526SERBSF10,631

526SERBSF10,631

Site Name (Subject):	THOMASVILLE FURNITURE INDS/LENOIR
Site ID (Document ID):	NCD054290770
Document Name (DocType):	Contractor Report (CONTR)
Report Segment:	
Description:	Phase I Site Assessment
Date of Document:	6/24/1991
Date Received:	
Box: *Enter SF and # with no spaces*	SF10,631
Access Level:	PUBLIC
Division:	WASTE MANAGEMENT
Section:	SUPERFUND
Program (Document Group):	SERB (SERB)
Document Category:	FACILITY

Print Report for Record | Go to New Blank Record | Go to New Record - (default to last record values) | Delete Record

****

THOMASVILLE FURNITURE INDUSTRIES, INCORPORATED

POST OFFICE BOX 640
LENOIR, NORTH CAROLINA 28645

****

****

June 24, 1991

****

Prepared by:

ENSCI CORPORATION

1108 Old Thomasville Road
High Point, North Carolina 27260

FACILITY NAME: THOMASVILLE FURNITURE INDUSTRIES, INCORPORATED

FACILITY LOCATION: 315 Elizabeth Street
Lenoir, North Carolina 28645

CLIENT CONTACT: Mr. Howard Grubbs
Attorney at Law
Womble Carlyle Sandridge & Rice
Post Office Drawer 84
Winston Salem, North Carolina 27102

Mrs. Sherry D. Stookey
Supervisor, Environmental Compliance
Thomasville Furniture Industries, Inc.
Post Office Box 339
Thomasville, North Carolina 27361

REPORT PREPARED BY: Bruce K. Braswell, P. G.

ASSESSMENT DATES: March 25, 1991 - March 29, 1991

REPORT DATE: June 25, 1991

INTRODUCTION

On December 27, 1990, Thomasville Furniture Industries, Inc. (TFI) discovered a drum thought to contain a solvent material in an excavation located in the company parking lot (see Figure 1). ENSCI Corporation was contracted by TFI to overpack and remove the drum from the open excavation. Sherry Stookey, TFI's Environmental Compliance and Inspection Supervisor, immediately contacted Keith Masters in the Mooresville regional office of the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management. On January 2, 1990, TFI's legal representative, Howard Grubbs, gave notice to the State Superfund Section, Division of Environmental Management, and the Site Assessment Division at USEPA, Region IV.

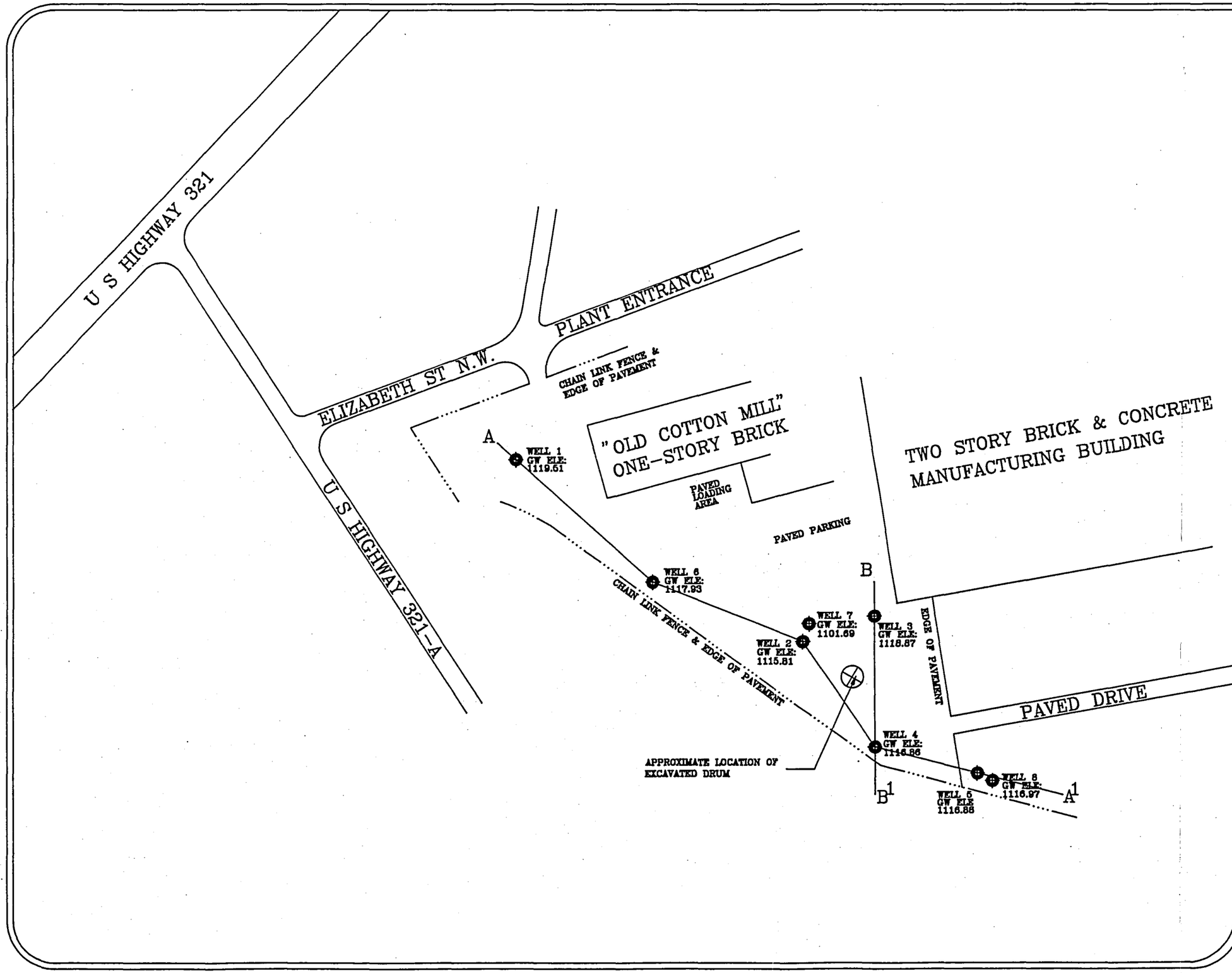
Thomasville Furniture Industries, Inc., in mid February, 1989, had submitted notification to the State of an Inactive Hazardous Substance or Waste Disposal Site. The TFI site is listed in:

USEPA, Region 04
WASTELAN (January 23, 1991)
PRGMO2: Preremedial/Federal Facility Report (Report 20)
Reference #02808.

NCDEHNR
Superfund Section (February, 1991)
Inactive Hazardous Waste Site Priority List

NCDEHNR
Division of Solid Waste Management
Superfund Section (February, 1991)
North Carolina Inactive Hazardous Sites Inventory
Site Priority List

ENSCI Corporation was contracted by Thomasville Furniture Industries, Inc. to perform an assessment of the area where the drum was located. To initiate the investigation, ENSCI Corporation developed a Scope of Work and implemented a drilling program designed to assess this area. This investigation consisted of the installation of eight (8) monitoring wells (see Appendix A) in the proximity of the area potentially impacted by the buried drum. The monitoring wells were installed and developed, stabilized for 48 hours, purged, and sampled for volatile organic compounds, semivolatile organic compounds, and metals by ICP using EPA Methods 624, 625, and 200.7; respectively. The organic analyses were performed using the Target Compound List.



ENSCI
ENVIRONMENTAL SERVICES GROUP
HIGH POINT, NORTH CAROLINA

THOMASVILLE FURNITURE INDUSTRIES
THOMASVILLE, N.C.

APPROXIMATE LOCATION OF EXCAVATED DRUM & MONITORING WELL/CROSS SECTION LOCATIONS

SCALE: 1"=100'	DRAWN BY:DJM	FIGURE: 1
DATE: 5/91	CHECK BY:BB	JOB#

DISCUSSION

Thomasville Furniture Industries, Inc. is a furniture manufacturing facility located in Lenoir, North Carolina, Caldwell County. The location of the facility is near the western boundary of the Inner Piedmont Belt physiographic province. This area is underlain by rock identified as being migmatitic granitic gneiss on the 1985 Geologic Map of North Carolina. In the Preliminary Explanatory Text for the 1985 Geologic Map of North Carolina, the unit is described as medium to coarse-grained, thickly layered gneissic biotite granite to quartz diorite with biotite gneiss and schist, hornblend gneiss, amphibolite and metagabbro. Field observations indicated the presence of biotite schist and possibly amphibolite in split spoon samples recovered during monitoring well installation.

ENSCI Corporation personnel, forty (40) hour trained for Hazardous Materials Incident Response Operations, mobilized to the TFI Lenoir facility on Sunday, March 24, 1990 to perform work detailed in the Scope of Work. After holding a site safety meeting, work commenced on Monday, March 25, 1990. Monitoring Well #1 was the first monitoring well installed. The well was installed hydraulically upgradient and distal from the suspected area to establish upgradient background groundwater (water) quality. Several unsuccessful attempts were made to install the well. The unsuccessful positions were adjacent to Blair Fork Creek and potentially encountered fill material associated with the bridge construction along U.S. Highway 321-A that crosses Blair Fork Creek. The monitoring well was ultimately installed in the graveled area adjacent to the blacktop northwest of the Old Cotton Mill (see Figure 1). As seen in the Field Drilling Record (Appendix A), this well was installed into regolith consisting of approximately three (3) to five (5) feet of soil underlain by saprolite that grades to weathered primary rock (Biotite Schist) at an approximate depth of twenty-one (21) feet. Monitoring Well #1 was the only well that did not encounter sediments deposited by Blair Fork Creek (see Drilling Records). After installation of MW-#2 through MW-#5, it was decided to install an additional upgradient background monitoring well in a position that would encounter the sediment package deposited by Blair Fork Creek (see Figure 1). Monitoring Well #6 was installed hydraulically upgradient and to the southwest of the Old Cotton Mill; adjacent to Blair Fork Creek (see Figure 1). This upgradient background water quality well did intersect the Blair Fork Creek sediment package (see Appendix A).

Field Drilling Records (Appendix A) indicate saprolitic material was generally encountered between eleven (11) and thirteen (13) feet in depth (with the exception of MW-#1 and MW-#6). During monitoring well installation, headspace analysis was performed on recovered split spoon samples using a Foxboro Century Model 128 Organic Vapor Analyzer. As a general rule, a dramatic drop in detected volatile organic compound levels was encountered at the vadose/saturated - gravel lag/saprolite interfaces (see Table 1). As a result, a decision was made by ENSCI to install a deep well hydraulically upgradient and downgradient of the suspected area; adjacent to monitoring wells #2 and #5, respectively. The two deep wells were drilled using 6¼" ID hollow stem augers (HSA) to approximately seventeen (17) feet in depth. After auger advancement, several bags (4 - 6) of #1 Portland Cement were poured into the HSA and four inch diameter pit casings (black iron) were dropped through the HSA and pushed into the saprolite, using the rig head, to twenty feet in depth. The augers were pulled out and the remaining annular space was grouted to the surface. Following solidification of the #1 Portland Cement (24 hours), a three inch roller cone was advanced through the Portland Cement and into the saprolite/bedrock material to a total depth of forty feet.

All drill cuttings evolved from the installation of the monitoring wells were stored in a roll-off container with a cover. This material was analyzed for disposal profiling using TCLP 1/3 1/3 methodology and no land banned constituents were discovered. This material is non-hazardous by characteristic and should be disposed of accordingly. The analytical results for the drill cutting materials is included in Appendix B.

SAMPLING

ENSCI Corporation personnel mobilized to the TFI facility on Wednesday, April 3, 1991 to acquire representative groundwater samples from the monitoring wells. As seen in Appendix C, all monitoring wells were purged a minimum of three (3) well volumes prior to sample acquisition. Well purging was continued until pH, water temperature, and conductivity were all within ±10% for three (3) consecutive readings. All acquired samples were placed in amber colored jars and capped with ceramic lids with teflon seals. All samples were stored in coolers with ice packs, maintained at 4°C, and shipped via express delivery service to an EPA approved laboratory for the above mentioned analyses.

TABLE 1

Depth Interval of Recovered Split Spoon Samples
with Corresponding Organic Vapor Analyzer Readings

#1	#2	#3	#4	#5	#6	#7	#8
NA	14"-3' /48	18"-3' /98	15"-3' /140	2'-5' /NA	1.5-3.0 /<1	NA	NA
	3'-5' /900	3'-5' /160	3'-5' /34	5'-7' /70	3.5'-5.0' /<0	See MW#2	See MW#5
	5'-6.5' /160	5'-7' /200	5'-7' /1000++	7'-9' /250	5.5'-7.0' /1.1		
	6.5'-8.5' */NA	7'-9' /240	7'-9' */520	9'-11' */22	7.5'-9.0' /.8		
	8.5'-10.5' /1000++	9'-11' */36	9'-11' /110		9.5'-11' /<0		
	10.5'-12' /22	11'-13' /18	11'-13' /2		11.5'-13.0' /<0		
		13'-15' /<2	13'-15' /2.2		13.5'-15.0' */<0		
		15'-17' /<0			15.5'-17.0' /<0		
					17.5'-19.0' /<0		
					19.5'-20.0' /<0		

* Saturated Zone - Note: based on observation of recovered material.

** OVA Reading reported in ppm

NA - Note available

All well development and purge water has been stored in sealed fifty-five gallon drums that are properly labelled. Disposal of this water is dependent on the analytical results and will be consistent with proper disposal practices. All sampling equipment was properly decontaminated using the follow procedure:

1. Clean with tap water and laboratory detergent using a brush, if necessary, to remove particulate matter and surface films.

2. Rinse thoroughly with tap water.

3. Rinse with a 10% nitric acid solution.

4. Rinse with distilled water.

5. Rinse with pesticide grade isopropanol alcohol.

6. Rinse with distilled water.

7. Air dry as long as possible.

ANALYTICAL RESULTS

As seen in Table 2 (Appendix D), analytical results for volatile and semivolatile organic chemical compounds indicate the presence of a variety of constituents at levels in excess of NCAC Subchapter 2L standards. The Table also indicates the presence of organic chemicals for which there is no listed standard. By NCAC Subchapter 2L, when there is no listed standard in Subchapter 2L, the standard is set at the detection limit of the respective test method or .1 ppm for acetone and .005 ppm for naphthalene, 2 methylnaphthalene, and Bis (2-ethylhexyl) Phthalate.

In the process of sample acquisition, a visible sheen was noted on groundwater samples recovered from monitoring wells #2 and #4. Monitoring wells #3, #5, #6, and #8 all possessed faint to strong odors of organic chemical contamination (see Appendix C). Additional analytical work would be necessary to establish the chemical identity of the constituents that may be present and their respective concentrations.

TABLE 2

Positive Analytical Results
Reported in parts per million (ppm)

	MW#1	MW#2	MW#3	MW#4	MW#5	MW#6	MW#7	MW#8	NC GROUNDWATER STANDARDS NCAC SUBCHAPTER 2L SECTION .0200
Benzene	--	--	--	.005	.005	--	--	--	.001
m-xylene	--	.067	.063	.47	1.7	--	--	--	.4
o,p-xylene	--	--	.005	.110	.140	--	--	--	.4
Acetone	.22	--	--	--	--	--	.490	--	No Standard
Naphthalene	--	.017	--	--	.050	--	--	--	No Standard
2-Methylnaphthalene	--	.016	--	--	.034	--	--	--	No Standard
Bis(2-ethylhexyl) Phthalate	--	.120	--	.100	.014	--	--	--	No Standard

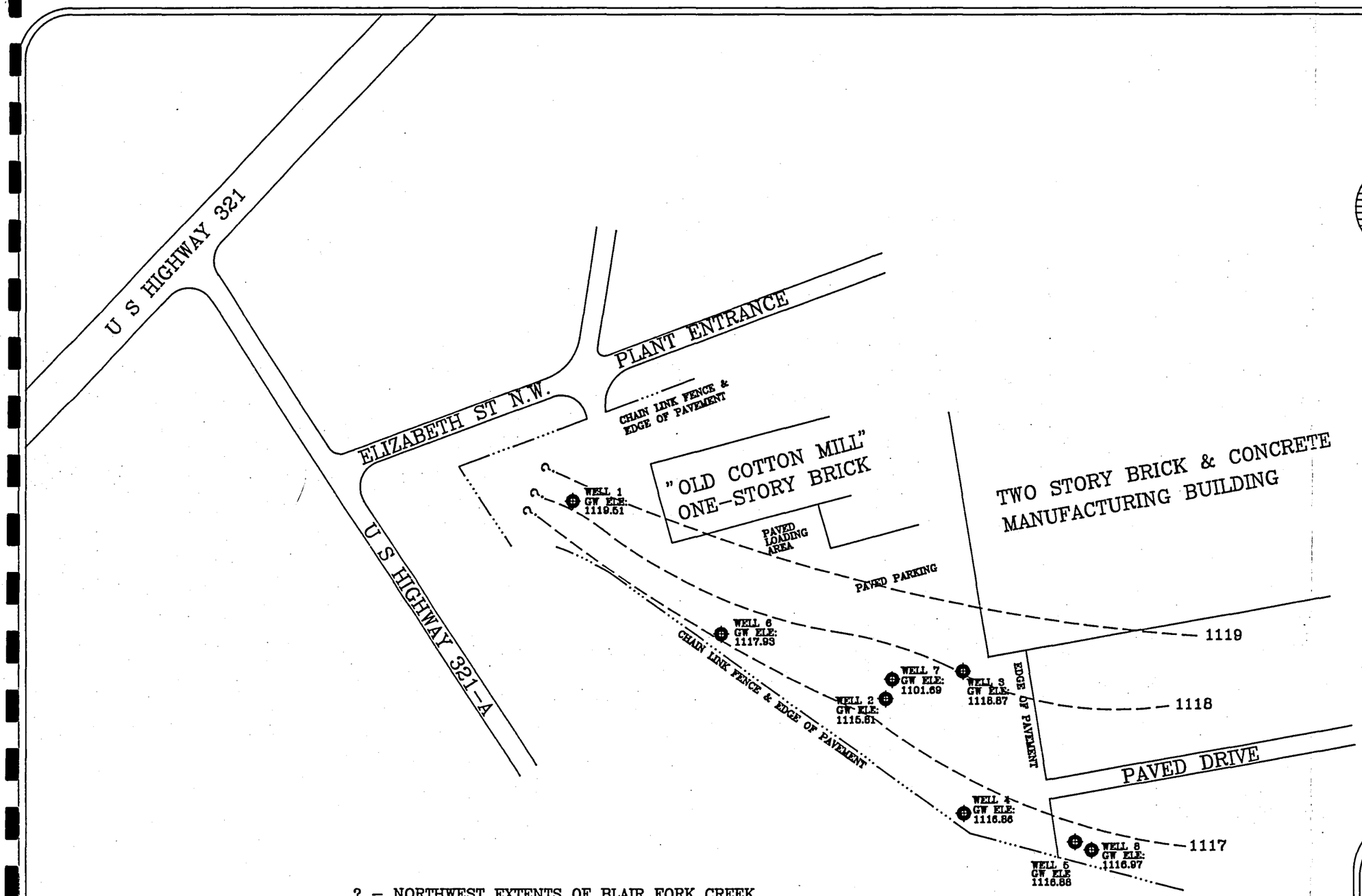
HYDROGEOLOGY

ENSCI Corporation personnel, during the April, 1991 groundwater sampling event, measured the depth to groundwater from the casing tops (TOC) of the various monitoring wells. This information was coupled with a site survey performed at the TFI facility, for ENSCI Corporation, by Vaughn & Bradshaw Surveying Company in Hickory, North Carolina. The resulting product is a potentiometric surface map of the shallow aquifer below the parking area of the TFI facility (see Figure 2).

Groundwater surface contours indicate a gentle dip towards Blair Fork Creek. An observed phenomenon worth mention is the depth to groundwater in monitoring well #7 (23.88'). This hydraulic head is probably indicative of a collapse in the water production zone encountered at 31' - 32' below grade. During installation of monitoring well #7, a permeable layer was encountered at 31' - 32' below grade and may be a production zone. During installation of MW #7, the formation appeared to collapse at the 31' - 32' interval and it was necessary to push the screen and rise past the interval. This same layer was encountered in MW #8, without collapse, and the hydraulic head of MW #8 is approximately 1.125" above MW #5.

Based on the above observation, MW #7 probably represents the hydraulic head of the geologic formation present below a water prolific layer present at 31' - 32' below grade. The hydraulic head observed in MW #8 would seem to indicate that the deep production zone is artesian and may indicate a confining layer is present between the shallow aquifer and deep production zone.

Another potentiometric surface phenomenon observed at TFI is the depth to groundwater in MW #2. When MW #2 was being advanced, OVA readings were taken from the near surface to total depth of auger advancement. In the proximity of MW #2, the second hole drilled, a clay layer was encountered at approximately ten (10) feet in depth below grade. Above this clay layer, OVA readings were ++ 1000 ppm, below the clay layer, OVA readings dropped to approximately 22 ppm. It was decided to plug the initial bore hole base with bentonite and fill the remainder of the drill hole with #1 Portland Cement. A second MW #2 bore hole was advanced several feet away to the top of the clay layer. A well screen was set and there is approximately 2½' of groundwater above the clay. Subsequent monitoring well installations indicate that the clay was a localized phenomenon (see Cross Section A-A^1). The hydraulic head, however, appears to be at least a foot lower than expected. This may indicate a more extensive existence of the clay upgradient of MW #2, towards MW #6. The clay may also act as an aquitard locally.



? – NORTHWEST EXTENTS OF BLAIR FORK CREEK SEDIMENTS ARE NOT DETERMINED. CONTOUR POSITIONS ARE ESTIMATED, BASED ON WELL CONTROL.

ENSCI
ENVIRONMENTAL SERVICES GROUP
HIGH POINT, NORTH CAROLINA

THOMASVILLE FURNITURE INDUSTRIES
THOMASVILLE, N.C.

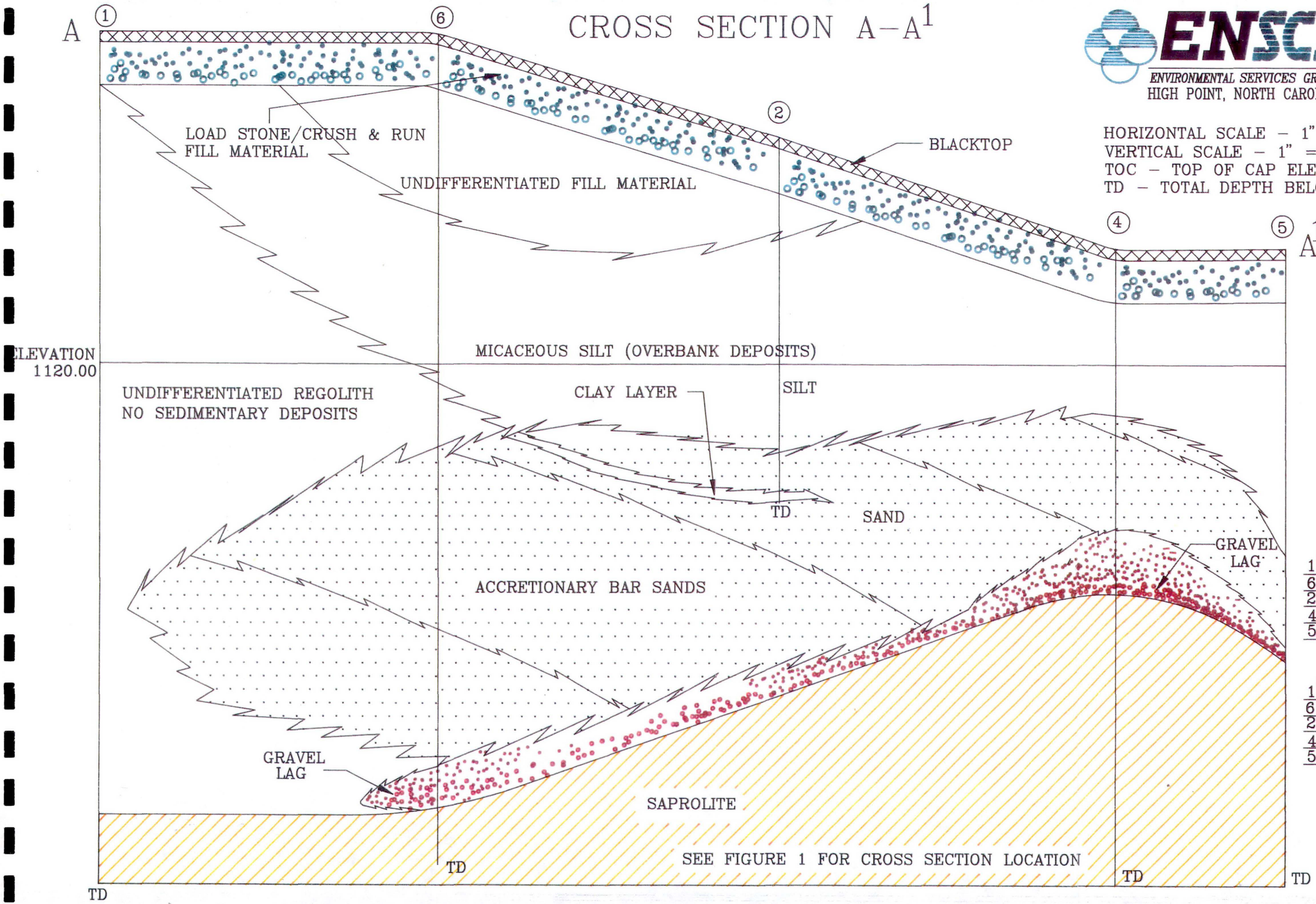
POTENTIOMETRIC SURFACE MAP

SCALE: 1"=100'	DRAWN BY:DJM	FIGURE: 2
DATE: 5/91	CHECK BY:BB	JOB#

CROSS SECTION A–A^1

ENSCI
ENVIRONMENTAL SERVICES GROUP
HIGH POINT, NORTH CAROLINA

HORIZONTAL SCALE – 1" = 100'
VERTICAL SCALE – 1" = 2'
TOC – TOP OF CAP ELEVATION
TD – TOTAL DEPTH BELOW CASING



TOC	
1	1127.80
6	1127.76
2	1125.47
4	1122.71
5	1122.83

TD	
1	20.20'
6	19.18'
2	10.20'
4	15.22'
5	15.20'

Based on the potentiometric surface map, it is apparent that Blair Fork Creek has a very strong influence on the localized shallow aquifer (see Cross Section B-B^1). The creek is a manifestation of the shallow groundwater table at the surface and stream fluctuations due to high rainfall or periods of low rainfall will strongly influence the local observed hydraulic head (see Figure 3).

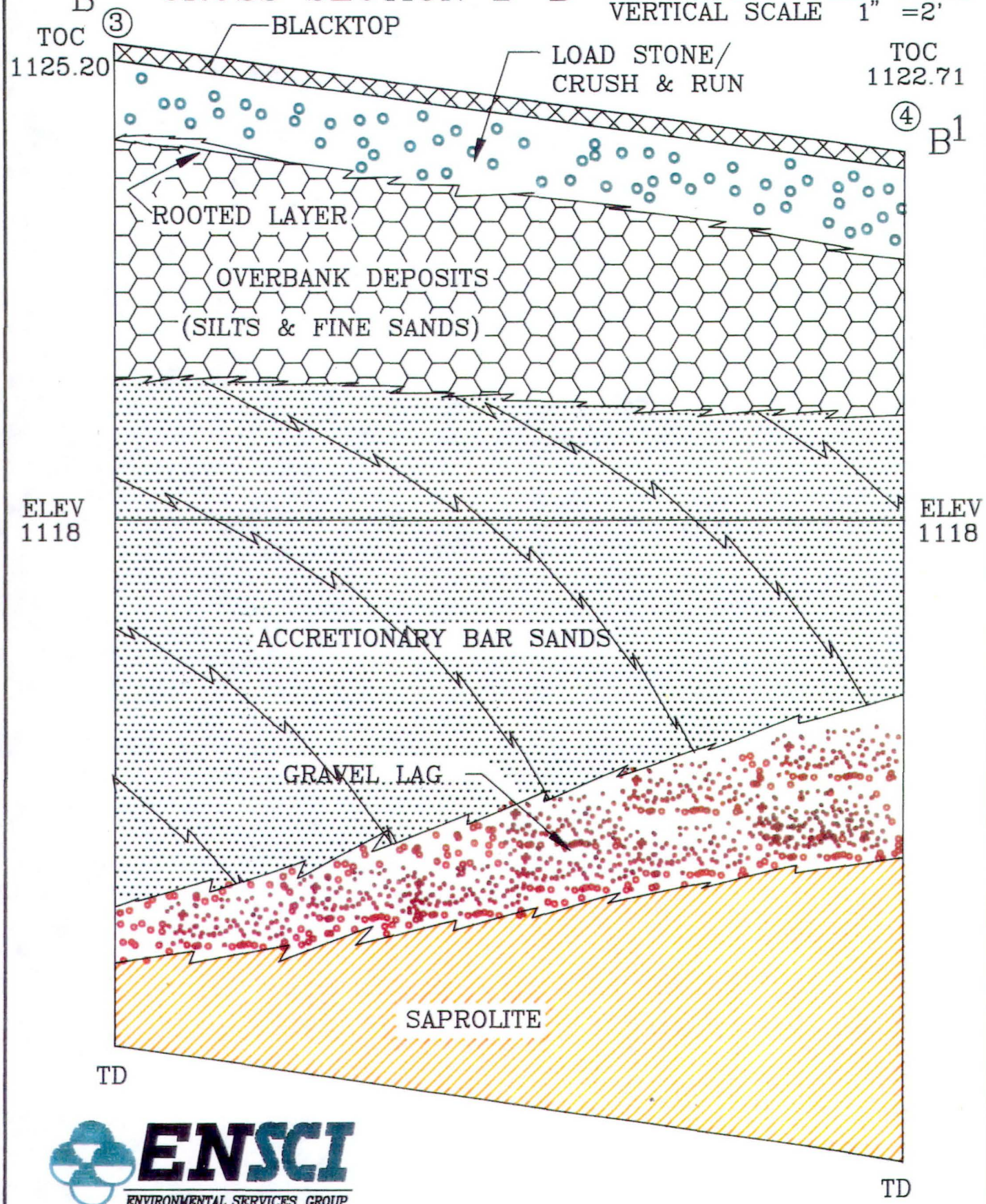
If I can answer any questions or be of further assistance, please do not hesitate to call.

By: Bruce K. Braswell Date: 6-25-91

Bruce K. Braswell, P.G.
Hydrogeologist

CROSS SECTION B–B^1

HORIZONTAL SCALE 1"=25'
VERTICAL SCALE 1" =2'



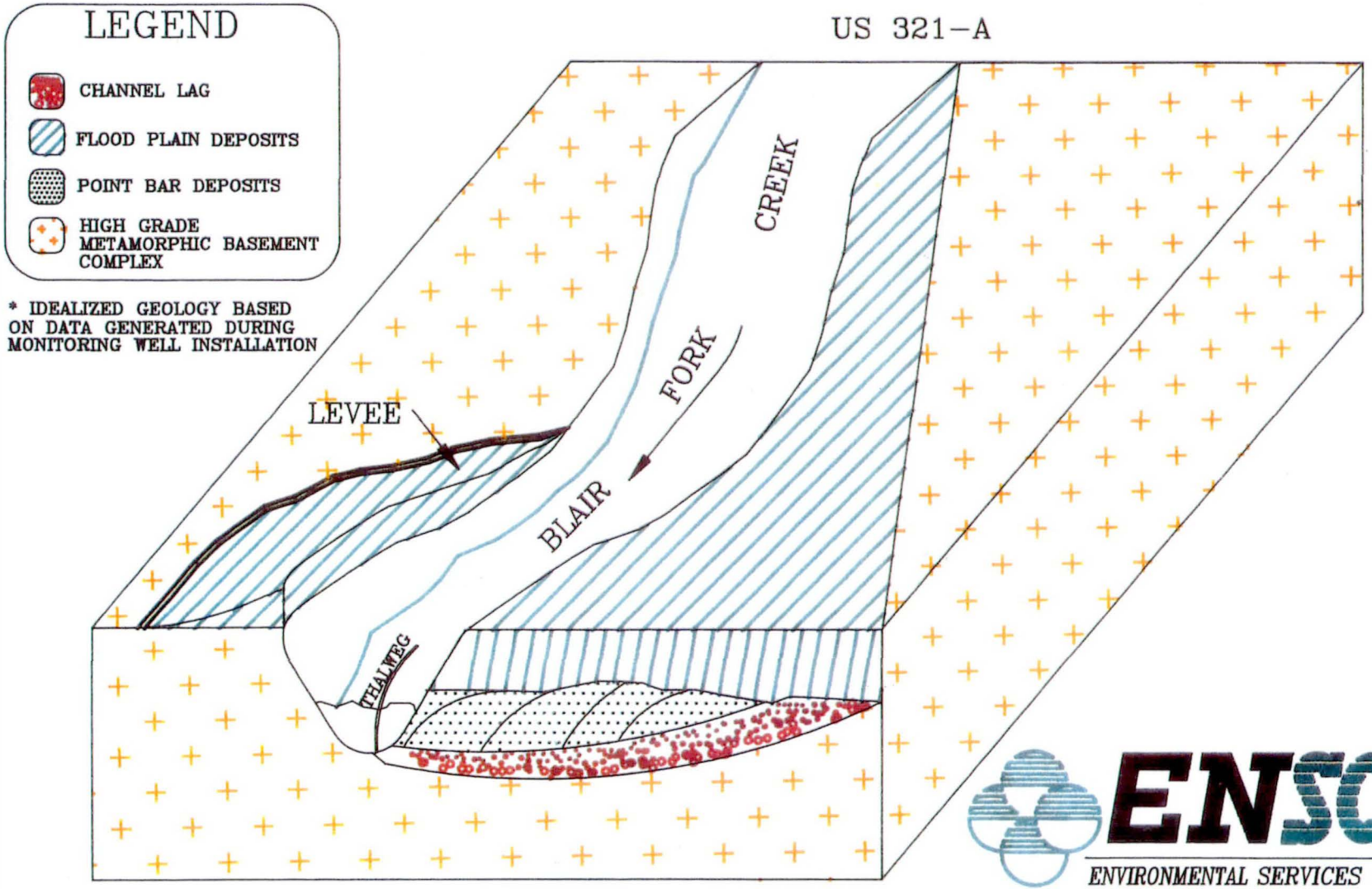
ENSCI
ENVIRONMENTAL SERVICES GROUP
HIGH POINT, NORTH CAROLINA

SEE FIGURE 1 FOR CROSS SECTION LOCATION

THOMASVILLE FURNITURE INDUSTRIES

FIGURE 3

*IDEALIZED GEOLOGIC MODEL



ENSCI
ENVIRONMENTAL SERVICES GROUP
HIGH POINT, NORTH CAROLINA

APPENDIX A

MONITORING WELL CONSTRUCTION PERMIT
No. 13-0221-WM-0044

MONITORING WELL CONSTRUCTION RECORDS

State of North Carolina
Department of Environment, Health, and Natural Resources
Asheville Regional Office

James G. Martin, Governor
William W. Cobey, Jr., Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

Ann B. Orr
Regional Manager

January 16, 1991

Mr. Howard Grubbs
Womble, Caryle, Sandridge, & Rice
Post Office Drawer 84
Winston-Salem, North Carolina 27102

Dear Mr. Grubbs:

Subject: Well Construction Permit No. 13-0221-WM-0044
Thomasville Furniture Industries, Incorporated
315 Elizabeth Street, N.W.-Lenoir
Caldwell County, North Carolina

In accordance with your application received January 8, 1991, we are forwarding herewith Well Construction Permit No. 13-0221-WM-0044 dated January 16, 1991, issued to Thomasville Furniture Industries, Incorporated for the construction of five (5) monitor wells, or more as needed, at Thomasville Furniture Industries, 315 Elizabeth Street, Lenoir in Caldwell County.

If any parts, requirements, or limitations contained in this Permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within 30 days following receipt of this Permit, identifying the specific issues to be contended. Unless such demand is made, this Permit shall be final and binding.

This Permit will be effective for the construction of monitor wells from the date of its issuance until the site assessment has been completed, and shall be subject to the conditions and limitations as specified therein. Attached are Well Construction Records to be completed and signed by the drilling contractor. These forms should be submitted to the Department upon completion of the wells.

Sincerely,

Roy M Davis

Roy M. Davis
Regional Supervisor

RMD/LKD/gc
Attachments
cc: Perry Nelson
Jerye W. Covington

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
ASHEVILLE, NORTH CAROLINA

PERMIT FOR THE CONSTRUCTION OF A WELL OR WELL SYSTEM

In accordance with the provisions of Article 7, Chapter 87, North Carolina General Statutes, and other applicable Laws, Rules and Regulations,

PERMISSION IS HEREBY GRANTED TO

THOMASVILLE FURNITURE INDUSTRIES, INCORPORATED

FOR THE CONSTRUCTION OF five (5) monitor wells, or more as needed, for a site assessment in the Residuum System of the Blue Ridge-Inner Piedmont Hydrogeologic Unit, located at Thomasville Furniture Industries, 315 Elizabeth Street, Lenoir in Caldwell County, in accordance with the application dated December 28, 1990, and in conformity with specifications and supporting data, all of which are filed with the Department of Environment, Health, and Natural Resources and are considered a part of this Permit.

This Permit is for well construction only, and does not waive any provisions or requirements of any other applicable laws or regulations.

Construction of a well under this Permit shall be in compliance with the North Carolina Well Construction Regulations and Standards, and any other State and local laws and regulations pertaining to well construction.

This Permit will be effective from the date of its issuance until the site assessment has been completed, and shall be subject to other specified conditions, limitations, or exceptions as follows:

1. The well driller shall notify the Asheville Regional Office prior to actual construction of the wells.

2. The wells shall be constructed with well casing and well screens that conform to requirements of the "Criteria and Standards Applicable to Water Supply and Certain Other Type Wells" (15A NCAC 2C .0100).

3. All wells shall be afforded reasonable protection against damage during construction and use.

4. The wells shall be constructed to a depth of ten feet below the seasonally low water table.

5. Provisions shall be made on the well covers to prevent surface water with possible contaminants from entering the well pits and contaminating the monitor wells.

6. Each well shall have permanently affixed an identification plate constructed of durable material and shall contain the following information: drilling contractor's name and registration number; date well completed; total depth of well; a warning that the well is not for water supply and that the groundwater may contain hazardous materials; and depth to screens.

7. Well completion, well abandonment, and water quality reports are to be submitted to the Division of Environmental Management's Groundwater Section Central Office in Raleigh.

8. When the wells have served their purpose and are of no further use, they shall be permanently abandoned according to the requirements of Section .0113 of the "Criteria and Standards Applicable To Water Supply and Certain Other Type Wells" (15A NCAC 2C).

9. If additional monitor wells, not shown on the location diagram, need to be constructed, a map showing the proposed location shall be submitted to the Asheville Regional Office.

Permit issued this the 16th day of January, 1991.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Roy M. Davis

Roy M. Davis, Regional Supervisor
Division of Environmental Management
By Authority of the Environmental Management Commission

PERMIT NO. 13-0221-WM-0044

DIVISION OF ENVIRONMENTAL MANAGEMENT
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

Quad. No. L 14 Serial No. _____
Lat. _____ Long. _____ Pc _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR _____
DRILLER REGISTRATION NUMBER _____

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

WELL LOCATION: (Show sketch of the location below)
Nearest Town: Lenoir
County: Caldwell
(Road, Community, or Subdivision and Lot No.)

OWNER Thomasville Furniture Industries, Inc
ADDRESS 315 Elizabeth Street N.W.
(Street or Route No.)
Lenoir
City or Town State Zip Code

DATE DRILLED _____ USE OF WELL _____
TOTAL DEPTH _____ CUTTINGS COLLECTED ☐ Yes ☐ No
. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☐ No
. STATIC WATER LEVEL: _____ FT. ☐ above ☐ below TOP OF CASING.
TOP OF CASING IS _____ FT. ABOVE LAND SURFACE.
. YIELD (gpm): _____ METHOD OF TEST _____
. WATER ZONES (depth): _____
. CHLORINATION: Type _____ Amount _____

0. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material

1. GROUT:

	Depth From	To	Material	Method

2. SCREEN:

	Depth From	To	Diameter	Slot Size	Material

3. GRAVEL PACK:

	Depth From	To	Size	Material

4. REMARKS: For site assessment, monitoring for VOAs and Metals

DRILLING LOG		
Depth From	To	Formation Description

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

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: ENSCI Corporation

DRILLER REGISTRATION NUMBER: 2133

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Lenoir

County: Caldwell

(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries

ADDRESS: 315 Elizabeth St., NW (Street or Route No.)

Lenoir, NC (City or Town / State / Zip Code)

3. DATE DRILLED: 3-25-91 USE OF WELL: Monitoring

4. TOTAL DEPTH: 20'2" CUTTINGS COLLECTED: ☒ Yes ☐ No

5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No

6. STATIC WATER LEVEL: N/A FT. ☐ above ☐ below TOP OF CASING.

TOP OF CASING IS _____ FT. ABOVE LAND SURFACE

7. YIELD (gpm): _____ METHOD OF TEST _____

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. ~~CASING~~ Flush Mount

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	8"	Ground Level Ft	cast iron		Pemco (103-8)

11. GROUT:

	Depth From	To	Material	Method
	8'	Ground Level Ft.	Portland Cement	

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	20'	10' Ft.	2" in.	.010 in.	Stainless Steel
Sand	20'	9' Ft.	in.	in.	
		Ft.	in.	in.	

13. ~~GROUTING~~ Bentonite

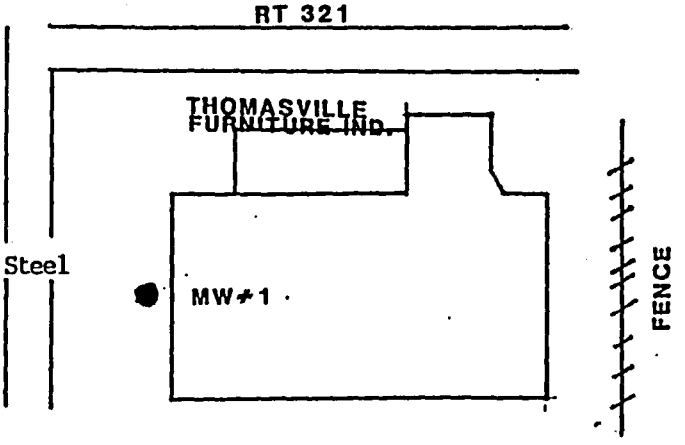
	Depth From	To	Size	Material
	9'	8' Ft.	1/4 pellets	Pel Plub.
		Ft.		

14. REMARKS: MW#1

Depth From	To	DRILLING LOG Formation Description
3'	5'	Soft-sandy-brown mic soil
6'	8'	Soft-sandy-red brown-saturated rich in quartz
13'	15'	Soft/mic red brown - mostly muscovite flakes
18'6"	20'	Med/Hard brown white - red muse

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.

Robert Baker 4-12-91
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR ENSCI Corporation

DRILLER REGISTRATION NUMBER 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Lenoir

County: Caldwell

(Road, Community, or Subdivision and Lot No.)

2. OWNER Thomasville Furniture Industries

ADDRESS 315 Elizabeth St., NW (Street or Route No.)

Lenoir, NC (City or Town, State, Zip Code)

3. DATE DRILLED 3-25-91 USE OF WELL Monitoring

4. TOTAL DEPTH _____ CUTTINGS COLLECTED [X] Yes [ ] No

5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No

6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.

TOP OF CASING IS 3" FT. ABOVE LAND SURFACE.

7. YIELD (gpm): _____ METHOD OF TEST _____

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	5"	3" above Ground Ft.	Cast Iron	(103-8)	
		Ft.			
		Ft.			

11. GROUT:

	Depth From	To	Material	Method
	6"	Casing Ft.	Portland Cement	No. 1
		Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	10'	Ground Level Ft.	2" in.	.010 in.	Stainless Steel
Sand	10'	1 Ft.	Coarse in.	Sand in.	No. 2
		Ft.	in.	in.	

13. ~~GRAVEL PACK~~: Bentonite

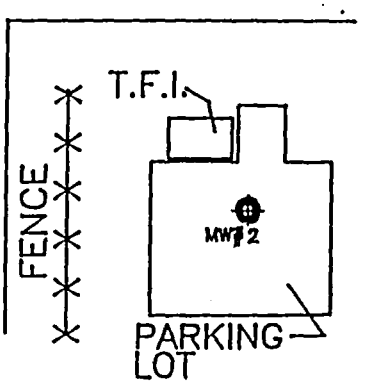
	Depth From	To	Size	Material
	1'	6" Ft.	1/4 pellets	Pel Plug.
		Ft.		

Depth From	To	DRILLING LOG Formation Description
0 - 2"		Black top
2" - 14"		Crush & run
14" - 3'		Soft mostly fill
3' - 5"		Soft fill OVA (900 ppm)
5' - 6.5'		Soft fill/sandy brown
6.5' - 8.5'		Reddish brown clay/soft
8.5' - 10'		Quartz sand/misc. fine gravel

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)



14. REMARKS: MW #2

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.

Robert Belcher 4-12-91

SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pe _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: FNSCI Corporation
DRILLER REGISTRATION NUMBER: 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Lenoir
Country: Caldwell
(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries
ADDRESS: 315 Elizabeth Street, NW (Street or Route No.)
Lenoir, NC (City or Town, State, Zip Code)

3. DATE DRILLED: 3-26-91 USE OF WELL: Monitoring
4. TOTAL DEPTH: 15'2" CUTTINGS COLLECTED: [X] Yes [ ] No
5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No
6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.
TOP OF CASING IS 2" FT. ABOVE LAND SURFACE
7. YIELD (gpm): _____ METHOD OF TEST _____
8. WATER ZONES (depth): _____
9. CHLORINATION: Type _____ Amount _____
10. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	6"	2" above ft	Cast Iron	(103-8)	

11. GROUT:

	Depth From	To	Material	Method
	3'	Ground Level ft.	Portland Cement	No. 1

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	15'	5' ft.	2" in.	.010 in.	Stainless Steel
Sand	15'	4' ft.	Coarse in.	No. 2 in.	Sand
		ft.	in.	in.	

13. ~~GRAVEL PACK~~ Bentonite

	Depth From	To	Size	Material
	4'	3' ft.	1/4 pellets	Pel Plug
		ft.		

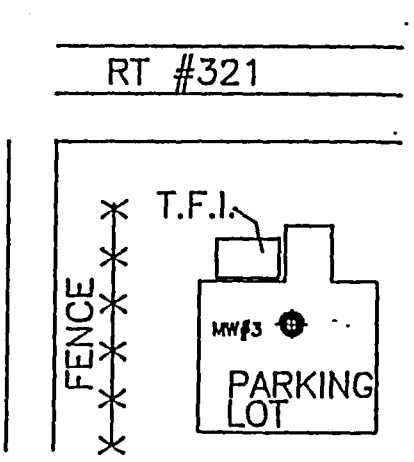
14. REMARKS: MW #3

DRILLING LOG

Depth From	To	Formation Description
0 - 3"		Black top
3" - 18"		Crush & run
18" - 3"		Soft red brown - clay micac soil
3' - 5'		Soft mottled reddish brown/black clay
5' - 7'		Soft-lt brown/grey-fine sand gravel
7' - 9'		Soft-off white to grey-sand fine grave
9' - 11'		Medium-lt/drk grey-rich quartz-muca gravel
11' - 13'		Medium-light grey-med grey
13' - 15'		Medium/hard-saprolite medium brown-orange.

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.

Robert Baker 4-12-91
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: ENSCI Corporation

DRILLER REGISTRATION NUMBER: 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Lenoir

County: Caldwell

(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries

ADDRESS: 315 Elizabeth St., NW (Street or Route No.)

Lenoir, NC — City or Town / State / Zip Code

3. DATE DRILLED: 3-26-91 USE OF WELL: Monitoring

4. TOTAL DEPTH: 15'2" CUTTINGS COLLECTED: [X] Yes [ ] No

5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No

6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.

TOP OF CASING IS Ground Level ~~XX~~ ABOVE LAND SURFACE

7. YIELD (gpm): _____ METHOD OF TEST _____

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	8"	Ground Level Ft.	Cast Iron	(103-8)	
		Ft.			
		Ft.			

11. GROUT:

	Depth From	To	Material	Method
	3'	Ground Level Ft.	Portland No. 1	Cement
		Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	15'	5' Ft.	2" in.	.010 in.	Stainless Steel
Sand	15'	4' Ft.	Coarse in.	No.2 in.	Sand
		Ft.	in.	in.	

13. GRAVEL PACK:

	Depth From	To	Size	Material
	4'	3' Ft.	1/4 pellets	Pel-Plug
		Ft.		

14. REMARKS: MW #4

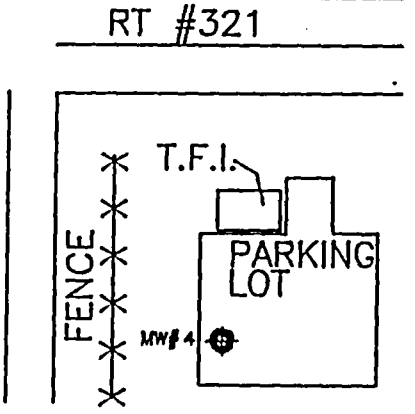
DRILLING LOG

Depth From	To	Formation Description
0	3"	Black top
3"	15"	Crush & run
15"	3'	Soft Lt Drk Brown - Mica - fine
3'	5'	Soft lt Grey/Tan - Fine Sand - Mica Figments
5'	7'	Soft-off white-coarse sand strong solvent odor.
7'	9'	Soft-white reddish orange saphrolite
9'	11'	Heavily weathered saphrot - med brown-off white
11'	13'	Soft/med - saphrolite - very rich in mica
13'	15'	Saphrolite - very mica

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.

Robert Bellen 4-12-91

SIGNATURE OF CONTRACTOR OR AGENT — DATE

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: ENSCI Corporation
DRILLER REGISTRATION NUMBER: 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Lenoir
Country: Caldwell
(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries
ADDRESS: 315 Elizabeth St., NW (Street or Route No.)
Lenoir, NC (City or Town / State / Zip Code)

3. DATE DRILLED: 3-26-91 USE OF WELL: Monitoring
4. TOTAL DEPTH: 15'2" CUTTINGS COLLECTED: [X] Yes [ ] No
5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No
6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.
TOP OF CASING IS Ground Level ~~XX~~ ABOVE LAND SURFACE.
7. YIELD (gpm): _____ METHOD OF TEST _____
8. WATER ZONES (depth): _____
9. CHLORINATION: Type _____ Amount _____
10. ~~CASING:~~ Flush Mount

Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
8"	Ground Level Ft.	Cast Iron	(103-8)	
	Ft.			
	Ft.			

11. GROUT:

Depth From	To	Material	Method
8'	Ground Level Ft.	Portland No. 1	Cement
	Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	15'	10' Ft.	2" in.	.010 in.	Stainless Steel
Sand	15'	9' Ft.	Coarse in.	No. 2 in.	Sand
		Ft.	in.	in.	

13. ~~GRAVEL PACK:~~ Bentonite

Depth From	To	Size	Material
9'	8' Ft.	1/4 pellets	Pel-Plug
	Ft.		

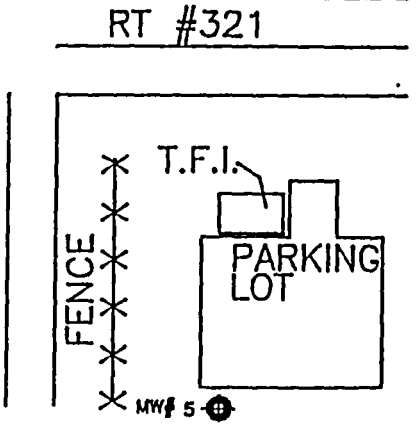
14. REMARKS: MW #5

DRILLING LOG

Depth From	To	Formation Description
0'	1'	Crush & Run
2'	5'	Fine sandy silt
5'	7'	Drk brown/grey silt rich in Bentonite
7'	9'	Med. Sand - contam silt
9'	11'	Sand coarse gravel saphrolite
11'	15'	Med. Saphrolite

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.

Robert Oehm 4-12-91
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: ENSCI Corporation
DRILLER REGISTRATION NUMBER: 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Lenoir
County: Caldwell
(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries
ADDRESS: 315 Elizabeth St., NW (Street or Route No.)
Lenoir, NC (City or Town / State / Zip Code)

3. DATE DRILLED: 3-26-91 USE OF WELL: Monitoring
4. TOTAL DEPTH: 20'2" CUTTINGS COLLECTED: [X] Yes [ ] No
5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No
6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.
TOP OF CASING IS Ground Level FT. ABOVE LAND SURFACE
7. YIELD (gpm): _____ METHOD OF TEST _____
8. WATER ZONES (depth): _____
9. CHLORINATION: Type _____ Amount _____
10. ~~CASING~~: Flush Mount

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	8"	Ground Level Ft.	Cast Iron	(103-8)	
		Ft.			
		Ft.			

11. GROUT:

	Depth From	To	Material	Method
	8'	Ground Level Ft.	Portland Cement	No. 1
		Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	20'	10' Ft.	2" in.	.010 in.	Stainless Steel
Sand	20'	9' Ft.	Coarse in.	No.2 in.	Sand
		Ft.	in.	in.	

13. ~~GRAVEL PACK~~: Bentonite

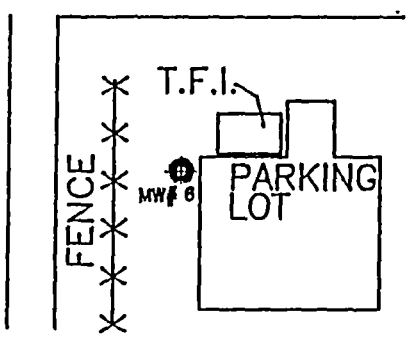
	Depth From	To	Size	Material
	9'	8' Ft.	1/4 pellets	Pel. plug
		Ft.		

14. REMARKS: MW #6

Depth From	To	DRILLING LOG Formation Description
0	8"	Black top/base coarse
8"	8'	Stiff red-sli moist - si-cl-fill
8'	14'	Interbedded si sand with coal frag - firm grey brown moist
14'	16'	M-dense tan/grey wet sli-si-f - CSA gravel
16'	18'5"	M-dense - brown/orange wet si-cly-f-csa
18'5"	21'	M-dense tan/brown moist si-sli-clay-sly misc - f - m 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: [signature] DATE: 4-12-91

GW-1 REVISED 2/90

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

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

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: ENSCI Corporation
DRILLER REGISTRATION NUMBER: 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

WELL LOCATION: (Show sketch of the location below)

Nearest Town: Lenoir
County: Caldwell

(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries
ADDRESS: 315 Elizabeth St., NW (Street or Route No.)
Lenoir, Nc (City or Town / State / Zip Code)

3. DATE DRILLED: 3-27-91 USE OF WELL: Monitoring
4. TOTAL DEPTH: 40' CUTTINGS COLLECTED: [X] Yes [ ] No
5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No
6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.
TOP OF CASING IS _____ FT. ABOVE LAND SURFACE
7. YIELD (gpm): _____ METHOD OF TEST _____
8. WATER ZONES (depth): _____
9. CHLORINATION: Type _____ Amount _____
10. ~~CASING~~ Flush Mount

Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
8"	Ground Level Ft.	Cast Iron	(103-12)	

11. GROUT:

Depth From	To	Material	Method
28'	Ground Level Ft.	Portland No. 1	Cement

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	40'	30' Ft.	2" in.	.010 in.	Stainless Steel
Sand	40'	29' Ft.	Coarse in.	No.2 in.	Sand

13. ~~SEALING~~ Bentonite

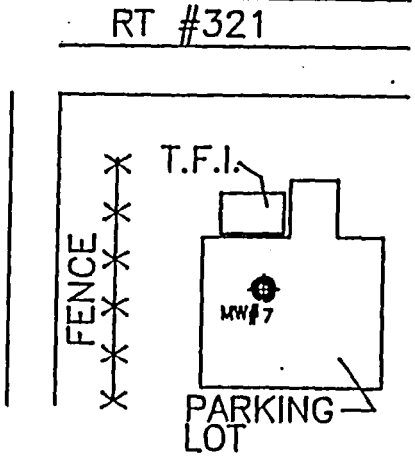
Depth From	To	Size	Material
29'	28' Ft.	1/4 pellets	Pel-Plug

14. REMARKS: MW #7 (Deep Well) * cased

Depth From	To	DRILLING LOG Formation Description
0'	3"	Black top
1'	13'	Advanced - fine silt moist
13'	18'	Loose tan grey wet sli-si-f-c. sand gravel
18'	21'5"	Firm - stiff brown/bl wet sli-fi-sa-mic-cly slit highly foliated resic
21'5"	41'5"	Firm stiff - red brown mic silt w/oil sand 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)



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.

Robert Pelling 4-12-91
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 REVISED 2/90

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

DIVISION OF ENVIRONMENTAL MANAGEMENT - GROUNDWATER SECTION
P.O. BOX 27687 - RALEIGH, NC 27611-7687
PHONE (919)733-3221

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

WELL CONSTRUCTION RECORD

DRILLING CONTRACTOR: ENSCI Corporation

DRILLER REGISTRATION NUMBER: 1233

STATE WELL CONSTRUCTION PERMIT NUMBER: 13-0221-WM-0044

1. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Lenoir

County: Caldwell

(Road, Community, or Subdivision and Lot No.)

2. OWNER: Thomasville Furniture Industries

ADDRESS: 315 Elizabeth St., NW (Street or Route No.)

Lenoir, NC — City or Town — State — Zip Code

3. DATE DRILLED: 3-27-91 USE OF WELL: Monitoring

4. TOTAL DEPTH: 41' CUTTINGS COLLECTED: [XX] Yes [ ] No

5. DOES WELL REPLACE EXISTING WELL? [ ] Yes [X] No

6. STATIC WATER LEVEL: N/A FT. [ ] above [ ] below TOP OF CASING.

TOP OF CASING IS Ground Level XX. ABOVE LAND SURFACE

7. YIELD (gpm): _____ METHOD OF TEST _____

8. WATER ZONES (depth): _____

9. CHLORINATION: Type _____ Amount _____

10. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	8"	Ground Level Ft.	Cast Iron		
		Ft.			
		Ft.			

11. GROUT:

	Depth From	To	Material	Method
	19'	Ground Level Ft.	Portland Cement	
		Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	41'	31' Ft.	2" in.	.010 in.	Stainless Steel
Sand	41'	30' Ft.	No.2 in.	Coarse in.	Sand
		Ft.	in.	in.	

13. ~~GRAVEL PACK~~ Bentonite

	Depth From	To	Size	Material
	30'	29' Ft.	1/4 pellets	Pel-plug
		Ft.		

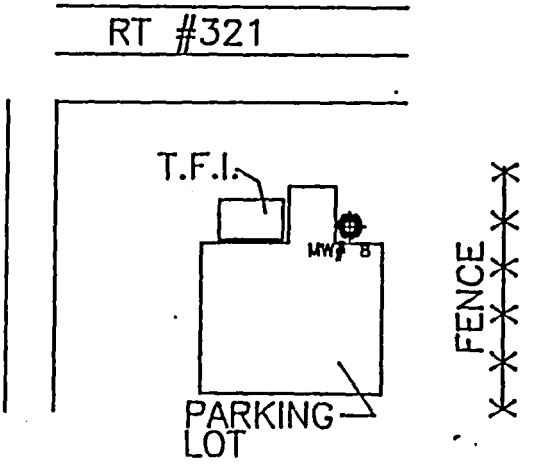
14. REMARKS: MW #8 - Well boring Terminated at 41'0"

Depth From	To	DRILLING LOG Formation Description
0'	3'	Fill - env. scraps
3'	15'	Alluvial Sand - advanced w/hsa nospt
15'	18'5"	Residual misc srt - advanced w/hsa -
		Set 4" cast iron casing at 18'5" grout
		to surface
18'5"	22'5"	firm (easy drilling) red brown misc si
		w/dic sand (ML) advanced w/roller cone
		no spt
22'5"	30'	Stiff red misc silt w/occ black sand
		(ML)
30'	32'	Soft zone - partial water loss
32'	41'	Soft (V-easy drilling) poor return
		on cuttings (lots of mica)

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 4-12-91

GW-1 REVISED 2/90

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

APPENDIX B

ENSCI CORPORATION

FIELD DRILLING RECORDS
Well Contractor Registration Number 1233

ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 888 - 7506

FIELD DRILLING RECORD

BORING NO. MW #1 DATE STARTED 3-25-91 DATE COMPLETED 3-25-91
LOCATION TFI - Lenoir DIAMETER OF BORING 6¼" DRILL MACHINE Mobil B40-L
METHOD OF DRILLING AND SAMPLING 3¼" ID HSA - split spoon samples every 5' to auger refusal
DRILLER Michael Cook GEOLOGIST Bruce Braswell GROUND ELEVATION
WATER LEVEL 10' (TERMINATION OF BORING) WATER LEVEL N/A (AT 24 HRS.)
DEPTH OF CASING 10' WATER LOSSES N/A THICKNESS OF TOPSOIL 5'
CASING DIAMETER 2" TYPE s.s. TERMINATION OF BORING DEPTH 21' FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18"
3'	5'	soft/sandy	Brown	20%	Brown micaceous soil, very soft	1	3'-5'		4 per '	
6'	8'	soft/sand	Reddish Brown	satu-rated	Rich in quartz, feldspar and	2	6'-8'		8 per '	
					muscovite-poorly sorted sand					
					particles up to 4mm					
13'	15'	soft/ micaceous	Reddish Brown	20%	Micaceous soil mostly muscovite	3	13' - 15'		8 per '	
					flakes, some feldspar and quartz					
18½'	20'	Medium/ hard	Mottled brn/wte	-20%	Residual micaceous soil grading	4	10½' - 20'		20	35
					downwash into saprolite w/reflect					
					primary structures					
21	21.5	Hard	Gry/blk mottle	50%	Weathered primary rock.	5	21-21.5	35		
					Note: Saturated zone appears to					
					begin at approximately 10' below					
					grade. No odor was apparent.					
					There was no staining of the					
					soil noted.					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / (S.S.) (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 9'
DEPTH TO TOP OF SEAL 8'
STICKUP LENGTH Flush
TYPE BACKFILL #1 Portland
SURFACE SEAL THICKNESS 3'

SAND USED 2 (BAGS)
CEMENT USED 2.5 (BAGS)
PELLETS ½ (PAILS)

ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 888 - 7506

FIELD DRILLING RECORD

BORING NO. MW #2 DATE STARTED 3/25/91 DATE COMPLETED 3/25/91
LOCATION Lenoir, NC TFI DIAMETER OF BORING 6¼" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING HSA using split spoon ahead of the auger for 10'
DRILLER Michael Cook GEOLOGIST Bruce Braswell GROUND ELEVATION NA
WATER LEVEL NA (TERMINATION OF BORING) WATER LEVEL NA (AT 24 HRS.)
DEPTH OF CASING _____ WATER LOSSES NA THICKNESS OF TOPSOIL NA
CASING DIAMETER 2" TYPE 316 SS TERMINATION OF BORING DEPTH 10 FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL
TOTAL TIME ON BORING _____

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18
0	2"	—			Blacktop					
2"	14"	—			Crush & Run material					
14"	3'	soft			6" recovery mostly fill OVA 48 ppm	1			4/ft[1]	
3'	5'	soft			Fill material 14" recovered OVA 900 ppm	2	Smelled like oil		5/ft[1]	
5'	6.5'	soft			Fill soil upper 10" sand lens 4" thick					
					in the bottom. Soil is brown to dark brn					
					sand is grey/brn in color. OVA 160 ppm	3			5/ft[1]	
6.5'	8.5'	soft			No recovery-possible soft clay reddish	4			3/ft	
					brn in color with little coarse grain present					
8.5'	10.5'	soft			14" recovered. Nearly all quartz sand	5			3.5/ft	
					w/minor amts. of musconite. Grain sizes					
					up to .5 cm in size. ++ 1000 ppm - smelled like Stoddard Solvent					
8.5'	10.0'	soft			Split spoon sample recovered from same as					
					above. Similar except material becomes	6			5/ft	
					coarse w/depth to grain sizes up to 1 cm					
					in size. Poorly sorted & micaceous		OVA 34 ppm			

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 3.0
DEPTH TO TOP OF SEAL 2.0
STICKUP LENGTH Flush
TYPE BACKFILL #1 Portland
SURFACE SEAL THICKNESS _____

SAND USED 1.5 (BAGS)
CEMENT USED 2 (BAGS)
PELLETS ½' (PAILS)

EDGE
ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 888 - 7506

FIELD DRILLING RECORD

BORING NO. MW #2-2 DATE STARTED 3/25/91 DATE COMPLETED 3/25/91
LOCATION TFI - Lenoir Facility DIAMETER OF BORING 6¼" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3¼" id HSA with SS recovery
DRILLER _____ GEOLOGIST _____ GROUND ELEVATION _____
WATER LEVEL _____ (TERMINATION OF BORING) WATER LEVEL _____ (AT 24 HRS.)
DEPTH OF CASING _____ WATER LOSSES _____ THICKNESS OF TOPSOIL _____
CASING DIAMETER 2" 316 SS TYPE _____ TERMINATION OF BORING DEPTH 10' FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL
TOTAL TIME ON BORING _____

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18
					MW #2-2 was advanced to 8.5'. The split					
					spoon sampler was then advanced to 10'					
					exactly; to look for the clay layer. It					
					wasn't present so the hole was advanced					
					to 10.0' and a length of 316 ss screen					
					was set. Strong solvent odor was noted					
					in the ss sample as with MW #2-1. With					
					luck, this well will be reflective of					
					conditions above the clay layer.					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER _____ INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 3.0
DEPTH TO TOP OF SEAL 2.0
STICKUP LENGTH _____
TYPE BACKFILL _____
SURFACE SEAL THICKNESS _____

SAND USED _____ (BAGS)
CEMENT USED _____ (BAGS)
PELLETS _____ (PAILS)

ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 886 - 7505

FIELD DRILLING RECORD

BORING NO. MW #3 DATE STARTED 3/26/91 DATE COMPLETED 3/26/91
LOCATION Lenoir, NC TFI DIAMETER OF BORING 6¼" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3¼ ID HSA w/continuous SS recovery 18" - 10'
DRILLER M. Cook GEOLOGIST Bruce Braswell GROUND ELEVATION
WATER LEVEL NA (TERMINATION OF BORING) WATER LEVEL NA (AT 24 HRS.)
DEPTH OF CASING 5' WATER LOSSES NA THICKNESS OF TOPSOIL NA
CASING DIAMETER 2" TYPE 316 S.S. TERMINATION OF BORING DEPTH 15' FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL

TOTAL TIME ON BORING

	DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
	FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18"
	0	3"				Blacktop					
	3"	18"				Crush & run					
	18"	3'	soft	Reddish Brown		Clay rich micaceous soil - small rooted cone at top	1	OVA 98 ppm	7	10	
	3'	5'	soft	Mottled Reddish Brn/Blk		Clay rich micaceous soil	2	OVA 160 ppm		6/ft	
	5'	7'	soft	Lt Brown to grey		4" recovery - odor of possibly oil clay rich micaceous soil	3	OVA 68 ppm		6/ft	
#2	5'	7'	soft	Dark Grey to off White		Sand & fine, gravel strong solvent odor	4	OVA 200 ppm		6/ft	
	7'	9'	soft	off white to dark grey		Sand and fine gravel poorly sorted clasts up to .5 cm	5			7	
	7'	9'	soft	off white to dark grey		Sand and fine gravel poorly sorted clasts up to .5 cm	5	OVA 240 ppm		1	
*	9'	11'	medium	light to dk gry w/white clasts		Sand to medium gravel up to 2+ cm in size. Very micaceous & quartz rich	6	OVA 36 ppm		5	10
	11'	13'	medium	light to dark grey		Fine to medium gravel clast size up to 3 cm	7	OVA 18 ppm		4	25/ft
	13'	15'	med/hard			Contact zone between sand/gravel and	8			22	6/ft
						saprolite. Saprolite is medium brown					
						to orange. A thin gravel bag was present					
						above the saprolite followed by 6" of					
						medium sand		OVA<2 ppm			
	15'	17'	soft			Saprolite mottled brown to orange in	9				
						color - soft with a high clay content.		OVA<0 ppm			
						Abundant musconite flakes present with					
						some quartz.					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 4'
DEPTH TO TOP OF SEAL 3'
STICKUP LENGTH Flush
TYPE BACKFILL #1 Portland
SURFACE SEAL THICKNESS 3'

SAND USED 2 (BAGS)
CEMENT USED 2 (BAGS)
PELLETS ½ (PAILS)

* Saturated zone

ENSCI
ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 888 - 7506

FIELD DRILLING RECORD

BORING NO. MW #4 DATE STARTED 3/26/91 DATE COMPLETED 3/26/91
LOCATION Lenoir, NC TFI DIAMETER OF BORING 6¼" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3¼ ID HSA with continuous SS recovery 12" - 10'
DRILLER M. Cook GEOLOGIST Bruce Braswell GROUND ELEVATION —
WATER LEVEL NA (TERMINATION OF BORING) WATER LEVEL NA (AT 24 HRS.)
DEPTH OF CASING 5' WATER LOSSES NA THICKNESS OF TOPSOIL Fill material
CASING DIAMETER 2" TYPE 316 S.S. TERMINATION OF BORING DEPTH ____ FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL
TOTAL TIME ON BORING

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18"
0	3"				Blacktop					
3"	15"				Crush & run + ballast 3+ in. dia.					
15"	3'	soft	Lt - Dk Brown		Micaceouis silt & interbedded fine sand	1	OVA 140 ppm		11	8/ft
3'	5'	soft	Lt grey to tan and off white		Layered sand of variable grain size up to .5 cm. Micaceous w/abundant felspar	2	OVA 34 ppm		5	4/ft
5'	7'	soft	Off White		Coarse sand to small gravel poorly sorted clasts up to 3 cm. Strong solvent odor	3	OVA 1000 ++		4	13/ft
					present.					
* 7'	9'	soft	Mottled off wht to reddish orng		14" recovered - lower 10" is caprolite. Contact is probably about 8' in depth.	4	OVA 520 ppm		6	6/ft
9'	11'				Heavily weathered saprolite mottled	5	OVA 110 ppm		3	5/ft
					brown to off white very micaceous					
11'	13'	soft/med			Saprolite - probably a banded gneiss	6	OVA 2 ppm		4	9/ft
					Very rich in mica w/some feldspar					
					Relict primary structures also present					
13'	15'				Saprolite - banded as above, very	7	OVA 2.2 ppm		8	10/ft
					micaceious with abundant feldspar. Very					
					little S_1O_2 present. Also an unknown					
					rotted black mineral is present. It is					
					not biotite.					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 4'
DEPTH TO TOP OF SEAL 3'
STICKUP LENGTH Flush
TYPE BACKFILL #1 Portland
SURFACE SEAL THICKNESS

SAND USED 2 (BAGS)
CEMENT USED 2 (BAGS)
PELLETS ½ (PAILS)

* Saturated zone begins

ENSCI
ENVIRONMENTAL SERVICE GROUP
1106 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 886 - 7506

FIELD DRILLING RECORD

BORING NO. MW 5 DATE STARTED 3/26/91 DATE COMPLETED 3/26/91
LOCATION TFI - Lenoir Facility DIAMETER OF BORING 6" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3½" id HSA
DRILLER M. Cook/B. Bekier GEOLOGIST D. Garrett GROUND ELEVATION
WATER LEVEL 6.2' (TERMINATION OF BORING) WATER LEVEL NA (AT 24 HRS.)
DEPTH OF CASING 5' WATER LOSSES NA THICKNESS OF TOPSOIL 2"
CASING DIAMETER NA TYPE NA TERMINATION OF BORING DEPTH 17' FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL
TOTAL TIME ON BORING

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18
0	4"				Crusher run	1	3.5-5'	-	4	3
4"	3'				Soil fill - no sample	2	5.5-7'	-	5	5
3'		Firm	M. Gry	Moist	Sli Mic Fi Sa Cly Silt (ML) (Alluvium)	3	7.5-9'	3	3	5
		intermixed w/				4	9.5-11'	15	9	2
		Loose-Very loose	Gray	Mst-Wet	Mic Si Fi Sand (SM)	5	11.5-13'	1	1	2
					noticable hydrocarbon odor	6	13,5-15'	5	6	8
10'	11'	V. Loose	Gray	Wet	Sli Si F-C Sand w/½" gravel (SW-SM)	7	15.5-17'	4	6	10
11'	14'	Soft/firm	Brn/Blk	Wet	Sli Fi Sa Mic Silt (ML/MI) (Saprolite)					
14'	17'	Stiff	Brn/Blk	Sli mst	Highly Mic Cly silt - Advance w/roller					
					cone (ML/MI, high foliation)					
					(tight formation, no significant odor)					
		OVA Headspace Analysis								
		SS 2	240		Boring Terminated @ 17'					
		3	>1000		Set Piezometer @ 15'					
		4	720							
		5	140							
		6	5.8							
		7	8.4							

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2" INCHES
PVC / S.S. (CIRCLE ONE) Sch. 5
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 4'
DEPTH TO TOP OF SEAL 3'
STICKUP LENGTH NA (Flush)
TYPE BACKFILL Portland
SURFACE SEAL THICKNESS 2'

SAND USED 1½ (BAGS)
CEMENT USED 1½ (BAGS)
PELLETS ¼' (PAILS)

ENSCI
ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 882 - 7505

FIELD DRILLING RECORD

BORING NO. MW #5-1 DATE STARTED 3/26/91 DATE COMPLETED 3/26/91
LOCATION _____ DIAMETER OF BORING _____ DRILL MACHINE _____
METHOD OF DRILLING AND SAMPLING _____
DRILLER _____ GEOLOGIST _____ GROUND ELEVATION _____
WATER LEVEL _____ (TERMINATION OF BORING) WATER LEVEL _____ (AT 24 HRS.)
DEPTH OF CASING _____ WATER LOSSES _____ THICKNESS OF TOPSOIL _____
CASING DIAMETER _____ TYPE _____ TERMINATION OF BORING DEPTH _____ FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL
TOTAL TIME ON BORING _____

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	16
0	12"	—			Crush & run					
2'	5'				No recovery	1			13	20/ft
5'	7'				Recovered 10" of dark brown to dark					
					grey silt biolite rich	2	OVA 70 PPM		3	7/ft
7'	9'				Recovered 14" upper 8" is silt as above					
					in sharp contact with a lower 6" of					
					medium sand 250 - 350	3	OVA 250 ppm		4	4/ft
9'	11'				Recovered 24" upper 4-6" in a poorly					
					sorted mixture of sand and coarse gravel.		OVA 22 ppm		7	16/ft
					There is a gravel lag ~ 2" thick					
					sitting on saprolite.					
11'	13'				Saprolite					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER ____ INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN ____ FEET
SCREEN SLOT OPENING SIZE ____ INCHES

DEPTH TO TOP OF SAND _____
DEPTH TO TOP OF SEAL _____
STICKUP LENGTH _____
TYPE BACKFILL _____
SURFACE SEAL THICKNESS _____

SAND USED _____ (BAGS)
CEMENT USED _____ (BAGS)
PELLETS _____ (PAILS)

ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 888 - 7505

FIELD DRILLING RECORD

BORING NO. MW-6 DATE STARTED 3/26/91 DATE COMPLETED 3/26/91
LOCATION Lenoir, NC TFI DIAMETER OF BORING 6" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3½ ID HSA w/SPG
DRILLER M. Cook/B. Bekier GEOLOGIST D. Garrett GROUND ELEVATION NA
WATER LEVEL NA (TERMINATION OF BORING) WATER LEVEL NA (AT 24 HRS.)
DEPTH OF CASING 10 WATER LOSSES NA THICKNESS OF TOPSOIL NA
CASING DIAMETER NA TYPE NA TERMINATION OF BORING DEPTH 21.0 FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL

TOTAL TIME ON BORING

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18"
0	8"				Asphalt & Base course	1	1.5 - 3.0	6	8	10
8"		Stiff	Red	Sli Mst	Si Clay (CL) (Fill)	2	3.5 - 5.0	6	7	6
					w/ Mic Cly Silt (ML)	3	5.5 - 7.0	8	7	5
	8'	Interbedded			Si Sand w/coal fragments	4	7.5 - 9.0	2	5	4
8'		Stiff	Rd-tan	Sli Mst	Sli Cly Fi Sa Silt (ML)	5	9.5 - 11.0	3	3	4
		Firm	Gry-Brn	Moist	Sli Fi Sa Cly Silt w/Mic (ML)	6	11.5 - 13.0	3	3	3
	14'				(Alluvium)	7	13.5 - 15.0	6	5	10
14'		M. Dense	Tan-Gry	Wet	Sli Si F-C Sa w/3/8" - ½" gravel (SW-GW)	9	15.5 - 17.0	8	4	12
	16'				(Alluvium)	9	17.5 - 19.0	8	3	3
16'		M. Dense	Brn-Org	Wet	Si Cly F-C SA w/tr gran (SM)	10	19.5 - 21.0	6	8	11
	18.5'				(Fe-Stained Mottling) (Alluvium)					
18.5'		M. Dense	Tan-Brn	Moist	Si Sli Cly Sly Mic F-M Sand			Drove spoon		
	21.0'				(SM - Residual)			25' - Std		
OVA Readings					B.T. @ 21'			Practice to		
					HSA to 20'			record last 18"		
#1	0.1	#6	0.0		Set Piezometer @ 20'					
#2	0.0	#7	0.0							
#3	1.1	#8	0.0							
#4	0.8	#9	0.0							
#5	0.0	#10	0.0							

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 8'
DEPTH TO TOP OF SEAL 9'
STICKUP LENGTH Flush
TYPE BACKFILL Grout
SURFACE SEAL THICKNESS

SAND USED 1½ est'd (BAGS)
CEMENT USED 2 est'd (BAGS)
PELLETS ¼ (PAILS)

ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 886 - 7505

FIELD DRILLING RECORD

BORING NO. MW #7 DATE STARTED 3/26/91 DATE COMPLETED 3/27/91
LOCATION Lenoir, NC TFI DIAMETER OF BORING 10" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3½" ID HSA, 6" I.D. HSA, Rotary Tricone
DRILLER M. Cook GEOLOGIST D. Garrett GROUND ELEVATION
WATER LEVEL NA (TERMINATION OF BORING) WATER LEVEL (AT 24 HRS.)
DEPTH OF CASING 20' WATER LOSSES NA THICKNESS OF TOPSOIL NA
CASING DIAMETER 4" TYPE Cast Iron TERMINATION OF BORING DEPTH 41.5 FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL

TOTAL TIME ON BORING

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18
0	13'				Advanced 6¼ I.D. HSA	1	13-15 (4)	4	4	2
					Poor recovery on S.S. #1	2	15-17 (2)	4	5	6
13'	18'	Loose	Tan-Gray	Wet	Sli Si F-C Sand & Gravel	3	17-18.5	2	4	4
					Alluvium (SW-SM)	4	20-21.5	5	9	9
18'	21.5'	Firm-Stiff	Brn/Blk	Wet	Sli Fi Sa Mic Cly Silt					
		Highly Foliated			Residual (ML)					
					Augered to 21' and set 4" ϕ casing					
					Set black cast iron casing to 22.5 and grouted to surface					
					Used 2' PVC chaser (4" ϕ)					
21.5'	41.5'	Firm-Stiff	Red-brn		Mic Silt w/occ sand seams (ML)					
					(Easy drilling to 37', stiffer 37' - 41.5')					
					Boring callaped @ 30' due to GW seam					
					Boring terminated @ 41.5'					
					Piezometer set @ 40.5'					
					Difficulty getting sand in due to collapse					
					of sidewalls @ 30'					
					Well not developed prior to demob.					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 29'
DEPTH TO TOP OF SEAL 27'
STICKUP LENGTH Flush
TYPE BACKFILL Cement grout 2'
SURFACE SEAL THICKNESS Cement grout 2'

SAND USED ½ (BAGS)
CEMENT USED 7 total (BAGS) 6 to seal casing
PELLETS ¼' (PAILS)

ENSCI
ENVIRONMENTAL DESIGN GROUP
1108 OLD THOMASVILLE ROAD
HIGH POINT N.C. 27260
PHONE: (919) 882 - 7503

FIELD DRILLING RECORD

BORING NO. MW #8 DATE STARTED 3/26/91 DATE COMPLETED 3/27/91
LOCATION TFI - Lenoir, NC DIAMETER OF BORING 10" DRILL MACHINE Mobil B40L
METHOD OF DRILLING AND SAMPLING 3½" id/6" id HSA, Rotary Tricone
DRILLER M. Cook GEOLOGIST D. Garrett GROUND ELEVATION NA
WATER LEVEL NA (TERMINATION OF BORING) WATER LEVEL NA (AT 24 HRS.)
DEPTH OF CASING 30' WATER LOSSES 30-32' THICKNESS OF TOPSOIL 2"
CASING DIAMETER 4" TYPE Cast Iron TERMINATION OF BORING DEPTH 41 FEET
INDICATE IF AUGER REFUSAL/TRICONE REFUSAL

TOTAL TIME ON BORING _____

DEPTH		SOIL DESCRIPTION				PENETRATION TEST RESULTS				
FROM	TO	HARDNESS	COLOR	MOIST.	TYPE MATERIAL	NO	DEPTH	6"	12"	18"
0	3'				Fill-encountered metal scraps alluvial					
					sand - advanced w/HSA, no SPT residual					
					micaceous silt-advanced with HSA set					
					4" cast iron casing at 18.5'. Grouted					
					to surface.					
18.5'	22.5'	Firm (easy drilling)			Red brown Mic silt w/occ sand (ML)					
					Advanced w/roller cone - No SPT					
22.5'	30.0'	Stiff	Red		Mic Silt w/occ black sand (ML)					
30'	32'	Soft zone - Partial water loss								
32'	41'	soft (V. easy drilling)			Poor return on cuttings (lots of mica)					
					Boring Terminated @ 41 feet					
					Piezometer set @ 40.5 feet					

FOR MONITORING WELL INSTALLATION ONLY:
STANDPIPE DIAMETER 2 INCHES
PVC / S.S. (CIRCLE ONE)
LENGTH OF SCREEN 10 FEET
SCREEN SLOT OPENING SIZE .010 INCHES

DEPTH TO TOP OF SAND 29'
DEPTH TO TOP OF SEAL 27'
STICKUP LENGTH Flush
TYPE BACKFILL Grout
SURFACE SEAL THICKNESS 2'

SAND USED 2 (BAGS)
CEMENT USED 6 bags (BAGS) 5 bags for casing
PELLETS ½ (PAILS)

APPENDIX C

ANALYTICAL RESULTS

- DRILL CUTTINGS -

AnalytiKEM An American NuKEM Company

AnalytiKEM Inc.
454 S. Anderson Road, BTC 532
Rock Hill, SC 29730
803/329-9690

TEST REPORT NO. A81104

May 2, 1991

Prepared for:

Ensci
1108 Thomasville Road
High Point, NC 27260

Attention: Bruce Braswell

Project: Thomasville Furn

Reviewed &
Approved by: _____

Name: William A. Fithian

Title: Technical Manager

AnalytiKEM

TABLE OF CONTENTS

		Page
I.	List of Certifications	1
II.	Definition of Terms	2
III.	Sample Designations	3
IV.	Methodology	4
V.	Laboratory Chronicle	5
VI.	Extraction Log	6
VII.	Outlier Summary	7
VIII.	Analytical Results	8 - 15
IX.	Quality Control Data	16 - 21

AnalytiKEM

I. Certification

AnalytiKEM, Inc.
Current Certifications/Regulatory Approvals

Tabulated below are the current laboratory certifications that are held by each AnalytiKEM Laboratory. Analyses performed at multiple AnalytiKEM locations will be noted in the test report.

Cherry Hill, NJ		Rock Hill, SC		Wilmington, Mass.	
State	Cert #	State	Cert #	State	Cert #
Arkansas	*	S. Carolina	46067	Connecticut	PH-0543
Connecticut	PH-0715	N. Carolina	316	Maine	12010087
Florida	880985G	New Jersey	79795	Massachusetts	MA037
Massachusetts	NJ117			New Hampshire	198950-A
New Jersey	04012			New Hampshire	198950-C
New York	10815			New Jersey	59521
N. Carolina	258			New York	11135
N. Dakota	R-038			S. Carolina	88008
Pennsylvania	68366				
S. Carolina	94004				
Tennessee	02908				
Vermont	*				

Houston Analytical, Tx	
State	Cert #
N. Dakota	R-006
Oklahoma	8403
Texas Water Commission	*
Louisiana	*

* No certification numbers are issued for these states.

AnalytiKEM

II. Definition of Terms

Term	Definition
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.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
mg/L	Milligrams of constituent per liter of TCLP Leachate; equivalent to parts-per-million (ppm).
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.
TCLP	Toxic Characteristic Leachate Procedure
ZHE	Zero Headspace Extraction
TC	Toxic Characteristic
ug	Micrograms

AnalytiKEM

III. Sample Designations

AnyltiKEM Designation	Client Designation	Matrix	Date Sampled
A81104-1	WC #1	Nonaqueous	4/03/91
A81104-2	WC #2	Nonaqueous	4/03/91
A81104-3	WC #3	Nonaqueous	4/03/91
A81104-4	WC #4	Nonaqueous	4/03/91

Note: Samples will be held for 30 days beyond the test report date unless otherwise requested.

AnalytiKEM

IV. Methodology

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

- Federal Register, Vol. 55, No. 126, June 29, 1990.
- 40 CFR, Part 216, Appendix 2, Method 1311.
- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Second Edition, 1982.
- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, 1982.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, March 1983.

AnalytiKEM

V. Laboratory Chronicle

	DATE I	DATE II
Date Sampled	4/03/91	
Receipt/Refrigeration	4/04/91	
TCLP Extractions		
Zero Headspace Extraction	4/13/91	
TC Extraction	4/10/91	
Sample Preparations		
Semivolatiles	4/16/91 & 4/17/91	
Pesticides	4/13/91	
Herbicides	4/18/91	
Metals:		
General	4/10/91	
Mercury	4/11/91	
Furnace	4/11/91	
Analyses		
Volatiles	4/15/91 & 4/17/91	
Semivolatiles	4/15 - 4/17/91	
Pesticides	4/22/91	
Herbicides	4/18/91	
Metals		
General	4/11/91	
Mercury	4/12/91	
Furnace	4/12/91	

Laboratory Manager Review & Approval
(Signature)
(Printed Name) Edward J. Palmer, Jr.
(Date) 7-29-91

NOTE: If fractions are reextracted and reanalyzed because the initial endeavors failed to meet the required quality control criteria, the dates of reextraction and/or reanalysis will be entered in column II additionally.

AnalytiKEM

VI. Extraction Log

Sample Designation	Zero Headspace Extraction, (g)	TC Extraction, (g)	Extraction Fluid Type	Extraction Fluid Volume (ml)
A81104-1	25	--	1	500
A81104-1	--	200	1	4,000
A81104-2	25	--	1	500
A81104-2	--	200	1	4,000
A81104-3	25	--	1	500
A81104-3	--	200	1	4,000
A88104-4	25	--	1	500
A81104-4	--	200	1	4,000

AnalytiKEM

VII. Outlier Summary: Toxicity Characteristic Leachate Procedure (TCLP)

No Compounds were reported above the Regulatory Limits for the following samples:

A81104-1 WC #1

A81104-2 WC #2

A81104-3 WC #3

A81104-4 WC #4

AnalytiKEM

VIII. Analytical Results

TCLP Organic Analyses

AnalytiKEM Designation: A81104-1

Client Designation: WC #1

EPA Number	Parameter	Method Blank	Sample Result	Regulatory Level
Volatile Organics				
D043	Vinyl Chloride	0.0097 U	0.019 U	0.02
D029	1,1-Dichloroethylene	0.0047 U	0.0093 U	0.07
D022	Chloroform	0.0046 U	0.0093 U	0.60
D028	1,2-Dichloroethane	0.0045 U	0.0091 U	0.05
D035	2-Butanone (Methyl Ethyl Ketone)	0.11 U	0.21 U	20
D019	Carbon Tetrachloride	0.0047 U	0.0094 U	0.05
D040	Trichloroethylene	0.005 U	0.010 U	0.05
D018	Benzene	0.0046 U	0.0092 U	0.05
D039	Tetrachloroethylene	0.005 U	0.0099 U	0.07
D021	Chlorobenzene	0.0049 U	0.0074 J	10
Semivolatile Organics				
D038	Pyridine	0.0079 U	0.016 U	5.0
D027	1,4-Dichlorobenzene	0.0065 U	0.013 U	7.5
D023	Cresols (total)	0.0054 U	0.011 U	200
D034	Hexachloroethane	0.0071 U	0.014 U	3.0
D036	Nitrobenzene	0.0038 U	0.0075 U	2.0
D033	Hexachlorobutadiene	0.0096 U	0.019 U	0.5
D042	2,4,6-Trichlorophenol	0.011 U	0.022 U	2.0
D041	2,4,5-Trichlorophenol	0.0042 U	0.085 U	400
D030	2,4-Dinitrotoluene	0.0037 U	0.0074 U	0.13
D032	Hexachlorobenzene	0.0033 U	0.0067 U	0.13
D037	Pentachlorophenol	0.016 U	0.031 U	100
--	Cyclohexanone	0.0031 U	0.0061 U	--
Pesticides and Herbicides				
D020	Chlordane	0.0017 U	0.0018 U	0.003
D012	Endrin	0.0012 U	0.0005 U	0.002
D031	Heptachlor (and its Epoxide)	0.00029 U	0.00040 U	0.0008
D013	Lindane	0.00007 U	0.0010 U	0.04
D014	Methoxychlor	0.0016 U	0.006 U	1.00
D015	Toxaphene	0.0018 U	0.0015 U	0.05
D016	2,4-D	0.045 U	0.45 U	1.00
D017	2,4,5-TP (Silvex)	0.0025 U	0.0025 U	0.10
Units		(mg/l)	(mg/l)	(mg/l)

Note: All results are corrected for spike recoveries.

VIII. Analytical Results (Cont'd)

AnalytiKEM

TCLP Metals

AnalytiKEM Designation: A81104-1

Client Designation: WC #1

EPA Number	Parameter	Method Blank		Sample Result		Regulatory Level
D004	Arsenic	0.330	U	0.330	U	0.50
D005	Barium	6.3	U	1.0	J	10
D006	Cadmium	0.060	U	0.060	U	0.10
D007	Chromium	0.37	U	0.038	J	0.50
D008	Lead	0.38	U	0.38	U	0.50
D009	Mercury	0.018	U	0.018	U	0.02
D010	Selenium	0.064	U	0.064	U	0.10
D011	Silver	0.16	U	0.10	J	0.50
Units		(mg/l)		(mg/l)		(mg/l)

Total Solids: 95%

Note: All results are corrected for spike recoveries.

AnalytiKEM

VIII. Analytical Results (Cont'd)

TCLP Organic Analyses

AnalytiKEM Designation: A81104-2

Client Designation: WC #2

EPA Number	Parameter	Method Blank	Sample Result	Regulatory Level
Volatile Organics				
D043	Vinyl Chloride	0.0097 U	0.019 U	0.02
D029	1,1-Dichloroethylene	0.0047 U	0.0093 U	0.07
D022	Chloroform	0.0046 U	0.0093 U	0.60
D028	1,2-Dichloroethane	0.0045 U	0.0091 U	0.05
D035	2-Butanone (Methyl Ethyl Ketone)	0.11 U	0.21 U	20
D019	Carbon Tetrachloride	0.0047 U	0.0094 U	0.05
D040	Trichloroethylene	0.005 U	0.010 U	0.05
D018	Benzene	0.0046 U	0.0092 U	0.05
D039	Tetrachloroethylene	0.005 U	0.0099 U	0.07
D021	Chlorobenzene	0.0049 U	0.0085 J	10
Semivolatile Organics				
D038	Pyridine	0.0079 U	0.016 U	5.0
D027	1,4-Dichlorobenzene	0.0065 U	0.013 U	7.5
D023	Cresols (total)	0.0054 U	0.011 U	200
D034	Hexachloroethane	0.0071 U	0.014 U	3.0
D036	Nitrobenzene	0.0038 U	0.0075 U	2.0
D033	Hexachlorobutadiene	0.0096 U	0.019 U	0.5
D042	2,4,6-Trichlorophenol	0.011 U	0.022 U	2.0
D041	2,4,5-Trichlorophenol	0.0042 U	0.085 U	400
D030	2,4-Dinitrotoluene	0.0037 U	0.0074 U	0.13
D032	Hexachlorobenzene	0.0033 U	0.0067 U	0.13
D037	Pentachlorophenol	0.016 U	0.031 U	100
--	Cyclohexanone	0.0031 U	0.0061 U	--
Pesticides and Herbicides				
D020	Chlordane	0.0017 U	0.0018 U	0.003
D012	Endrin	0.0012 U	0.0005 U	0.002
D031	Heptachlor (and its Epoxide)	0.00029 U	0.00040 U	0.0008
D013	Lindane	0.00007 U	0.0010 U	0.04
D014	Methoxychlor	0.0016 U	0.006 U	1.00
D015	Toxaphene	0.0018 U	0.0015 U	0.05
D016	2,4-D	0.045 U	0.45 U	1.00
D017	2,4,5-TP (Silvex)	0.0025 U	0.0025 U	0.10
Units		(mg/l)	(mg/l)	(mg/l)

VIII. Analytical Results (Cont'd)

AnalytiKEM

TCLP Metals

AnalytiKEM Designation: A81104-2

Client Designation: WC #2

EPA Number	Parameter	Method Blank		Sample Result		Regulatory Level
D004	Arsenic	0.330	U	0.33	U	0.50
D005	Barium	6.3	U	0.68	J	10
D006	Cadmium	0.060	U	0.060	U	0.10
D007	Chromium	0.37	U	0.053	J	0.50
D008	Lead	0.38	U	0.38	U	0.50
D009	Mercury	0.018	U	0.018	U	0.02
D010	Selenium	0.064	U	0.064	U	0.10
D011	Silver	0.16	U	0.16	U	0.50
Units		(mg/l)		(mg/l)		(mg/l)

Total Solids: 95%

Note: All results are corrected for spike recoveries.

AnalytiKEM

VIII. Analytical Results (Cont'd)

TCLP Organic Analyses

AnalytiKEM Designation: A81104-3

Client Designation: WC #3

EPA Number	Parameter	Method Blank	Sample Result	Regulatory Level
Volatile Organics				
D043	Vinyl Chloride	0.0097 U	0.019 U	0.02
D029	1,1-Dichloroethylene	0.0047 U	0.0093 U	0.07
D022	Chloroform	0.0046 U	0.0093 U	0.60
D028	1,2-Dichloroethane	0.0045 U	0.0091 U	0.05
D035	2-Butanone (Methyl Ethyl Ketone)	0.11 U	0.21 U	20
D019	Carbon Tetrachloride	0.0047 U	0.0094 U	0.05
D040	Trichloroethylene	0.005 U	0.010 U	0.05
D018	Benzene	0.0046 U	0.0092 U	0.05
D039	Tetrachloroethylene	0.005 U	0.0099 U	0.07
D021	Chlorobenzene	0.0049 U	0.0097 U	10
Semivolatile Organics				
D038	Pyridine	0.0079 U	0.016 U	0.50
D027	1,4-Dichlorobenzene	0.0065 U	0.013 U	0.75
D023	Cresols (total)	0.0054 U	0.011 U	20
D034	Hexachloroethane	0.0071 U	0.014 U	0.30
D036	Nitrobenzene	0.0038 U	0.0075 U	0.20
D033	Hexachlorobutadiene	0.0096 U	0.019 U	0.05
D042	2,4,6-Trichlorophenol	0.011 U	0.022 U	0.20
D041	2,4,5-Trichlorophenol	0.0042 U	0.085 U	40
D030	2,4-Dinitrotoluene	0.0037 U	0.0074 U	0.013
D032	Hexachlorobenzene	0.0033 U	0.0067 U	0.013
D037	Pentachlorophenol	0.016 U	0.031 U	10
--	Cyclohexanone	0.0031 U	0.0061 U	--
Pesticides and Herbicides				
D020	Chlordane	0.0017 U	0.0018 U	0.003
D012	Endrin	0.0012 U	0.0005 U	0.002
D031	Heptachlor (and its Epoxide)	0.00029 U	0.00040 U	0.0008
D013	Lindane	0.00007 U	0.0010 U	0.04
D014	Methoxychlor	0.0016 U	0.006 U	1.00
D015	Toxaphene	0.0018 U	0.0015 U	0.05
D016	2,4-D	0.045 U	0.45 U	1.00
D017	2,4,5-TP (Silvex)	0.0025 U	0.0025 U	0.10
Units		(mg/l)	(mg/l)	(mg/l)

VIII. Analytical Results (Cont'd)

AnalytiKEM

TCLP Metals

AnalytiKEM Designation: A81104-3

Client Designation: WC #3

EPA Number	Parameter	Method Blank		Sample Result		Regulatory Level
D004	Arsenic	0.330	U	0.33	U	0.50
D005	Barium	6.3	U	1.6	J	10
D006	Cadmium	0.060	U	0.060	U	0.10
D007	Chromium	0.37	U	0.042	J	0.50
D008	Lead	0.38	U	0.38	U	0.50
D009	Mercury	0.018	U	0.018	U	0.02
D010	Selenium	0.064	U	0.064	U	0.10
D011	Silver	0.16	U	0.037	J	0.50
Units		(mg/l)		(mg/l)		(mg/l)

Total Solids: 95%

Note: All results are corrected for spike recoveries.

VIII. Analytical Results (Cont'd)

AnalytiKEM

TCLP Organic Analyses

AnalytiKEM Designation: A81104-4

Client Designation: WC #4

EPA Number	Parameter	Method Blank	Sample Result	Regulatory Level
Volatile Organics				
D043	Vinyl Chloride	0.0097 U	0.019 U	0.02
D029	1,1-Dichloroethylene	0.0047 U	0.0093 U	0.07
D022	Chloroform	0.0046 U	0.0093 U	0.60
D028	1,2-Dichloroethane	0.0045 U	0.0091 U	0.05
D035	2-Butanone (Methyl Ethyl Ketone)	0.11 U	0.21 U	20
D019	Carbon Tetrachloride	0.0047 U	0.0094 U	0.05
D040	Trichloroethylene	0.005 U	0.010 U	0.05
D018	Benzene	0.0046 U	0.0092 U	0.05
D039	Tetrachloroethylene	0.005 U	0.0099 U	0.07
D021	Chlorobenzene	0.0049 U	0.0044 J	10
Semivolatile Organics				
D038	Pyridine	0.0079 U	0.016 U	0.50
D027	1,4-Dichlorobenzene	0.0065 U	0.013 U	0.75
D023	Cresols (total)	0.0054 U	0.011 U	20
D034	Hexachloroethane	0.0071 U	0.014 U	0.30
D036	Nitrobenzene	0.0038 U	0.0075 U	0.20
D033	Hexachlorobutadiene	0.0096 U	0.019 U	0.05
D042	2,4,6-Trichlorophenol	0.011 U	0.022 U	0.20
D041	2,4,5-Trichlorophenol	0.0042 U	0.085 U	40
D030	2,4-Dinitrotoluene	0.0037 U	0.0074 U	0.013
D032	Hexachlorobenzene	0.0033 U	0.0067 U	0.013
D037	Pentachlorophenol	0.016 U	0.031 U	10
--	Cyclohexanone	0.0031 U	0.0061 U	--
Pesticides and Herbicides				
D020	Chlordane	0.0017 U	0.0018 U	0.003
D012	Endrin	0.0012 U	0.0005 U	0.002
D031	Heptachlor (and its Epoxide)	0.00029 U	0.00040 U	0.0008
D013	Lindane	0.00007 U	0.0010 U	0.04
D014	Methoxychlor	0.0016 U	0.006 U	1.00
D015	Toxaphene	0.0018 U	0.0015 U	0.05
D016	2,4-D	0.045 U	0.45 U	1.00
D017	2,4,5-TP (Silvex)	0.0025 U	0.0025 U	0.10
Units		(mg/l)	(mg/l)	(mg/l)

VIII. Analytical Results (Cont'd)

AnalytiKEM

TCLP Metals

AnalytiKEM Designation: A81104-4

Client Designation: WC #4

EPA Number	Parameter	Method Blank		Sample Result		Regulatory Level
D004	Arsenic	0.330	U	0.33	U	0.50
D005	Barium	6.3	U	1.0	J	10
D006	Cadmium	0.060	U	0.060	U	0.10
D007	Chromium	0.37	U	0.042	J	0.50
D008	Lead	0.38	U	0.38	U	0.50
D009	Mercury	0.018	U	0.018	U	0.02
D010	Selenium	0.064	U	0.064	U	0.10
D011	Silver	0.16	U	0.016	U	0.50
Units		(mg/l)		(mg/l)		(mg/l)

Total Solids: 95%

Note: All results are corrected for spike recoveries.

AnalytiKEM

IX. Quality Control Data

TCLP Procedure

Volatile Organics

Aqueous Matrix Spike Recovery Data

Sample Spiked A72136-2

Parameter	Amount of Spike	Recovery MS
Vinyl Chloride	100	103
1,1-Dichloroethene	100	107
Chloroform	200	108
1,2-Dichloroethane	100	110
2-Butanone (MEK)	100	95
Carbon Tetrachloride	100	106
Trichloroethene	100	100
Benzene	100	109
Tetrachloroethene	100	101
Chlorobenzene	100	103
Units	(ug)	(%)

Volatile Organics

Aqueous Surrogate Recovery Data

Sample Designation	Surrogate Recovery: 1,2-Dichloroethane-d_4 (0.25 ug Added)	Toluene-d_8 (0.25 ug Added)	4-Bromofluorobenzene (0.25 ug Added)
Method Blank	85	98	95
A81104-1	91	99	98
Method Blank	87	99	98
A81104-2	91	100	99
A81104-3	90	100	99
Method Blank	107	99	105
A81104-4	111	99	104
A72136-2 Spike	104	96	95
Units	(%)	(%)	(%)

AnalytiKEM

IX. Quality Control Data (Cont'd)

TCLP Procedure

Semivolatile Organics

Aqueous Matrix Spike Recovery Data

Sample Spiked A81115-3

Parameter	Amount of Spike	Recovery MS
Pyridine	100	63
1,4-Dichlorobenzene	50	77
Cresol (total)	300	92
Hexachloroethane	50	70
Nitrobenzene	50	133
Hexachlorobutadiene	50	52
2,4,6-Trichlorophenol	100	46
2,4,5-Trichlorophenol	100	59
2,4-Dinitrotoluene	50	135
Hexachlorobenzene	50	150
Pentachlorophenol	100	32
Cyclohexanone	85	163
Units	(ppb)	(%)

AnalytiKEM

IX. Quality Control Data (Cont'd)

TCLP Procedure

Semivolatile Organics

Aqueous Surrogate Recovery Data

Sample Designation	Surrogate Recovery 2-Fluorophenol (200 ug Added)	Phenol-d_5 (200 ug Added)	2,4,6-Tribromophenol (200 ug Added)
Method Blank	36	25	55
A81104-1	30	27	28
A81104-2	25	22	38
Method Blank	33	21	59
A81104-3	40	35	94
Method Blank	44	28	68
A81104-4	11	12	15
A81115-3 Spike	32	28	49
Units	(%)	(%)	(%)

Sample Designation	Surrogate Recovery Nitrobenzene-d_5 (100 ug Added)	2-Fluorobiphenyl (100 ug Added)	Terphenyl-d_{14} (100 ug Added)
Method Blank	50	51	55
A81104-1	43	42	62
A81104-2	67	67	64
Method Blank	63	60	35
A81104-3	51	52	30
Method Blank	68	72	78
A81104-4	55	53	163
A81115-3 Spike	68	60	32
Units	(%)	(%)	(%)

AnalytiKEM

IX. Quality Control Data (Cont'd)

TCLP Procedure

Pesticides and Herbicides

Aqueous Matrix Spike Recovery Data

Parameter	Sample Spiked	Amount of Spike	Recovery MS
gamma-BHC (lindane)	A81084-1	100	74
Heptachlor	A81084-1	100	58
Heptachlor Epoxide	A81084-1	100	54
Endrin	A81084-1	500	127
Methoxychlor	A81084-1	100	30
Chlordane (technical)	A81084-1	2,000	32
Toxaphene	A81084-1	2,000	108
2,4-D	A81115-3	500	33
2,4,5-TP (Silvex)	A81115-3	500	60
Units		(ppb)	(%)

AnalytiKEM

IX. Quality Control Data (Cont'd)

TCPL Procedure

Pesticides and Herbicides

Aqueous Surrogate Recovery Data

Sample Designation	Surrogate Recovery Dibutylchlorendate (200 ug Added)
Method Blank	31
A81104-1 Spike (Pest.)	45
A81104-1 Spike (Toxaphene)	76
A81104-1 Spike (Chlordane)	7
A81104-1	54
A81104-2	55
A81104-3	53
A81104-4	64
Units	(%)

Sample Designation	2,4-DB (500 ppb Added)
Method Blank	102
A81115-3 Spike (Herb.)	94
A81104-1	89
A81104-2	116
A81104-3	132
A81104-4	132
Units	(%)

AnalytiKEM

IX. Quality Control Data (Cont'd)

TCLP Procedure

Metals

Aqueous Matrix Spike Recovery Data

Sample Spiked A81104-4

Parameter	Amount of Spike	Recovery MS
Arsenic	300	92
Barium	300	80
Cadmium	300	83
Chromium	300	81
Lead	300	80
Mercury	300	112
Selenium	20	78
Silver	300	43
Units	(ppb)	(%)

AnalytiKEM An American NuKEM Company

00970

Chain-of-Custody Record

81104

Program Area: Drinking Water Wastewater Groundwater (Solid) and Hazardous Waste

Client: ENSCI Corp. Sample Collector: Tom Baldanelli

Project: Thomasville Furn Ind (Lenoir) AnalytiKEM Contact: Gene Neil

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

	ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	40 ml vials	1-950 ml Org. Pres.	ml Unpres.	ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL				PARAMETERS
1	1	WC #1	4/3/91	4:45 pm	Solid			✓									T-CLP (TCL-LIST)
2	2	WC #2	4/3/91	4:45 pm	Solid			✓									T-CLP (TCL LIST)
3	3	WC #3	4/3/91	4:45 pm	Solid			✓									T-CLP (TCL LIST)
4	4	WC #4	4/3/91	4:45 pm	Solid			✓									T-CLP. (TCL-LIST)
	5																
	6																
	7																
	8																
	9																
	10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1-4	David Hoard	Brady Lowe	4-4-91	1320	
2			C. Hudson	4/4/91	400pm	
3						
4						SAMPLER'S SIGNATURE Robert S. Baker

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM #1 12/89

AnalytiKEM An American NuKEM Company

00900

Chain-of-Custody Record

81104

Program Area: Drinking Water Wastewater (Groundwater) Solid and Hazardous Waste

Client: ENSCI CORP.

Sample Collector: TOM BALDANELLI

Project: Thomasville Furn Ind (Lenoir)

AnalytiKEM Contact: GENE NEAL

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

	ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	4/40 ml vials	950 ml Org. Pres.	ml Unpres.	ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL			PARAMETERS
5	1	MW #1	4/3/91	4:10pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
6	2	MW #2	4/3/91	3:30pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
7	3	MW #3	4/3/91	1:45pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
8	4	MW #4	4/3/91	12:45pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
9	5	MW #5	4/3/91	12:15pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
10	6	MW #6	4/3/91	3:45pm	Aqueous		✓									EPA METHOD 624 (TCL-LIST)
11	7	MW #7	4/3/91	3:15pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
12	8	MW #8	4/3/91	3:30pm	Aqueous		✓									E.P.A METHOD 624 (TCL-LIST)
	9															
	10															

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1-8	David Moore	Grady Lane	4-4-91	1320	
2			C. Hudson	4/4/91	400pm	
3						
4						SAMPLER'S SIGNATURE Robert J. Baker

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM #1 12/89

AnalytiKEM An American NuKEM Company

00967

Chain-of-Custody Record

81104

Program Area: Drinking Water Wastewater Groundwater Solid [redacted]us Waste

Client: ENSCI CORP. Sample Collector: ROBERT BEKIER

Project: THOMASVILLE FURN IND (LENOIR) AnalytiKEM Contact: GENE NEIL

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

ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	40 ml vials	1-950 ml Org. Pres.	ml Unpres.	ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL				PARAMETERS
1	MW #1	4/3/91	4:10pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
2	MW #2	4/3/91	2:20pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
3	MW #3	4/3/91	1:45pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
4	MW #4	4/3/91	12:45pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
5	MW #5	4/3/91	12:15pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
* 6	MW #6	4/3/91	3:45pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
7	MW #7	4/3/91	3:15pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
8	MW #8	4/3/91	3:30pm	AQUEOUS			✓									E.P.A METHOD T-CLP METALS
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-8	[illegible]	Grady Lane	4-4-91	1320
2			C Clutton	4/4/91	4:04pm
3					
4					

REMARKS
*Sample bottle broken around lid upon arrival, when opened, glass fell into

SAMPLER'S SIGNATURE Robert J. Bekier

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM #1 12/89

AnalytiKEM An American NuKEM Company

00968

Chain-of-Custody Record

81104

Program Area: Drinking Water Wastewater (Groundwater) Solid and Hazardous Waste

Client: Ensch Corp. **Sample Collector:** Tom Baldanelli

Project: Thomasville Furn Ind (Lenoir) **AnalytiKEM Contact:** Gene Neil

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

ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	40 ml vials	2-950 ml Org. Pres.	ml Unpres.	ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL				PARAMETERS
1	MW #1	4/3/91	4:10pm	Aqueous			✓									E.P.A METHOD 625 (TCL-LIST)
2	MW #2	4/3/91	2:30 pm	Aqueous			✓									E.P.A METHOD 625 (TCL-LIST)
3	MW #3	4/3/91	1:45 pm	Aqueous			✓									EPA METHOD 625 (TCL-LIST)
4	MW #4	4/3/91	12:45 pm	Aqueous			✓									EPA METHOD 625 (TCL-LIST)
5	MW #5	4/3/91	12:15 pm	Aqueous			✓									E.P.A METHOD 625 (TCL-LIST)
6	MW #6	4/3/91	3:45 pm	Aqueous			✓									EPA METHOD 625 (TCL-LIST)
7	MW #7	4/3/91	3:15 pm	Aqueous			✓									E.P.A METHOD 625 (TCL-LIST)
8	MW #8	4/3/91	3:30 pm	Aqueous			✓									E.P.A METHOD 625 (TCL-LIST)
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1	1-8	T. Baldanelli	Grady Lone	4/4/91	1320	
2			C. Hudson	4/4/91	1402pm	
3						
4						SAMPLER'S SIGNATURE Robert S. Bekin

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM #1 12/89

AnalytiKEM An American NuKEM Company

00924

Chain-of-Custody Record

8/1/04

Program Area: Drinking Water Wastewater (Groundwater) Solid and Hazardous Waste

Client: ENSCI CORP. Sample Collector: SCOTT STERN

Project: TFI AnalytiKEM Contact: RICK CANTER

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

ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	40 ml vials	950 ml Org. Pres.	ml Unpres.	2-4 ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL				PARAMETERS
1	MW #1	4-12	9:30 AM	Aqueous				1								[redacted] / METALS
2	MW #4	4-12	10:00 AM	Aqueous				1								[redacted] / METALS
3																
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1		Scott Stern	R.A. Cante	4/12/11	3:20 pm	
2		R.A. Canter	C. Hudson	4/15/11	11:00 Am	
3						Scott Stern
4						SAMPLER'S SIGNATURE

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM #1 12/89

APPENDIX D

FIELD DATA SHEETS

GROUNDWATER SAMPLE ACQUISITION

ENSCI

Field Data Sheet for Ground-Water Sampling

Date April 3, 1991
Field Personnel T. Baldelli, D. Moore, B. Bekier
Facility Name Thomasville Furniture: Lenoir
EPA ID NO. NCD054290770
Well ID NO. MW #1
☐ Upgradient ☐ Downgradient
Weather Conditions Rainy/Clear/Windy/Partly Cloudy/Warm/Hot
Air Temperature 60°F °F
Total Well Depth (TWD) 20.20' 1/100 ft
Depth to Groundwater (DGW) 8.20' 1/100 ft
Length of Water Column (LWC) = TWD − DGW = 12 ft
1 Casing Volume (OCV) = LWC x 0.163 = 1.96 gal
3 Casing Volumes = 5.87 gal = Standard Evacuation Volume
Method of Well Evacuation Submersible Pump/GXL T Bailer/B-K Pump
Method of Sample Collection Dedicated T Bailer/GXL T Bailer/B-K Bailer
Total Volume of Water Removed ~ 9.00 gal

Casing Diameter ☒ 2 inches ☐ 4 inches
Casing Material ☐ PVC ☐ Teflon ☒ Steel
Measuring Point Elevation (MSL) 1/100 ft
Water Table Elevation (MSL) 1/100 ft
pH/sp. cond. meter calibration (Date/Time) (4/3)/0800
pH buffer solution used 4 & 7
Steel Guard Pipe around Casing (TOP) ☒ yes ☐ no
Locking Cap ☒ yes ☐ no
Protective Abutment ☒ yes ☐ no
Well Integrity Satisfactory ☒ yes ☐ no
Well Yield ☐ Low ☐ Medium ☒ High

Containers

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1610	4	40 ml	N/A	EPA Method 624
TNB	4/3	1610	3	950 ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	9.00 gal						
Time (military)	1610						
pH (S.U.)	7.18						
Conductivity	154						
Water Temp (°C)	18.8						
Turbidity (subjective)*	Mild						
Odor (subjective)**	None						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

Field Data Sheet for Ground-Water Sampling

ENSCI Environmental Services Corp.

Date: April 3, 1991

Field Personnel: T. Baldelli, D. Moore, B. Bekier

Facility Name: TFI; Lenoir, NC

EPA ID NO.: NCD054290770

Well ID NO.: MW #2

☐ Upgradient ☐ Downgradient

Weather Conditions: ~~Rainy~~/Clear/~~Windy~~/~~Partly Cloudy~~/~~Warm~~/~~Hot~~

Air Temperature: 60 °F

Total Well Depth (TWD): 10.20' 1/100 ft

Depth to Groundwater (DGW): 7.46' 1/100 ft

Length of Water Column (LWC) = TWD − DGW = 2.74 ft

1 Casing Volume (OCV) = LWC x 0.163 = 0.45 gal

3 Casing Volumes = 1.34 gal = Standard Evacuation Volume

Method of Well Evacuation: ~~Submersible Pump~~/GEL T Baller/ ~~B-X Pump~~

Method of Sample Collection: ~~Dedicated T Baller~~/GEL T Baller/~~B-X Baller~~

Total Volume of Water Removed: 4 gal

Casing Diameter: ☒ 2 inches ☐ 4 inches

Casing Material: ☐ PVC ☐ Teflon ☒ Steel

Measuring Point Elevation (MSL) _____ 1/100 ft

Water Table Elevation (MSL) _____ 1/100 ft

pH/sp. cond. meter calibration (Date/Time) 4/3-0800

pH buffer solution used: 4 & 7

Steel Guard Pipe around Casing: Top ☒ yes ☐ no

Locking Cap: ☒ yes ☐ no

Protective Abutment: ☒ yes ☐ no

Well Integrity Satisfactory: ☒ yes ☐ no

Well Yield: ☐ Low ☒ Medium ☐ High

Containers

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1420	4	40ml	None	EPA Method 624
TNB	4/3	1420	3	950ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	3.0						
Time (military)	1400						
pH (s.u.)	6.86						
Conductivity	368						
Water Temp (°C)	19.4						
Turbidity (subjective)*	Mod/High						
Odor (subjective)**	Faint						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

ENSCI Environmental Services Corp.

Field Data Sheet for Ground-Water Sampling

Date: April 3, 1991

Field Personnel: T. Baldelli, D. Moore, B. Bekier

Facility Name: TFI; Lenoir, NC

EPA ID NO.: NCD054290770

Well ID NO.: MW #3

☐ Upgradient ☐ Downgradient

Weather Conditions: ~~Rainy~~/Clear/~~Windy~~/~~Partly Cloudy~~/~~Warm~~/~~Hot~~

Air Temperature: 60 °F

Total Well Depth (TWD): 15.20 1/100 ft

Depth to Groundwater (DGW): 6.24 1/100 ft

Length of Water Column (LWC) = TWD − DGW = 8.96 ft

1 Casing Volume (OCV) = LWC x 0.163 = 1.46 gal

3 Casing Volumes = 4.38 gal = Standard Evacuation Volume

Method of Well Evacuation: ~~Submersible Pump~~/GEL T Bailer/~~B-X Pump~~

Method of Sample Collection: ~~Submersible Pump~~/GEL T Bailer/~~B-X Bailer~~

Total Volume of Water Removed: 7.0 gal

Casing Diameter: ☒ 2 inches ☐ 4 inches

Casing Material: ☐ PVC ☐ Teflon ☒ Steel

Measuring Point Elevation (MSL) _____ 1/100 ft

Water Table Elevation (MSL) _____ 1/100 ft

pH/sp. cond. meter calibration (Date/Time) 4/3 0800

pH buffer solution used: 4 and 7

Steel Guard Pipe around Casing: ☒ yes ☐ no

Locking Cap: ☒ yes ☐ no

Protective Abutment: ☒ yes ☐ no

Well Integrity Satisfactory: ☒ yes ☐ no

Well Yield: ☐ Low ☒ Medium ☐ High

(Containers)

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1345		40ml	None	EPA Method 624
TNB	4/3	1345		950ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	6.0						
Time (military)	1320						
pH (S.U.)	6.80						
Conductivity	149						
Water Temp (°C)	19.5						
Turbidity (subjective)*	1-4						
Odor (subjective)**	4						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

ENSCI

Field Data Sheet for Ground-Water Sampling

Date April 3, 1991
Field Personnel T. Baldelli, D. Moore, B. Bekier
Facility Name Thomasville Furniture, Lenoir
EPA ID NO. NCD054290770
Well ID NO. MW #4
☐ Upgradient ☐ Downgradient
Weather Conditions Rainy/Clear/Windy/Partly Cloudy/Warm/Hot
Air Temperature 60 °F
Total Well Depth (TWD) 15.22' 1/100 ft
Depth to Groundwater (DGW) 5.76' 1/100 ft
Length of Water Column (LWC) = TWD − DGW = 9.46 ft
1 Casing Volume (OCV) = LWC x 0.163 = 1.54 gal
3 Casing Volumes = 4.63 gal = Standard Evacuation Volume
Method of Well Evacuation Submersible Pump/GEL T Bailer/ B-K Pump
Method of Sample Collection Dedicated T Bailer/GEL T Bailer/B-K Bailer
Total Volume of Water Removed 7.0 gal

Casing Diameter ☒ 2 inches ☐ 4 inches
Casing Material ☐ PVC ☐ Teflon ☒ Steel
Measuring Point Elevation (MSL) 1/100 ft
Water Table Elevation (MSL) 1/100 ft
pH/sp. cond. meter calibration (Date/Time) (4/3)/0800
pH buffer solution used 4 & 7
Steel Guard Pipe around Casing ☒ yes ☐ no
Locking Cap ☒ yes ☐ no
Protective Abutment ☒ yes ☐ no
Well Integrity Satisfactory ☒ yes ☐ no
Well Yield ☐ Low ☒ Medium ☐ High

Personnel	Date	Time	Containers No.	Containers Type	Preserv	Param.
TNB	4/3	1310	4	40 ml	None	3240
TNB	4/3	1310	3	950 ml	None	8270; 8 RCRA metals
						TCLP

Field Analysis

Volume Purged (gallons)							
Time (military)	5.0						
pH (s.u.)	1300						
Conductivity	6.88						
Water Temp (°C)	337						
Turbidity (subjective)*	18.9						
Odor (subjective)**	4						
	4						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

ENSCI

Field Data Sheet for Ground-Water Sampling

Date: April 3, 1991

Field Personnel: T. Baldelli, D. Moore, B. Bekier

Facility Name: TFI; Lenoir, NC.

EPA ID NO.: NCD054290770

Well ID NO.: MW #5

☐ Upgradient ☐ Downgradient

Weather Conditions: ~~Rainy/Clear/Windy/Partly Cloudy/Warm/Hot~~

Air Temperature: 60 °F

Total Well Depth (TWD): 15.20' 1/100 ft

Depth to Groundwater (DGW): 5.86' 1/100 ft

Length of Water Column (LWC) = TWD − DGW = 9.34 ft

1 Casing Volume (OCV) = LWC x 0.163 = 1.52 gal

3 Casing Volumes = 4.57 gal = Standard Evacuation Volume

Method of Well Evacuation: Submersible Pump/GEL T Bailer/ B-K Pump

Method of Sample Collection: Dedicated T Bailer/GEL T Bailer/B-K Bailer

Total Volume of Water Removed: 7.0 gal

Casing Diameter: ☒ 2 inches ☐ 4 inches

Casing Material: ☐ PVC ☐ Teflon ☒ Steel

Measuring Point Elevation (MSL): 1/100 ft

Water Table Elevation (MSL): 1/100 ft

pH/sp. cond. meter calibration (Date/Time): 4/3 0800

pH buffer solution used: 4 & 7

Steel Guard Pipe around Casing: ☒ yes ☐ no

Locking Cap: ☒ yes ☐ no

Protective Abutment: ☒ yes ☐ no

Well Integrity Satisfactory: ☒ yes ☐ no

Well Yield: ☐ Low ☒ Medium ☐ High

Containers

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1220	4	40ml	None	EPA Method 624
TNB	4/3	1220	3	950ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	6.0						
Time (military)	1200						
pH (S.U.)	6.96						
Conductivity	368						
Water Temp (°C)	16.9						
Turbidity (subjective)*	4						
Odor (subjective)**	4						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

Field Data Sheet for Ground-Water Sampling

Date: April 3, 1991
Field Personnel: T. Baldelli, D. Moore, B. Bekier
Facility Name: TFI; Lenoir, NC
EPA ID NO.: NCD054290770
Well ID NO.: MW #6
☐ Upgradient ☐ Downgradient
Weather Conditions: Rainy/Clear/Windy/Partly Cloudy/Warm/Hot
Air Temperature: 60 °F
Total Well Depth (TWD): 19.18' 1/100 ft
Depth to Groundwater (DGW): 9.98' 1/100 ft
Length of Water Column (LWC) = TWD − DGW = 9.20 ft
1 Casing Volume (OCV) = LWC x 0.163 = 1.50 gal
3 Casing Volumes = 4.50 gal = Standard Evacuation Volume
Method of Well Evacuation: Submersible Pump/GKL T Bailer/ B-K Pump
Method of Sample Collection: Dedicated T Bailer/GKL T Bailer/B-K Bailer
Total Volume of Water Removed: 7.0 gal

Casing Diameter: ☒ 2 inches ☐ 4 inches
Casing Material: ☐ PVC ☐ Teflon ☒ Steel
Measuring Point Elevation (MSL): 1/100 ft
Water Table Elevation (MSL): 1/100 ft
pH/sp. cond. meter calibration (Date/Time): 4/13 0800
pH buffer solution used: 4 and 7
Steel Guard Pipe around Casing: ☒ yes ☐ no
Locking Cap: ☒ yes ☐ no
Protective Abutment: ☒ yes ☐ no
Well Integrity Satisfactory: ☒ yes ☐ no
Well Yield: ☐ Low ☐ Medium ☒ High

Containers

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1515	4	40ml	None	EPA Method 624
TNB	4/3	1515	3	950ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	5.0						
Time (military)	1515						
pH (S.U.)	18.8						
Conductivity	128						
Water Temp (°C)	18.8						
Turbidity (subjective)*	4						
Odor (subjective)**	2						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

Field Data Sheet for Ground-Water Sampling

Date: April 3, 1991
Field Personnel: T. Baldelli, D. Moore, B. Bekier
Facility Name: TFI; Lenoir
EPA ID NO.: NCD054290770
Well ID NO.: MW #7
☐ Upgradient ☐ Downgradient
Weather Conditions: ~~Rainy~~/Clear/~~Windy~~/~~Partly Cloudy~~/~~Warm~~/~~Hot~~
Air Temperature: 60 °F
Total Well Depth (TWD): 39.96 (fill) 1/100 ft
Depth to Groundwater (DGW): 23.88 1/100 ft
Length of Water Column (LWC) = TWD − DGW = 1600 ft
1 Casing Volume (OCV) = LWC x 0.163 = 2.62 gal
3 Casing Volumes = 7.86 gal = Standard Evacuation Volume
Method of Well Evacuation: Submersible Pump/GXL T Bailer/ B-K Pump
Method of Sample Collection: Dedicated T Bailer/GXL T Bailer/B-K Bailer
Total Volume of Water Removed: 9.0 gal

Casing Diameter: ☒ 2 inches ☐ 4 inches
Casing Material: ☐ PVC ☐ Teflon ☒ Steel
Measuring Point Elevation (MSL): 1/100 ft
Water Table Elevation (MSL): 1/100 ft
pH/sp. cond. meter calibration (Date/Time): 4/3 0800
pH buffer solution used: 4 and 7
Steel Guard Pipe around Casing: ☒ yes ☐ no
Locking Cap: ☒ yes ☐ no
Protective Abutment: ☒ yes ☐ no
Well Integrity Satisfactory: ☒ yes ☐ no
Well Yield: ☒ Low ☐ Medium ☐ High

(Containers)

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1500	4	40ml	None	EPA Method 624
TNB	4/3	1500	4	950ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	8.0						
Time (military)	1410-1500						
pH (S.U.)	8.56						
Conductivity	148						
Water Temp (°C)	19.7						
Turbidity (subjective)*	1-2						
Odor (subjective)**	1						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

Field Data Sheet for Ground-Water Sampling

Date April 3, 1991
Field Personnel T. Baldelli, D. Moore, B. Bekier
Facility Name Thomasville Furniture Ind.
EPA ID NO. Lenoir, NC NCD054290770
Well ID NO. MW #8
☐ Upgradient ☐ Downgradient
Weather Conditions ~~Rainy/Clear/Windy/Partly Cloudy/Warm/Hot~~
Air Temperature 60 °F
Total Well Depth (TWD) 36.70' 1/100 ft
Depth to Groundwater (DGW) 5.70' 1/100 ft
Length of Water Column (LWC) = TWD − DGW = 31.00 ft.
1 Casing Volume (OCV) = LWC x 0.163 = 5.05 gal
3 Casing Volumes = 15.16 gal = Standard Evacuation Volume
Method of Well Evacuation Submersible Pump/GEL T Bailer/ B-K Pump
Method of Sample Collection Dedicated T Bailer/GEL T Bailer/B-K Bailer
Total Volume of Water Removed 17.00 gal

Casing Diameter ☒ 2 inches ☐ 4 inches
Casing Material ☐ PVC ☐ Teflon ☒ Steel
Measuring Point Elevation (MSL) 1/100 ft
Water Table Elevation (MSL) 1/100 ft
pH/sp. cond. meter calibration (Date/Time) 4/3-0800
pH buffer solution used 4 and 7
Steel Guard Pipe around Casing ☒ yes ☐ no
Locking Cap ☒ yes ☐ no
Protective Abutment ☒ yes ☐ no
Well Integrity Satisfactory ☒ yes ☐ no
Well Yield ☐ Low ☐ Medium ☒ High

(Containers)

Personnel	Date	Time	No.	Type	Preserv	Param.
TNB	4/3	1530	4	40 ml	None	EPA Method 624
TNB	4/3	1530	3	950ml	None	EPA Method 625
						ICP Metals

Field Analysis

Volume Purged (gallons)	15.0						
Time (military)	1530						
pH (s.u.)	7.38						
Conductivity	224						
Water Temp (°C)	19.8						
Turbidity (subjective)*	2						
Odor (subjective)**	2						

* (1) clear (2)slight (3)moderate (4)high ** (1)none (2)faint (3)moderate (4)strong

APPENDIX E

ANALYTICAL RESULTS

GROUNDWATER SAMPLES

AnalytiKEM An American NuKEM Company

AnalytiKEM Inc.
454 S. Anderson Road, BTC 532
Rock Hill, SC 29730
803/329-9690

TEST REPORT NO. A81104

April 30, 1991

Prepared for:

Ensci
1108 Thomasville Road
High Point, NC 27260

Attention: Bruce Braswell

Project: Thomasville Furn

Date of Sample Receipt: April 4, 1991

Reviewed &
Approved by: _____

Name: William A. Fithian

Title: Technical Manager

TABLE OF CONTENTS

		Page
I.	Certification	1
II.	Definition of Terms	2
III.	Sample Designations	3
IV.	Methodology	4
V.	Analytical Results	5-18
VI.	Quality Control Data	19-23

AnalytiKEM

I. Certification

AnalytiKEM, Inc.
Current Certifications/Regulatory Approvals

Tabulated below are the current laboratory certifications that are held by each AnalytiKEM Laboratory. Analyses performed at multiple AnalytiKEM locations will be noted in the test report.

Cherry Hill, NJ		Rock Hill, SC		Wilmington, Mass.	
State	Cert #	State	Cert #	State	Cert #
Arkansas	*	S. Carolina	46067	Connecticut	PH-0543
Connecticut	PH-0715	N. Carolina	316	Maine	12010087
Florida	880985G	New Jersey	79795	Massachusetts	MA037
Massachusetts	NJ117			New Hampshire	198950-A
New Jersey	04012			New Hampshire	198950-C
New York	10815			New Jersey	59521
N. Carolina	258			New York	11135
N. Dakota	R-038			S. Carolina	88008
Pennsylvania	68366				
S. Carolina	94004				
Tennessee	02908				
Vermont	*				

Houston Analytical, Tx	
State	Cert #
N. Dakota	R-006
Oklahoma	8403
Texas Water Commission	*
Louisiana	*

* No certification numbers are issued for these states.

AnalytiKEM

II. 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.
B	Analyte detected in associated blank as well as the sample. It indicates possible/probable blank contamination.

AnalytiKEM

III. Sample Designations

AnyltiKEM Designation	Client Designation	Matrix	Date Sampled
A81104-1	WC #1	Nonaqueous	4/03/91
A81104-2	WC #2	Nonaqueous	4/03/91
A81104-3	WC #3	Nonaqueous	4/03/91
A81104-4	WC #4	Nonaqueous	4/03/91
A81104-5	MW #1	Aqueous	4/03/91,4/12/91
A81104-6	MW #2	Aqueous	4/03/91
A81104-7	MW #3	Aqueous	4/03/91
A81104-8	MW #4	Aqueous	4/03/91,4/12/91
A81104-9	MW #5	Aqueous	4/03/91
A81104-10	MW #6	Aqueous	4/03/91
A81104-11	MW #7	Aqueous	4/03/91
A81104-12	MW #8	Aqueous	4/03/91

Note: Samples will be held for 30 days beyond the test report date unless otherwise requested.

AnalytiKEM

IV. 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. Analytical Results

Volatile Organics

Parameter	Method Blank 1		A81104-5 MW #1		A81104-6 MW #2	
	Sample Designation					
Chloromethane	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U
2-Propanone (Acetone)	100	U	220		44	J
Carbon Disulfide	5.0	U	5.0	U	5.0	U
1,1-Dichloroethene	5.0	U	5.0	U	5.0	U
1,1-Dichloroethane	5.0	U	5.0	U	5.0	U
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U
Chloroform	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U
2-Butanone (MEK)	100	U	100	U	100	U
1,1,1-Trichloroethane	5.0	U	5.0	U	5.0	U
Carbon Tetrachloride	5.0	U	5.0	U	5.0	U
Vinyl Acetate	50	U	50	U	50	U
Bromodichloromethane	5.0	U	5.0	U	5.0	U
1,2-Dichloropropane	5.0	U	5.0	U	5.0	U
trans-1,3-Dichloropropene	5.0	U	5.0	U	5.0	U
Trichloroethene	5.0	U	5.0	U	5.0	U
Dibromochloromethane	5.0	U	5.0	U	5.0	U
1,1,2-Trichloroethane	5.0	U	5.0	U	5.0	U
Benzene	5.0	U	5.0	U	1.8	J
cis-1,3-Dichloropropene	5.0	U	5.0	U	5.0	U
2-Chloroethyl Vinyl Ether	10	U	10	U	10	U
Bromoform	5.0	U	5.0	U	5.0	U
4-Methyl-2-Pentanone (MIBK)	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U
Tetrachloroethene	5.0	U	5.0	U	5.0	U
1,1,2,2-Tetrachloroethane	5.0	U	5.0	U	5.0	U
Toluene	5.0	U	5.0	U	5.0	U
Chlorobenzene	5.0	U	5.0	U	5.0	U
Ethylbenzene	5.0	U	5.0	U	5.0	U
Styrene	5.0	U	5.0	U	5.0	U
m-Xylene	5.0	U	5.0	U	67	
o,p-Xylene	5.0	U	5.0	U	5.0	U
Units	(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

V. Analytical Results (Cont'd)

Volatile Organics

Parameter	Method Blank 2	A81104-7 MW #3	A81104-8 MW #4	A81104-9 MW #5	A81104-11 MW #7
			Sample Designation		
Chloromethane	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U	1.8 J	10 U
2-Propanone (Acetone)	100 U	100 U	1.4 J	17 J	490
Carbon Disulfide	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	100 U	100 U	100 U	100 U	100 U
1,1,1-Trichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Acetate	50 U	50 U	50 U	50 U	50 U
Bromodichloromethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	5.0 U	5.0 U	5.6	5.2	5.0 U
cis-1,3-Dichloropropene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloroethyl Vinyl Ether	10 U	10 U	10 U	10 U	10 U
Bromoform	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	50 U	50 U	50 U	50 U	50 U
2-Hexanone	50 U	50 U	50 U	50 U	50 U
Tetrachloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5.0 U	5.0 U	5.0 U	5.0 U	
m-Xylene	5.0 U	63	470 *	1,700 *	5.0 U
o,p-Xylene	5.0 U	5.3	110	140	5.0 U
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)

* Result obtained from rerun due to saturation in original run.

V. Analytical Results (Cont'd)

AnalytiKEM

Volatile Organics

Parameter	Method Blank 3		Sample Designation A81104-10 MW #6		A81104-12 MW #8	
Chloromethane	2.0	U	2.0	U	2.0	U
Bromomethane	2.0	U	2.0	U	2.0	U
Vinyl Chloride	2.0	U	2.0	U	2.0	U
Chloroethane	2.0	U	2.0	U	2.0	U
Methylene Chloride	0.29	J	2.4		0.78	J
2-Propanone (Acetone)	20	U	7.0	J	20	U
Carbon Disulfide	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	1.0	U	1.0	U	1.0	U
Chloroform	1.0	U	0.19	J	1.0	U
1,2-Dichloroethane	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	20	U	20	U	20	U
1,1,1-Trichloroethane	1.0	U	0.54	J	0.41	J
Carbon Tetrachloride	1.0	U	1.0	U	1.0	U
Vinyl Acetate	10	U	10	U	10	U
Bromodichloromethane	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	1.0	U	1.0	U	1.0	U
Trichloroethene	1.0	U	1.0	U	1.0	U
Dibromochloromethane	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	1.0	U	1.0	U	1.0	U
Benzene	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	2.0	U	2.0	U	2.0	U
Bromoform	1.0	U	1.0	U	1.0	U
4-Methyl-2-Pentanone (MIBK)	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U
Tetrachloroethene	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	1.0	U	1.0	U	1.0	U
Toluene	1.0	U	1.0	U	1.0	U
Chlorobenzene	1.0	U	1.0	U	0.2	J
Ethylbenzene	1.0	U	1.0	U	1.0	U
Styrene	1.0	U	1.0	U	1.0	U
m-Xylene	1.0	U	1.0	U	1.0	U
o,p-Xylene	1.0	U	1.0	U	1.0	U
Units	(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 1 of 2)

Parameter	Sample Designation: Method Blank 1	A81104-5 MW #1	A81104-6 MW #2
N-Nitrosodimethylamine	5.0 U	10 U	10 U
Phenol	5.0 U	10 U	10 U
Bis(2-chloroethyl) Ether	5.0 U	10 U	10 U
2-Chlorophenol	5.0 U	10 U	10 U
1,3-Dichlorobenzene	5.0 U	10 U	10 U
1,4-Dichlorobenzene	5.0 U	10 U	10 U
Benzyl Alcohol	5.0 U	10 U	10 U
1,2-Dichlorobenzene	5.0 U	10 U	10 U
2-Methylphenol	5.0 U	10 U	10 U
Bis(2-chloroisopropyl) Ether	5.0 U	10 U	10 U
3+4-Methylphenol (m+p-Cresols)	5.0 U	10 U	10 U
N-Nitrosodipropylamine	5.0 U	10 U	10 U
Hexachloroethane	5.0 U	10 U	10 U
Nitrobenzene	5.0 U	10 U	10 U
Isophorone	5.0 U	10 U	10 U
2-Nitrophenol	5.0 U	10 U	10 U
2,4-Dimethylphenol	5.0 U	10 U	10 U
Benzoic Acid	25 U	50 U	50 U
Bis(2-chloroethoxy)methane	5.0 U	10 U	10 U
2,4-Dichlorophenol	5.0 U	10 U	10 U
1,2,4-Trichlorobenzene	5.0 U	10 U	10 U
Naphthalene	5.0 U	10 U	17
4-Chloroaniline	5.0 U	10 U	10 U
Hexachlorobutadiene	5.0 U	10 U	10 U
4-Chloro-3-methylphenol	5.0 U	10 U	10 U
2-Methylnaphthalene	5.0 U	10 U	16
Hexachlorocyclopentadiene	5.0 U	10 U	10 U
2,4,6-Trichlorophenol	5.0 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	50 U	50 U
2-Chloronaphthalene	5.0 U	10 U	10 U
2-Nitroaniline	25 U	50 U	50 U
Dimethyl Phthalate	5.0 U	10 U	10 U
Acenaphthylene	5.0 U	10 U	10 U
3-Nitroaniline	25 U	50 U	50 U
Acenaphthene	5.0 U	10 U	10 U
2,4-Dinitrophenol	25 U	50 U	50 U
Units	(ug/l)	(ug/l)	(ug/l)

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Parameter	Sample Designation: Method Blank 1	A81104-5 MW #1	A81104-6 MW #2
4-Nitrophenol	25 U	50 U	50 U
Dibenzofuran	5.0 U	10 U	10 U
2,4-Dinitrotoluene	5.0 U	10 U	10 U
2,6-Dinitrotoluene	5.0 U	10 U	10 U
Diethyl Phthalate	5.0 U	10 U	10 U
4-Chlorophenyl Phenyl Ether	5.0 U	10 U	10 U
Fluorene	5.0 U	10 U	10 U
4-Nitroaniline	25 U	50 U	50 U
4,6-Dinitro-2-methylphenol	25 U	50 U	50 U
N-Nitrosodiphenylamine	5.0 U	10 U	10 U
4-Bromophenyl Phenyl Ether	5.0 U	10 U	10 U
Hexachlorobenzene	5.0 U	10 U	10 U
Pentachlorophenol	5.0 U	10 U	10 U
Phenanthrene	5.0 U	10 U	10 U
Anthracene	5.0 U	10 U	10 U
Dibutyl Phthalate	3.6 J	10 U	10 U
Fluoranthene	5.0 U	10 U	10 U
Benzidine	25 U	50 U	50 U
Pyrene	5.0 U	10 U	10 U
Butylbenzyl Phthalate	5.0 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	20 U	20 U
Benzo(a)anthracene	5.0 U	10 U	10 U
Bis(2-ethylhexyl) Phthalate	5.0 U	10 U	120
Chrysene	5.0 U	10 U	10 U
Dioctyl Phthalate	5.0 U	10 U	10 U
Benzo(b)fluoranthene	5.0 U	10 U	10 U
Benzo(k)fluoranthene	5.0 U	10 U	10 U
Benzo(a)pyrene	5.0 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	5.0 U	10 U	10 U
Dibenzo(a,h)anthracene	5.0 U	10 U	10 U
Benzo(g,h,i)perylene	5.0 U	10 U	10 U
Units	(ug/l)	(ug/l)	(ug/l)

V. Analytical Results (Cont'd)

AnalytiKEM

Semivolatile Organics (Page 1 of 2)

Parameter	Sample Designation: Method Blank 1	A81104-7 MW #3	A81104-9 MW #5
N-Nitrosodimethylamine	5.0 U	10 U	10 U
Phenol	5.0 U	10 U	10 U
Bis(2-chloroethyl) Ether	5.0 U	10 U	10 U
2-Chlorophenol	5.0 U	10 U	10 U
1,3-Dichlorobenzene	5.0 U	10 U	10 U
1,4-Dichlorobenzene	5.0 U	10 U	10 U
Benzyl Alcohol	5.0 U	10 U	10 U
1,2-Dichlorobenzene	5.0 U	10 U	10 U
2-Methylphenol	5.0 U	10 U	10 U
Bis(2-chloroisopropyl) Ether	5.0 U	10 U	10 U
3+4-Methylphenol (m+p-Cresols)	5.0 U	10 U	10 U
N-Nitrosodipropylamine	5.0 U	10 U	10 U
Hexachloroethane	5.0 U	10 U	10 U
Nitrobenzene	5.0 U	10 U	10 U
Isophorone	5.0 U	10 U	10 U
2-Nitrophenol	5.0 U	10 U	10 U
2,4-Dimethylphenol	5.0 U	10 U	10 U
Benzoic Acid	25 U	50 U	50 U
Bis(2-chloroethoxy)methane	5.0 U	10 U	10 U
2,4-Dichlorophenol	5.0 U	10 U	10 U
1,2,4-Trichlorobenzene	5.0 U	10 U	10 U
Naphthalene	5.0 U	10 U	50
4-Chloroaniline	5.0 U	10 U	10 U
Hexachlorobutadiene	5.0 U	10 U	10 U
4-Chloro-3-methylphenol	5.0 U	10 U	10 U
2-Methylnaphthalene	5.0 U	10 U	34
Hexachlorocyclopentadiene	5.0 U	10 U	10 U
2,4,6-Trichlorophenol	5.0 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	50 U	50 U
2-Chloronaphthalene	5.0 U	10 U	10 U
2-Nitroaniline	25 U	50 U	50 U
Dimethyl Phthalate	5.0 U	10 U	10 U
Acenaphthylene	5.0 U	10 U	10 U
3-Nitroaniline	25 U	50 U	50 U
Acenaphthene	5.0 U	10 U	10 U
2,4-Dinitrophenol	25 U	50 U	50 U
Units	(ug/l)	(ug/l)	(ug/l)

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Parameter	Method Blank 1	A81104-7 MW #3	A81104-9 MW #5
		Sample Designation	
4-Nitrophenol	25 U	50 U	50 U
Dibenzofuran	5.0 U	10 U	10 U
2,4-Dinitrotoluene	5.0 U	10 U	10 U
2,6-Dinitrotoluene	5.0 U	10 U	10 U
Diethyl Phthalate	5.0 U	10 U	10 U
4-Chlorophenyl Phenyl Ether	5.0 U	10 U	10 U
Fluorene	5.0 U	10 U	10 U
4-Nitroaniline	25 U	50 U	50 U
4,6-Dinitro-2-methylphenol	25 U	50 U	50 U
N-Nitrosodiphenylamine	5.0 U	10 U	10 U
4-Bromophenyl Phenyl Ether	5.0 U	10 U	10 U
Hexachlorobenzene	5.0 U	10 U	10 U
Pentachlorophenol	5.0 U	10 U	10 U
Phenanthrene	5.0 U	10 U	10 U
Anthracene	5.0 U	10 U	10 U
Dibutyl Phthalate	3.6 J	10 U	10 U
Fluoranthene	5.0 U	10 U	10 U
Benzidine	25 U	50 U	50 U
Pyrene	5.0 U	10 U	10 U
Butylbenzyl Phthalate	5.0 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	20 U	20 U
Benzo(a)anthracene	5.0 U	10 U	10 U
Bis(2-ethylhexyl) Phthalate	5.0 U	10 U	14
Chrysene	5.0 U	10 U	10 U
Dioctyl Phthalate	5.0 U	10 U	10 U
Benzo(b)fluoranthene	5.0 U	10 U	10 U
Benzo(k)fluoranthene	5.0 U	10 U	10 U
Benzo(a)pyrene	5.0 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	5.0 U	10 U	10 U
Dibenzo(a,h)anthracene	5.0 U	10 U	10 U
Benzo(g,h,i)perylene	5.0 U	10 U	10 U
Units	(ug/l)	(ug/l)	(ug/l)

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 1 of 2)

Parameter	Sample Designation: Method Blank 2		A81104-8 MW #4	
N-Nitrosodimethylamine	5.0	U	10	U
Phenol	5.0	U	10	U
Bis(2-chloroethyl) Ether	5.0	U	10	U
2-Chlorophenol	5.0	U	10	U
1,3-Dichlorobenzene	5.0	U	10	U
1,4-Dichlorobenzene	5.0	U	10	U
Benzyl Alcohol	5.0	U	10	U
1,2-Dichlorobenzene	5.0	U	10	U
2-Methylphenol	5.0	U	10	U
Bis(2-chloroisopropyl) Ether	5.0	U	10	U
3+4-Methylphenol (m+p-Cresols)	5.0	U	10	U
N-Nitrosodipropylamine	5.0	U	10	U
Hexachloroethane	5.0	U	10	U
Nitrobenzene	5.0	U	10	U
Isophorone	5.0	U	10	U
2-Nitrophenol	5.0	U	10	U
2,4-Dimethylphenol	5.0	U	10	U
Benzoic Acid	25	U	3.8	J
Bis(2-chloroethoxy)methane	5.0	U	10	U
2,4-Dichlorophenol	5.0	U	10	U
1,2,4-Trichlorobenzene	5.0	U	10	U
Naphthalene	5.0	U	2.7	J
4-Chloroaniline	5.0	U	10	U
Hexachlorobutadiene	5.0	U	10	U
4-Chloro-3-methylphenol	5.0	U	10	U
2-Methylnaphthalene	5.0	U	10	U
Hexachlorocyclopentadiene	5.0	U	10	U
2,4,6-Trichlorophenol	5.0	U	10	U
2,4,5-Trichlorophenol	25	U	50	U
2-Chloronaphthalene	5.0	U	10	U
2-Nitroaniline	25	U	50	U
Dimethyl Phthalate	5.0	U	10	U
Acenaphthylene	5.0	U	10	U
3-Nitroaniline	25	U	50	U
Acenaphthene	5.0	U	10	U
2,4-Dinitrophenol	25	U	50	U
Units	(ug/l)		(ug/l)	

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Parameter	Sample Designation: Method Blank 1	Sample Designation: A81104-8 MW #4
4-Nitrophenol	25 U	50 U
Dibenzofuran	5.0 U	10 U
2,4-Dinitrotoluene	5.0 U	10 U
2,6-Dinitrotoluene	5.0 U	10 U
Diethyl Phthalate	5.0 U	10 U
4-Chlorophenyl Phenyl Ether	5.0 U	10 U
Fluorene	5.0 U	10 U
4-Nitroaniline	25 U	50 U
4,6-Dinitro-2-methylphenol	25 U	50 U
N-Nitrosodiphenylamine	5.0 U	10 U
4-Bromophenyl Phenyl Ether	5.0 U	10 U
Hexachlorobenzene	5.0 U	10 U
Pentachlorophenol	5.0 U	10 U
Phenanthrene	5.0 U	10 U
Anthracene	5.0 U	10 U
Dibutyl Phthalate	5.0 U	10 U
Fluoranthene	5.0 U	10 U
Benzidine	25 U	50 U
Pyrene	5.0 U	10 U
Butylbenzyl Phthalate	5.0 U	10 U
3,3'-Dichlorobenzidine	10 U	20 U
Benzo(a)anthracene	5.0 U	10 U
Bis(2-ethylhexyl) Phthalate	5.0 U	100
Chrysene	5.0 U	10 U
Dioctyl Phthalate	5.0 U	10 U
Benzo(b)fluoranthene	5.0 U	10 U
Benzo(k)fluoranthene	5.0 U	10 U
Benzo(a)pyrene	5.0 U	10 U
Indeno(1,2,3-cd)pyrene	5.0 U	10 U
Dibenzo(a,h)anthracene	5.0 U	10 U
Benzo(g,h,i)perylene	5.0 U	10 U
Cyclohexane	5.0 U	10 U
Units	(ug/l)	(ug/l)

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 1 of 2)

Parameter	Sample Designation: Method Blank 3	A81104-10 MW #6	A81104-11 MW #7	A81104-12 MW #8
N-Nitrosodimethylamine	5.0 U	10 U	10 U	10 U
Phenol	5.0 U	10 U	2.8 J	10 U
Bis(2-chloroethyl) Ether	5.0 U	10 U	10 U	10 U
2-Chlorophenol	5.0 U	10 U	10 U	10 U
1,3-Dichlorobenzene	5.0 U	10 U	10 U	10 U
1,4-Dichlorobenzene	5.0 U	10 U	10 U	10 U
Benzyl Alcohol	5.0 U	10 U	10 U	10 U
1,2-Dichlorobenzene	5.0 U	10 U	10 U	10 U
2-Methylphenol	5.0 U	10 U	10 U	10 U
Bis(2-chloroisopropyl) Ether	5.0 U	10 U	10 U	10 U
3+4-Methylphenol (m+p-Cresols)	5.0 U	10 U	10 U	10 U
N-Nitrosodipropylamine	5.0 U	10 U	10 U	10 U
Hexachloroethane	5.0 U	10 U	10 U	10 U
Nitrobenzene	5.0 U	10 U	10 U	10 U
Isophorone	5.0 U	10 U	10 U	10 U
2-Nitrophenol	5.0 U	10 U	10 U	10 U
2,4-Dimethylphenol	5.0 U	10 U	10 U	10 U
Benzoic Acid	4.3 J	4.7 J	8.3 J	50 U
Bis(2-chloroethoxy)methane	5.0 U	10 U	10 U	10 U
2,4-Dichlorophenol	5.0 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5.0 U	10 U	10 U	10 U
Naphthalene	5.0 U	10 U	10 U	10 U
4-Chloroaniline	5.0 U	10 U	10 U	10 U
Hexachlorobutadiene	5.0 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	5.0 U	10 U	10 U	10 U
2-Methylnaphthalene	5.0 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5.0 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	5.0 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	50 U	50 U	50 U
2-Chloronaphthalene	5.0 U	10 U	10 U	10 U
2-Nitroaniline	25 U	50 U	50 U	50 U
Dimethyl Phthalate	5.0 U	10 U	10 U	10 U
Acenaphthylene	5.0 U	10 U	10 U	10 U
3-Nitroaniline	25 U	50 U	50 U	50 U
Acenaphthene	5.0 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	50 U	50 U	50 U
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)

AnalytiKEM

V. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Parameter	Method Blank 3		A81104-10 MW #6		A81104-11 MW #7		A81104-12 MW #8	
			Sample Designation					
4-Nitrophenol	25	U	50	U	50	U	50	U
Dibenzofuran	5.0	U	10	U	10	U	10	U
2,4-Dinitrotoluene	5.0	U	10	U	10	U	10	U
2,6-Dinitrotoluene	5.0	U	10	U	10	U	10	U
Diethyl Phthalate	5.0	U	10	U	10	U	10	U
4-Chlorophenyl Phenyl Ether	5.0	U	10	U	10	U	10	U
Fluorene	5.0	U	10	U	10	U	10	U
4-Nitroaniline	25	U	50	U	50	U	50	U
4,6-Dinitro-2-methylphenol	25	U	50	U	50	U	50	U
N-Nitrosodiphenylamine	5.0	U	10	U	10	U	10	U
4-Bromophenyl Phenyl Ether	5.0	U	10	U	10	U	10	U
Hexachlorobenzene	5.0	U	10	U	10	U	10	U
Pentachlorophenol	5.0	U	10	U	10	U	10	U
Phenanthrene	5.0	U	10	U	10	U	10	U
Anthracene	5.0	U	10	U	10	U	10	U
Dibutyl Phthalate	5.0	U	10	U	2.0	J	10	U
Fluoranthene	5.0	U	10	U	10	U	10	U
Benzidine	25	U	50	U	50	U	50	U
Pyrene	5.0	U	10	U	10	U	10	U
Butylbenzyl Phthalate	5.0	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	20	U	20	U	20	U
Benzo(a)anthracene	5.0	U	10	U	10	U	10	U
Bis(2-ethylhexyl) Phthalate	5.0	U	10	U	2.8	J	10	U
Chrysene	5.0	U	10	U	10	U	10	U
Dioctyl Phthalate	5.0	U	10	U	9.6	J	10	U
Benzo(b)fluoranthene	5.0	U	10	U	10	U	10	U
Benzo(k)fluoranthene	5.0	U	10	U	10	U	10	U
Benzo(a)pyrene	5.0	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	5.0	U	10	U	10	U	10	U
Dibenzo(a,h)anthracene	5.0	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	5.0	U	10	U	10	U	10	U
Units	(ug/l)		(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

V. Analytical Results (Cont'd)

Metals

Parameter	Method Blank		A81104-5 MW #1		A81104-6 MW #2		A81104-7 MW #3	
			Sample Designation					
Aluminum	200	U	50,000		150,000		33,000	
Antimony	60	U	60	U	60	U	60	U
Arsenic	10	U	5.0	J	34	J	10	U
Barium	200	U	1,100		1,100		380	
Beryllium	5.0	U	5.0	U	5.0	U	5.0	U
Cadmium	10	U	10	U	10	U	10	U
Calcium	5,000	U	13,000		40,000		9,500	
Chromium	50	U	87		220		56	
Cobalt	50	U	33	J	59		16	J
Copper	50	U	72		120		40	J
Iron	31	J	100,000		170,000		57,000	
Lead	50	U	50	U	110		50	U
Magnesium	5,000	U	26,000		30,000		9,200	
Manganese	15	U	3,200		2,300		760	
Mercury	2.0	U	2.0	U	2.0	U	2.0	U
Nickel	40	U	41		92		39	J
Potassium	5,000	U	27,000		24,000		6,200	
Selenium	10	U	10	U	10	U	10	U
Silver	50	U	50	U	41	J	50	U
Sodium	5,000	U	9,600		9,200		6,900	
Thallium	40	U	40	U	40	U	40	U
Vanadium	50	U	100		220		63	
Zinc	14	J	230		720		210	
Sulfur	1,000	U	3,200		11,000		2,700	
Boron	20	U	20	U	20	U	20	U
Lithium	50	U	50	U	130		33	J
Molybdenum	20	U	20	U	20	U	20	U
Silicon	920		740,000		620,000		410,000	
Strontium	50	U	59		150		50	U
Tin	50	U	50	U	50	U	50	U
Titanium	50	U	77,000		78,000		27,000	
Zirconium	50	U	50	U	50	U	50	U
Units	(ug/l)		(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

V. Analytical Results (Cont'd)

Metals

Parameter	Method Blank		A81104-8 MW #4		A81104-9 MW #5		A81104-10 MW #6	
			Sample Designation					
Aluminum	200	U	1,300		180,000		21,000	
Antimony	60	U	5.3	J	60	U	60	U
Arsenic	10	U	10	U	10	U	10	U
Barium	200	U	150	J	1,200		1,800	
Beryllium	5.0	U	5.0	U	5.0	U	5.0	U
Cadmium	10	U	10	U	10	U	10	U
Calcium	5,000	U	22,000		25,000		25,000	
Chromium	50	U	50	U	460		20	U
Cobalt	50	U	50	U	67		16	J
Copper	50	U	50	U	220		40	J
Iron	31	J	23,000		360,000		31,000	
Lead	50	U	50	U	50	U	50	U
Magnesium	5,000	U	7,500		31,000		9,200	
Manganese	15	U	5,800		3,100		4,000	
Mercury	2.0	U	2.0	U	2.0	U	2.0	U
Nickel	40	U	40	U	150		40	U
Potassium	5,000	U	1,500	J	18,000		7,500	
Selenium	10	U	10	U	10	U	10	U
Silver	50	U	50	U	27	J	16	J
Sodium	5,000	U	6,100		6,300		6,700	
Thallium	40	U	40	U	40	U	40	U
Vanadium	50	U	50	U	480		30	J
Zinc	14	J	24		560		700	
Sulfur	1,000	U	2,100		960	J	2,700	
Boron	20	U	14	J	20	U	20	U
Lithium	50	U	50	U	58		50	U
Molybdenum	20	U	20	U	20	U	20	U
Silicon	920		92,000		660,000		270,000	
Strontium	50	U	57		84		110	
Tin	50	U	50	U	50	U	50	U
Titanium	50	U	1,100		170,000		16,000	
Zirconium	50	U	50	U	50	U	50	U
Units	(ug/l)		(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

V. Analytical Results (Cont'd)

Metals

Parameter	Method Blank		A81104-11 MW #7		A81104-12 MW #8	
			Sample Designation			
Aluminum	200	U	5,400		3,800	
Antimony	60	U	60	U	60	U
Arsenic	10	U	10	U	10	U
Barium	200	U	140	J	130	J
Beryllium	5.0	U	5.0	U	5.0	U
Cadmium	10	U	10	U	10	U
Calcium	5,000	U	49,000		30,000	
Chromium	50	U	50		50	U
Cobalt	50	U	50	U	50	U
Copper	50	U	20	J	50	U
Iron	31	J	7,600		6,400	
Lead	50	U	50	U	50	U
Magnesium	5,000	U	2,800	J	6,700	
Manganese	15	U	400		110	
Mercury	2.0	U	2.0	U	2.0	U
Nickel	40	U	40	U	40	U
Potassium	5,000	U	6,600		2,700	J
Selenium	10	U	10	U	10	U
Silver	50	U	50	U	50	U
Sodium	5,000	U	9,900		8,900	
Thallium	40	U	40	U	40	U
Vanadium	50	U	25	J	50	U
Zinc	14	J	190		73	
Sulfur	1,000	U	5,100		3,900	
Boron	20	U	20	U	20	U
Lithium	50	U	50	U	50	U
Molybdenum	20	U	92		20	U
Silicon	920		200,000		180,000	
Strontium	50	U	71		65	
Tin	50	U	50	U	50	U
Titanium	50	U	4,800		4,300	
Zirconium	50	U	50	U	50	U
Units	(ug/l)		(ug/l)		(ug/l)	

AnalytiKEM

VI. Quality Control Data

Volatile Organics

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A72162-6W-2

Parameter	Amount of Spike	Recovery MS	Recovery MSD
1,1-Dichloroethene	0.25	94	88
Trichloroethene	0.25	112	99
Benzene	0.25	107	110
Toluene	0.25	97	102
Chlorobenzene	0.25	100	104
Units	(ug)	(%)	(%)

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A81104-12

Parameter	Amount of Spike	Recovery MS	Recovery MSD
1,1-Dichloroethene	0.25	102	101
Trichloroethene	0.25	108	102
Benzene	0.25	106	102
Toluene	0.25	89	88
Chlorobenzene	0.25	104	101
Units	(ug)	(%)	(%)

AnalytiKEM

VI. Quality Control Data (Cont'd)

Volatile Organics

Aqueous Surrogate Recovery Data

Sample Designation	Surrogate Recovery: 1,2-Dichloroethane-d_4 (0.25 ug Added)	Toluene-d_8 (0.25 ug Added)	4-Bromofluorobenzene (0.25 ug Added)
Method Blank 1	90	98	98
Method Blank 2	91	103	98
Method Blank 3	83	100	97
A72162-6W-2 Spike	89	97	93
A72162-6W-2 Spike Dup.	92	96	95
A81104-12 Spike	92	99	98
A81104-12 Spike Dup.	97	100	100
A81104-5	94	103	99
A81104-6	96	115	98
A81104-7	104	101	105
A81104-8	100	109	93
A81104-9	98	103	100
A81104-10	86	99	99
A81104-11	98	97	98
A81104-12	86	99	97
Units	(%)	(%)	(%)

AnalytiKEM

VI. Quality Control Data (Cont'd)

Semivolatile Organics

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A72161-EFF

Parameter	Amount of Spike	Recovery MS	MSD
1,4-Dichlorobenzene	50	66	70
N-Nitrosodipropylamine	50	56	37
1,2,4-Trichlorobenzene	50	71	75
Acenaphthene	50	74	72
2,4-Dinitrotoluene	50	96	89
Pyrene	50	52	50
Phenol	100	41	48
2-Chlorophenol	100	71	82
4-Chloro-3-methylphenol	100	79	86
4-Nitrophenol	100	40	40
Pentachlorophenol	100	86	89
Units	(ug)	(%)	(%)

AnalytiKEM

VI. Quality Control Data (Cont'd)

Semivolatile Organics

Aqueous Surrogate Recovery Data

Sample Designation	Surrogate Recovery 2-Fluorophenol (100 ppb Added)	Phenol-d_5 (100 ppb Added)	2,4,6-Tribromophenol (100 ppb Added)
Method Blank 1	38	24	52
Method Blank 2	36	16	62
Method Blank 3	36	24	46
A72161-EFF Spike	43	33	78
A72161-EFF Spike Dup.	50	40	84
A81104-5	41	28	48
A81104-6	13	10	30
A81104-7	45	32	70
A81104-8	1.2	*	2.6
A81104-8 Rerun	4.0	3.0	17
A81104-9	41	29	64
A81104-10	40	27	55
A81104-11	37	25	67
A81104-12	36	23	62
Units	(%)	(%)	(%)

Sample Designation	Surrogate Recovery Nitrobenzene-d_5 (50 ppb Added)	2-Fluorobiphenyl (50 ppb Added)	Terphenyl-d_{14} (50 ppb Added)
Method Blank 1	49	52	65
Method Blank 2	55	63	73
Method Blank 3	55	53	60
A72161-Eff Spike	72	76	70
A72161-Eff Spike Dup.	75	80	72
A81104-5	70	71	59
A81104-6	65	65	66
A81104-7	72	75	53
A81104-8	57	66	48
A81104-8 Rerun	56	62	49
A81104-9	67	68	71
A81104-10	60	65	60
A81104-11	52	54	60
A81104-12	36	35	46
Units	(%)	(%)	(%)

* Not recovered due to Matrix Interference.

AnalytiKEM

VI. Quality Control Data (Cont'd)

Metals

Aqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Parameter	Sample Spiked	Amount of Spike	Recovery MS	MSD
Antimony	A72106-P.C.	300	115	--
Antimony	DI Water	300	105	--
Arsenic	A81104-12	300	78	86
Barium	A81104-12	300	98	103
Beryllium	A81104-12	300	107	110
Cadmium	A81104-12	300	103	103
Chromium	A81104-12	300	102	104
Copper	A81104-12	300	101	103
Lead	A81104-12	300	103	107
Mercury	A81104-12	20	112	110
Nickel	A81104-12	300	101	104
Selenium	A81104-12	300	89	102
Silver	A81104-12	300	101	102
Thallium	A81104-12	300	106	114
Zinc	A81104-12	300	102	103
Units		(ppb)	(%)	(%)