OPERATION/CONSTRUCTION MANAGERS

Municipal Services

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

CIVIL/SANITARY ENGINEERS

Engineering Company, P.A.

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

October 10, 1994

OCT 1994
Received
Solid Waste
Section

Mr. Bobby Lutfy, Hydrogeologist
Solid Waste Section, DEHNR
PO Box 27687
401 Oberlin Road
Raleigh, NC 27611

Re: Water Sampling and Testing
Alexander County

Dear Mr. Lutfy:

Please find enclosed a report prepared by GAI Consultants concerning the groundwater sampling, analysis, porosity, effective porosity and permeability for Alexander County.

If you have any questions or need additional information, please do not hesitate to call me at 919-772-5393.

Very truly yours,
MUNICIPAL ENGINEERING SERVICES CO., PA

D. Wayne Sullivan

D. Wayne Sullivan
Project Manager

DWS:cw

Enclosure

Copy: Mr. Charles Mashburn, Manager
Mr. Earl Crouch, Solid Waste Director

☐ (3) -Maintenance of Wells: Surface Water diverted, concrete pad, grout, locked, i.d. tag, access

02-01
Alexander Co
10-4-94 report

Proposal for Upgraded Monitoring System

Y	N	
☐	☐	- geologic and hydrogeologic criteria .1623(b)(3)(A)(ii)
☐	☐	- number, spacing, location, screen depths
☐	☐	- use of existing wells
☐	☐	- new wells
☐	☐	- well abandonment
☑	☐	- Surface Water monitoring

1 - Wrong method (6010) for:
1. Be
2. Co
3. Ag
4. Va

2 - PQL to high for:
1. Be
2. Co
3. Ni
4. Va

3 - All wells sampled
4 - SW data excluded
5 - Lab not certified for Va.

The Sampling and Analysis Plan

☑	☐	Appendix I Constituents
☐	☑	Field Tests: pH, Temp., Conductivity
☐	☐	Other parameters (based on past sampling history)
☐	☐	Frequency: ≥ semi-annual
☑	☐	Baseline Sampling
☐	☐	Rate and Direction of Ground Water flow .1632(d) hydraulic conductivity, effective porosity, gradient not reported
☑	☐	Ground Water Elevations - surveyed measuring point –

Sampling and Analysis Procedures

☐	☐	sampling equipment and containers
☐	☐	equipment cleaning procedures
☐	☐	purging
☐	☐	sample collection
☑	☐	field QA/QC – Trip blank + equip. blank
☑	☐	lab QA/QC
☐	☐	lab certification – see notes

☐	☐	Certification of the monitoring system by a Professional Geologist .1623(b)(3)(C)

GAI CONSULTANTS

GAI Consultants-NC, Inc.

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

October 4, 1994

OCT 1994
Received
Solid Waste
Section

Mr. Wayne Sullivan
Municipal Engineering Services Company, P.A.
Post Office Box 97
Garner, North Carolina 27529

Re: Water Quality Monitoring System Modifications and Water Sampling and Testing
Alexander County Landfill
Taylorsville, North Carolina
Permit No. 02-01
Project 94213.02

Dear Mr. Sullivan:

INTRODUCTION

The Solid Waste Section of the Division of Solid Waste Management of the Department of Environment, Health, and Natural Resources, State of North Carolina gave interim authorization for Alexander County to proceed with the upgrade of the groundwater monitoring system for the Alexander County Municipal Solid Waste Landfill in general accordance with the proposal submitted in the Water Quality Monitoring Plan included as part of the Transition Plan. A copy of the letter of authorization from Mr. Bobby Lutfy, Hydrogeologist for the Solid Waste Section, is presented in Appendix A.

Modifications to the water quality monitoring system have been completed in general compliance with the July 23, 1994 letter of authorization from the Solid Waste Section.

GROUNDWATER MONITORING WELL SYSTEM MODIFICATIONS

Six additional monitoring wells (Monitoring Wells 1A, 4R, 5, 6, 7, and 8) were installed to supplement existing monitoring wells (Monitoring Wells 1, 2, 3, and 4) remaining at the site. None of the existing monitoring wells at the landfill were abandoned.

The locations of the groundwater monitoring wells planned to be used for subsequent groundwater monitoring are on Plate 1. Plate 1 shows the approximate (unsurveyed) location of Monitoring Well 6. In addition, grid directions on the map are reversed. The map will be corrected and submitted within the near future. Monitoring Wells 1,

2, 3, and 4 are previously existing wells; Monitoring Wells 1A, 4R, 5, 6, 7, and 8 are recently installed wells proposed in the Water Quality Monitoring Plan as part of the Transition Plan. Monitoring Well 1A was installed as an additional up gradient background well, as requested by Mr. Lutfy in the letter of authorization for well installation. Monitoring Wells 5, 6, and 7 were installed at their proposed locations. Well 8 was moved a short distance down gradient from the proposed location in the Water Quality Monitoring Plan in accordance with criteria that monitoring wells be installed in areas free of garbage, refuse, or debris.

During the installation process for Well 9, it was determined that Well 4 was not at the location originally indicated, but near the proposed location for Well 9 and only 20 to 25 feet away from the waste. Well 4 is located within the berm surrounding the waste and is in danger of being covered by soil from the berm. Consequently, Well 9 was renumbered as Well 4R and moved down gradient a short distance from its proposed location in accordance with criteria pertaining to the necessity of locating monitoring wells in locations free of garbage, refuse, or debris, and 100 to 150 feet from the waste boundary. Well 4 should be abandoned if the water quality results obtained from this sampling event from Wells 4 and 4R show a reasonable correlation.

Well completion records and boring logs for the groundwater monitoring wells are in Appendix B. Well installation records and boring logs for the previously existing monitoring wells are in Appendix B as located and available. A well schematic diagram for the new wells installed is on Plate 2.

GROUND AND SURFACE WATER SAMPLING AND TESTING

GAI sampled the wells and REIC Laboratory of Beaver, West Virginia performed the chemical analyses for the initial baseline sampling at the Alexander County Landfill. The results of the chemical test analyses are in Appendix C. No surface water samples were obtained at SW-1, SW-4, and SW-5 because there was no water in the streams at the time of sampling. Table 1 contains the hydraulic conductivity (permeability), porosity, effective porosity, and direction and rate of groundwater flow for each of the monitoring wells sampled at the landfill. The water quality sampling and analyses for the baseline sampling were done according to the directives of the June 24, 1994 memorandum from the Solid Waste Section to Municipal Solid Waste Landfill Owners and Operators.

CLOSURE

This document is submitted in general compliance with directives in the July 23, 1994 letter from Mr. Bobby Lutfy, Hydrogeologist, Solid Waste Section to Mr. Charles Mashburn, Alexander County Manager, Taylorsville, North Carolina authorizing the modifications to the water quality monitoring system at the landfill and the sampling and

testing. This document is the initial baseline sampling report required by the Solid Waste Section Office to be submitted on or before October 9, 1994.

Respectfully Submitted,
GAI Consultants - NC, Inc.

Edward S. Custer, Jr., Ph.D., P.G.
Staff Geologist

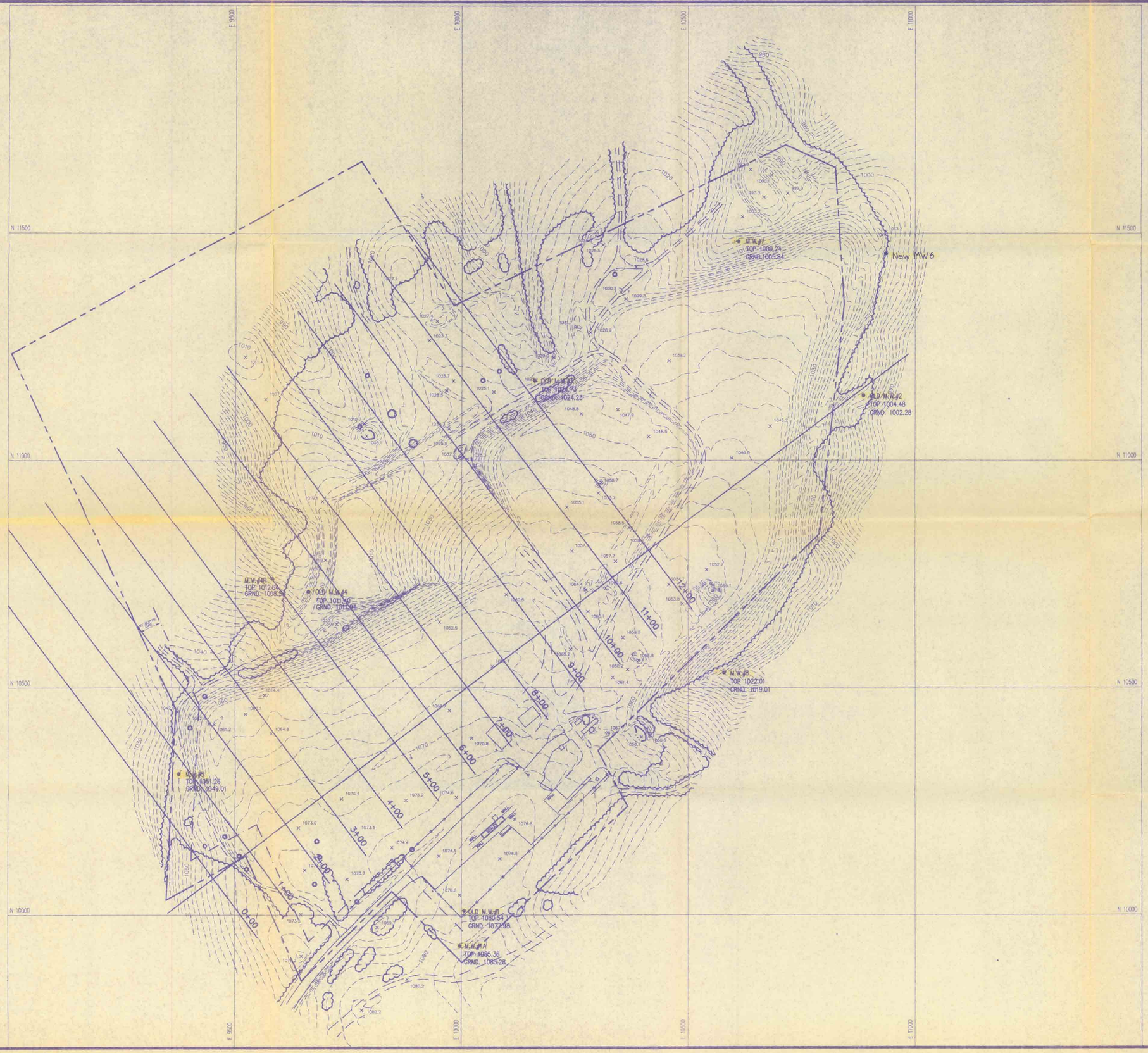
NORTH CAROLINA LICENSED SEAL 730 GEOLOGIST EDWARD S. CUSTER, JR.

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

NORTH CAROLINA PROFESSIONAL SEAL 15945 ENGINEER WENDELL W. PARKER

WWP/kla

94213.02



LEGEND

- EXISTING CONTOURS
- PROPERTY LINE
- BUFFER ZONE
- TREE LINE
- ROAD
- WATER
- SPOT ELEVATION
- M.W.#7 MONITORING WELL

NOTES:

THIS MAP WAS GENERATED FROM AERIAL PHOTOS FLOWN ON 2-23-94 BY TRIANGLE AERIAL MAPPING.

Base Map Supplied By Municipal Engineering Services. GAI Added Approximate Location Of Monitoring Well 6 And Plate I To The Map.

PLATE I

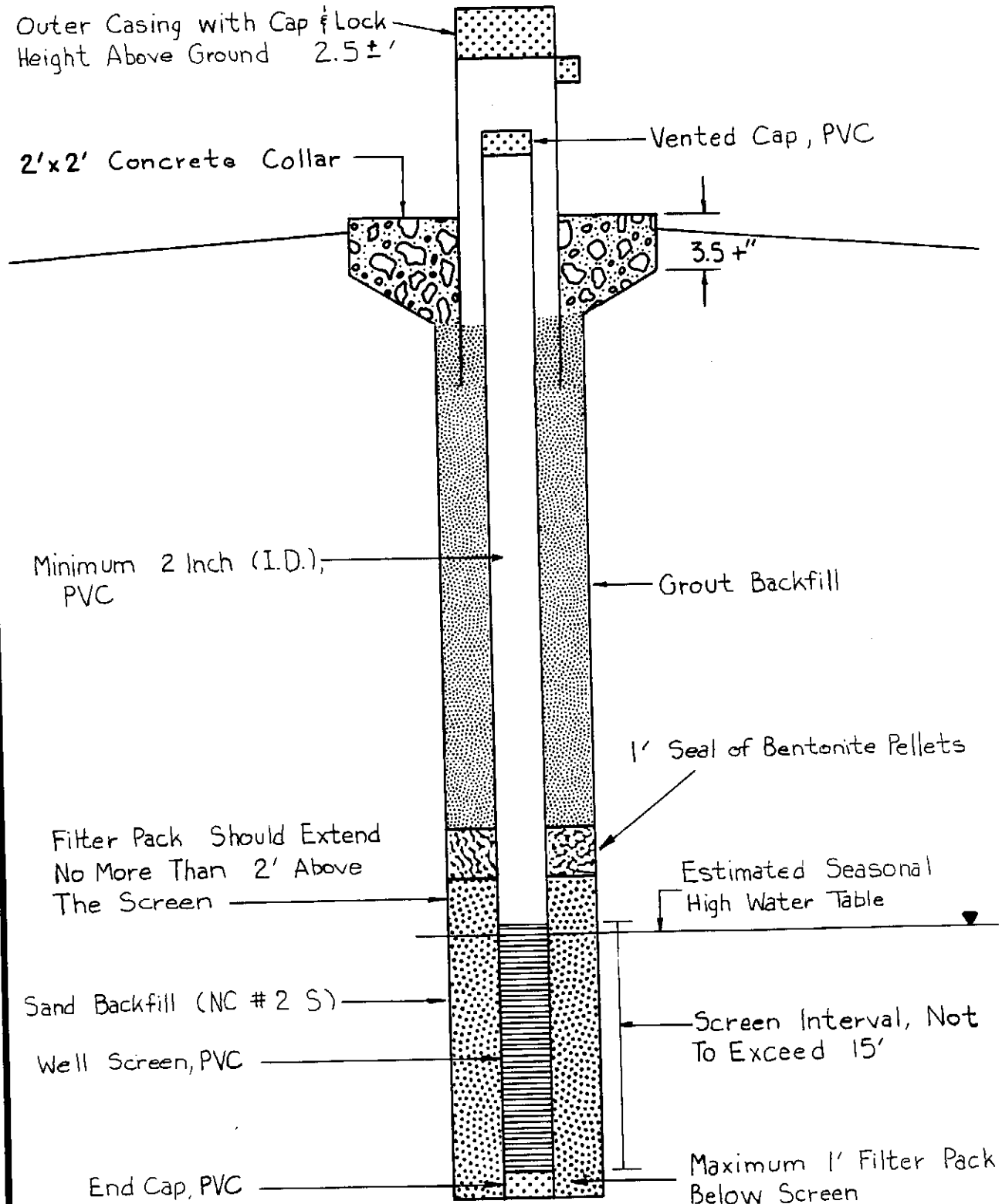
DATE	BY	REV.	DESCRIPTION

MUNICIPAL ENGINEERING SERVICES CO., P.A.
CONSULTING ENGINEERS
BOONE, N.C. GARNER, N.C.

PROJECT: ALEXANDER COUNTY SANITARY LANDFILL
OWNER: THE COUNTY OF ALEXANDER, N.C.
TITLE: GROUNDWATER MONITORING PLAN

SCALE	1" = 100'	DRWN. BY: LCH	PROJ. NO.	DRAWING NO.
DATE	OCT. 1994	CHKD BY: DWG	093142	1 OF 1

PLATES



TYPICAL MONITORING WELL
PLATE 2

APPENDIX A

AUTHORIZATION LETTER

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

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

DEHNR

July 23, 1994

Mr. Charles Mashburn
Alexander County Manager
Adm. Bldg. 255 Liledoun Rd.
Taylorsville, N.C. 28681

RE: Interim Review Of Water Quality Monitoring Transition Plan
Alexander County Landfill, Permit # 02-01

Dear Mr. Mashburn,

There is limited time available for the Solid Waste Section to review and evaluate the Water Quality Monitoring Plan submitted as part of the Transition Plan. It is not possible to do a full technical review of this plan in time to allow for the upgrading of the monitoring system and the initial sampling episode of the baseline sampling event.

Therefore the Solid Waste Section is giving interim authorization for Alexander County to proceed with the upgrade of the ground-water monitoring system at the Alexander County MSWLF facility in general accordance with the proposal submitted in the monitoring plan included as part of the Transition Plan. **However, the monitoring system upgrade must meet the following conditions:**

Past sampling data indicates evidence of some contamination in well MW-1. This well is not located in an area that is representative of background ground-water quality for the facility. Therefore another upgradient background monitoring well needs to be established that will provide data of ground-water quality that has not been affected by landfilling or other associated activities on the site.

None of the existing monitoring wells are to be abandoned or dropped from the detection monitoring system without written authorization from the Solid Waste Section.

New monitoring wells should generally be installed about 100 to 150 feet from the waste boundary.

The monitoring wells are to be constructed according to the specifications in the North Carolina Well Construction Standards (15A NCAC 2C .0108).

The monitoring wells are to be constructed according to the specifications in the "North Carolina Water Quality Monitoring Guidance Document For Solid Waste Facilities" as illustrated by the Typical Monitoring Well Schematic" diagram enclosed.

The monitoring wells are to be placed in the approved locations in areas free of garbage, refuse, or debris, and in areas not subject to flooding.

The monitoring wells are to be drilled to a depth, and the screens placed at vertical locations, that will ensure that future drought conditions, which may lower the water table, will not render the monitoring system ineffective.

Generally shallow monitoring wells shall be installed with a 15 foot screen, with the top of the screen set just above the seasonal high water table, unless hydrogeologic conditions justify changes in this design.

The sand pack should extend no more than 2 feet above the screen and no more than 1 foot below the screen. A bentonite seal of at least 1.0 foot should be installed above the screened interval. The bentonite shall be allowed adequate time to hydrate prior to grouting up the annular space of the well above the bentonite seal.

Monitoring wells shall be thoroughly developed after construction in order to reduce suspended solids, flush out the well, and re-establish equilibrium with the aquifer.

In addition to the water quality analytical data, the initial baseline sampling report must include for each monitoring well the following information: a Well Completion Record, Well Schematic Diagram, boring log, hydraulic conductivity value, porosity value, effective porosity value, and the direction and rate of ground-water flow. **This initial baseline sampling report must be received in the Solid Waste Section office on or before October 9, 1994.** The technical review and determination of adequacy of the Transition Plan Water Quality Monitoring Plan will not be completed until after the initial baseline sampling document has been received and reviewed by the Solid Waste Section.

The water quality sampling and analysis for the baseline sampling must be done according to the directives in the June 24, 1994, memorandum from the Solid Waste Section to MSWLF owners and operators. If you have any questions or comments regarding this conditional interim authorization to install monitoring wells as necessary to upgrade the monitoring system at the Alexander County Landfill, please contact the Solid Waste Section at (919) 733-0692.

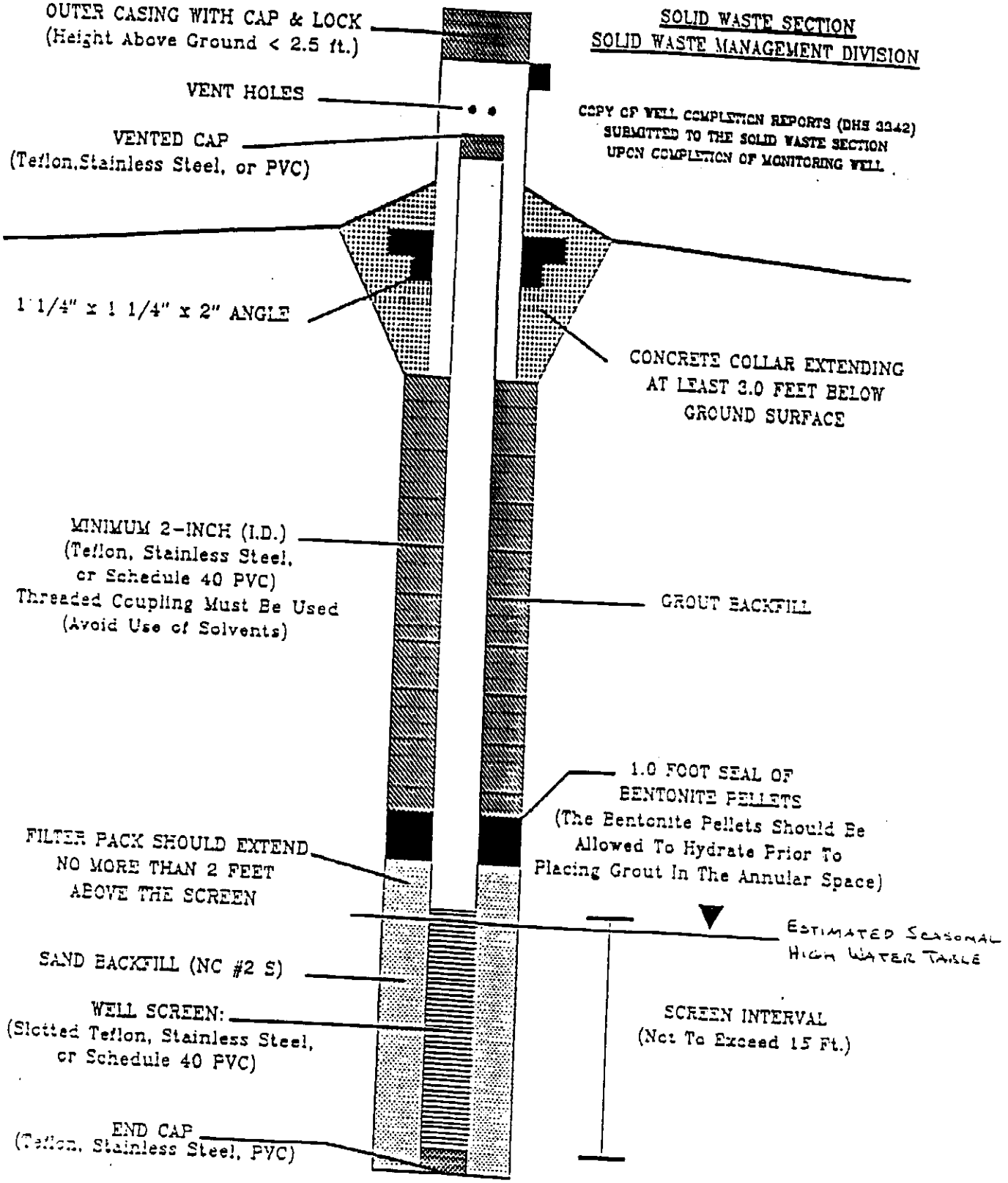
Sincerely,

Bobby Lutfy

Bobby Lutfy, Hydrogeologist
Solid Waste Section

cc: Sherri Hoyt
Anthony Foster
Municipal Engineering

TYPICAL MONITORING WELL SCHEMATIC



TABLE

TABLE 1
HYDROLOGIC PROPERTIES AT MONITORING WELL LOCATIONS

Monitoring Well	Permeability (cm/sec)	Total Porosity (%)	Effective Porosity (%)	Groundwater Flow Rate and Direction (ft/yr)
1	5.6×10^{-5}	37	1	296 S 38°E
1A	5.6×10^{-5}	37	15	27 S 63°E
2	3.7×10^{-6}	30	1	30 N 77°W
3	3.9×10^{-6}	30	1	30 S 15°E
4	4.9×10^{-4}	37	15	178 S 27°E
4R	4.9×10^{-4}	37	15	178 S 27°E
5	6.4×10^{-5}	37	15	25 S 68°E
6	2.4×10^{-5}	30	1	60 S 70°W
7	1.6×10^{-6}	20	1	20 S 30°E
8	1.3×10^{-5}	37	1	74 N 90°W

Note: Where monitoring wells are in soil and rock, groundwater flow through soil is considered to control. Effective porosity estimated for the rock based on visual observations during well installation.

APPENDIX B

WELL CONSTRUCTION RECORDS AND LOGS OF BORINGS

NORTH CAROLINA
DIVISION

R OFFICE USE ONLY
Serial No. _____
Long. _____ Pc _____

WELL CONSTRUCTION RECORD

Basin Code _____
Header Ent. _____ GW-1 Ent. _____

LLING CONTRACTOR: Trigon Engineering Consultants

LLER REGISTRATION NUMBER: 813

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

Well No. MW-1

ELL LOCATION: (Show sketch of the location below)

earest Town: Millersville

County: Alexander

oad, Community, or Subdivision and Lot No.)

WNER: County of Alexander

DDRESS: 255 Liledoun Road (Street or Route No.)

Taylorsville (City or Town) NC (State) 28681 (Zip Code)

ATE DRILLED: 9/14/90 USE OF WELL: Monitor GW

OTAL DEPTH: 40' CUTTINGS COLLECTED: ☐ Yes ☒ No

OES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No

TATIC WATER LEVEL: 35.0 FT. ☐ above ☒ below TOP OF CASING.

TOP OF CASING IS 2.5 FT. ABOVE LAND SURFACE.

IELD (gpm): N/A METHOD OF TEST: N/A

ATER ZONES (depth): 40' to 32.5' below surface

HLORINATION: Type N/A Amount _____

CASING:

	Depth From	Depth To	Diameter	Wall Thickness or Weight/Ft.	Material
	0	25	2"	Sch.40	PVC

GROUT:

	Depth From	Depth To	Material	Method
	0	17.5	cement/bent.	poured
	17.5	23.0	Bentonite	

SCREEN:

	Depth From	Depth To	Diameter	Slot Size	Material
	25	40	2 in.	0.10 in.	PVC-40
			in.	in.	
			in.	in.	

GRAVEL PACK:

	Depth From	Depth To	Size	Material
	23	40	6"	sand

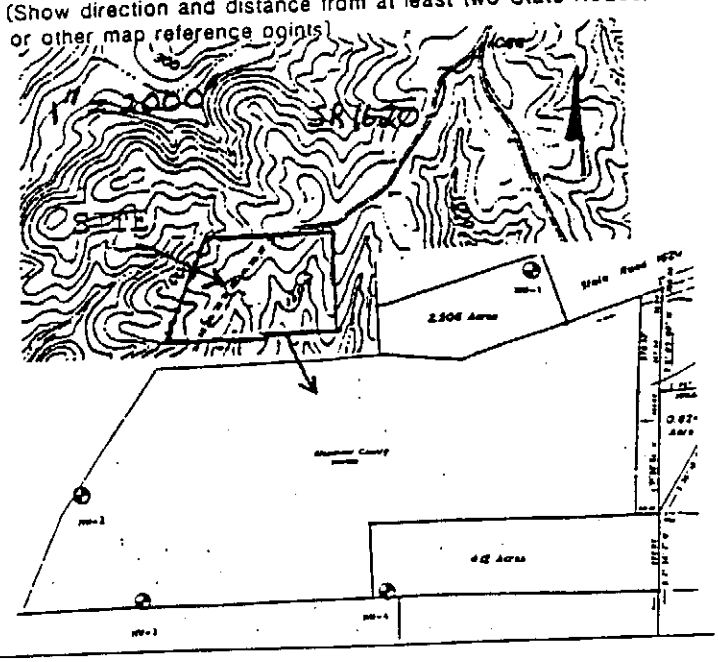
DRILLING LOG

Depth From	Depth To	Formation Description
0	11.5	Firm to very dense silty coarse to fine SAND
11.5	16	Partially weathered rock sampled as silty coarse to fine SAND
16	19	Very dense silty coarse to fine SAND
19	29.4	Partially weathered rock sampled as coarse to fine SAND
29.4	31	Graphite seam
31	40	Biotite gneiss moderately weathered and fractured with pyrite, amethyst, and quartz crystals

If additional space is needed use back of form.

LOCATION SKETCH

(Show direction and distance from at least two State Roads, or other map reference points)



REMARKS: Bentonite seal from 17.5' to 23'

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CONTRACTOR OR AGENT _____ DATE 10/17/90

Submit original to Division of Environmental Management and copy to well owner.

W-1 REVISED 2/90

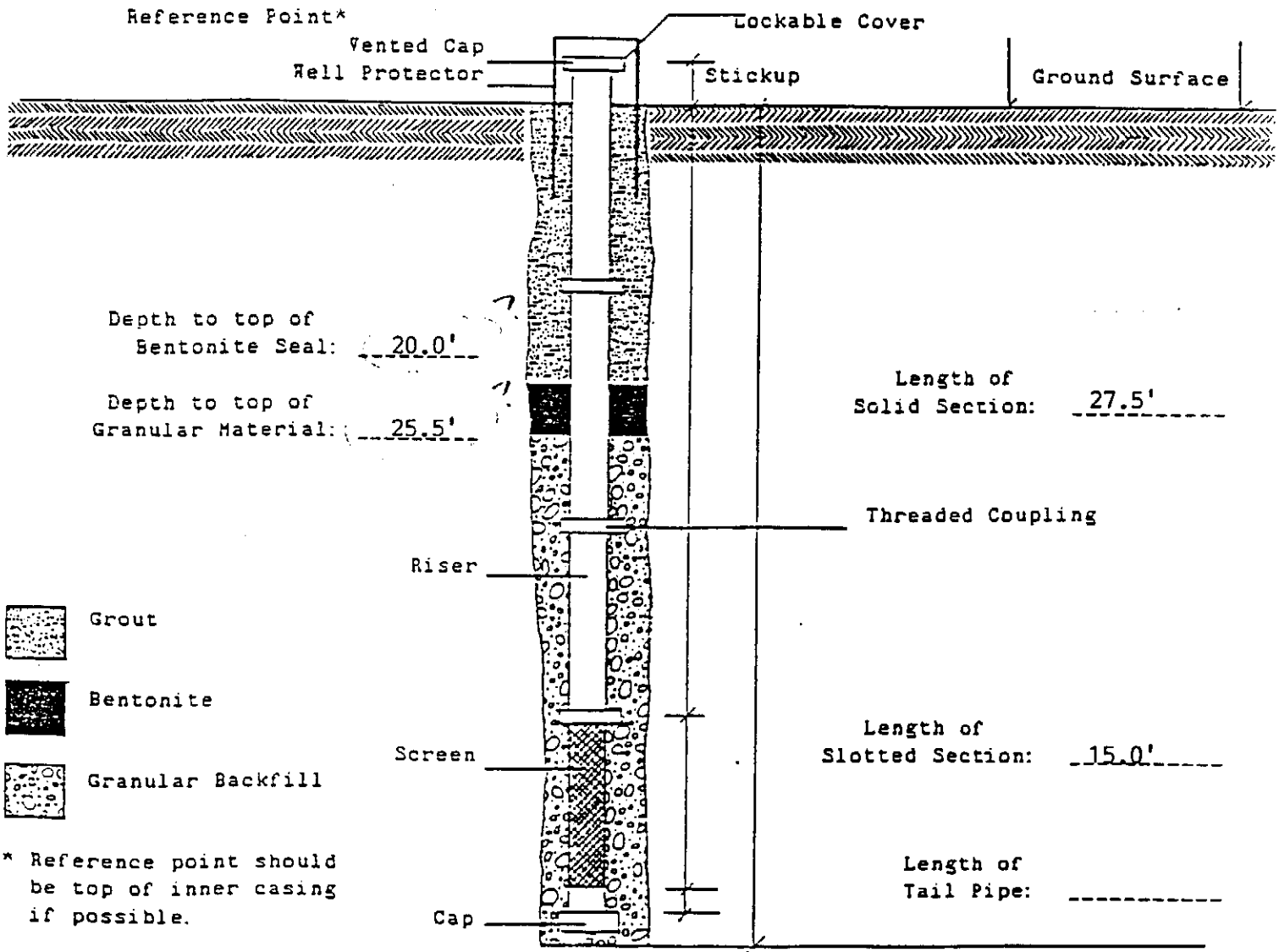
TRIGON

ENGINEERING CONSULTANTS, INC. Greensboro, N.C.

Date: 10/18/90
Job Number: 035-90-003
Project Name: Alexander County Landfill
Location: Alexander County North Carolina

Ground Surface Elevation: _____
Well Number: MW-1
Total Depth of Well: 40'
Date Installed: 9/14/90
Granular Backfill Material: Sand
Slot Size: .010
Screen Material: Schedule 40 PVC
Screen Diameter: 2"
Riser Material: Schedule 40 PVC
Riser Diameter: 2"
Drilling Technique: Hollow stem auger/NX Coring
Driller: B. King
Borehole Diameter: 6"
Lock Data: _____
Key Code/Combination: _____

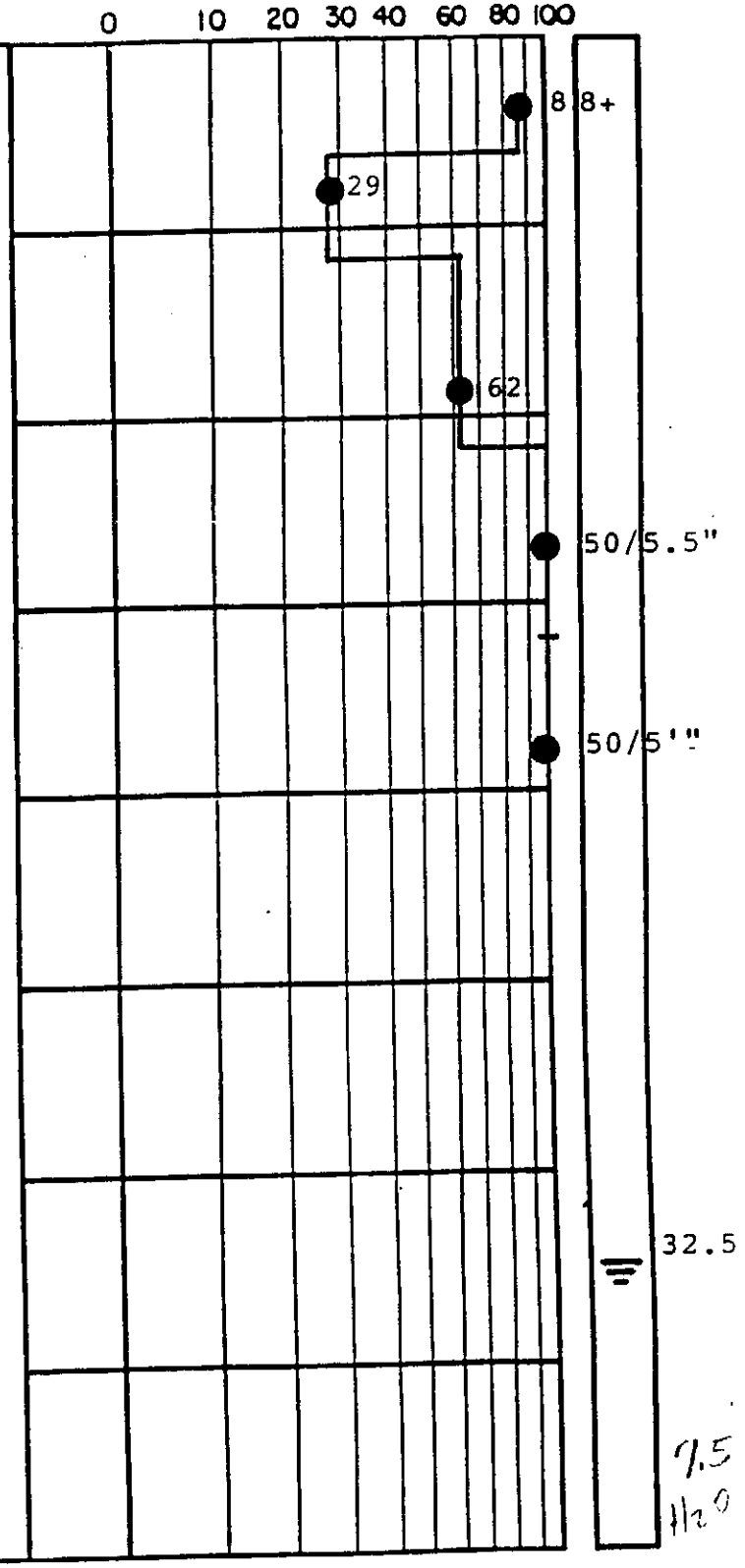
Stabilized Water Level: 32.5' feet below ground surface. Measured on: 9/18/90



* Reference point should be top of inner casing if possible.

/H	DESCRIPTION
0.0	Very Dense Tan, Brown, and Orange Slightly Micaceous Silty Coarse to Fine SAND (Residual)
3.0	Firm Tan, Brown, and Orange Silty Coarse to Fine SAND
7.0	Very Dense Brown, White, and Orange Silty Coarse to Fine SAND
11.5	Partially Weathered Rock When Sampled Becomes Brown, White, and Orange Slightly Micaceous Silty Coarse to Fine SAND
16.0	Very Dense Brown, Orange, and Red Slightly Micaceous Silty Coarse to Fine SAND
19.0	Partially Weathered Rock When Sampled Becomes Tan and White Coarse to Fine SAND
29.4	Graphite
31.0	Biotite Gneiss with Quartz Seams and Amethyst and Pyrite Crystals Moderately Weathered and Fractured
41.0	Coring Terminated

ELEV. ●PENETRATION-BLOWS PER FT.



TEST BORING RECORD

BORING NO. MW-1
DATE DRILLED 9/14/90
JOB NO. 035-90-003

TRIGON

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.
CAVE-IN DEPTH

CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

WELL CONSTRUCTION RECORD

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

LING CONTRACTOR Trigon Engineering Consultants
LER REGISTRATION NUMBER 813

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

Well No MW-2

.L LOCATION: (Show sketch of the location below)
irest Town: Millersville
County: Alexander
ad. Community, or Subdivision and Lot No.)
NER County of Alexander
DRESS 255 Liledoun Road
(Street or Route No.)
Taylorsville NC 28681
City or Town State Zip Code
'E DRILLED 9/6/90 USE OF WELL Monitor GW
'AL DEPTH 30' CUTTINGS COLLECTED ☐ Yes ☒ No
:S WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
TIC WATER LEVEL: 20.5 FT. ☐ above ☒ below TOP OF CASING.
TOP OF CASING IS 2.5 FT. ABOVE LAND SURFACE.
.D (gpm): NA METHOD OF TEST NA
TER ZONES (depth): 30' to 18' below surface

ORINATION: Type NA Amount NA

SING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	0	15	2	Sch.40	PVC

OUT:

	Depth From	To	Material	Method
	0	11	Cement/Bent.	poured
	11	13	Bentonite	

REEN:

	Depth From	To	Diameter	Slot Size	Material
	15	30	2" in.	.010 in.	PVC-40
			in.	in.	
			in.	in.	

AVEL PACK:

	Depth From	To	Size	Material
	13	30	10"	sand

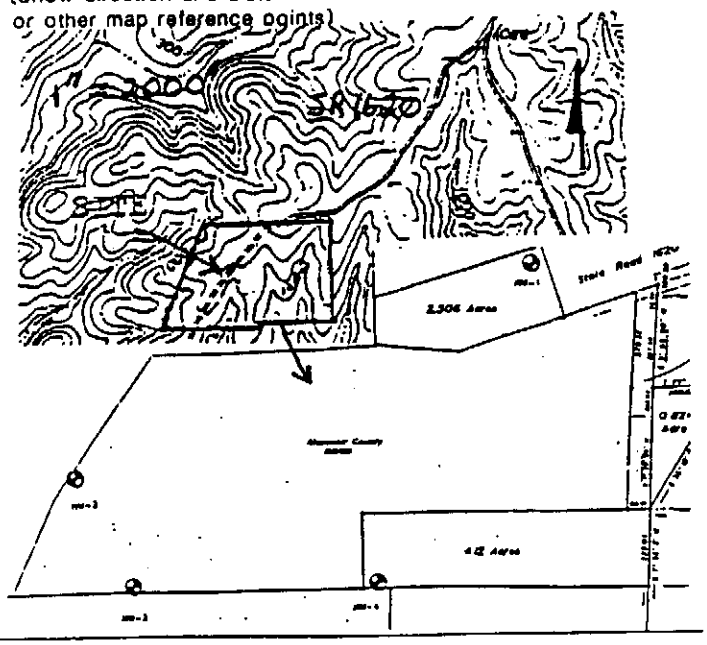
MARKS. Bentonite seal 11 to 13'

DRILLING LOG

Depth From	To	Formation Description
0	3	Firm brown, orange, and tan slightly micaceous medium to fine sandy SILT (Residual)
3	7	Very dense tan, black, and orange slightly micaceous silty coarse to fine SAND
7	30	Partially weathered rock when sampled becomes brown, orange, and white micaceous silty coarse to fine SAND

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CONTRACTOR OR AGENT — DATE 10/17/90

Submit original to Division of Environmental Management and copy to well owner.

REVISED 2/90

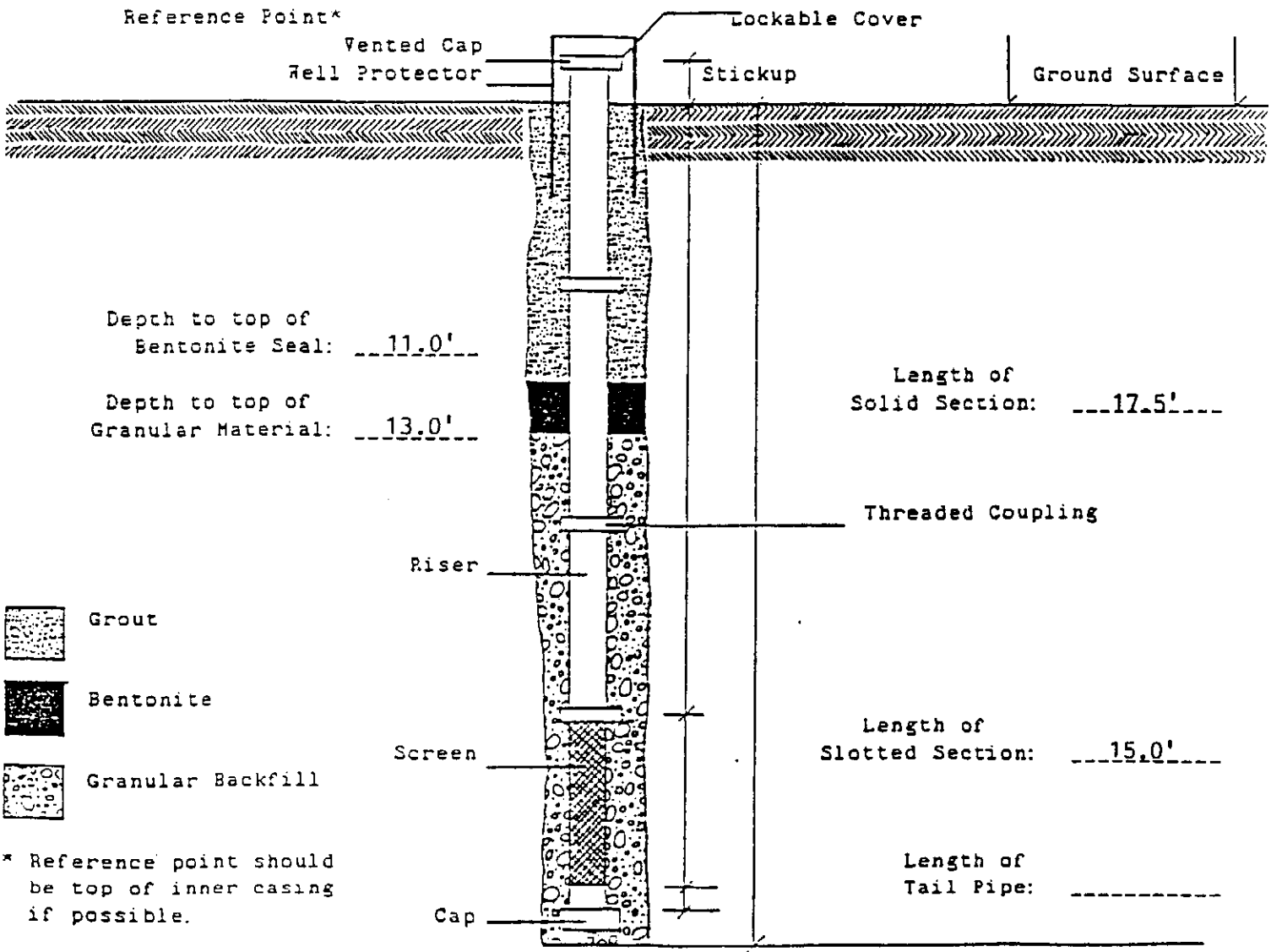
TRIGON

NGINEERING CONSULTANTS, INC. Greensboro, N.C.

Date: 10/18/90
Job Number: 035-90-003
Project Name: Alexander County Landfill
Location: Alexander County North Carolina

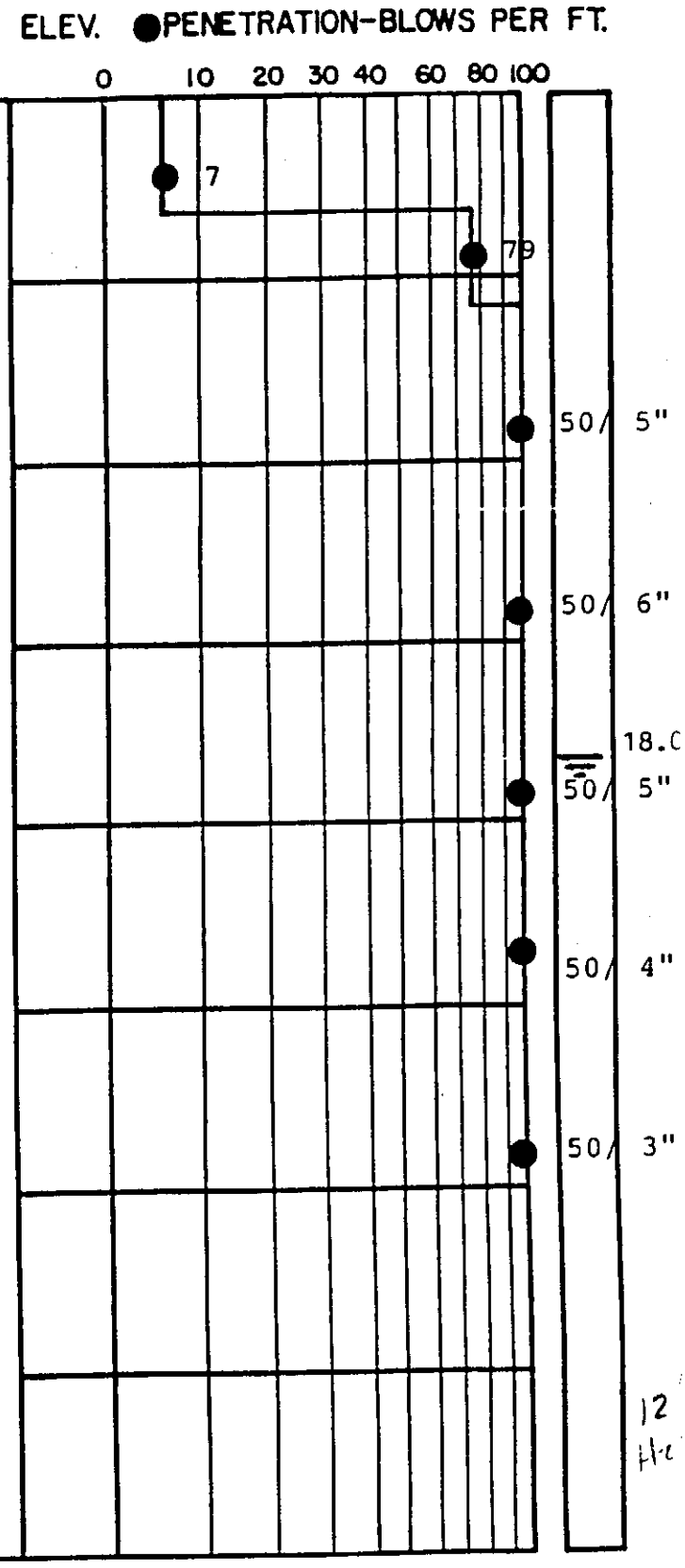
Ground Surface Elevation: _____
Well Number: MW-2
Total Depth of Well: 30'
Date Installed: 9/~~12~~/90 6
anular Backfill Material: Sand
Slot Size: .010"
Screen Material: Schedule 40 PVC
Screen Diameter: 2"
Riser Material: Schedule 40 PVC
Riser Diameter: 2"
Drilling Technique: Hollow-stem auger
Driller: B. King
Borehole Diameter: 10"
Lock Data: _____
Key Code/Combination: _____

Stabilized Water Level: 18.0 feet below ground surface. Measured on: 9/12/90



* Reference point should be top of inner casing if possible.

,H	DESCRIPTION	ELEV.
0.0	Firm Brown, Orange, and Tan Slightly Micaceous Medium to Fine Sandy SILT (Residual)	
3.0	Very Dense Tan, Black, and Orange Slightly Micaceous Silty Coarse to Fine SAND	
7.0	Partially Weathered Rock When Sampled Becomes Brown, Orange, and White Micaceous Silty Coarse to Fine SAND	
31.0	Boring Terminated	



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.
CAVE-IN DEPTH

TEST BORING RECORD

BORING NO. MW-2
DATE DRILLED 9/6/90
JOB NO. 035-90-003

TRIGON

CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

NG CONTRACTOR Trigon Engineering Consultants
:R REGISTRATION NUMBER 813

STATE WELL CONSTRUCTION PERMIT NUMBER: NA

LOCATION: (Show sketch of the location below)
:st Town: Millersville
. Community, or Subdivision and Lot No.)
:R County of Alexander
ESS 255 Liledoun Road (Street or Route No.)
Taylorsville (City or Town) NC (State) 28681 (Zip Code)

Well No. MW-3
County: Alexander

DRILLED 9/19/90 USE OF WELL Monitor GW
L DEPTH 33.0' CUTTINGS COLLECTED ☐ Yes ☒ No
WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
IC WATER LEVEL: (27.0) FT. ☐ above ☒ below TOP OF CASING.
OP OF CASING IS 2.0 FT. ABOVE LAND SURFACE.
) (gpm): NA METHOD OF TEST NA
:R ZONES (depth) (25') to 33' below surface

RINATION: Type NA Amount

NG:

Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
0	13	2"	Sch.40	PVC

UT:

Depth From	To	Material	Method
8.0'	1.0'	cement/bent.	poured
8	11	Bentonite	

EEN:

Depth From	To	Diameter	Slot Size	Material
13.0'	33.0'	2"	.010 in.	PVC/40

VEL PACK:

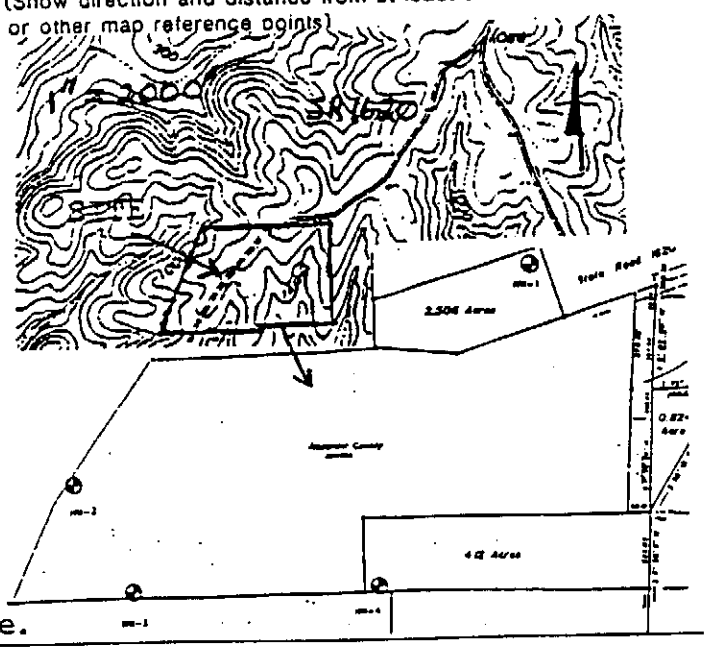
Depth From	To	Size	Material
11.0'	33.0'	6"	sand

DRILLING LOG

Depth From	To	Formation Description
0	3	Stiff orange-brown sandy slightly clayey SILT (Residual)
3	7	Dense orange, yellow, tan slightly micaceous fine sandy SILT
7	12	Very stiff green, yellow, tan slightly micaceous fine sandy SILT
12	17.5	Dense white, tan, grey micaceous silty SAND with rock fragments
17.5	23.1	Partially weathered rock when sampled becomes grey, tan slightl micaceous fine sandy SILT
		SEE BACK

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



ARKS: Bentonite seal from 8' to 11' below surface.
Concrete from 1.0' to 0.0'. Locking cover.

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CONTRACTOR OR AGENT — DATE 10/18/90

Submit original to Division of Environmental Management and copy to well owner.

EVISED 2/90

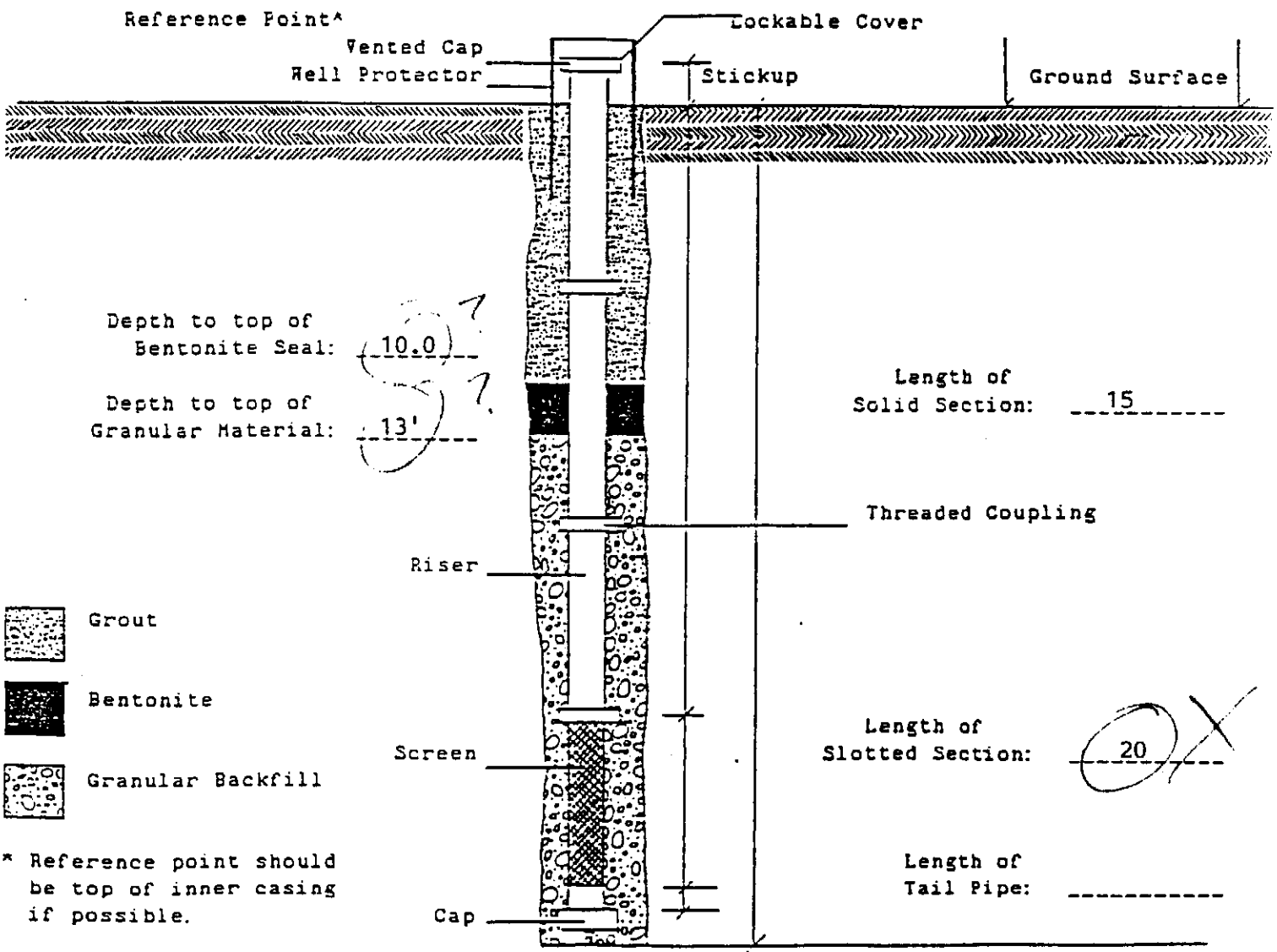
TRIGON

ENGINEERING CONSULTANTS, INC. Greensboro, N.C.

Date: 10/18/90
Job Number: 035-90-003
Project Name: Alexander County Landfill
Location: Alexander County

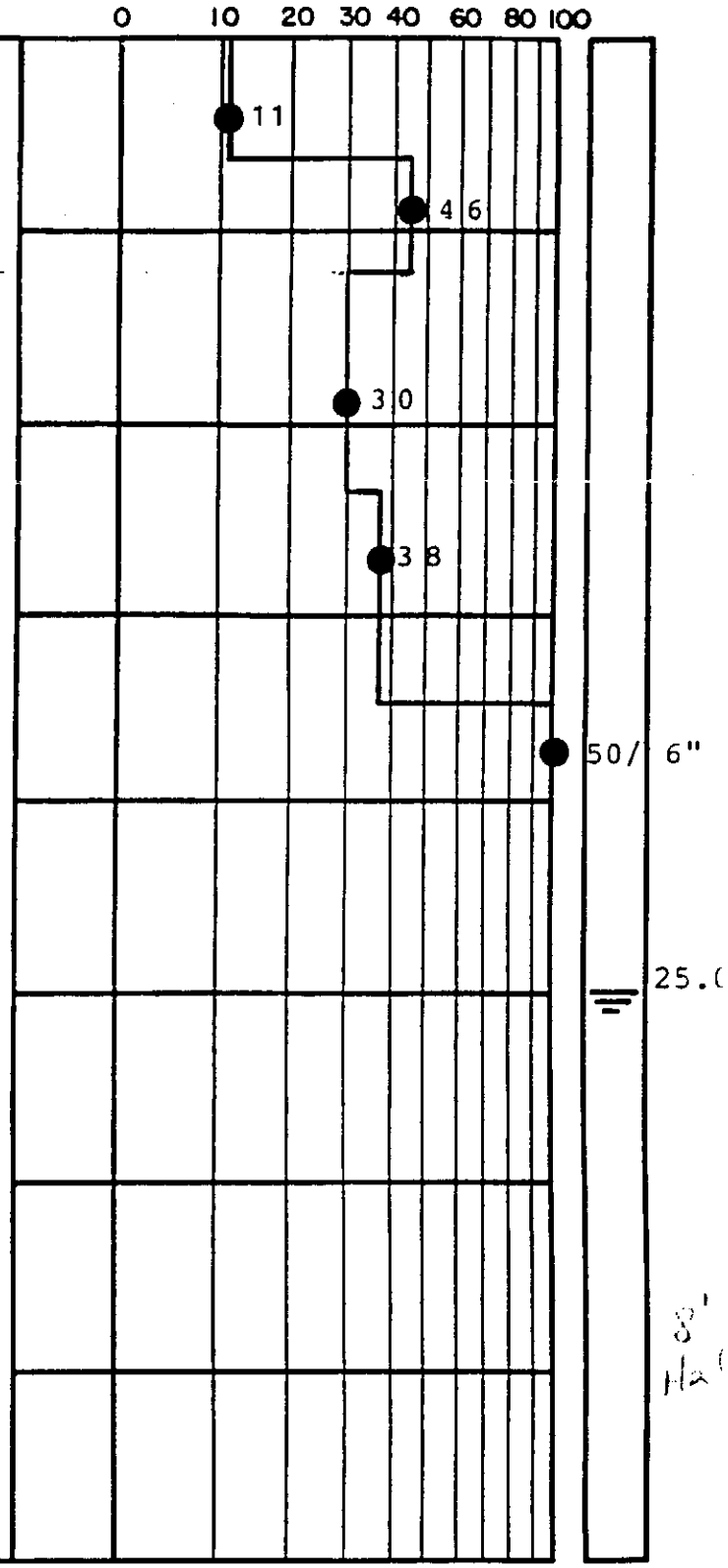
Ground Surface Elevation: _____
Well Number: MW-3
Total Depth of Well: 33.0'
Date Installed: 9/~~21~~19/90
Granular Backfill Material: Sand
Slot Size: .010
Screen Material: Schedule 40 PVC
Screen Diameter: 2"
Riser Material: Schedule 40 PVC
Riser Diameter: 2"
Drilling Technique: Hollow-stem Auger/NX Coring
Driller: B. King
Borehole Diameter: 6"
Lock Data: _____
Key Code/Combination: _____

Stabilized Water Level: 25.0 feet below ground surface. Measured on: 9/21/90



* Reference point should be top of inner casing if possible.

TH	DESCRIPTION	ELEV.
0.0	Stiff Orange-Brown Sandy Slightly Clayey SILT (Residual)	
3.0	Dense Orange, Yellow, Tan Slightly Micaceous Fine Sandy SILT	
7.0	Very Stiff Green, Yellow, Tan Slightly Micaceous Fine Sandy SILT	
12.0	Dense White, Tan, Grey Micaceous Silty SAND with Rock Fragments	
17.5	Partially Weathered Rock When Sampled Becomes Grey, Tan Slightly Micaceous Fine Sandy SILT	
23.1	Biotite Gneiss with Pyrite Crystals and Prominent Water Bearing Quartz Seam at about 28 Feet Slightly Weathered	
36.7	Coring Terminated	



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.
CAVE-IN DEPTH

TEST BORING RECORD

BORING NO. MW-3
DATE DRILLED 9/19/90
JOB NO. 035-90-003

TRIGON

H CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

WELL CONSTRUCTION RECORD

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

LLING CONTRACTOR Trigon Engineering Consultants
LLER REGISTRATION NUMBER 813
STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

Well No. MW-4

ELL LOCATION: (Show sketch of the location below)
earest Town: Millersville
County: Alexander
oad, Community, or Subdivision and Lot No.)
WNER County of Alexander
DDRESS 255 Liledoun Road
(Street or Route No.)
Taylorsville NC 28681
City or Town State Zip Code
ATE DRILLED 9/11/90 USE OF WELL Monitor GW
OTAL DEPTH 18.0' CUTTINGS COLLECTED ☐ Yes ☒ No
OES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
TATIC WATER LEVEL: 7.0 FT. ☐ above ☒ below TOP OF CASING.
TOP OF CASING IS 2.0 FT. ABOVE LAND SURFACE.
ELD (gpm): N/A METHOD OF TEST N/A
ATER ZONES (depth): 5' to 18' below surface
HLORINATION: Type N/A Amount N/A

ASING:

	Depth From	Depth To	Diameter	Wall Thickness or Weight/Ft.	Material
	0	3	2"	Sch.40	PVC

ROUT:

	Depth From	Depth To	Material	Method
	0	1	cement/bent.	poured
	1	2	Bentonite	

CREEN:

	Depth From	Depth To	Diameter	Slot Size	Material
	3	18	2"	.010"	PVC/40

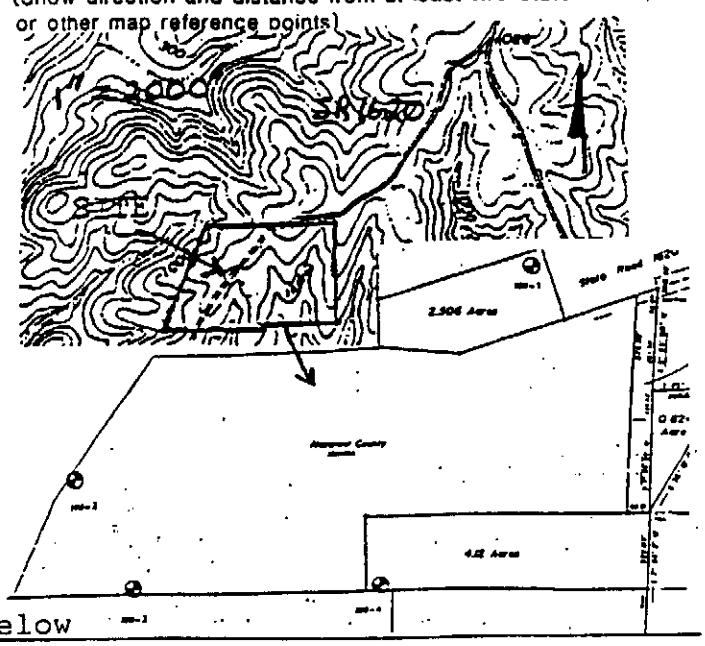
RAVEL PACK:

	Depth From	Depth To	Size	Material
	3	10	10.0"	sand
	10	18	4.0"	sand

Depth From	Depth To	DRILLING LOG Formation Description
0	3	Firm brown-orange slightly clayey medium to fine sandy SILT (Fill)
3	7	Firm, brown-orange slightly clayey medium to fine sandy SILT (Residual)
7	10	Partially weathered rock when sampled becomes brown-orange and tan micaceous silty coarse to fine SAND (Wet)
10	18	Biotite gneiss with quartz seams

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



EMARKS: Bentonite seal from 1.0' to 2.0' below surface. Locking cover.

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CONTRACTOR OR AGENT — DATE 10/19/90

Submit original to Division of Environmental Management and copy to well owner.

REVISED 2/90

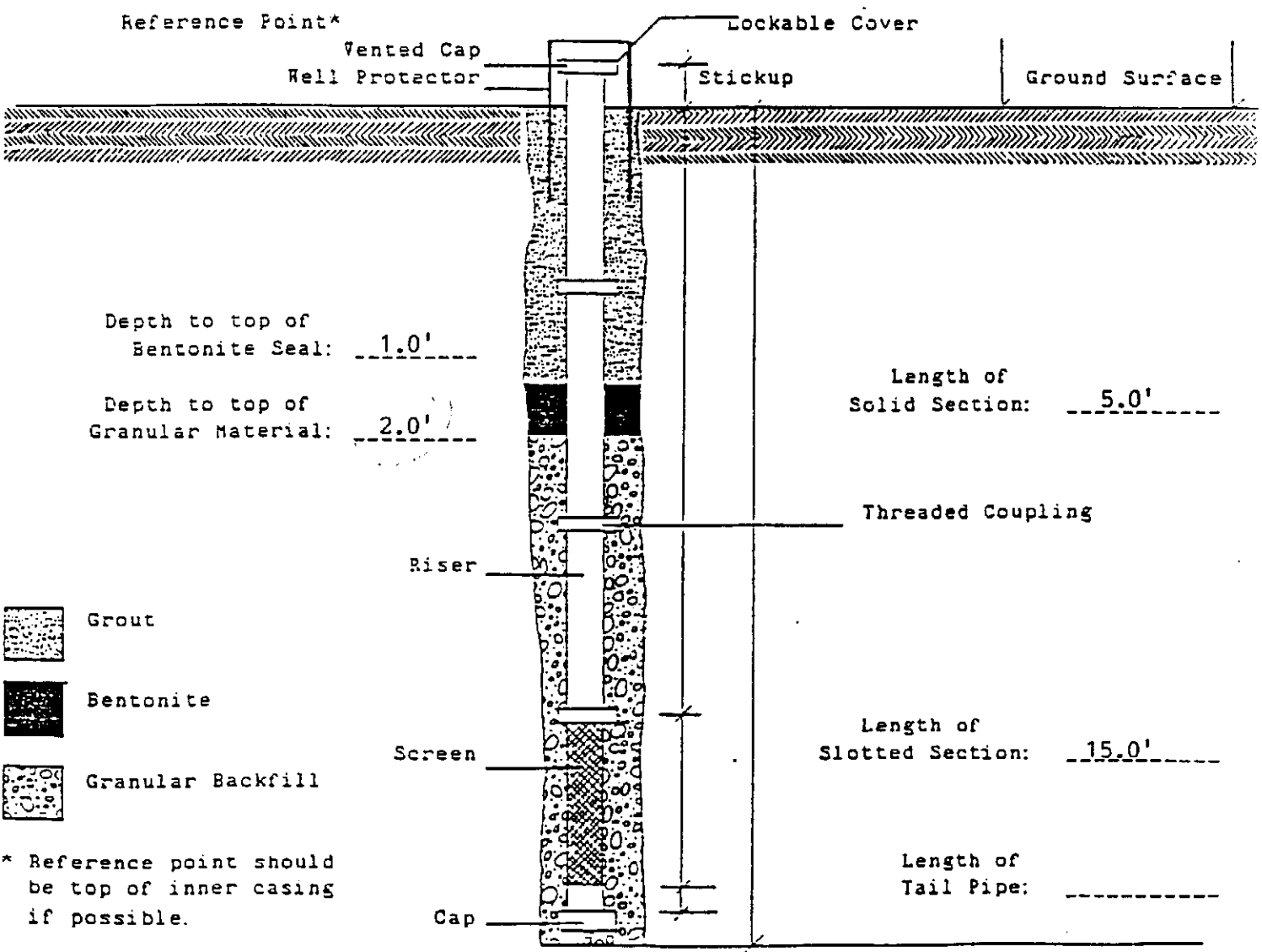
TRIGON

ENGINEERING CONSULTANTS, INC. Greensboro, N.C.

Date: 10/18/90
Job Number: 035-90-003
Project Name: Alexander County Landfill
Location: Alexander County North Carolina

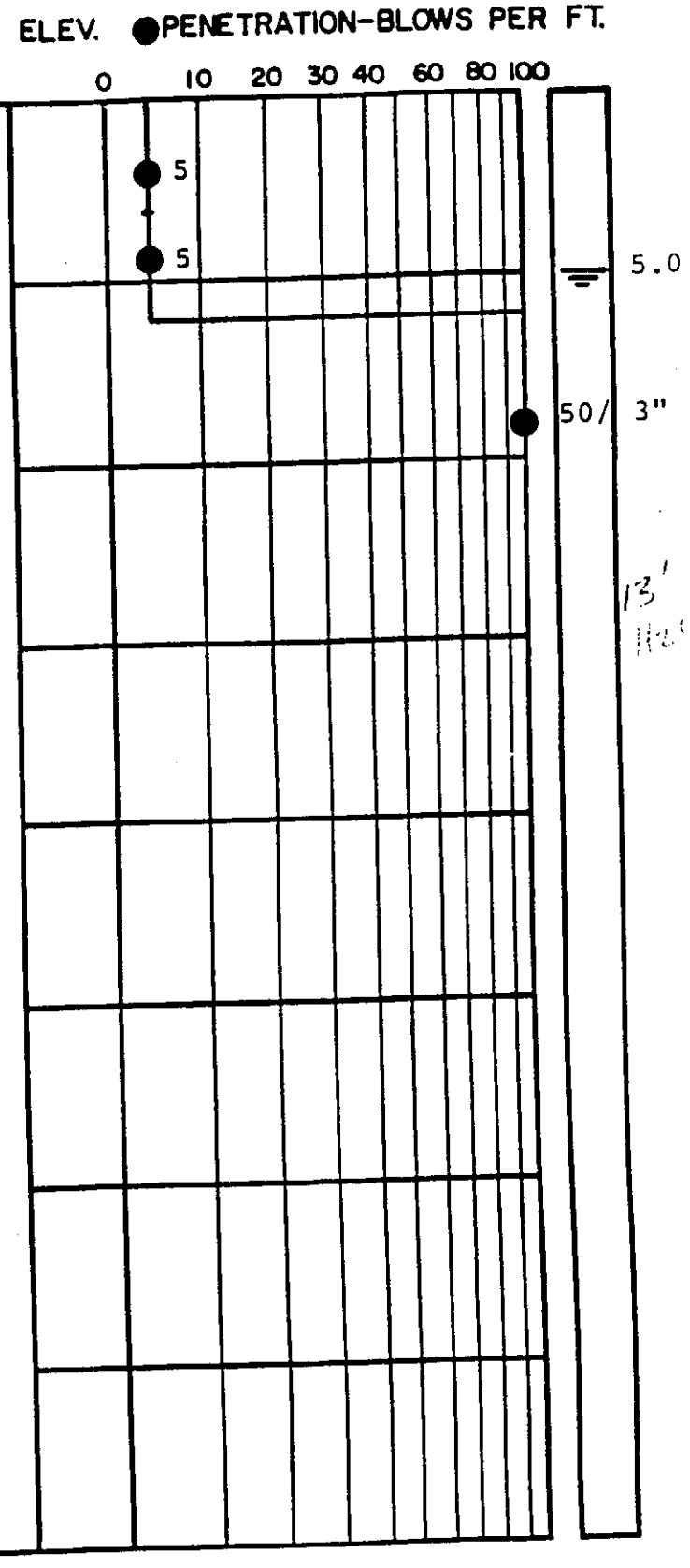
Ground Surface Elevation: _____
Well Number: MW-4
Total Depth of Well: 18
Date Installed: 9/11/90
Granular Backfill Material: Sand
Slot Size: .010
Screen Material: Schedule 40 PVC
Screen Diameter: 2"
Riser Material: Schedule 40 PVC
Riser Diameter: 2"
Drilling Technique: Hollow-stem auger/NX Coring
Driller: B. King
Borehole Diameter: 0'-10':10"; 10'-18':4"
Lock Data: _____
Key Code/Combination: _____

Stabilized Water Level: 5 feet below ground surface. Measured on: 9/11/90



* Reference point should be top of inner casing if possible.

TH	DESCRIPTION	ELEV.
0.0	Firm Brown-Orange Slightly Clayey Medium to Fine Sandy SILT (Fill)	
3.0	Firm Brown-Orange Slightly Clayey Medium to Fine Sandy SILT (Residual)	
7.0	Partially Weathered Rock When Sampled Becomes Brown-Orange and Tan Micaceous Silty Coarse to Fine SAND (Wet)	
10.0	Biotite Gneiss with Quartz Seams	
19.6	Coring Terminated	



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.
CAVE-IN DEPTH

TEST BORING RECORD

BORING NO. MW-4
DATE DRILLED 9/11/90
JOB NO. 035-90-003

TRIGON

MW-1A

North Carolina - Department of Environment, Health, and Natural Resources
Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

FOR OFFICE USE ONLY
QUAD. NO. _____ SERIAL NO. _____
Lat. _____ Long. _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: GAI Consultants

DRILLER REGISTRATION NUMBER: 446

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

1. WELL LOCATION: (Show sketch of the location below)
   Nearest Town: Taylorsville County: Alexander
   SR 1620
   (Road, Community, or Subdivision and Lot No.)
2. OWNER Alexander County Attn: Charles Mashburn
   ADDRESS Admin Bldg 255 Liledown Rd
   (Street or Route No.)
   Taylorsville NC 28681
   City or Town State Zip Code
3. DATE DRILLED 9-30-94 USE OF WELL Monitoring
4. TOTAL DEPTH 48.5'
5. CUTTINGS COLLECTED YES [ ] NO [x]
6. DOES WELL REPLACE EXISTING WELL? YES [ ] NO [x]
7. STATIC WATER LEVEL Below Top of Casing: ± 43.5 FT. (Use "+" if Above Top of Casing)
   40'
8. TOP OF CASING IS 3.0 FT. Above Land Surface*

* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118

9. YIELD (gpm): N/A METHOD OF TEST _____
10. WATER ZONES (depth): _____
11. CHLORINATION: Type N/A Amount _____
12. CASING:

	Depth From	Depth To	Diameter	Wall Thickness or Weight/Ft.	Material
	+3.0	32.5	2"	Sch 40	PVC

13. GROUT:

	Depth From	Depth To	Material	Method
	0	30.0	neat cement	grout
	30.0	31.0	bentonite	pellet

14. SCREEN:

	Depth From	Depth To	Diameter	Slot Size	Material
	32.5	47.5	2 in.	.010 in.	PVC
			in.	in.	
			in.	in.	

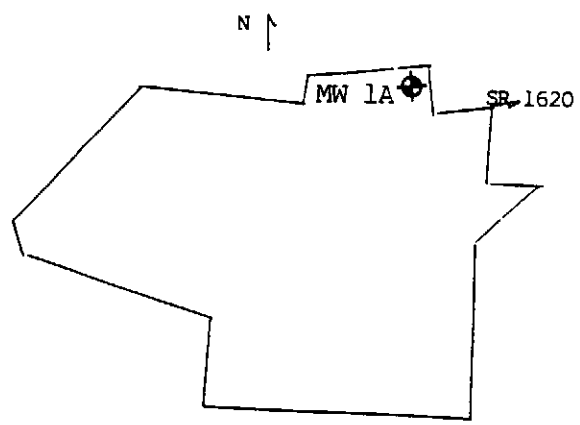
15. SAND/GRAVEL PACK:

	Depth From	Depth To	Size	Material
	31.0	48.5	gravel	silica

16. REMARKS: Monitoring Well 1A

DEPTH From - To	DRILLING LOG Formation Description
0 - 1	Red silty clay
1 - 9	Brown clayey silt, few gneiss fragments
9 - 22	Weathered gneiss
22 - 25.5	Light brown, clayey silt, gneiss fragments
25.5 - 26	Weathered gneiss
26 - 41	Light brown clayey silt with layers of gneiss
41 - 48.5	Weathered gneiss

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Cheryl Mashburn 10-5-94
SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Environmental Management and copy to well owner

GW-1 REV. 9/91

MW-4R

North Carolina - Department of Environment, Health, and Natural Resources
Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

FOR OFFICE USE ONLY
QUAD. NO. _____ SERIAL NO. _____
Lat. _____ Long. _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: GAI Consultants

DRILLER REGISTRATION NUMBER: 446

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

1. WELL LOCATION: (Show sketch of the location below)
   Nearest Town: Taylorsville County: Alexander
   SR 1620
   (Road, Community, or Subdivision and Lot No.)
2. OWNER Alexander County Attn: Charles Mashburn
   ADDRESS Admin Bldg 255 Liledown Rd
   (Street or Route No.)
   Taylorsville NC 28681
   City or Town State Zip Code
3. DATE DRILLED 9-30-94 USE OF WELL Monitoring
4. TOTAL DEPTH 21.5
5. CUTTINGS COLLECTED YES [ ] NO [x]
6. DOES WELL REPLACE EXISTING WELL? YES [ ] NO [x]
7. STATIC WATER LEVEL Below Top of Casing: ± 11.7 FT.
   (Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.7 FT. Above Land Surface*

* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118

9. YIELD (gpm): N/A METHOD OF TEST _____
10. WATER ZONES (depth): _____
11. CHLORINATION: Type N/A Amount _____
12. CASING:

Depth From	To	Ft.	Diameter	Wall Thickness or Weight/Ft.	Material
+ 2.7	25.5		2"	Sch 40	PVC

13. GROUT:

Depth From	To	Ft.	Material	Method
0	3.5		neat cement	grout
3.5	4.5		bentonite	pellet

14. SCREEN:

Depth From	To	Ft.	Diameter	in.	Slot Size	in.	Material
5.5	20.5	Ft	2	in.	.010	in.	PVC

15. SAND/GRAVEL PACK:

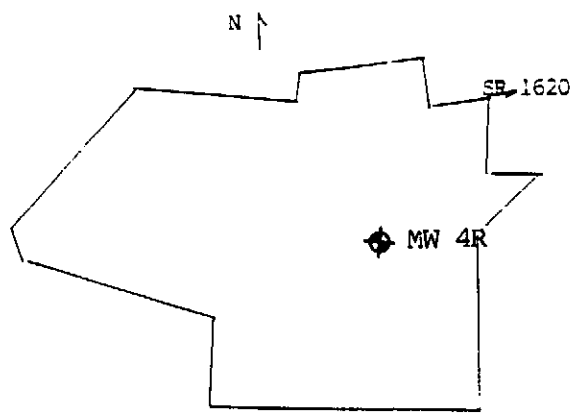
Depth From	To	Ft.	Size	Material
4.5	21.5		gravel	silica

16. REMARKS: Monitoring Well 4R

DEPTH From - To	DRILLING LOG Formation Description
0 - 0.5	Top soil
0.5 - 5.0	Red brown clay
5.0 - 18.0	Brown silty clay
18.0 - 21.5	Gneiss

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Cheryl Marks 10-5-94
SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Environmental Management and copy to well owner.

GW-1 REV. 9/91

MW-5

North Carolina - Department of Environment, Health, and Natural Resources
Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

FOR OFFICE USE ONLY
QUAD. NO. _____ SERIAL NO. _____
Lat. _____ Long. _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: GAI Consultants

DRILLER REGISTRATION NUMBER: 446

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

1. WELL LOCATION: (Show sketch of the location below)
   Nearest Town: Taylorsville County: Alexander
   SR 1620
   (Road, Community, or Subdivision and Lot No.)
2. OWNER Alexander County Attn: Charles Mashburn
   ADDRESS Admin Bldg 255 Liledown Rd
   (Street or Route No.)
   Taylorsville NC 28681
   City or Town State Zip Code
3. DATE DRILLED 9-15-94 USE OF WELL Monitoring
4. TOTAL DEPTH 49.1'
5. CUTTINGS COLLECTED YES [ ] NO [x]
6. DOES WELL REPLACE EXISTING WELL? YES [ ] NO [x]
7. STATIC WATER LEVEL Below Top of Casing: 39.11 FT.
   37 (Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.48 FT. Above Land Surface*

* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118

9. YIELD (gpm): N/A METHOD OF TEST _____
10. WATER ZONES (depth): 37 - 49'
11. CHLORINATION: Type N/A Amount _____
12. CASING:

	Depth From	Depth To	Ft.	Diameter	Wall Thickness or Weight/Ft.	Material
	+2.48	33.80		2"	Sch 40	PVC

13. GROUT:

	Depth From	Depth To	Ft.	Material	Method
	0	30.1		neat cement	grout
	30.1	32.0		bentonite	pellet

14. SCREEN:

	Depth From	Depth To	Ft.	Diameter	Slot Size	Material
	33.80	48.80		2 in.	.010 in.	PVC

15. SAND/GRAVEL PACK:

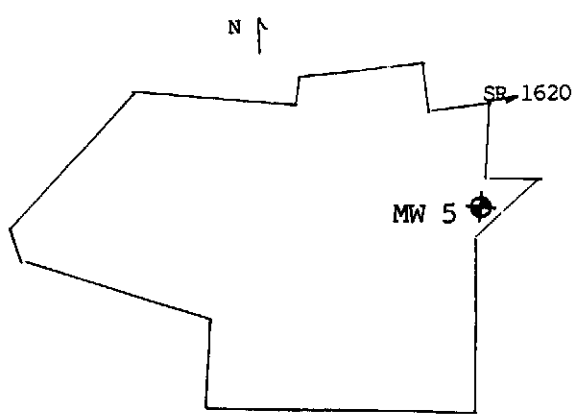
	Depth From	Depth To	Ft.	Size	Material
	32.0	49.1		gravel	silica

16. REMARKS: Monitoring Well 5

DEPTH From - To	DRILLING LOG Formation Description
0 - 6"	Topsoil
6"- 4.75'	Red silty clay
4.75 - 18	Red and white sandy silt micaceous, saprolite
18 - 22	Green gray, sandy silt clayey, micaceous saprolite
22 - 33	Yellow brown clayey silt saprolite
33 - 42	Green gray clayey silt micaceous, saprolite
42 - 49.1	Schist, green black, soft weathered, saprolite

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Edward A Cuatin Jr 10/6/94

SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Environmental Management and copy to well owner.

GW-1 REV. 9/91

MW-6

North Carolina - Department of Environment, Health, and Natural Resources
Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

FOR OFFICE USE ONLY
QUAD. NO. _____ SERIAL NO. _____
Lat. _____ Long. _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: GAI Consultants

DRILLER REGISTRATION NUMBER: 446

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

1. WELL LOCATION: (Show sketch of the location below)
   Nearest Town: Taylorsville County: Alexander
   SR 1620
   (Road, Community, or Subdivision and Lot No.)
2. OWNER Alexander County Attn: Charles Mashburn
   ADDRESS Admin Bldg 255 Liledown Rd
   (Street or Route No.)
   Taylorsville NC 28681
   City or Town State Zip Code
3. DATE DRILLED 9-29-94 USE OF WELL Monitoring
4. TOTAL DEPTH 42.0'
5. CUTTINGS COLLECTED YES [ ] NO [x]
6. DOES WELL REPLACE EXISTING WELL? YES [ ] NO [x]
7. STATIC WATER LEVEL Below Top of Casing: ±36.0 FT.
   33.5'
   (Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.5 FT. Above Land Surface*

* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118

9. YIELD (gpm): N/A METHOD OF TEST _____
10. WATER ZONES (depth): _____
11. CHLORINATION: Type N/A Amount _____
12. CASING:

	Depth From	Depth To	Ft.	Diameter	Wall Thickness or Weight/Ft.	Material
	+2.5	26.0		2"	Sch 40	PVC

13. GROUT:

	Depth From	Depth To	Ft.	Material	Method
	0	23.5		neat cement	grout
	23.5	24.5		bentonite	pellet

14. SCREEN:

	Depth From	Depth To	Ft.	Diameter	Slot Size	Material
	26.0	41.0		2 in.	.010 in.	PVC
				in.	in.	
				in.	in.	

15. SAND/GRAVEL PACK:

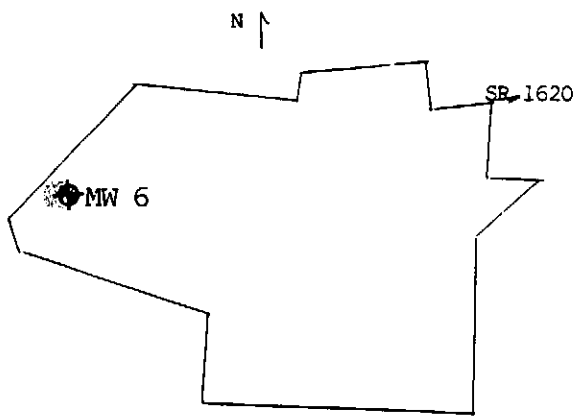
	Depth From	Depth To	Ft.	Size	Material
	24.5	42.0		gravel	silica

16. REMARKS: Monitoring Well 6

DEPTH From	DEPTH To	DRILLING LOG Formation Description
0	3.5	Clayey silt
3.5	10.0	Silt, gneiss fragments
10.0	18.5	Micaeous sandy silt
18.5	24.0	Saprolite
24.0	30.0	Weathered schist
30.0	42.0	Gneiss

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Cheryl Marks

SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Environmental Management and copy to well owner.

GW-1 REV. 9/91

MW-7

North Carolina - Department of Environment, Health, and Natural Resources
Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

FOR OFFICE USE ONLY
QUAD. NO. _____ SERIAL NO. _____
Lat. _____ Long. _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: GAI Consultants

DRILLER REGISTRATION NUMBER: 446

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Taylorsville County: Alexander
SR 1620
(Road, Community, or Subdivision and Lot No.)
2. OWNER Alexander County Attn: Charles Mashburn
ADDRESS Admin Bldg 255 Liledown Rd
(Street or Route No.)
Taylorsville NC 28681
City or Town State Zip Code
3. DATE DRILLED 9-29-94 USE OF WELL Monitoring
4. TOTAL DEPTH 54'
5. CUTTINGS COLLECTED YES [ ] NO [x]
6. DOES WELL REPLACE EXISTING WELL? YES [ ] NO [x]
7. STATIC WATER LEVEL Below Top of Casing: ±50 FT. 48
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2 FT. Above Land Surface*
* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118
9. YIELD (gpm): N/A METHOD OF TEST _____
10. WATER ZONES (depth): _____
11. CHLORINATION: Type N/A Amount _____
12. CASING:

	Depth From	Depth To	Ft.	Diameter	Wall Thickness or Weight/Ft.	Material
	+2	38		2"	Sch 40	PVC

13. GROUT:

	Depth From	Depth To	Ft.	Material	Method
	0	36		neat cement	grout
	36	37		bentonite	pellet

14. SCREEN:

	Depth From	Depth To	Ft	Diameter	in.	Slot Size	in.	Material
	38	53		2		.010		PVC

15. SAND/GRAVEL PACK:

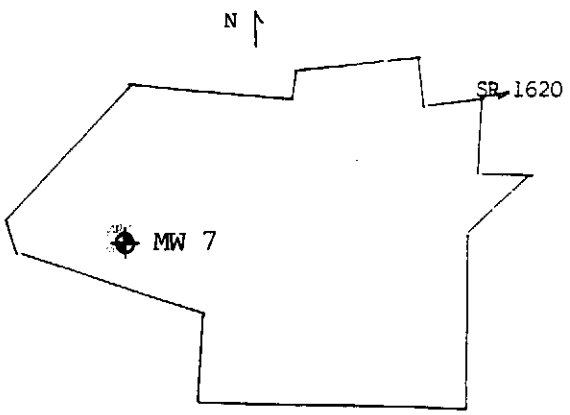
	Depth From	Depth To	Ft.	Size	Material
	37	54		gravel	silica

16. REMARKS: Monitoring Well 7

DEPTH From	DEPTH To	DRILLING LOG Formation Description
0	4.5	Brown silty clay
4.5	8.0	as above with rock fragments
8.0	12.0	Abundant rock fragments
12.0	36.5	Weathered gneiss
36.5	54.0	Gneiss

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Cheryl Marks

SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Environmental Management and copy to well owner

GW-1 REV. 9/91

MW-8

North Carolina - Department of Environment, Health, and Natural Resources
Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

FOR OFFICE USE ONLY
QUAD. NO. _____ SERIAL NO. _____
Lat. _____ Long. _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: GAI Consultants

DRILLER REGISTRATION NUMBER: 446

STATE WELL CONSTRUCTION PERMIT NUMBER: N/A

1. WELL LOCATION: (Show sketch of the location below)
   Nearest Town: Taylorsville County: Alexander
   SR 1620
   (Road, Community, or Subdivision and Lot No.)
2. OWNER Alexander County Attn: Charles Mashburn
   ADDRESS Admin Bldg 255 Liledown Rd
   (Street or Route No.)
   Taylorsville NC 28681
   City or Town State Zip Code
3. DATE DRILLED 9-29-94 USE OF WELL Monitoring
4. TOTAL DEPTH 28.5
5. CUTTINGS COLLECTED YES [ ] NO [x]
6. DOES WELL REPLACE EXISTING WELL? YES [ ] NO [x]
7. STATIC WATER LEVEL Below Top of Casing: ±12.8 FT.
   10'
   (Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.8 FT. Above Land Surface*

* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118

9. YIELD (gpm): N/A METHOD OF TEST _____
10. WATER ZONES (depth): _____
11. CHLORINATION: Type N/A Amount _____
12. CASING:

	Depth From	Depth To	Diameter	Wall Thickness or Weight/Ft.	Material
	±2.8	12.5	2"	Sch 40	PVC

13. GROUT:

	Depth From	Depth To	Material	Method
	0	10.5	neat cement	grout
	10.5	11.5	bentonite	pellet

14. SCREEN:

	Depth From	Depth To	Diameter	Slot Size	Material
	12.5	27.5	2 in.	.010 in.	PVC
			in.	in.	
			in.	in.	

15. SAND/GRAVEL PACK:

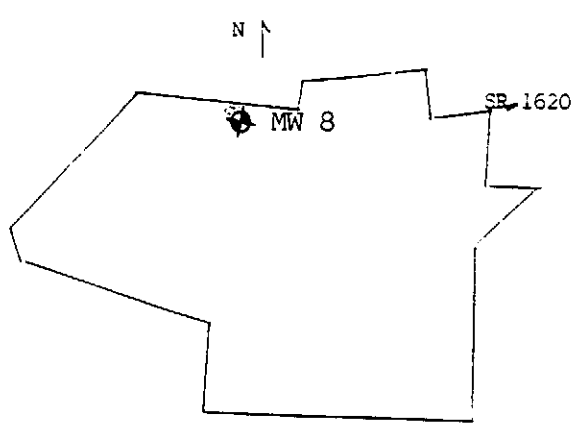
	Depth From	Depth To	Size	Material
	11.5	28.5	gravel	silica

16. REMARKS: Monitoring Well 8

DEPTH From	DEPTH To	DRILLING LOG Formation Description
0	1.0	Top soil
1.0	5.0	Red brown silty clay
5.0	14.0	Yellow brown clayey silt
14.0	28.5	Gneiss

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Cheryl Mashburn

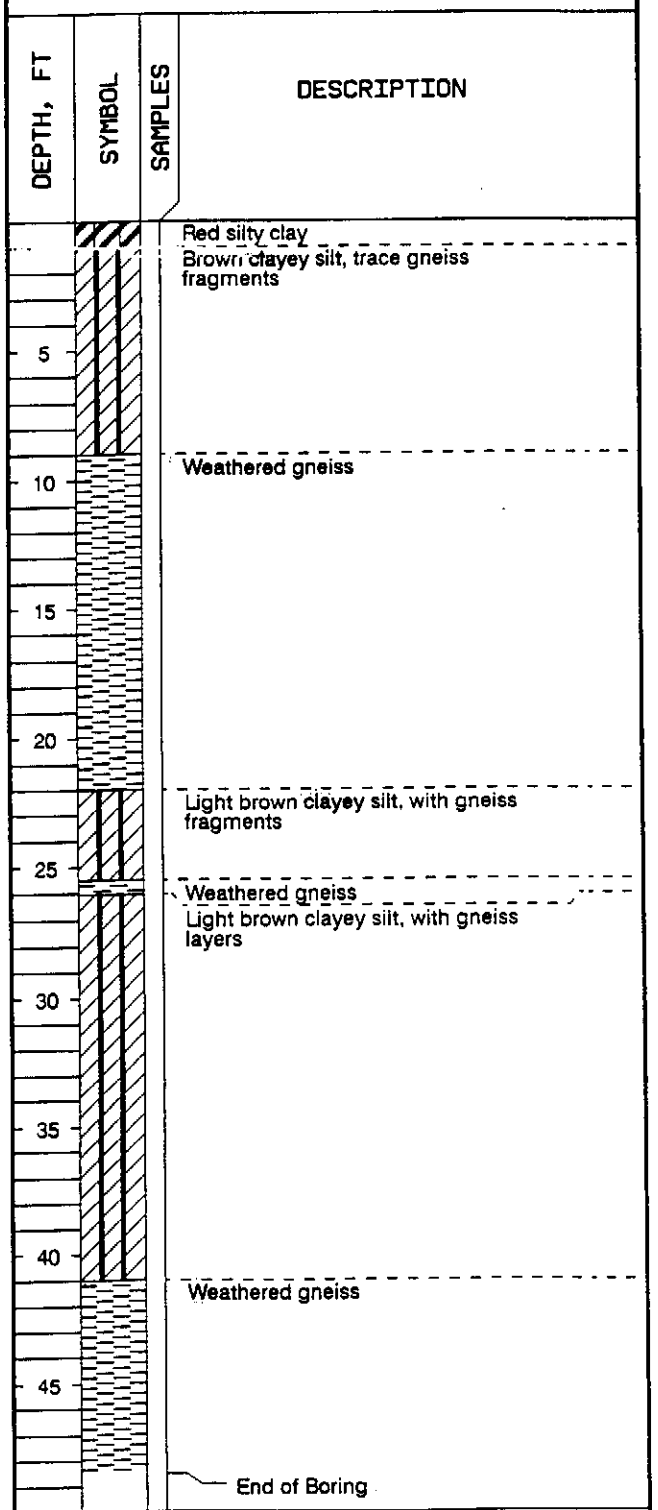
SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Environmental Management and copy to well owner

GW-1 REV. 9/91

MONITORING WELL 1A

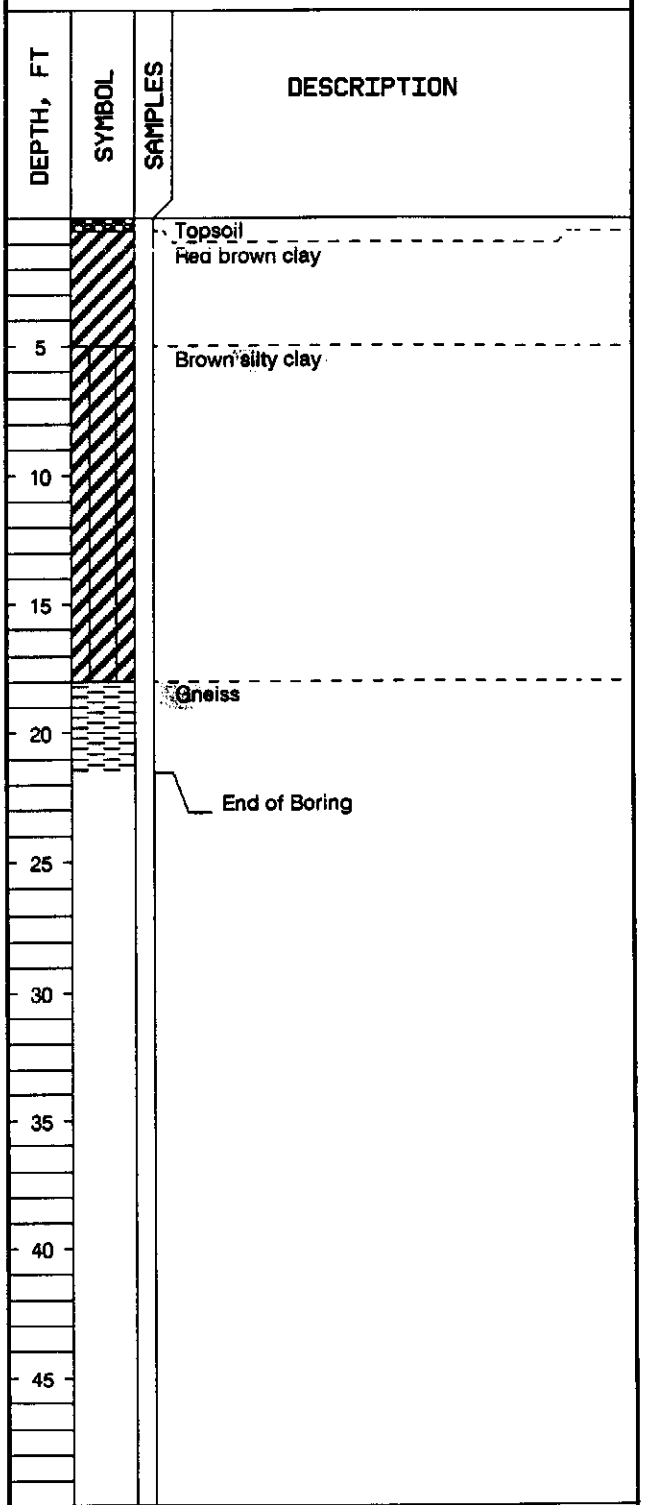
PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans



COMPLETION DEPTH: 48.5 ft DATE: 9-30-94
DEPTH TO WATER: 39.3 ft while drilling

MONITORING WELL 4R

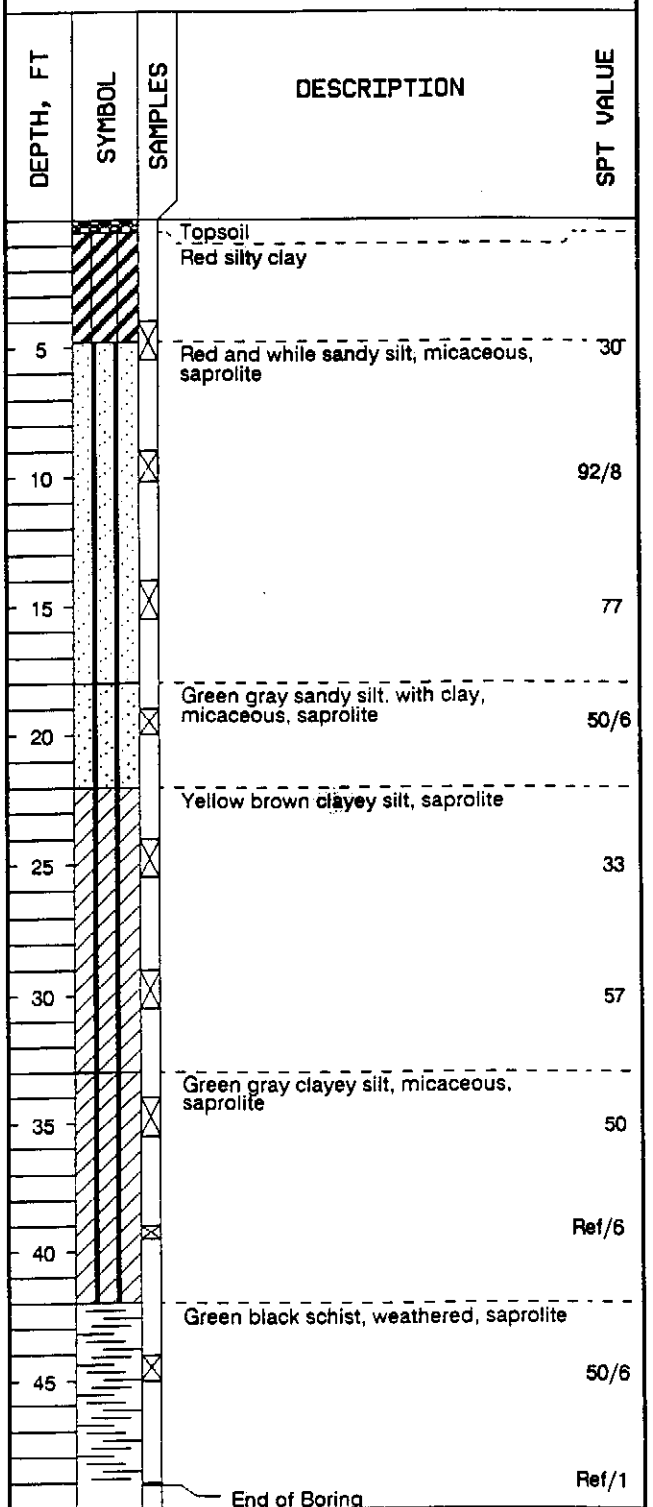
PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans



COMPLETION DEPTH: 21.5 ft DATE: 9-30-94
DEPTH TO WATER: 12 ft after drilling

MONITORING WELL 5

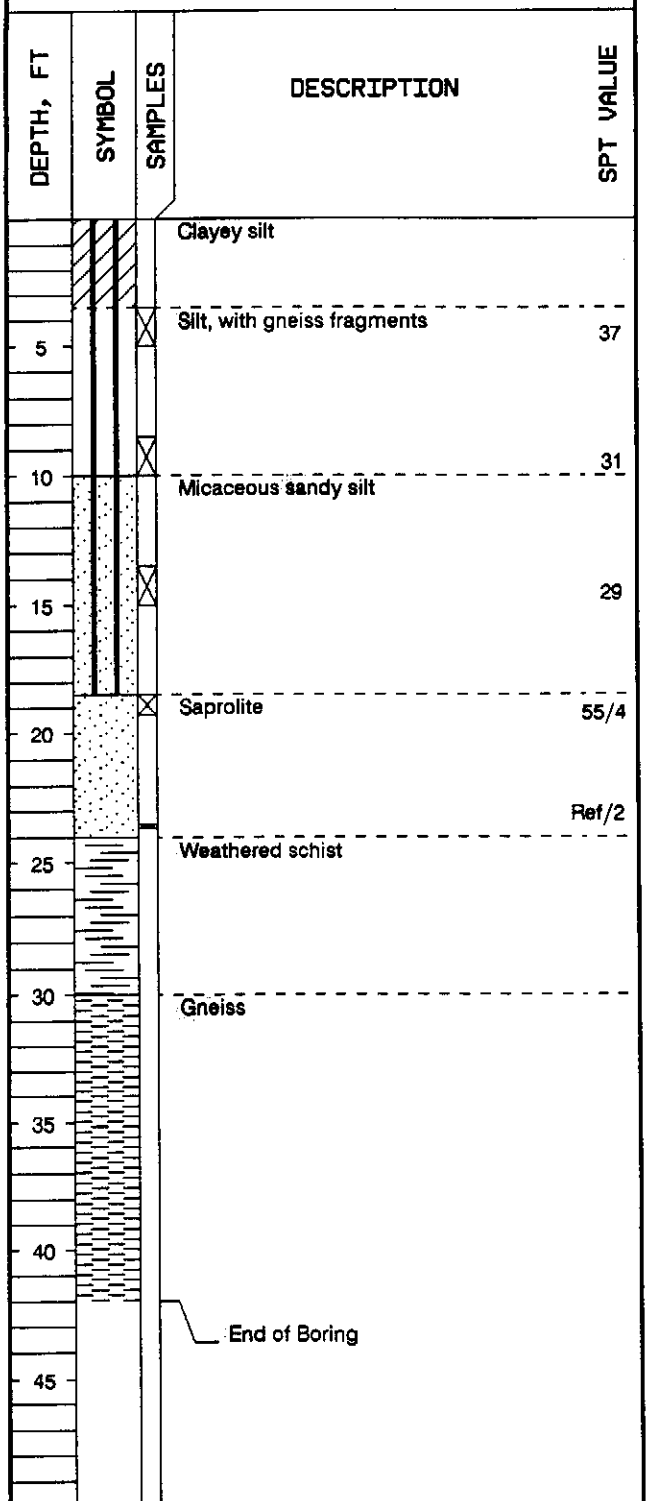
PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans



COMPLETION DEPTH: 49.1 ft DATE: 9-16-94
DEPTH TO WATER: 41.3 ft after drilling, 37.1 ft after 12 hrs

MONITORING WELL 6

PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans



COMPLETION DEPTH: 42.0 ft DATE: 9-29-94
DEPTH TO WATER: 30 ft after drilling

MONITORING WELL 7

PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION
			Brown silty clay
5			-grades with rock fragments
			-more rock fragments
10			
			Weathered gneiss
15			
20			
25			
30			
35			
			Gneiss
40			
45			

COMPLETION DEPTH: 54.0 ft DATE: 9-29-94
DEPTH TO WATER: 48 ft after 24 hrs

MONITORING WELL 7 (cont)

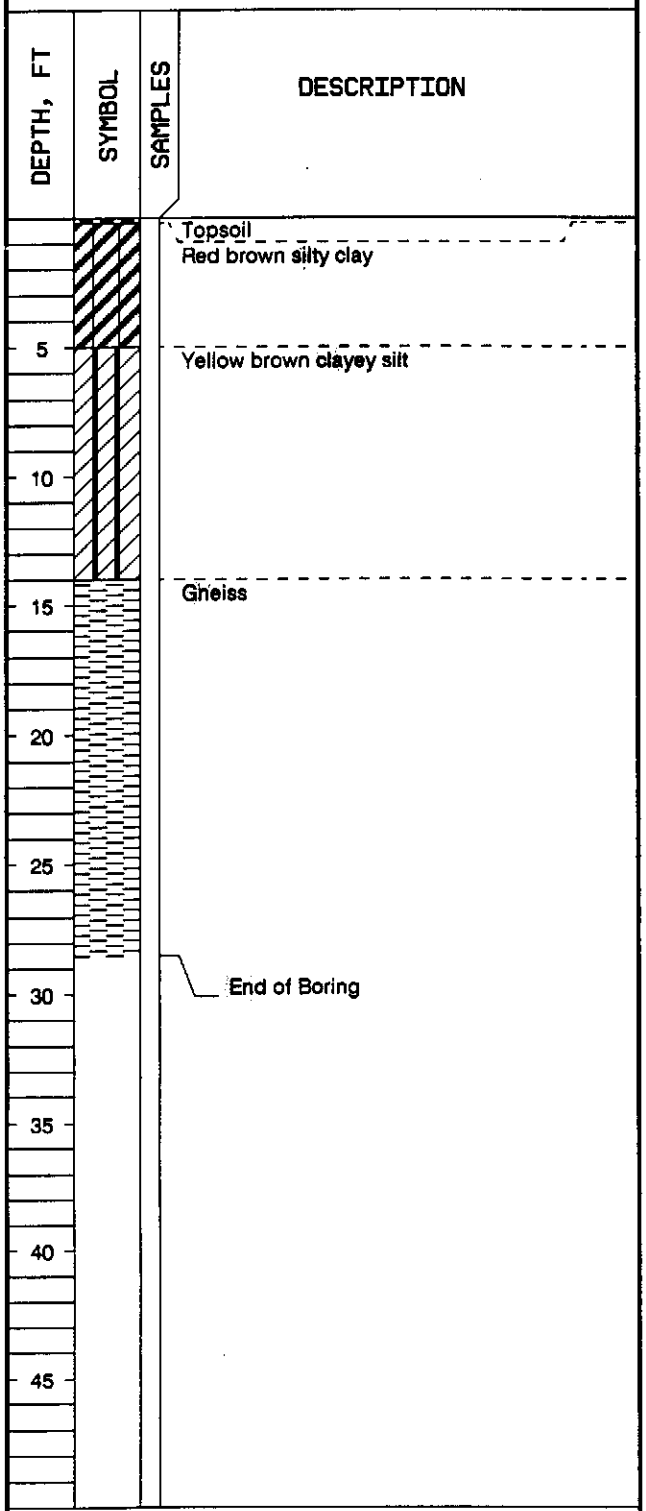
PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION
55			End of Boring
60			
65			
70			
75			
80			
85			
90			
95			

COMPLETION DEPTH: 54.0 ft DATE: 9-29-94
DEPTH TO WATER: 48 ft after 24 hrs

MONITORING WELL 8

PROJECT: Alexander County Landfill
Taylorsville, North Carolina
LOCATION: see Landfill Plans



COMPLETION DEPTH: 28.5 ft DATE: 9-29-94
DEPTH TO WATER: 12 ft after drilling

GAI CONSULTANTS

APPENDIX C

CHEMICAL TEST DATA

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 #: 1094-29215
SERVICES FOR: GAI Consultants, Inc.
DATE SAMPLED: 10-01-94
DATE SUBMITTED: 10-01-94
DATE ANALYZED: Metals - 10-05-94
Volatile Organic Compounds - 10-05-94
DATE COMPLETED: 10-06-94
METHOD OF ANALYSIS: As Noted Below
CUSTOMER JOB IDENTIFICATION: Alexander Co.
CUSTODY #: 24828

****

GAI Consultants, Inc.
Job #: 1094-29215

REIC SAMPLE #	29215-1		
GAI SAMPLE #	[redacted]	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	10	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-1		
GAI SAMPLE #	MW 8	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	107%		
toluene-d8	113%		
4-bromofluorobenzene	110%		

REIC SAMPLE #	29215-1		
GAI SAMPLE #	MW 8	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	ND	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	26	7191	5
cobalt	29	7201	10
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 certification	ND	6010	50
zinc	70	6010	50

REIC SAMPLE #	29215-2		
GAI SAMPLE #	MW 2	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	22	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	33	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-2		
GAI SAMPLE #	MW 2	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	5	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	107%		
toluene-d8	108%		
4-bromofluorobenzene	106%		

REIC SAMPLE #	29215-2		
GAI SAMPLE #	MW 2	METHOD	PQL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	380	6010	100
beryllium	14	7091	2
cadmium	4	7131	1
chromium	64	7191	5
cobalt	250	7201	10
copper	220	6010	100
lead	24	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	140	6010	50
zinc	210	6010	50

REIC SAMPLE #	29215-3		
GAI SAMPLE #	MW 7	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	16	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	24	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-3		
GAI SAMPLE #	MW 7	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	109%		
toluene-d8	112%		
4-bromofluorobenzene	108%		

REIC SAMPLE #	29215-3		
GAI SAMPLE #	MW 7	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	100	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	15	7191	5
cobalt	32	7201	10
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	60	6010	50

REIC SAMPLE #	29215-4		
GAI SAMPLE #	MW 6	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	ND	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-4		
GAI SAMPLE #	MW 6	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	109%		
toluene-d8	113%		
4-bromofluorobenzene	106%		

REIC SAMPLE #	29215-4		
GAI SAMPLE #	MW 6	METHOD	PQL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	420	6010	100
beryllium	2	7091	2
cadmium	ND	7131	1
chromium	115	7191	5
cobalt	25	7201	10
copper	ND	6010	100
lead	14	7421	10
nickel	ND	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	ND	6010	50
zinc	130	6010	50

REIC SAMPLE #	29215-5		
GAI SAMPLE #	MW 3	METHOD	POL
	----ug/l----		

VOLATILE ORGANIC COMPOUNDS

acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	[illegible]	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	[illegible]2	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	22	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	12	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	[illegible]	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	[illegible]4	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-5		
GAI SAMPLE #	MW 3	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	34	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	106%		
toluene-d8	109%		
4-bromofluorobenzene	102%		

REIC SAMPLE #	29215-5		
GAI SAMPLE #	MW 3	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	110	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	ND	7191	5
cobalt	ND	7201	10
copper	ND	6010	100
lead	ND	7421	10
nickel	180	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	ND	6010	50
zinc	ND	6010	50

REIC SAMPLE #	29215-6		
GAI SAMPLE #	MW 4R	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	14	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	10	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-6		
GAI SAMPLE #	MW 4R	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	104%		
toluene-d8	109%		
4-bromofluorobenzene	105%		

REIC SAMPLE #	29215-6		
GAI SAMPLE #	MW 4R	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	1500	6010	100
beryllium	20	7091	2
cadmium	2	7131	1
chromium	280	6010	100
cobalt	700	7201	10
copper	240	6010	100
lead	100	7421	10
nickel	560	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	590	6010	50
zinc	770	6010	50

REIC SAMPLE #	29215-7		
GAI SAMPLE #	MW 4	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	14	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	8	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-7		
GAI SAMPLE #	MW 4	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	105%		
toluene-d8	106%		
4-bromofluorobenzene	105%		

REIC SAMPLE #	29215-7		
GAI SAMPLE #	MW 4	METHOD	PQL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	100	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	15	7191	5
cobalt	320	7201	10
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	ND	6010	50

REIC SAMPLE #	29215-8		
GAI SAMPLE #	MW 5	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	11	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-8		
GAI SAMPLE #	MW 5	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	103%		
toluene-d8	108%		
4-bromofluorobenzene	104%		

REIC SAMPLE #	29215-8		
GAI SAMPLE #	MW 5	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	3490	6010	100
beryllium	80	7091	2
cadmium	1	7131	1
chromium	690	6010	100
cobalt	900	7201	10
copper	1070	6010	100
lead	82	7421	10
nickel	1510	6010	100
selenium	ND	7740	10
silver	10	6010	10
thallium	ND	7841	5
vanadium	1770	6010	50
zinc	3910	6010	50

REIC SAMPLE #	29215-9		
GAI SAMPLE #	MW 1	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	19	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-9		
GAI SAMPLE #	MW 1	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	103%		
toluene-d8	110%		
4-bromofluorobenzene	105%		

REIC SAMPLE #	29215-9		
GAI SAMPLE #	MW 1	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	ND	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	9	7191	5
cobalt	ND	7201	10
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	80	6010	50

REIC SAMPLE #	29215-10		
GAI SAMPLE #	SMW 1A	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	ND	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-10		
GAI SAMPLE #	SMW 1A	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	107%		
toluene-d8	112%		
4-bromofluorobenzene	106%		

REIC SAMPLE #	29215-10		
GAI SAMPLE #	SMW 1A	METHOD	PQL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	720	6010	100
beryllium	9	7091	2
cadmium	ND	7131	1
chromium	120	6010	100
cobalt	220	7201	10
copper	260	6010	100
lead	58	7421	10
nickel	190	6010	100
selenium	ND	7740	10
silver	ND	6010	10
thallium	ND	7841	5
vanadium	330	6010	50
zinc	290	6010	50

REIC SAMPLE #	29215-11		
GAI SAMPLE #	SW 2	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	ND	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-11		
GAI SAMPLE #	SW 2	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	107%		
toluene-d8	113%		
4-bromofluorobenzene	107%		

REIC SAMPLE #	29215-11		
GAI SAMPLE #	SW 2	METHOD	PQL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	ND	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	ND	7191	5
cobalt	ND	7201	10
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	ND	6010	50

REIC SAMPLE #	29215-12		
GAI SAMPLE #	SW 3	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	9	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-12		
GAI SAMPLE #	SW 3	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	107%		
toluene-d8	114%		
4-bromofluorobenzene	106%		

REIC SAMPLE #	29215-12		
GAI SAMPLE #	SW 3	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	540	6010	100
beryllium	2	7091	2
cadmium	ND	7131	1
chromium	ND	7191	5
cobalt	160	7201	10
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	60	6010	50

REIC SAMPLE #	29215-13		
GAI SAMPLE #	TRIP BLANK	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	ND	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-13		
GAI SAMPLE #	TRIP BLANK	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	110%		
toluene-d8	113%		
4-bromofluorobenzene	108%		

REIC SAMPLE #	29215-13		
GAI SAMPLE #	TRIP BLANK	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	ND	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	ND	7191	5
cobalt	ND	7201	10
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	ND	6010	50

REIC SAMPLE #	29215-14		
GAI SAMPLE #	EQUIP BLANK	METHOD	PQL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS			
acetone	ND	8260	100
acrylonitrile	ND	8260	200
benzene	ND	8260	5
bromochloromethane	ND	8260	5
bromodichloromethane	ND	8260	5
bromoform	ND	8260	5
carbon disulfide	ND	8260	100
carbon tetrachloride	ND	8260	10
chlorobenzene	ND	8260	5
chloroethane	ND	8260	10
chloroform	ND	8260	5
chlorodibromomethane	ND	8260	5
1,2-dibromo-3-chloropropane	ND	8260	25
ethylene dibromide	ND	8260	5
o-dichlorobenzene	ND	8260	5
p-dichlorobenzene	ND	8260	5
trans-1,4-dichloro-2-butene	ND	8260	100
1,1-dichloroethane	ND	8260	5
ethylene dichloride	ND	8260	5
vinylidene chloride	ND	8260	5
cis-1,2-dichloroethylene	ND	8260	5
trans-1,2-dichloroethylene	ND	8260	5
propylene dichloride	ND	8260	5
cis-1,3-dichloropropene	ND	8260	10
trans-1,3-dichloropropene	ND	8260	10
ethylbenzene	ND	8260	5
methyl butyl ketone	ND	8260	50
methyl bromide	ND	8260	10
methyl chloride	ND	8260	10
methylene bromide	ND	8260	10
methylene chloride	ND	8260	10
methyl ethyl ketone	ND	8260	100
methyl iodide	ND	8260	10
methyl isobutyl ketone	ND	8260	100
styrene	ND	8260	10
1,1,1,2-tetrachloroethane	ND	8260	5
1,1,2,2-tetrachloroethane	ND	8260	5
tetrachloroethylene	ND	8260	5

(continued)

REIC SAMPLE #	29215-14		
GAI SAMPLE #	EQUIP BLANK	METHOD	POL
	----ug/l----		
VOLATILE ORGANIC COMPOUNDS(continued)			
toluene	ND	8260	5
1,1,1-trichloroethane	ND	8260	5
1,1,2-trichloroethane	ND	8260	5
trichloroethylene	ND	8260	5
trichlorofluoromethane	ND	8260	5
1,2,3-trichloropropane	ND	8260	15
vinyl acetate	ND	8260	50
vinyl chloride	ND	8260	10
xylenes	ND	8260	5
SURROGATE RECOVERY			
1,2-dichloroethane-d4	110%		
toluene-d8	114%		
4-bromofluorobenzene	107%		

REIC SAMPLE #	29215-14		
GAI SAMPLE #	EQUIP BLANK	METHOD	POL
	----ug/l----		
TOTAL METALS			
antimony	ND	7041	10
arsenic	ND	7060	10
barium	ND	6010	100
beryllium	ND	7091	2
cadmium	ND	7131	1
chromium	ND	7191	5
cobalt	ND	7201	10
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	ND	6010	50

PQL - Practical Quantitation Limit
ND - None Detected at PQL

DATE 10-6-94

APPROVED Ray Erickson

Claude Scott

REIC Laboratory

225 Industrial Park Road
P O Box 286 Beaver WV 25813

Custody № 24828

CHAIN OF CUSTODY RECORD

Date: 10-1-94

Customer Name: GAF-Inc N.C
Address: 3812-H Tarheel Dr.
Ral. N.C. 27609
Person to Contact: Wendell Parker Telephone: (919) 878-4478
Billing Address: Same

Sample Collection Information

Sampling Site: Alexander Co
Project #: Sampler: R. Todd Whaley
Date of Sample Shipment: 10-1-94 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.							Remarks
MW8	5	10/1										
MW2												
MW7												
MW6												
MW3												
MW4R												
MW4												
MW5												
MW1												
& MW1A												
SW2												
SW3												

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
R Todd Whaley	10-1-94 11:10 pm	[signature]			

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Condition on Arrival:
		[signature]	10-1-94 11:00	

Comments: Also included; trip blank (5), equip blank (5)

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

Sampling Field Data Sheet

GAI CONSULTANTS, INC.

PROJECT: Alexander Co. L.F.

SAMPLERS: R. Todd Whaley

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		
MW8	1	10/1	5.45pm	10.73		10gals			6.0	62°F	102		
MW2	2	10/1	5.15	20.30		6gals			7.1	66°F	106		
MW7	3	10/1	4.45pm	39.77		7gals			6.4	64°F	237		
MW6	4	10/1	5.00	29.68		6gals			6.6	62°F	157		
MW3	5	10/1	4:30pm	24.65		4~~gals~~ 2.5 gal			7.2	64°F	234		
MW4R	6	10/1	3:45pm	10.54		6gals			6.3	64°F	213		
MW4	7	10/1	4.15pm	7.53		6gals			5.5	60°F	320		
MW5	8	10/1	3:30	37.53		6gals			5.7	61°F	170		
MW1	9	10/1	6:00	32.50		3gals			6.1	64°F	284		
MW1A	10	10/1	~~6:00~~	44.43		2.5gals			5.6	~~78~~	~~051~~		
SW2	11	9/1	2:30pm						6.7	78	051		
SW3	12	10/1	3:00pm						7.1	68	399		
Equip. Bl	13	10/1	6:00pm										

COMMENTS