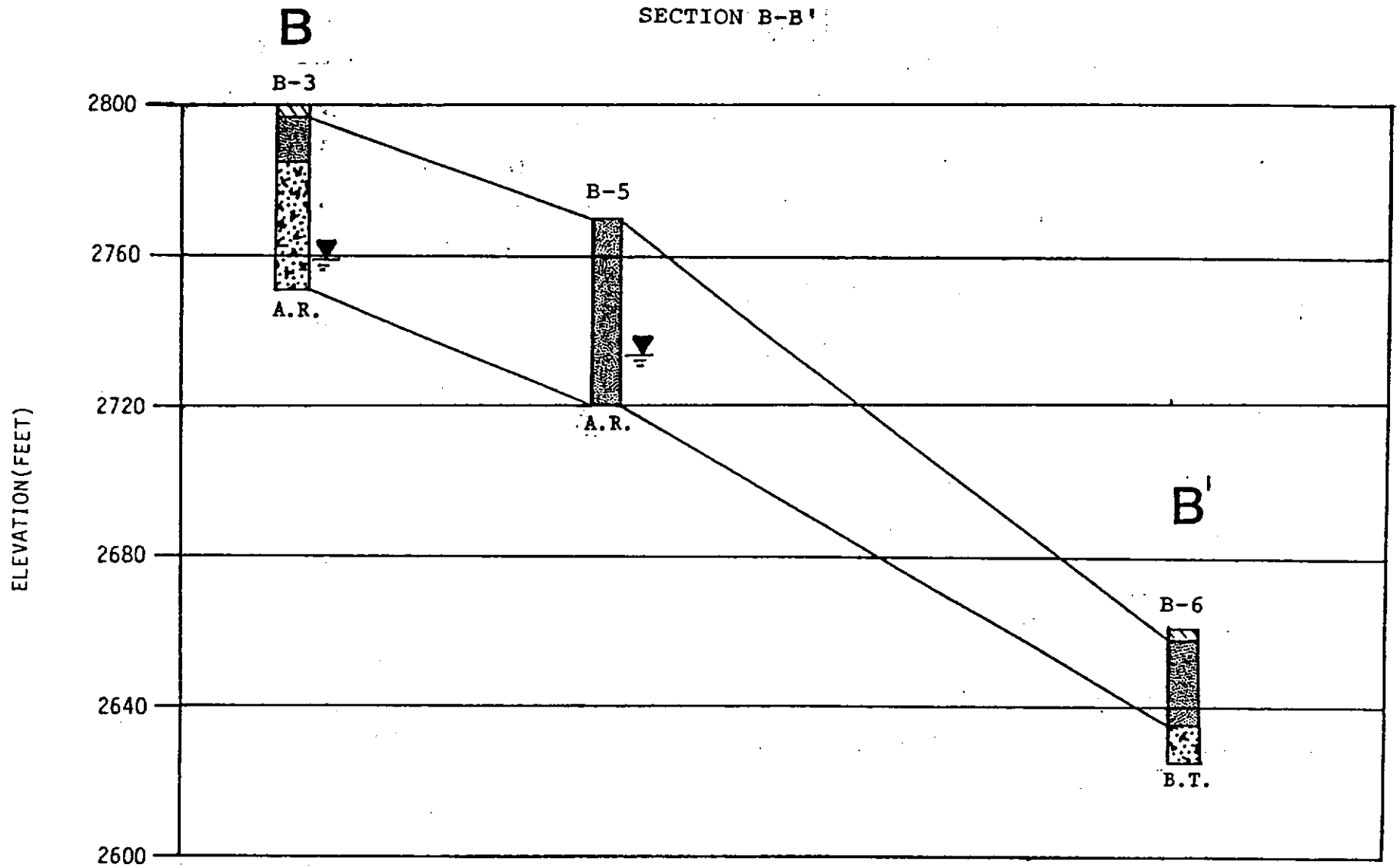
SILT, CLAY-SAND-SILT MIXTURE

WEATHERED ROCK

PROJECT	SOIL & MATERIAL ENGINEERS, INC. RALEIGH, NORTH CAROLINA	SCALE: H:1"=200' V:1"=40'
ASHE COUNTY LANDFILL GEOLOGIC STUDY CHESTNUT HILL, N.C.		JOB NO: 055-84-018A
		FIG NO: 4

SM-81

SECTION B-B'



A.R.=AUGER REFUSAL

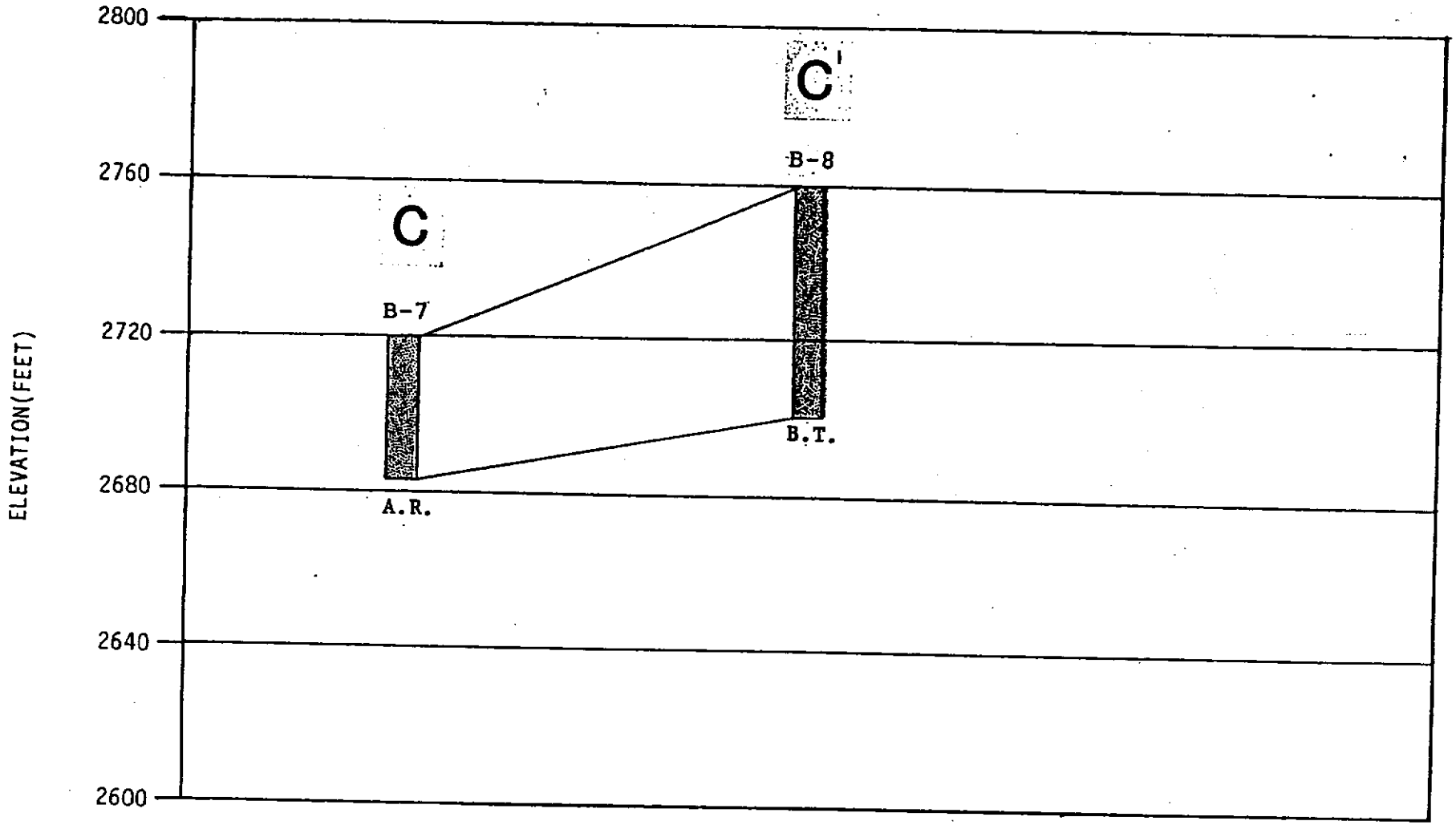
B.T.=BORING TERMINATED

NOTE: TEST BORING ELEVATIONS ARE ESTIMATED

LEGEND:
- CLAY, SAND-SILT-CLAY MIXTURE
- SILT, CLAY-SAND-SILT MIXTURE
- WEATHERED ROCK

PROJECT	SOIL & MATERIAL ENGINEERS, INC. RALEIGH, NORTH CAROLINA	SCALE: H:1"=200' V:1"=40'
ASHE COUNTY LANDFILL GEOLOGIC STUDY CHESTNUT HILL, N.C.		JOB NO: 055-84-018A
		FIG NO: 5

SECTION C-C'



A.R.=AUGER REFUSAL

B.T.=BORING TERMINATED

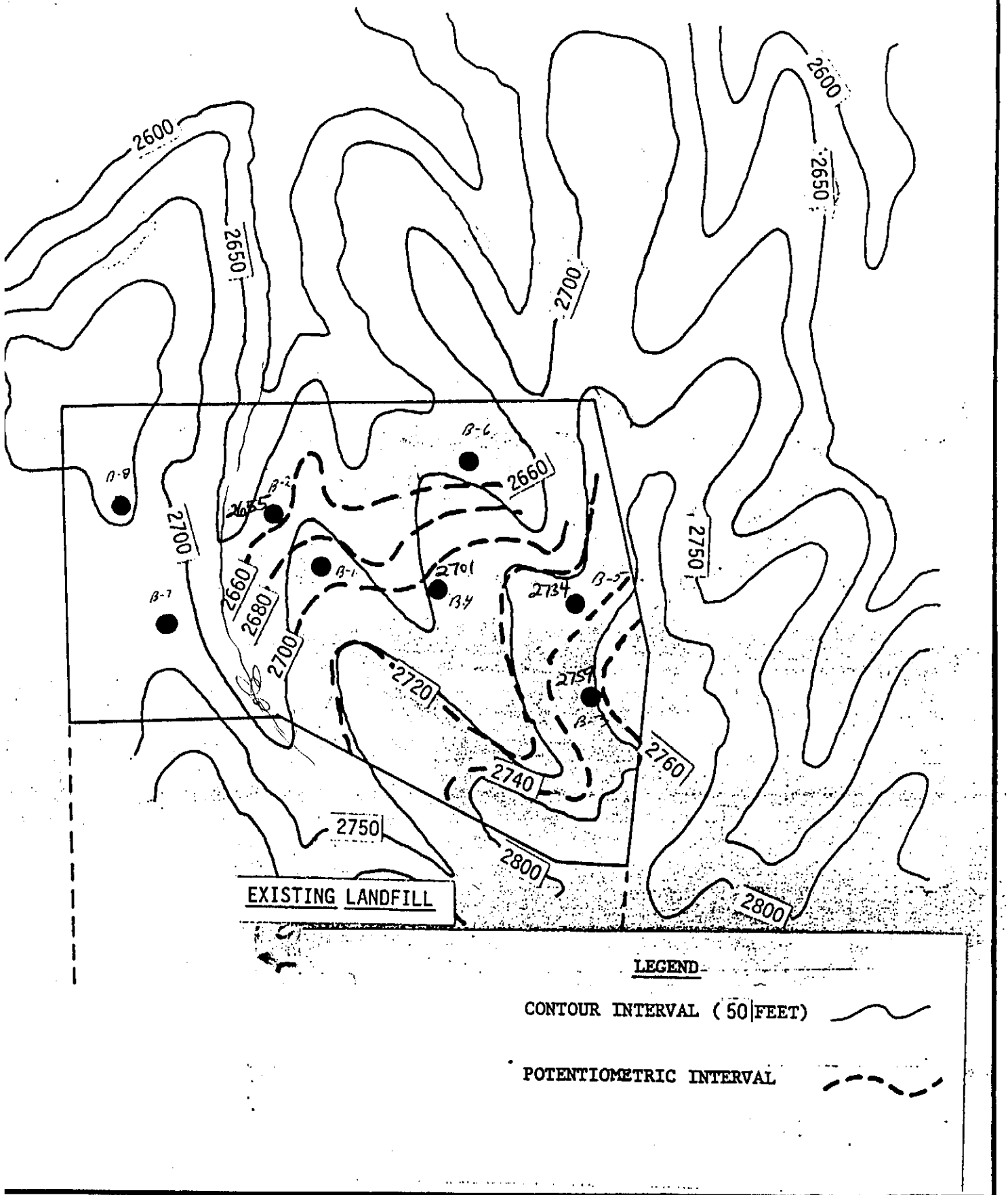
NOTE: TEST BORING ELEVATIONS ARE ESTIMATED

LEGEND:
- CLAY, SAND-SILT-CLAY MIXTURE
- SILT, CLAY-SAND-SILT MIXTURE
- WEATHERED ROCK

PROJECT ASHE COUNTY LANDFILL GEOLOGIC STUDY CHESTNUT HILL, N.C.	SOIL & MATERIAL ENGINEERS, INC. RALEIGH, NORTH CAROLINA	SCALE: H:1"=200' V:1"=40' JOB NO: 055-84-018A FIG NO: 6

SM-B1

ESTIMATED POTENTIOMETRIC CONTOUR MAP



JECT E COUNTY LANDFILL LOGIC STUDY STNUT HILL, N.C.	SOIL & MATERIAL ENGINEERS, INC. RALEIGH, NORTH CAROLINA	SCALE: APPROX. 1"=500' JOB NO: 055-84-018A FIG. NO: 7

DUNCAN-PARNELL, INC., RALEIGH

Test Boring Records

Auger Probe

PENETRATION BLOWS PER FT.

0 10 20 30 40 60 80 100

Red-Tan Micaceous Slightly Clayey Sandy SILT (ML)

NG AND SAMPLING MEETS ASTM D-1586
: DRILLING MEETS ASTM D-2113

TRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER
ING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
OSS OF DRILLING WATER

WATER TABLE-24HR.
WATER TABLE-1HR.

TEST BORING RECORD

BORING NO. B-1
DATE DRILLED 12/11/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DEPTH FT.	DESCRIPTION	ELEV.	●PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0'	Auger Probe Refusal at 42.0 feet..		
	No Water Encountered at Time of Boring		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

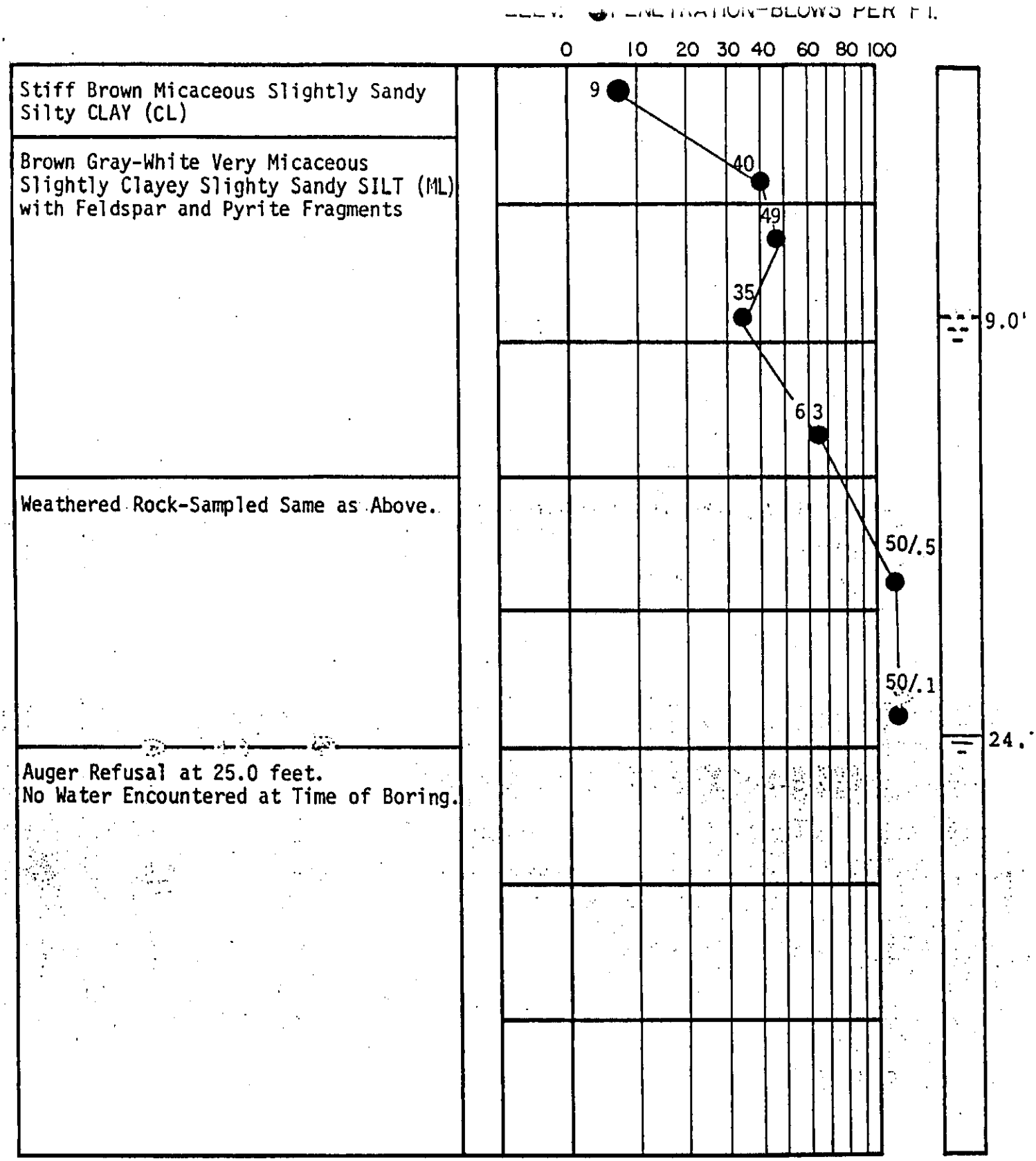
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24HR.
WATER TABLE-1HR.

TEST BORING RECORD

BORING NO. B-1
DATE DRILLED 12/11/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.



RING AND SAMPLING MEETS ASTM D-1586
RE DRILLING MEETS ASTM D-2113

NETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER
LLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

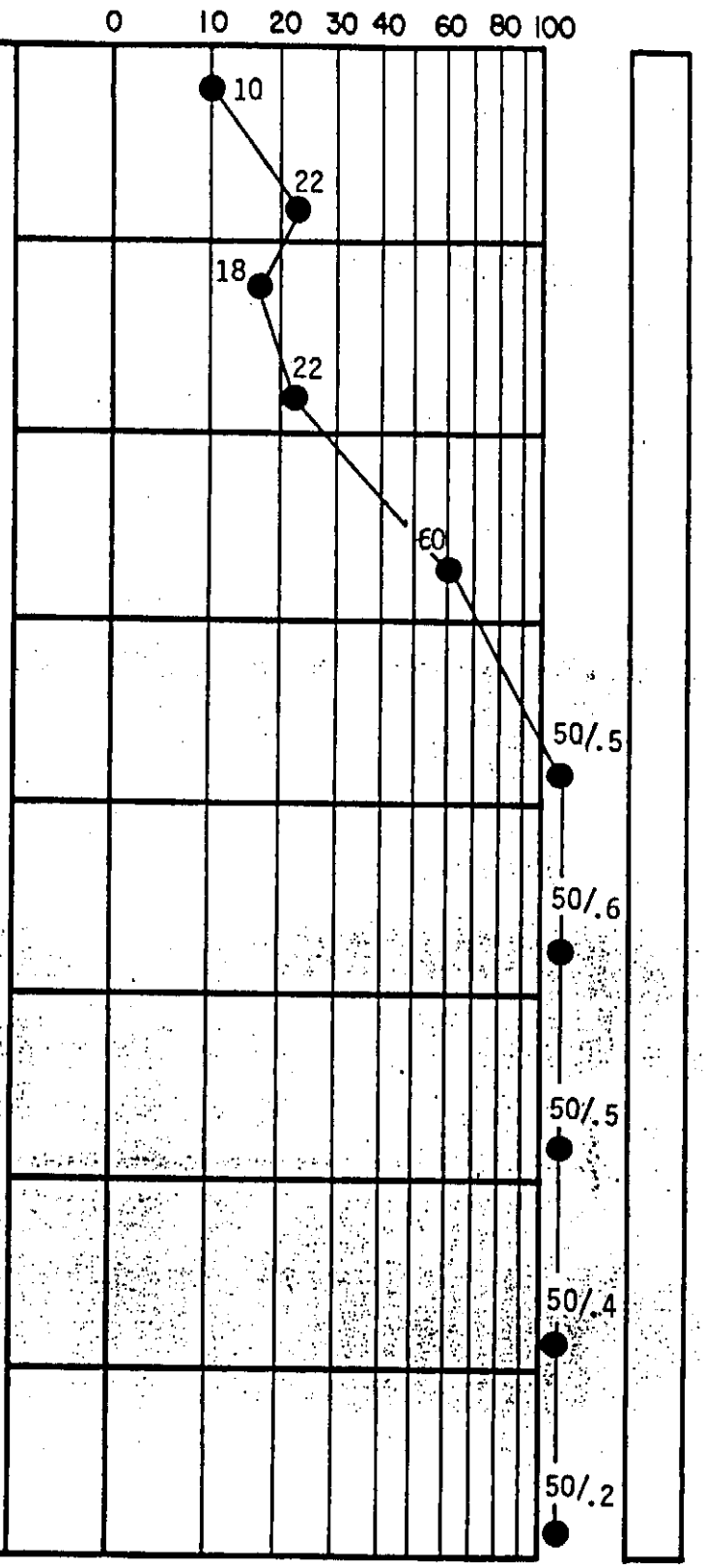
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24 HR.
WATER TABLE-1 HR.

TEST BORING RECORD

BORING NO. B-2
DATE DRILLED 12/07/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DEPTH FT.	DESCRIPTION
0.0'	Stiff Brown Micaceous Silty CLAY (CL)
2.0'	Very Stiff Red-Brown Clayey SILT (ML) with Feldspar, Pyrite, and Mica Fragments
7.5'	Very Stiff-Hard Gray-White Micaceous Slightly Clayey SILT (ML)
15.0'	Weathered Rock-Sampled as Brown-Gray White Micaceous Slightly Sandy SILT (ML) with Feldspar and Hornblende Fragments



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50% ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24HR.
WATER TABLE-1HR.

TEST BORING RECORD

BORING NO. B-3
DATE DRILLED 12/04/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

FT. ELEV. ● PENETRATION-BLOWS PER FT.

0 10 20 30 40 60 80 100

Continued

50/.1

50/.1

40.

46.0'

Auger refusal at 49.0 feet.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50% ROCK CORE RECOVERY

◀ LOSS OF DRILLING WATER

WATER TABLE-24 HR.

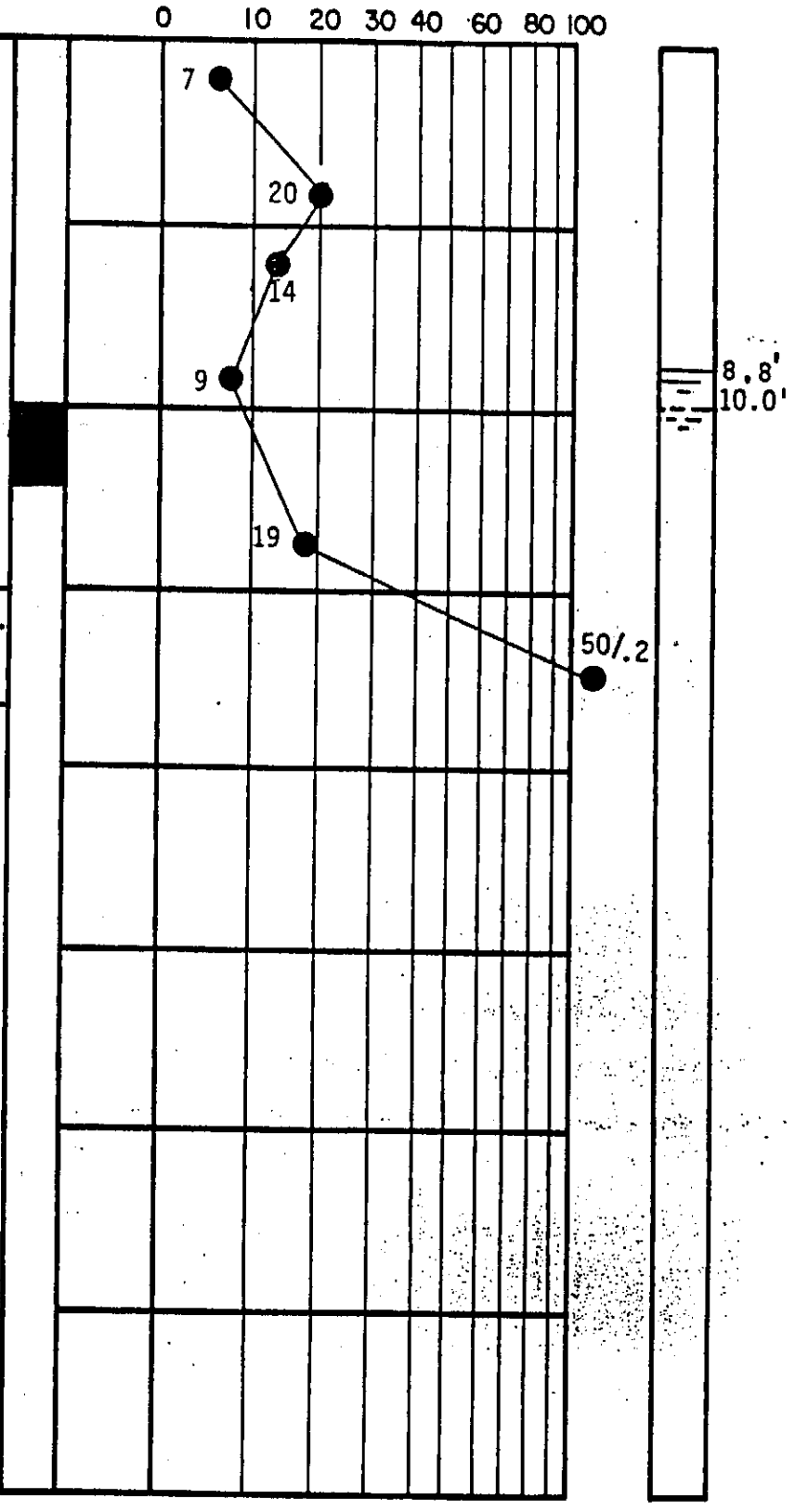
WATER TABLE-1 HR.

TEST BORING RECORD

BORING NO. B-3
DATE DRILLED 12/04/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DEPTH FT.	DESCRIPTION
.0'	Firm-Very Stiff Red-Brown Very Micaceous Clayey SILT (ML) with Fragments of Pyrite
.0'	Weathered Rock – Sampled Same as Above.
.0'	Auger Refusal at 23.0 feet.



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
60 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE–24 HR.
WATER TABLE–1 HR.

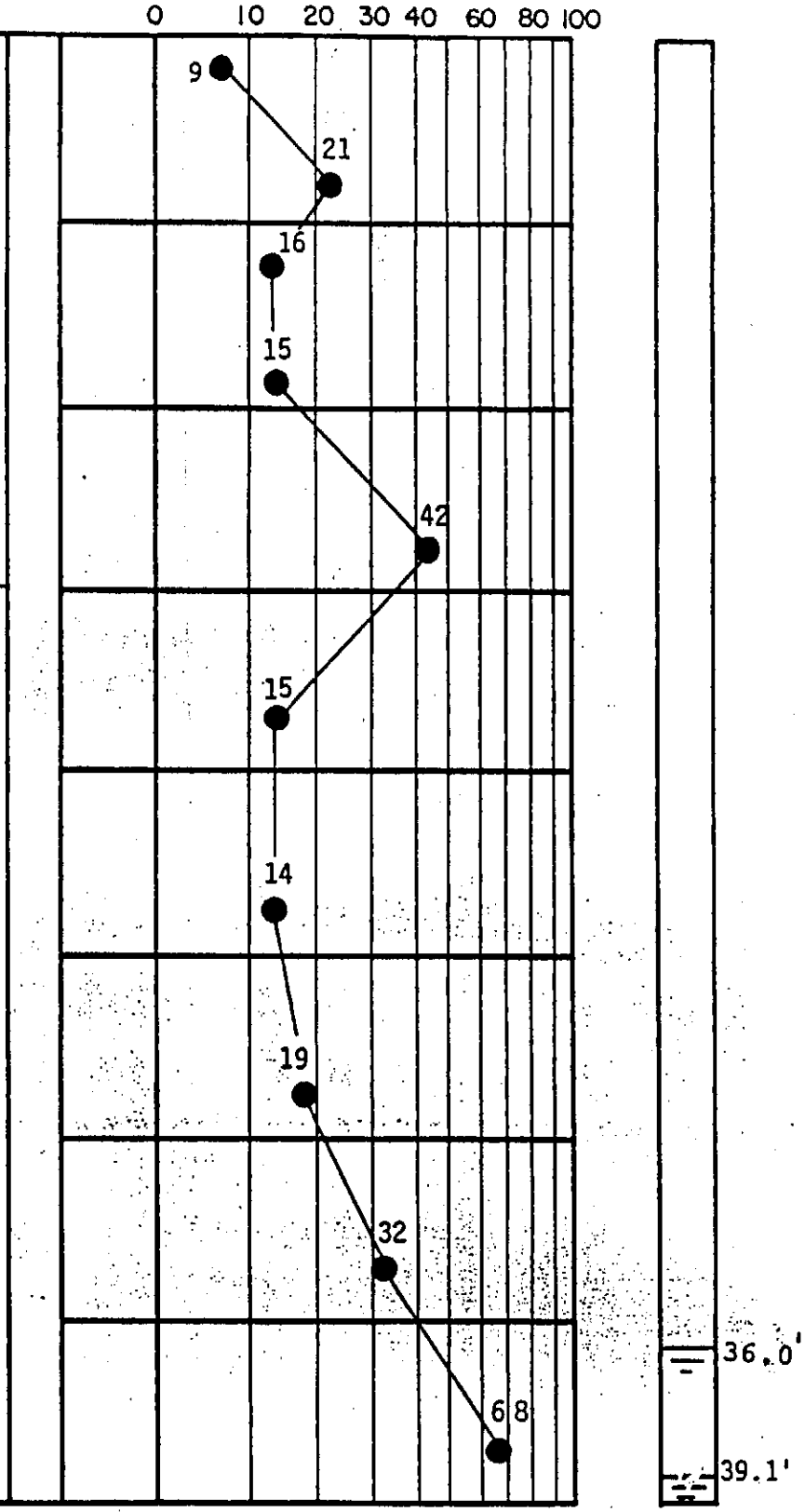
TEST BORING RECORD

BORING NO. B-4
DATE DRILLED 12/07/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

Stiff-Hard Orange-Tan-White Slightly Clayey Sandy SILT (ML) with Feldspar Fragments

Stiff-Hard Brown Micaceous Clayey SILT (ML) with Pyrite and Feldspar Fragments



ING AND SAMPLING MEETS ASTM D-1586
E DRILLING MEETS ASTM D-2113

ETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER
LING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

WATER TABLE-24 HR.
WATER TABLE-1 HR.

TEST BORING RECORD

BORING NO. B-5
DATE DRILLED 12/06/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DEPTH FT.	DESCRIPTION	ELEV.	●PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
	Continued		50/.2 ●
1.0'	Auger Refusal at 50.0 feet. No Water Encountered at Time of Boring.		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

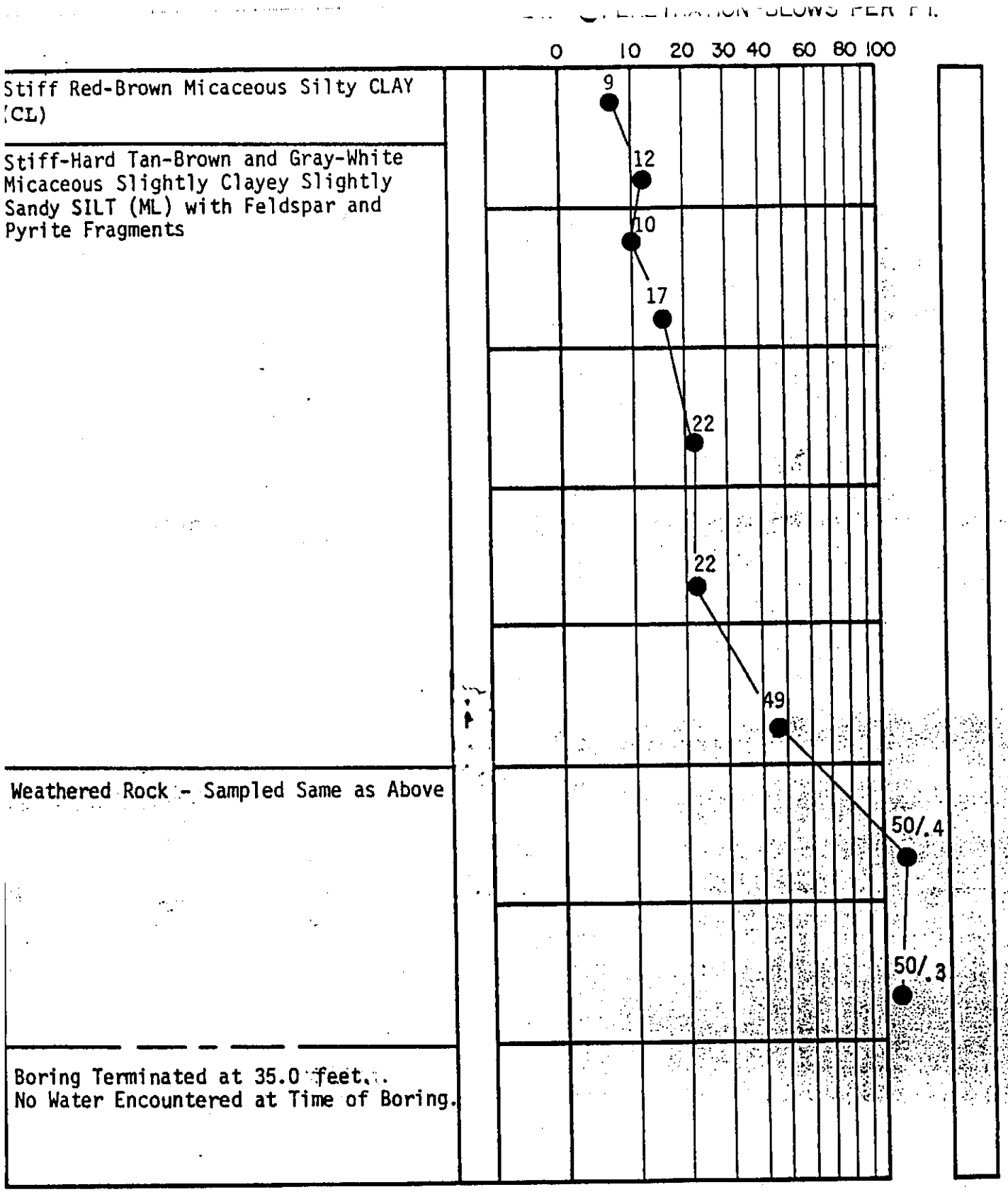
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50% ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24 HR.
WATER TABLE-1 HR.

TEST BORING RECORD

BORING NO. B-5
DATE DRILLED 12/06/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.



ING AND SAMPLING MEETS ASTM D-1586
E DRILLING MEETS ASTM D-2113

ETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER
LING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24HR.
WATER TABLE-1HR.

TEST BORING RECORD

BORING NO. B-6
DATE DRILLED 12/07/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DEPTH FT.	DESCRIPTION	ELEV.	●PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0.0	Auger Probe		
	Brown-Tan Micaceous Slightly Clayey Slightly Sandy SILT (ML)		
36.0'	Auger Probe Refusal at 36.0 feet No Water Encountered at Time of Boring		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50% ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24HR.
WATER TABLE-1HR.

TEST BORING RECORD

BORING NO. B-7
DATE DRILLED 12/11/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

FT.

0'

ELEV. ● PENETRATION-BLOWS PER FT.

0 10 20 30 40 60 80 100

Brown-Orange Micaceous Slightly Clayey Slightly Sandy SILT (ML)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24 HR.
WATER TABLE-1 HR.

TEST BORING RECORD

BORING NO. B-8
DATE DRILLED 12/11/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DEPTH FT.	DESCRIPTION	ELEV.	●PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
	Continued		
60.0'	Auger Probe Terminated at 60.0 feet (No Rock) No Water Encountered During Boring.		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER
WATER TABLE-24HR.
WATER TABLE-1HR.

TEST BORING RECORD

BORING NO. B-8
DATE DRILLED 12/11/84
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

Tables

TABLE 1

BOREHOLE WATER LEVELS
ASHE COUNTY LANDFILL FEASIBILITY STUDY
S&ME JOB NO.: 055-84-018-A

BORING NUMBER	ELEVATION (FEET)	0-HOURS DEPTH	0-HOURS ELEVATION	12/20/84 DEPTH	12/20/84 ELEVATION
B-1	2725	DRY	-----	DRY	-----
B-2	2680	9.0	2671	24.7'	2655.3
B-3	2800	46.0'	2754	40.7'	2759.3
B-4	2710	10.0'	2700	8.8'	2701.2
B-5	2770	39.1'	2730.9	36.0'	2734.0
B-6	2680	DRY	---	DRY	---
B-7	2720	DRY	---	DRY	---
B-8	2760	DRY	---	DRY	---

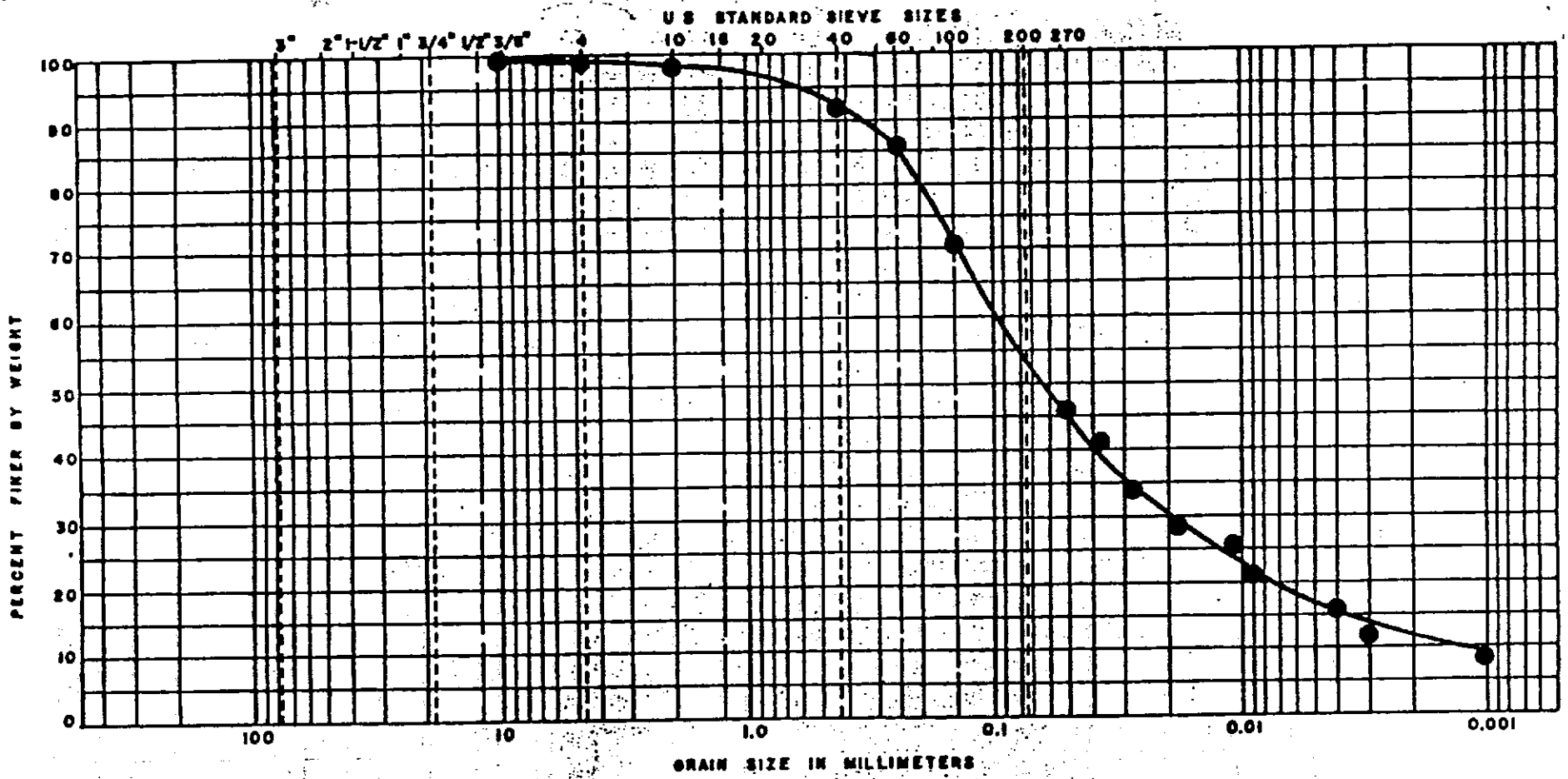
Table 2
Laboratory Data Summary
Ashe County Proposed Landfill
Chestnut Hill, North Carolina
S&ME Project Number: 055-84-018-A

Boring Number	Sample Type	Sample Depth (ft)	Natural Moisture (%)	Liquid Limit	Plasticity Index	Specific Gravity	Dry Unit Weight (pcf)	Saturated Conductivity(cm/sec)
B-1	Bag	0 - 2'	6.2	32	5	2.712	108.4	5.0×10^{-4} * X Remolded
B-3	Bag	0 - 2'	5.2	-	N.P.	2.676		
B-4	U.D.	10 - 12'	22.06	-	N.P.	2.872	108.02	7.0×10^{-4}
B-8	Bag	0 - 2'	7.3	36	1.0	2.733		

U.D. = Undisturbed Sample
N.P. = Non-Plastic

* Remolded to Approximately 95% of Maximum Dry Density

Grain Size Distribution Curves



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION	
B-1	0-2'	6.2	32	27	5	Brown Micaceous ~~Silty SAND~~	ML
						Sdy. Silt	A-4

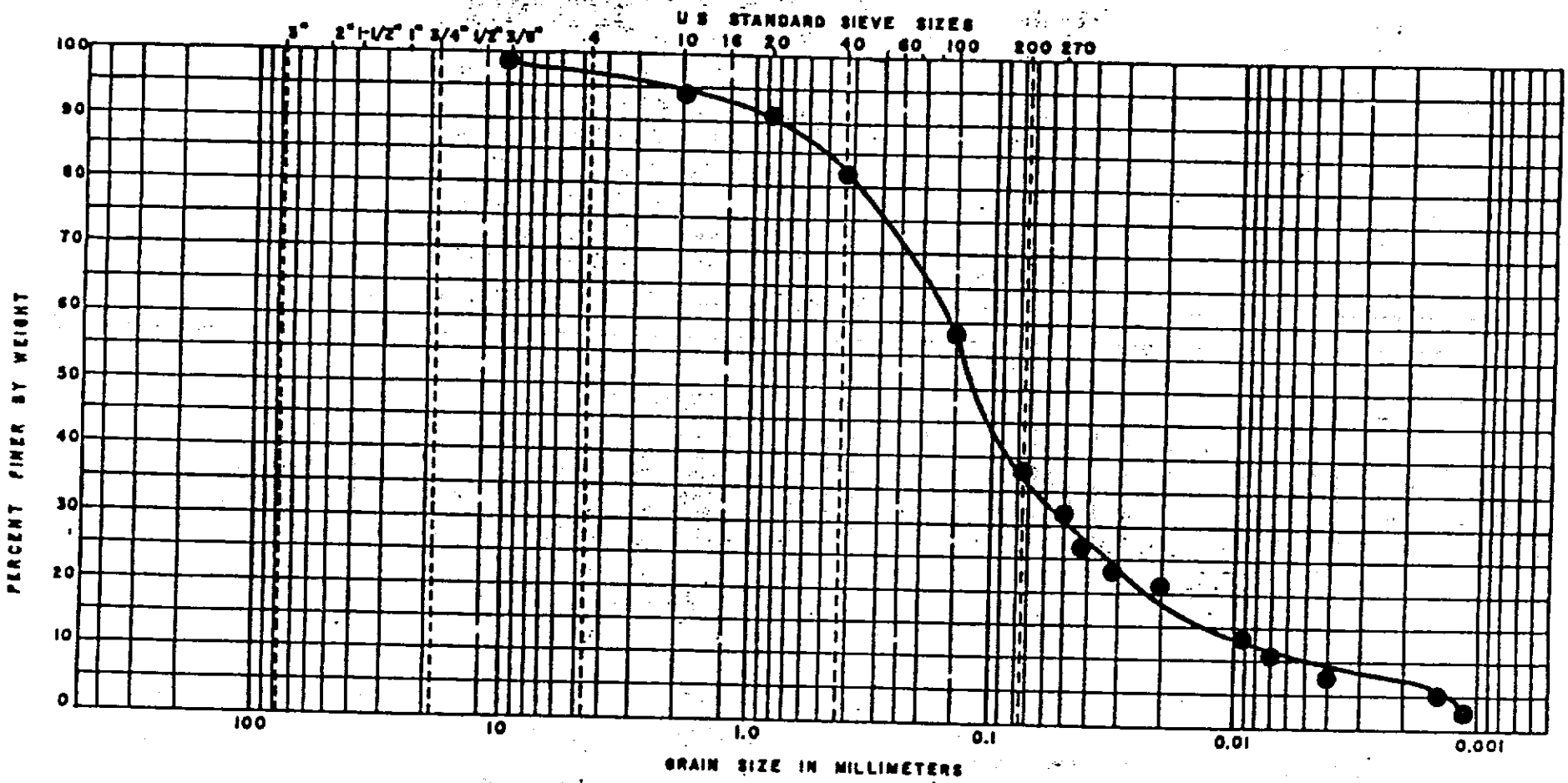
GRAIN SIZE DISTRIBUTION

JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DUNCAN-PARNELL, INC., RALEIGH

SM-19



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV. OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION	
B-3	0-2'	5.2	NON-PLASTIC			Tan Silty Sand	SM
						Sdy. Silt	A-4

GRAIN SIZE DISTRIBUTION

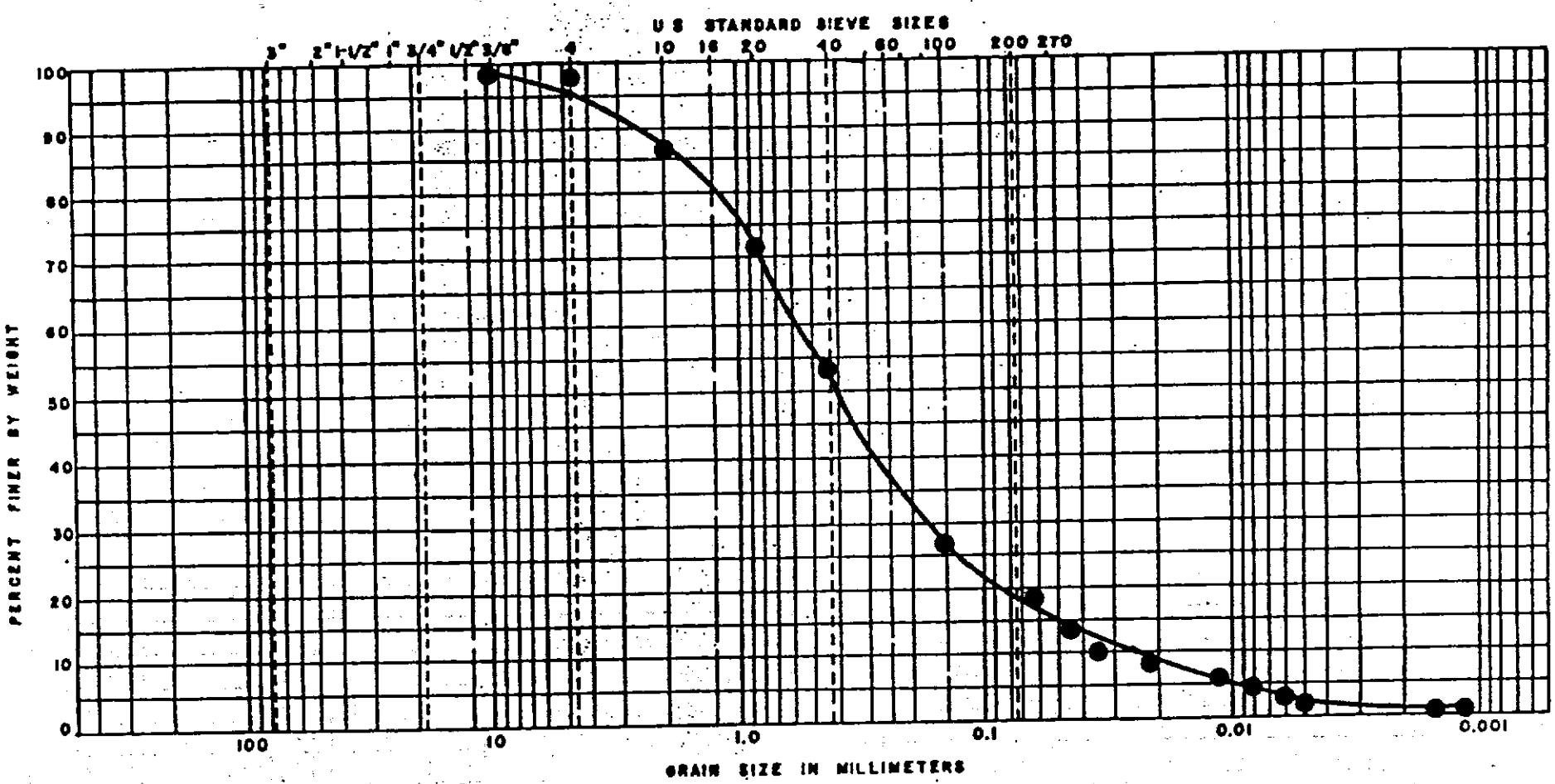
JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DUNCAN-PARNELL, INC., RALEIGH

SM-19

does not match boring log description



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV. OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-4	10 - 12'	22.06%	Non-Plastic			Brown Micaceous Silty SAND SM Sand A-2-4

GRAIN SIZE DISTRIBUTION

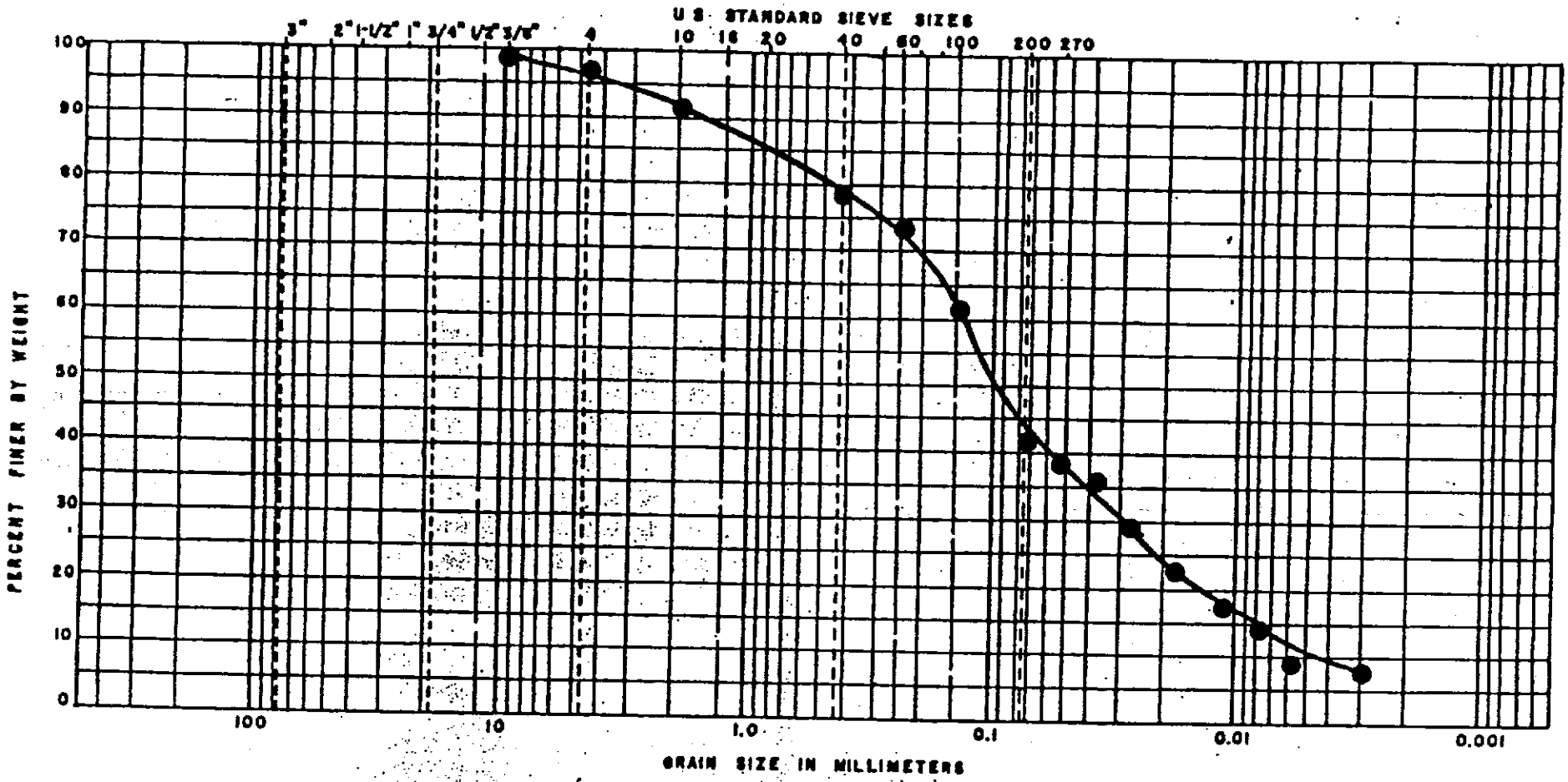
JOB NO. 055-84-006-A

SOIL & MATERIAL ENGINEERS, INC.

DUNCAN-PARNELL, INC., RALEIGH

does not match boring log description

SM-19



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-8	0-2'	7.3	36	35	1	Brown Micaceous Silty SAND SM Sdy. Silt A-4

GRAIN SIZE DISTRIBUTION

JOB NO. 055-84-018-A

SOIL & MATERIAL ENGINEERS, INC.

DUNCAN-PARNELL, INC., RALEIGH 982

Proctor Test Results

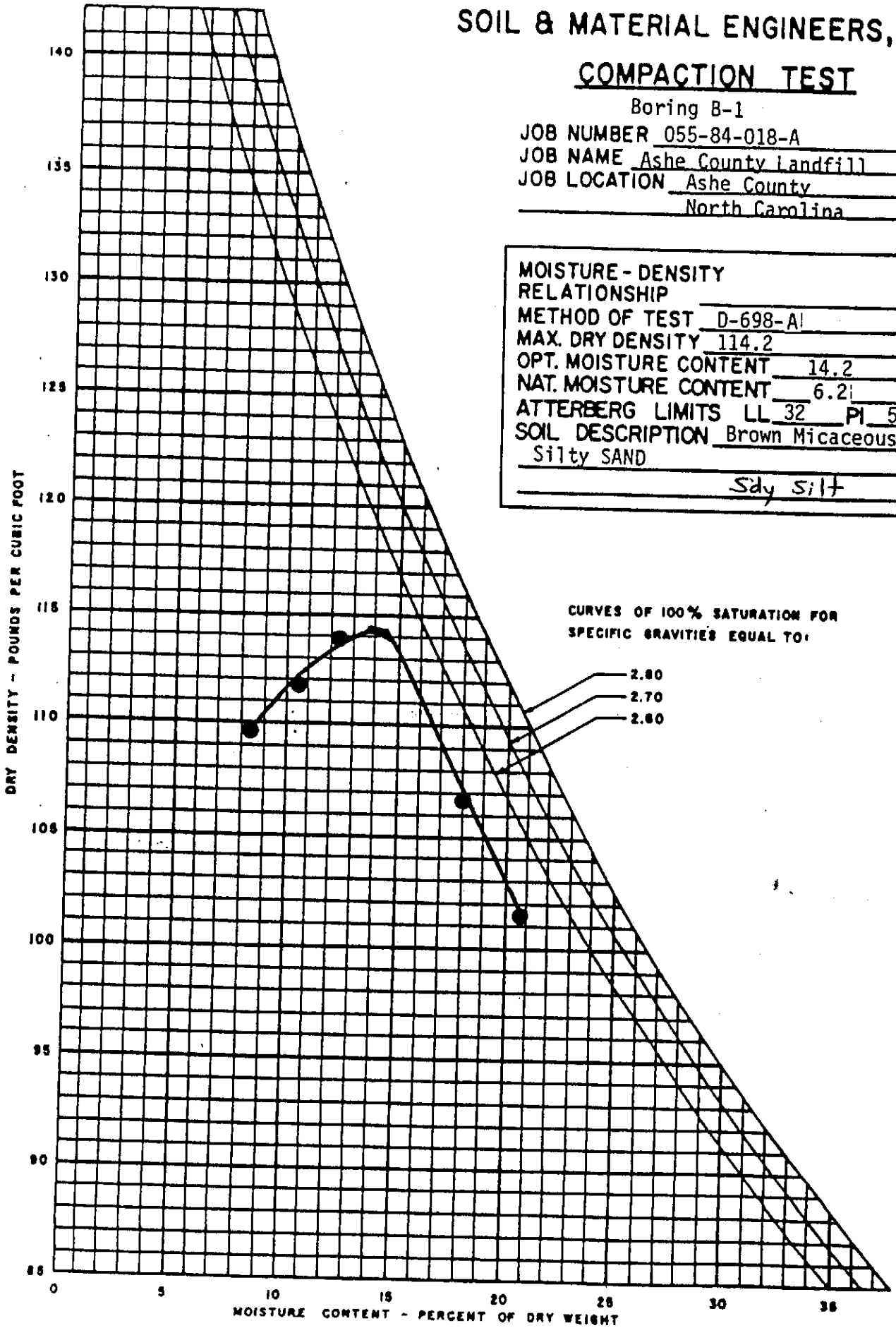
SOIL & MATERIAL ENGINEERS, INC.

COMPACTION TEST

Boring B-1

JOB NUMBER 055-84-018-A
JOB NAME Ashe County Landfill
JOB LOCATION Ashe County
North Carolina

MOISTURE - DENSITY RELATIONSHIP
METHOD OF TEST D-698-A
MAX. DRY DENSITY 114.2 PCF
OPT. MOISTURE CONTENT 14.2 %
NAT. MOISTURE CONTENT 6.2 %
ATTERBERG LIMITS LL 32 PI 5
SOIL DESCRIPTION Brown Micaceous Silty SAND
Sdy silt



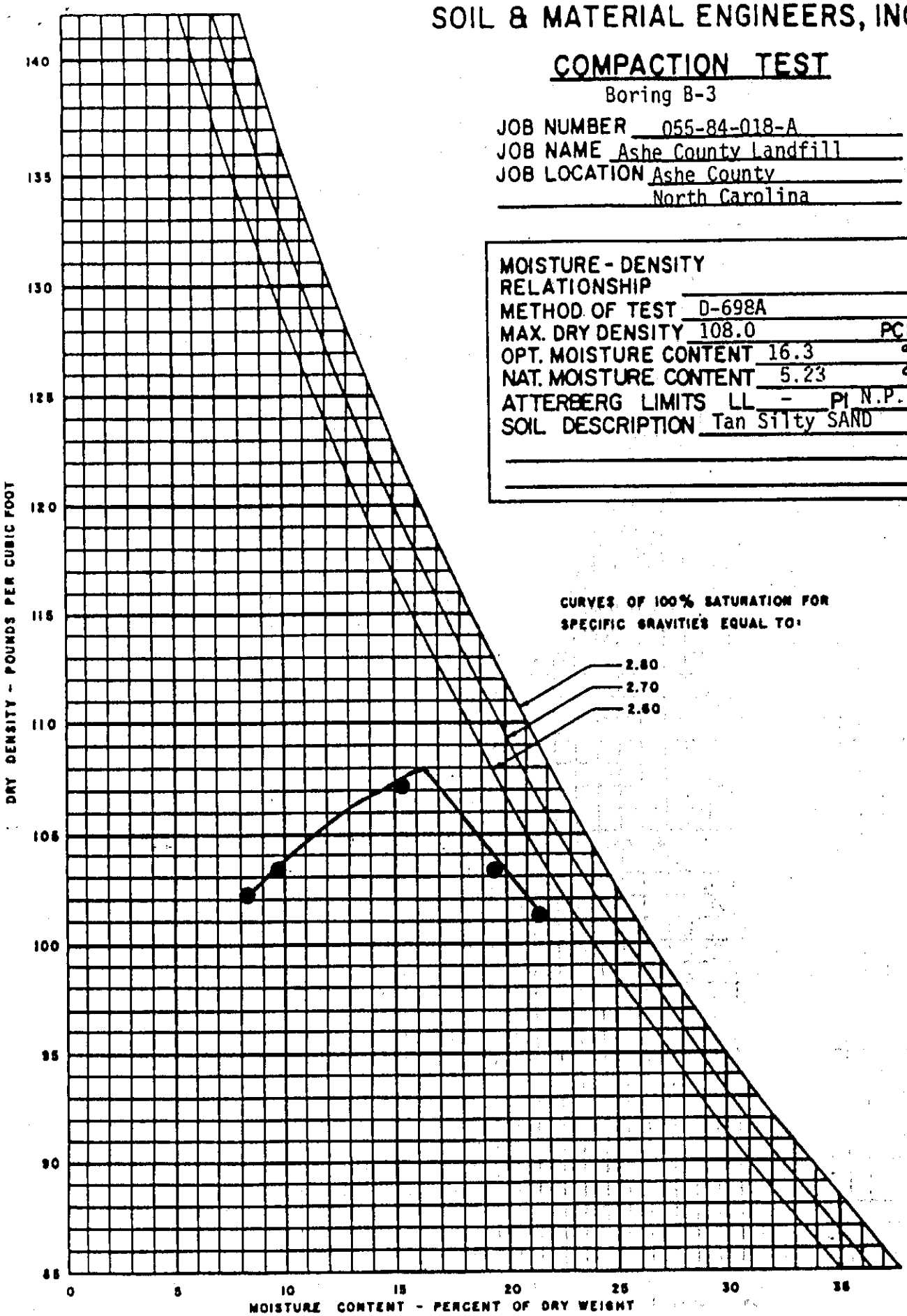
SOIL & MATERIAL ENGINEERS, INC.

COMPACTION TEST

Boring B-3

JOB NUMBER 055-84-018-A
JOB NAME Ashe County Landfill
JOB LOCATION Ashe County
North Carolina

MOISTURE - DENSITY
RELATIONSHIP
METHOD OF TEST D-698A
MAX. DRY DENSITY 108.0 PCF
OPT. MOISTURE CONTENT 16.3 %
NAT. MOISTURE CONTENT 5.23 %
ATTERBERG LIMITS LL - PI N.P.
SOIL DESCRIPTION Tan Silty SAND



DUNCAN-PARNELL, INC., RALEIGH 4/84

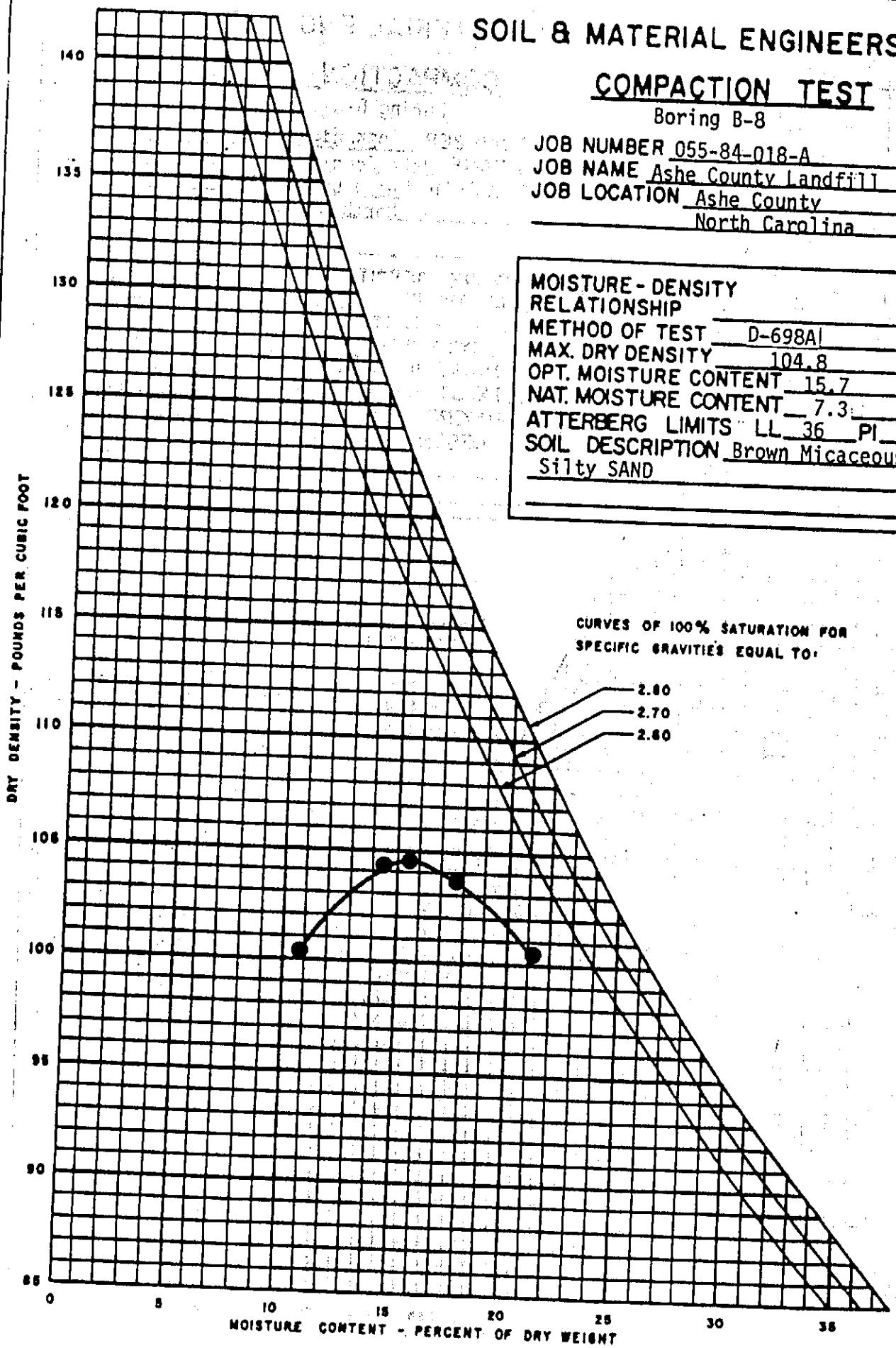
SOIL & MATERIAL ENGINEERS, INC.

COMPACTION TEST

Boring B-8

JOB NUMBER 055-84-018-A
JOB NAME Ashe County Landfill
JOB LOCATION Ashe County
North Carolina

MOISTURE - DENSITY RELATIONSHIP
METHOD OF TEST D-698A
MAX. DRY DENSITY 104.8 PCF
OPT. MOISTURE CONTENT 15.7 %
NAT. MOISTURE CONTENT 7.3 %
ATTERBERG LIMITS LL 36 PI 1
SOIL DESCRIPTION Brown Micaceous Silty SAND



DUNCAN-PARNELL, INC.