

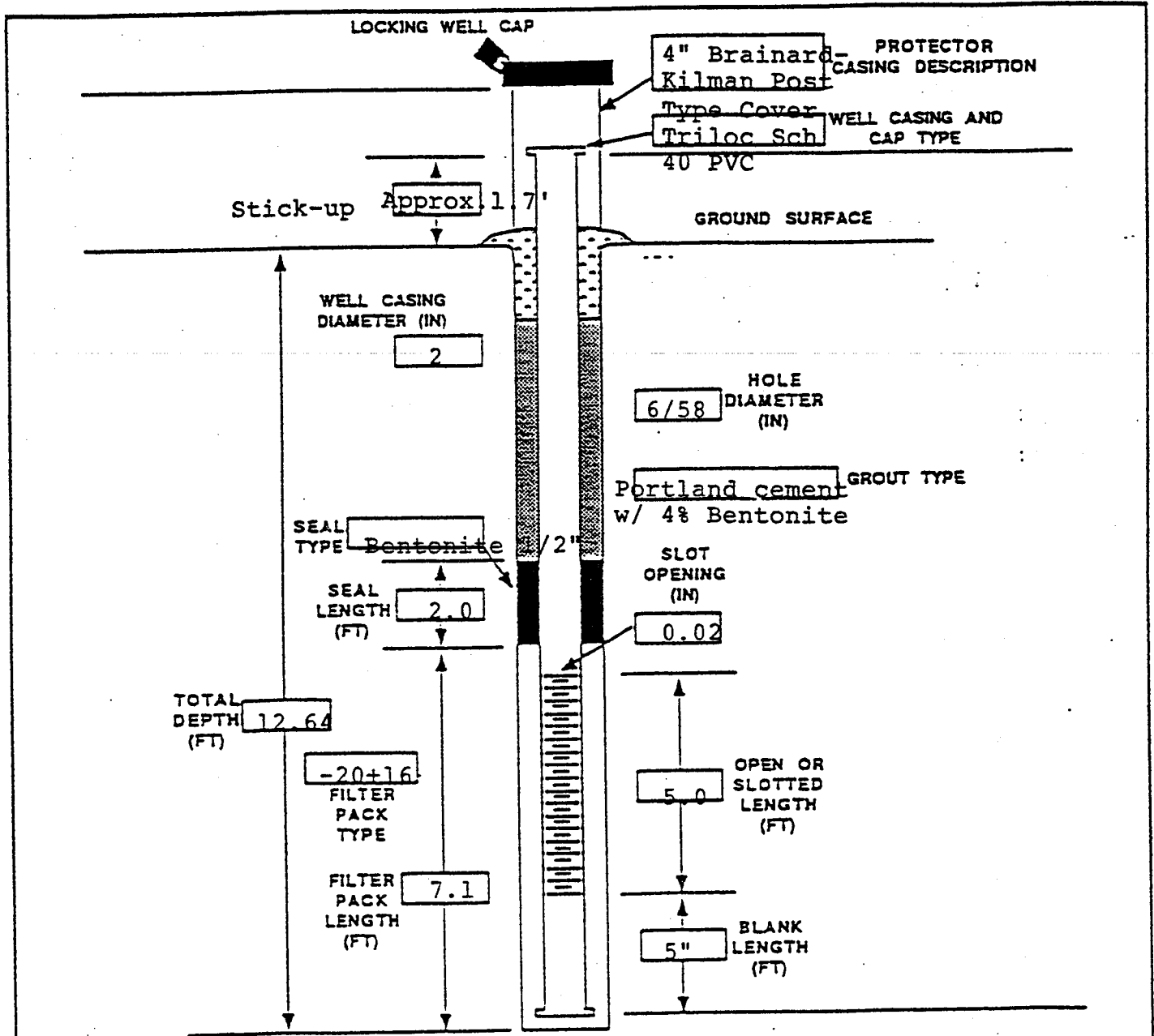
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**ATTACHMENT E-10**  
**Lithologic and Well Construction Diagrams**  
**for the CSI Area**  
**Compliance Monitoring Well System**

WELL CONSTRUCTION DIAGRAM

PROJECT: Torrington Company  
 LOCATION: Sylvania, Georgia  
 WELL NUMBER: SP-1  
 DATE INSTALLED: September 14, 1988

ELEVATION: \_\_\_\_\_  
 GROUND  CASING  PROTECTOR CASING  
 ABOVE GROUND LEVEL  ABOVE MEAN SEA LEVEL



COMMENTS: The well was installed using 6-5/8" (OD) hollow stem augers to drill the holes. The well was developed using a bailer. Original well SP-2 was removed during the installation of the collection trench at the area. This well was installed to replace the old well and to fulfill the permit conditions

PAGE \_\_\_\_\_ OF \_\_\_\_\_  
 for the site.

<b>DRILLING LOG</b>		<b>COMPANY</b> <i>The Torrington Co.</i>	<b>INSTALLATION</b> <i>Sylvania Ga</i>	<b>SHEET</b> OF 1 SHEETS
<b>LOCATION (Coordinates or Station)</b>		<b>SIZE AND TYPE OF BIT</b> <i>3 1/4" hand auger</i>		
<b>DRILLING AGENCY</b>		<b>TOTAL NO. OF OVERBURDEN SAMPLES TAKEN</b>		
<b>THICKNESS OF OVERBURDEN</b>		<b>DATE HOLE</b>	<b>STARTED</b> <i>9 Aug 86</i>	<b>COMPLETED</b> <i>9 Aug 86</i>
<b>DEPTH DRILLED INTO ROCK</b> <i>N.A.</i>		<b>ELEVATION TOP OF HOLE</b> <i>177.09</i>		
<b>TOTAL DEPTH OF HOLE</b> <i>11.0</i>		<b>ELEVATION GROUND WATER</b>		
<b>NAME OF DRILLER</b> <i>Jerry Reddick</i>		<b>SIGNATURE OF INSPECTOR OR GEOLOGIST</b> <i>David F. ...</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SPT	BOX OR SAMPLE NO	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
177.09	0		SM gray to brown fine, silty sand			
	2		SC orange clayey fine sand			
	4		3.5' becomes mottled gray			
	6		purple & orange			
	8		CL gray & purple mottled, sandy, silty clay			
	10		much orange silt 10.0-11.0'			
	12		Bottom of Hole 11.0'			

The diagram shows a vertical drill hole with the following features and measurements:

- 2.3'**: Depth from the top of the hole to the top of the seal.
- 3.0'**: Depth from the top of the seal to the top of the sand.
- 1.8'**: Depth from the top of the sand to the top of the screen.
- coupling**: Located between the top of the seal and the top of the sand.
- Top of Seal**: Located at a depth of 2.3' from the top.
- Top of Sand**: Located at a depth of 3.0' from the top.
- Top of Screen**: Located at a depth of 4.8' from the top.
- Diedrich .006" 2" X 5' screen**: The screen is located between 4.8' and 8.0' depth.
- Filter Sand #30, quartz**: Located at the bottom of the screen, between 8.0' and 11.0' depth.
- Cap**: Located at the bottom of the hole at 11.0' depth.

DRILLING LOG	COMPANY <i>Torrington Company</i>	INSTALLATION <i>Sylvania Ga.</i>	SHEET OF 1 SHEETS
LOCATION (Coordinates or Station)	SIZE AND TYPE OF BIT <i>3 1/4" hand auger</i>		
DRILLING AGENCY	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
THICKNESS OF OVERBURDEN <i>N.A.</i>	DATE HOLE	STARTED <i>9 Aug 86</i>	COMPLETED <i>9 Aug 86</i>
DEPTH DRILLED INTO ROCK <i>N.A.</i>	ELEVATION TOP OF HOLE <i>177.14</i>		
TOTAL DEPTH OF HOLE <i>11.0'</i>	ELEVATION GROUND WATER		
NAME OF DRILLER <i>Jerry Reddick</i>	SIGNATURE OF INSPECTOR OF GEOLOGIST <i>Earl F. Titcomb P. G.</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SPT	BOX OR SAMPLE NO	REMARKS (Dr'ing time, water loss, depth of weathering, etc., if significant)
177.14	0					
	2		SC orange silty clayey sand			0.8'
	4		5.5' becomes orange with gray mottling.			Top of Seal 1/4" bentonite pellets
	6					Top of Sand
	8					Top of Screen Timped 2", .010" screen
	10		CL gray-maroon-orange silty sandy clay.			Filter sand #16
	12		Bottom of Hole 11.0'			cap

DRILLING LOG		COMPANY <i>The Torrington Co.</i>	INSTALLATION <i>Sylvania Ga.</i>	SHEET OF 1 SHEETS	
LOCATION (Coordinates or Station)		SIZE AND TYPE OF BIT <i>3 1/4" hand auger</i>			
DRILLING AGENCY		TOTAL NO. OF OVERBURDEN SAMPLES TAKEN —			
THICKNESS OF OVERBURDEN		DATE HOLE	STARTED <i>9 Aug 86</i>	COMPLETED <i>9 Aug 86</i>	
DEPTH DRILLED INTO ROCK <i>N.A.</i>		ELEVATION TOP OF HOLE <i>177.85</i>			
TOTAL DEPTH OF HOLE <i>11.0</i>		ELEVATION GROUND WATER			
NAME OF DRILLER <i>Jerry Reddick</i>		SIGNATURE OF INSPECTOR OR GEOLOGIST <i>Paul F. Teleombi</i>			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SPT	BOX OR SAMPLE NO	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
177.85	0					
	2		SL orange silty clayey sand			
	4		5.0' becomes orang-gray mottled			
	6					
	8					
	10		CL mottled orange, maroon & gray, silty sandy clay			
			10.5. much maroon silt.			
	12		Bottom of Hole 11.0'			

# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-4  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/12/87  
 PROJECT LOCATION Sylvania; GA. STATION \_\_\_\_\_  
 BORING METHOD 5" I.D. Hand Auger (Stainless)  
 ROCK CORE DIA. \_\_\_\_\_ in.  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

FOREMAN M. Sheehan  
 INSPECTOR M. Potts

SOIL CLASSIFICATION	DEPTH	SPT **			Shelby Tube No.	BORING & SAMPLING NOTES
SURFACE ELEVATION - 180.2		Sample No.	Blows/ft. 2-4 in. increments	Recovery, %		
Locking Well Cover Grouted to land surface with 10:1 mix of Portland cement & grit bentonite Bentonite pellet seal 2" ID Trilock schedule 40 PVC riser pipe 2" ID Trilock .010" slotted PVC well screen Sand filter pack (30-40 mesh)	FT. 0 180.28 179.18 177.18 176.23					Bottom of screen @ 166.23  Total depth of hole: 14.5 ft
	Top of casing @ 180.28 Top of seal @ 179.18 Top of sand filter pack @ 177.18 Top of screen @ 176.23					
	Diameter of borehole: 5 1/4"					

NOTE: Diagram not to scale.

- BORING METHOD**
- HSA - HOLLOW STEM AUGER
  - CFA - CONTINUOUS FLIGHT AUGER
  - OC - DRIVEN CASING
  - MO - MUD DRILLING
  - RC - ROCK CORING

- GROUND WATER**
- NOTED ON RODS \_\_\_\_\_ FT.
  - AT COMPLETION \_\_\_\_\_ FT.
  - AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED BORING \_\_\_\_\_ DRILLED A FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST

# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-4  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/12/87  
 PROJECT LOCATION Sylvania, GA. STATION \_\_\_\_\_  
 BORING METHOD 5" I.D. Hand Auger (Stainless)

ROCK CORE DIA. \_\_\_\_\_ in.  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

SOIL CLASSIFICATION \_\_\_\_\_  
 SURFACE ELEVATION - 180.2

DEPTH FT.	SPT **			Shelby Tube No.	BORING & SAMPLING NOTES
	Sample No.	Blows/6 in. increments	Recovery, %		
0					12
0.5					
2					14
4.3					16
6					
8					
10					
12					

Rational for discontinuing hole: CH horizon intersected.

Total Depth: 14.5 ft.

- BORING METHOD**
- HSA - HOLLOW STEM AUGER
  - CFA - CONTINUOUS FLIGHT AUGER
  - OC - DRIVEN CASING
  - MO - MUD DRILLING
  - RC - ROCK CORING

- GROUND WATER**
- ▽ NOTED ON RODS \_\_\_\_\_ FT.
  - ▽ AT COMPLETION \_\_\_\_\_ FT.
  - ▽ AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

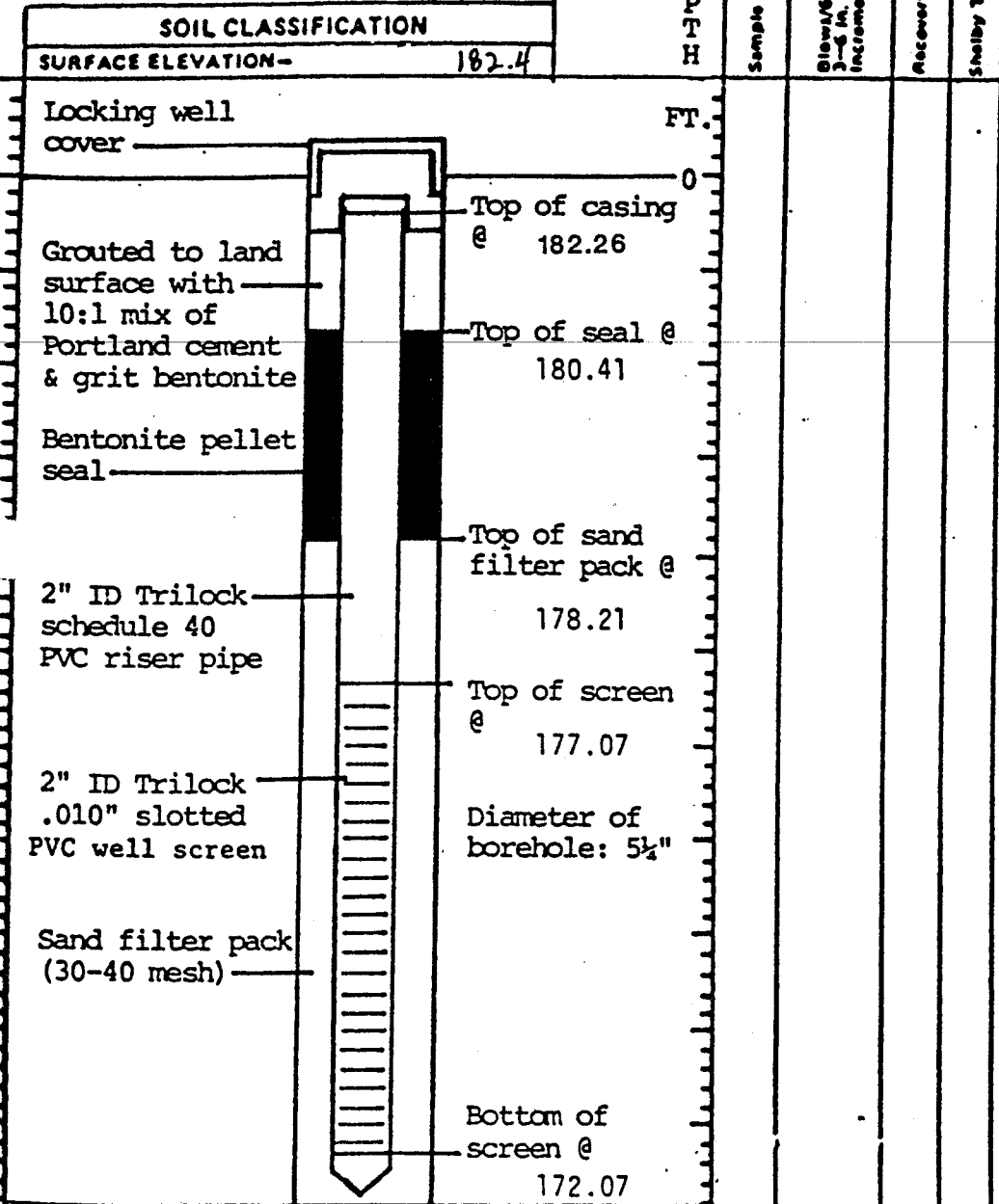
\*THESE SHELBY TUBE SAMPLES OBTAINED IN BORING \_\_\_\_\_ DRILLED A FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST

# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-5  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/11/87  
 PROJECT LOCATION Sylvania, GA. STATION \_\_\_\_\_  
 BORING METHOD 5" I.D. Hand Auger (Stainless)

ROCK CORE DIA. \_\_\_\_\_ in.  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

FOREMAN M. Sheehan  
 INSPECTOR M. Potts



**BORING & SAMPLING NOTES**

NOTE: Diagram not to scale

- BORING METHOD**
- HSA - HOLLOW STEM AUGER
  - CFA - CONTINUOUS FLIGHT AUGER
  - OC - DRIVEN CASING
  - MO - MUD DRILLING
  - RC - ROCK CORING

- GROUND WATER**
- ▽ NOTED ON RODS \_\_\_\_\_ FT.
  - ▽ AT COMPLETION \_\_\_\_\_ FT.
  - ▽ AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED  
 BORING \_\_\_\_\_ DRILLED A FEET  
 FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST



# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-5  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/11/87  
 PROJECT LOCATION Sylvania, GA. STATION \_\_\_\_\_

BORING METHOD 5" I.D. Hand Auger (Stainless) FOREMAN Michael Sheehan  
 ROCK CORE DIA. \_\_\_\_\_ in. INSPECTOR Mark Potts  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

SOIL CLASSIFICATION	DEPTH	SPT **			Shelby Tube No.	BORING & SAMPLING NOTES
SURFACE ELEVATION- <u>182.4</u>		Sample No.	Blow/6 in. 3-6 in. increments	Recovery, %		
	FT.					
(0-2.4) Yellowish-brown, well sorted, fine gr., quartz sand with minor silt/clay.	0					
	2					
(2.4-7.5) Gray-brown, moderately well sorted, fine gr., quartz sand. Color becomes more yellow with depth.	2.4					
	4					
	6					
(7.5-10.0) Semi-coherent, gray-white, fine gr., clay rich, quartz sand (approx. 8 50% clay) with purple mottling.	7.5					
	10					
(10.0-10.3) Competent, gray and purple mottled, fat clay.	10					
	12					

Rational for discontinuing hole: CH horizon intersected.

Total Depth: 10.3 ft.

- BORING METHOD**
- HSA - HOLLOW STEM AUGER
  - CFA - CONTINUOUS FLIGHT AUGER
  - OC - DRIVEN CASING
  - MD - MUD DRILLING
  - RC - ROCK CORING

GROUND WATER NOTED ON ROGS \_\_\_\_\_ FT.  
 AT COMPLETION \_\_\_\_\_ FT.  
 AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED  
 BORING \_\_\_\_\_ DRILLED A F  
 FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST

# RECORD OF SOIL EXPLORATION

SP-6

CLIENT The Torrington Company BORING NO. \_\_\_\_\_  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/13/87  
 PROJECT LOCATION Sylvania, GA. STATION \_\_\_\_\_  
 BORING METHOD 5" I.D. Hand Auger (Stainless)

ROCK CORE DIA. \_\_\_\_\_ in.  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

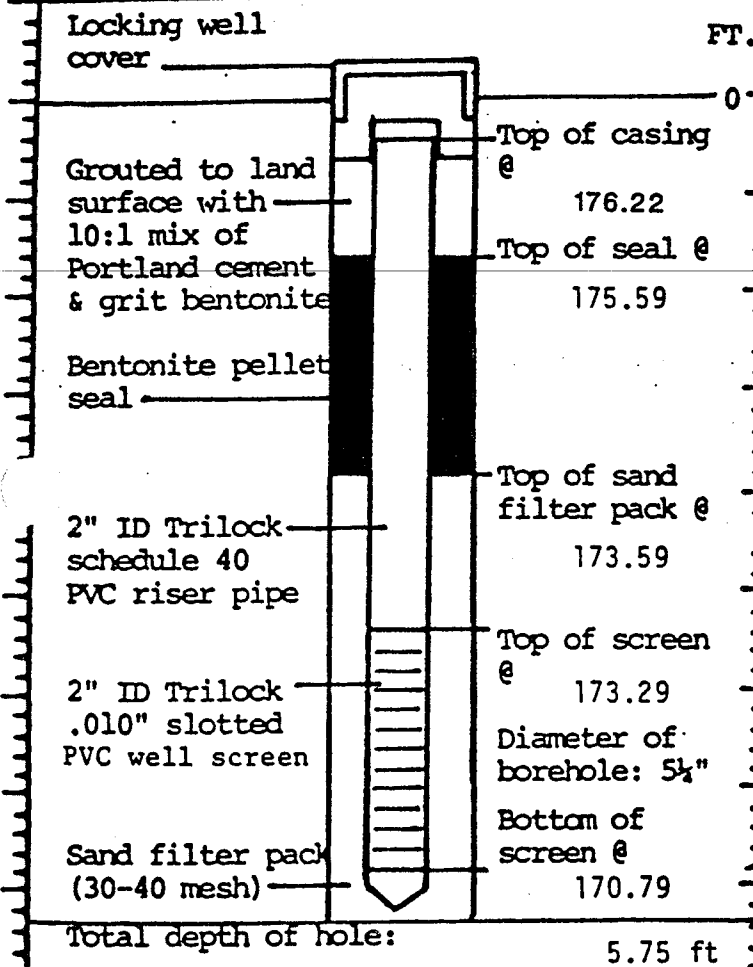
FOREMAN M. Sheehan  
 INSPECTOR M. Potts

SOIL CLASSIFICATION \_\_\_\_\_  
 SURFACE ELEVATION - 175.3

DEPTH

SPT \*\*  
 Sample No. \_\_\_\_\_  
 Blows/6 in. 3-in. increments \_\_\_\_\_  
 Recovery, % \_\_\_\_\_  
 Shelby Tube No. \_\_\_\_\_

BORING & SAMPLING  
NOTES



NOTE: Diagram not to scale.

- HSA - HOLLOW STEM AUGER
- CFA - CONTINUOUS FLIGHT AUGER
- OC - DRIVEN CASING
- MO - MUD DRILLING
- RC - ROCK CORING

- ▽ GROUND WATER NOTED ON RODS \_\_\_\_\_ FT.
- ▽ AT COMPLETION \_\_\_\_\_ FT.
- ▽ AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED BORING \_\_\_\_\_ DRILLED A FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST

# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-6

PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/13/87

PROJECT LOCATION Sylvania, GA. STATION \_\_\_\_\_

BORING METHOD 5" I.D. Hand Auger (Stainless) FOREMAN Mark Potts

ROCK CORE DIA. \_\_\_\_\_ in. INSPECTOR Mark Potts

SHELBY TUBE O.D. \_\_\_\_\_ in.

SOIL CLASSIFICATION	DEPTH	SPT **	Shelby Tube No.	BORING & SAMPLING NOTES
SURFACE ELEVATION - 176.3				

	FT.			
(0-5.4) Light gray to orange-brown, moderately sorted, fine to medium gr., quartz sand. Increasing clay content with depth. Purple mottling below 2.0 ft.	0			
	2			
	4			
(5.4-5.75) Competent, purple-gray, mottled fat clay.	5.4			
	6			
	8			
	10			
	12			

Rational for discontinuing hole: CH horizon intersected.

Total Depth: 5.75 ft.

- BORING METHOD**
- HSA - HOLLOW STEM AUGER
  - CFA - CONTINUOUS FLIGHT AUGER
  - OC - DRIVEN CASING
  - MD - MUD DRILLING
  - RC - ROCK CORING

- GROUND WATER**
- ▽ NOTED ON RODS \_\_\_\_\_ FT.
  - ▽ AT COMPLETION \_\_\_\_\_ FT.
  - ▽ AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED BORING \_\_\_\_\_ DRILLED A FEET FROM BORING \_\_\_\_\_

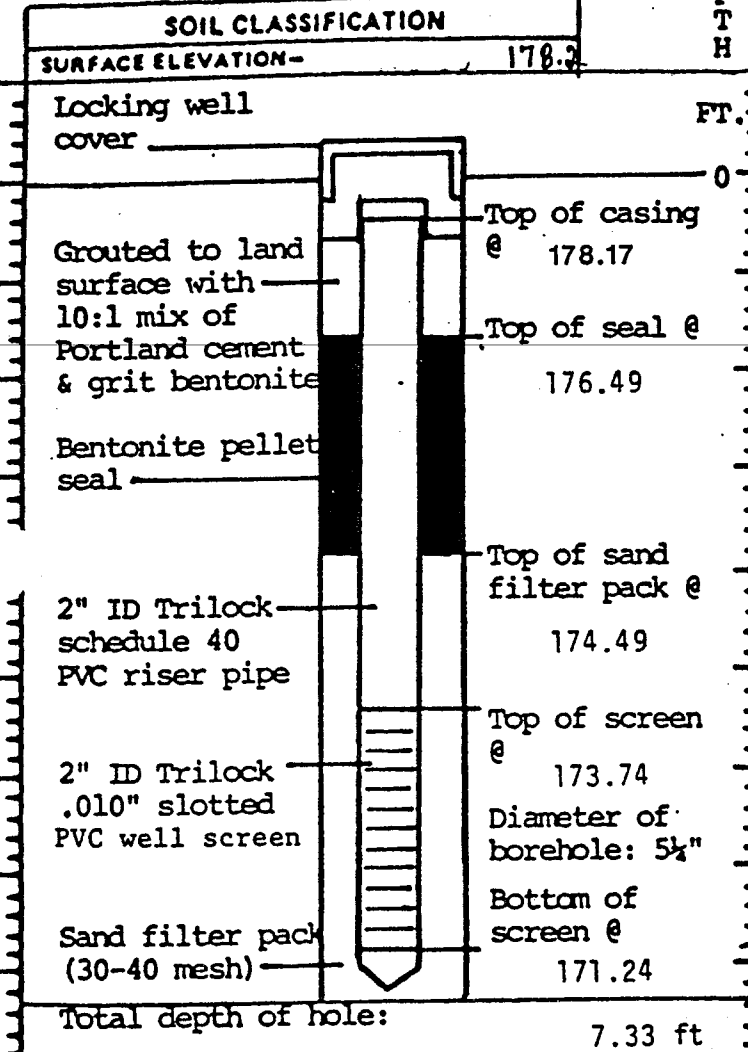
\*\*STANDARD PENETRATION TEST

# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-7  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 3/13/87  
 PROJECT LOCATION Sylvania, GA. STATION \_\_\_\_\_  
 BORING METHOD 5" I.D. Hand Auger (Stainless)

ROCK CORE DIA. \_\_\_\_\_ in.  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

FOREMAN M. Sheehan  
 INSPECTOR M. Potts.



DEPTH	SPT **			Shelby Tube No.
	Sample No.	Blows in 3'-6 in. increments	Recovery, %	

**BORING & SAMPLING NOTES**

NOTE: Diagram not to scale.

- BORING METHOD**
- HSA - HOLLOW STEM AUGER
  - CFA - CONTINUOUS FLIGHT AUGER
  - OC - DRIVEN CASING
  - MO - MUD DRILLING
  - RC - ROCK CORING

- GROUND WATER**
- ▽ NOTED ON RODS \_\_\_\_\_ FT.
  - ▽ AT COMPLETION \_\_\_\_\_ FT.
  - ▽ AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED  
 BORING \_\_\_\_\_ DRILLED A  
 FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST





# RECORD OF SOIL EXPLORATION

CLIENT The Torrington Company BORING NO. SP-8  
 PROJECT NAME Phase I Groundwater Assessment JOB NO. \_\_\_\_\_ DATE 7-28-87  
 PROJECT LOCATION Sylvania, Georgia STATION CCSI/DCSI Compliance point

BORING METHOD 5" I.D. Hand Auger (Stainless) SPT \*\*  
 ROCK CORE DIA. \_\_\_\_\_ in.  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

FOREMAN \_\_\_\_\_  
 INSPECTOR Michael Sheehan

SOIL CLASSIFICATION	DEPTH	Sample No.	Blows/6 in. 3-6 in. increments	Recovery, %	Shelby Tube No.	BORING & SAMPLING NOTES
SURFACE ELEVATION - / 178.1	FT					
(0-2.0) Light orange-brown, moderately sorted, fine grained, silty quartz sand. Silt fraction approx. 30%.	0					
(2.0-6.0) Slightly mottled, light orange-brown and grey, silty quartz sand. Moderately sorted. Silt fraction approx. 30%. Clay content creases with depth.	2					
(6.0-6.4) Mottled, light grey, maroon, and yellow-brown fat clay.	6					
	8					
						Rationale for discontinuing hole: CH horizon intersected.  Total Depth: 6.42 ft.

**BORING METHOD**  
 HSA - HOLLOW STEM AUGER  
 CFA - CONTINUOUS FLIGHT AUGER  
 OC - DRIVEN CASING  
 MD - MUD DRILLING

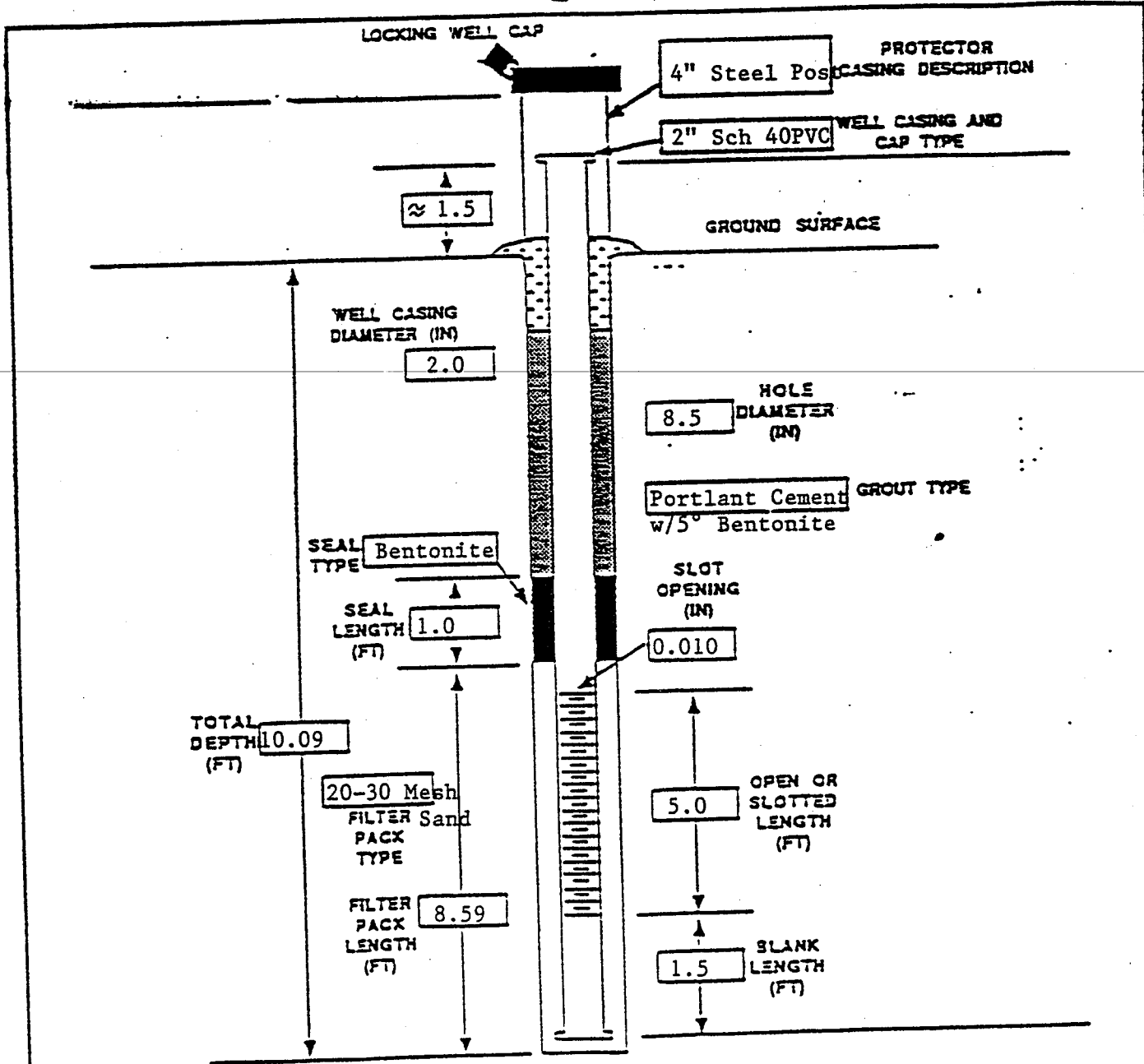
**GROUND WATER**  
 ▼ NOTED ON RODS \_\_\_\_\_ FT.  
 ▼ AT COMPLETION \_\_\_\_\_ FT.  
 ▼ AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED IN BORING \_\_\_\_\_ DRILLED A FEW FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST

WELL CONSTRUCTION DIAGRAM

PROJECT: Torrington - Sylvania  
 LOCATION: CCSI Area  
 WELL NUMBER: SP-8A  
 DATE INSTALLED: 6/7/90

ELEVATION:  
 GROUND  CASING  PROTECTOR CASING  
 ABOVE GROUND LEVEL  ABOVE MEAN SEA LEVEL

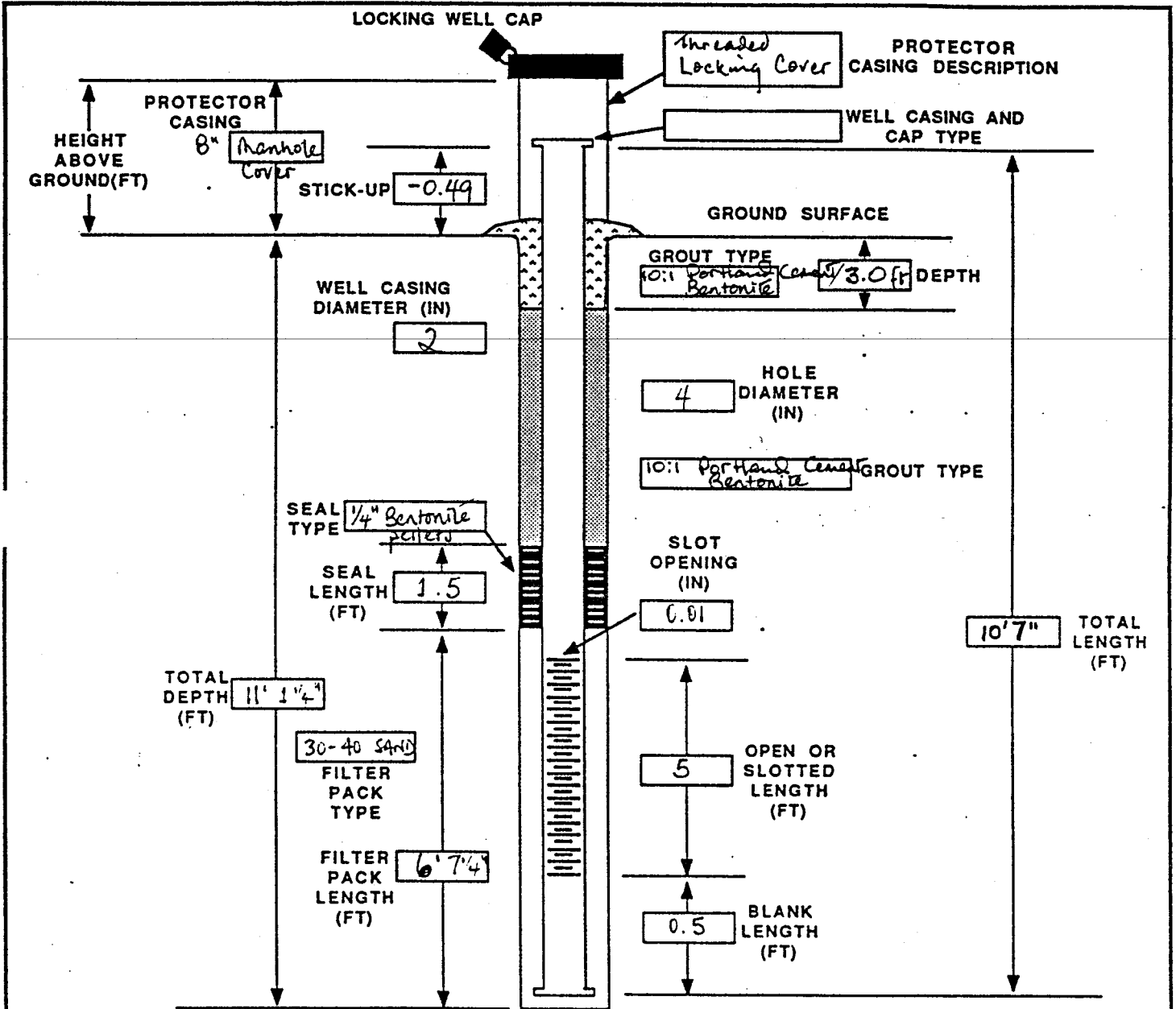


COMMENTS: Well was drilled using hollow stem augers. After installation well was developed using a dedicated PVC bailer.



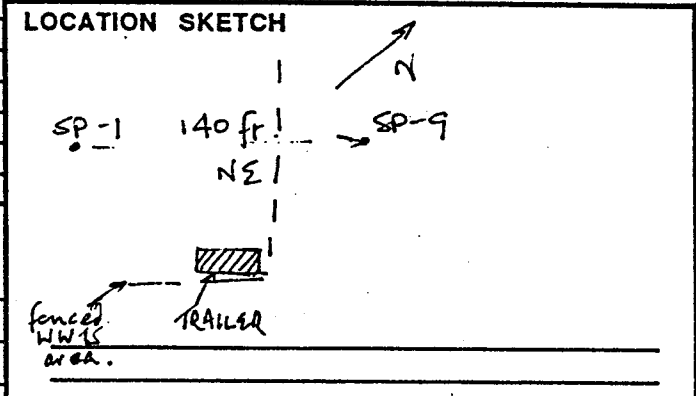


PROJECT: TORRINGTON JOB NUMBER: \_\_\_\_\_  
 LOCATION: SYLVANIA GA  
 WELL NUMBER: SP-9 ELEVATION: 171.6 Land Surface, 171.11 (10C)  
 DATE INSTALLED: 12.3.87  GROUND  CASING  PROTECTOR CASING  
 ABOVE GROUND LEVEL  ABOVE MEAN SEA LEVEL



COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PROJECT: TORRINGTON CO. JOB NUMBER \_\_\_\_\_  
 LOCATION: SYLVANIA, GA.  
 WELL NUMBER: SP-9 GROUND ELEVATION: 171.6 FT.  
 DATE INSTALLED: 12-3-87 WELL CASING ELEVATION: 171.11 FT.  
 FIELD REPRESENTATIVE: MARK POTTS PROTECTOR CASING ELEVATION: \_\_\_\_\_  
 DRILLING CONTRACTOR: \_\_\_\_\_  
 DRILLER: \_\_\_\_\_ LICENSE NO. \_\_\_\_\_  
 DRILLING METHOD: \_\_\_\_\_  
 RIG TYPE: \_\_\_\_\_  
 CONDITION OF GROUND SURFACE: \_\_\_\_\_  
 FORMATION SCREENED: shallow water table



BIT TYPE	HOLE DIA. (IN.)	END DEPTH* (FT.)	FLUID TYPE
Hand auger	4	11' 1 1/4"	NA
Standard			

**TIME LOG**

ACTIVITY	DATE	START	END
DRILLING			
CASING			
FILTER PACK			
SEAL			
GROUT			
DEVELOPMENT			
SURVEY			
OTHER			

**PROTECTOR, CASING & SCREEN RECORD**

DESCRIPTION	DIA. (IN.)	TOTAL LENGTH	DEPTH	
			TOP	BOTTOM
Sch. 40 PVC-Triac (0.01" slotted)	2	5 ft	0.49	5.49
Sch. 40 PVC Triac riser	2	5 ft	5.49	10.49
bottom plug-PVC	2	5 in	10.49	11.01
PVC male adapter	2	1 in	11.01	11.09
threaded locking top	2	1 1/2 in	0.49	0.61

**GROUND WATER LEVELS**

DURING DRILLING:

**COMPLETION MATERIALS RECORD**

DESCRIPTION	DEPTH	
	TOP	BOTTOM
30-40 mesh Ottawa silica sand	4'6"	11' 1/4"
1/4" bentonite pellets	3'0"	4'6"
10:1 portland cement / bentonite mix	0'	3'0"
8" galvanized steel manhole cover installed at land surface		

**WELL DEVELOPMENT**

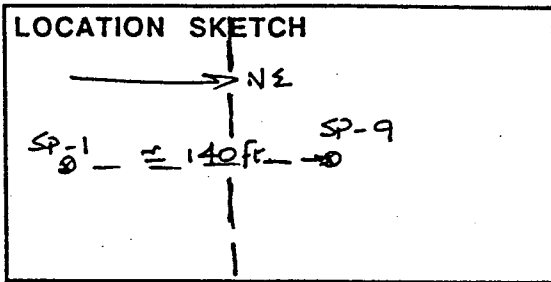
Bailed until dryness using a 1.66" OD PVC bailer - dedicated.

\* DEPTH FROM GROUND SURFACE

COMMENTS: All equipment was steam cleaned and washed prior to usage

PROJECT: TORRINGTON CO.  
 LOCATION: SYLVANIA, GA.  
 BOREHOLE NUMBER: SP-9  
 DATE DRILLED: 12.3.87  
 FIELD REPRESENTATIVE: MARK POTTS  
 DRILLING CONTRACTOR: \_\_\_\_\_  
 DRILLER: \_\_\_\_\_  
 DRILLING METHOD: HAND AUGER  
 HOLE DIAMETER: 4" O.D.  
 GROUND ELEVATION: 171.6 ft  
 CONDITION OF GROUND SURFACE: \_\_\_\_\_

JOB NUMBER: \_\_\_\_\_



COMMENTS: \_\_\_\_\_

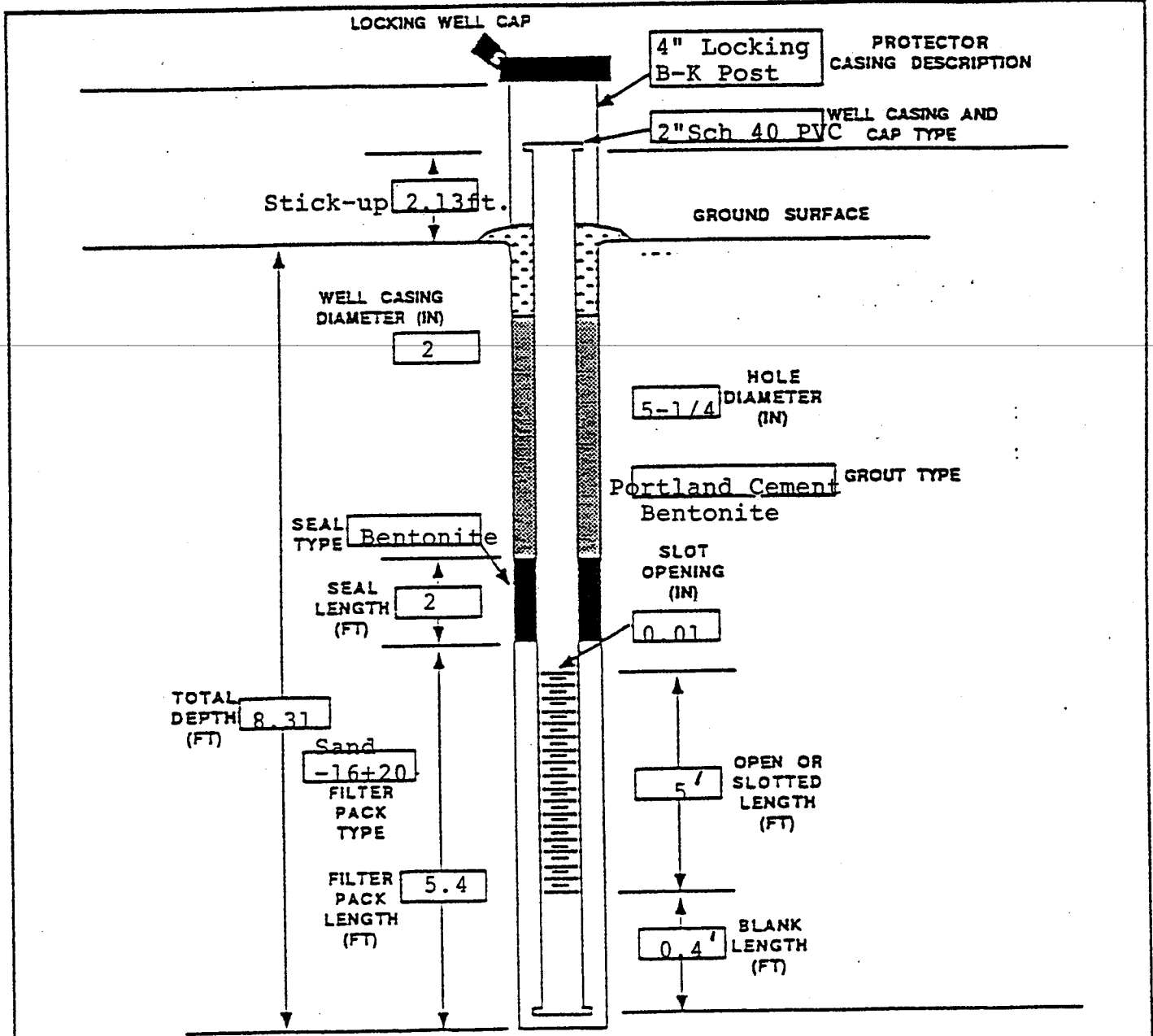
DEPTH	SAMPLE				WATER TABLE	SAMPLE DESCRIPTION  (SOIL OR ROCK TYPE, COLOR, GRAIN SIZE, SORTING, ROUNDNESS, PLASTICITY, MOISTURE CONTENT, TRACE MATERIALS, ODOR, STAINING, TRACE GAS READINGS, FORMATION TOPS)
	NUMBER	INTERVAL AND TYPE	ADVANCED/RECOVERED	BLOW COUNTS PER 6 INCHES		
0						0 - 1½' Light gray fine-grained sand. friable
1						
2						1½ - 4' Yellowish brown fine to medium grained clayey sand. Poorly sorted. Increase in clay content at 3½ - 4 feet.
3						
4						4 - 8' Red and yellow mottled whitish gray clayey fine to medium-grained clayey sand.
5						
6						
7						8 - 9' SC-cl. Purple mottled gray clayey sand - lean clay. Bles of sand within clay up to several inches. moist
8						8 - 9'
9						9' cl. Purple mottled gray clay. very stiff. Water level above clay. Made Water - Am not

Mark A. S. Potts  
 GEOLOGIST'S SIGNATURE

WELL CONSTRUCTION DIAGRAM

PROJECT: Torrington  
 LOCATION: Sylvania, Georgia  
 WELL NUMBER: SP-10  
 DATE INSTALLED: March 1, 1988

ELEVATION: 178.8 Ft.  
 GROUND  CASING  PROTECTOR CASING  
 ABOVE GROUND LEVEL  ABOVE MEAN SEA LEVEL



COMMENTS: The well was developed using a bailer  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_







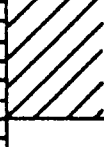

Atlanta Environmental Management Inc.  
Monitoring Well Log

Date: September 14, 1988

Owner: Torrington Company Screened From: 17.1 ft. to 7.1 ft.  
 Well No: SP-11 Gravel Pack: +16 mesh to 6.5 ft.  
 Location: Sylvania, Georgia Bentonite Seal: 6.5 ft. to 4.5 ft.  
 Concrete Seal from 4.5 ft. to surface  
 Driller: Paul Clawson Water Level: 6.70 ft. below well top. (11.7-88)  
 Geologist: M. Potts Well top elevation: \_\_\_\_\_ ft.  
 Drilling Method: Rotary-6-5/8" OD HSAugers






Depth (feet)		Lithology	Remarks
From	To		
0	3	SM-Dark gray silty (approx. 5%) fine sand, dark gray, moderately sorted	
3		Yellowish brown, poorly sorted clayey (approx. 20%) fine sand, poorly sorted, orangish color at 4' water table at approx. 9-10 ft	
		Below water table light gray SC with orange mottling. Same as above, only color change.	
	14-1/2	Approx. 30% Clay (SC) Stiff, whitish gray clay.	
14-1/2		Mottled homogeneous, Greater than 5% sand and silt	Drilling change (CH)
		TD 17.5 ft. into confining clay allowed for installation of a shallow monitoring well in the perched water table.	

DRILLING LOG		COMPANY <i>Torrington</i>	INSTALLATION <i>Sylvania Ga.</i>	SHEET OF 1 SHEETS
LOCATION (Coordinates or Station) <i>92.77 NW of wastewater treatment plant</i>		SIZE AND TYPE OF BIT		
DRILLING AGENCY <i>Paul Clauson</i>		TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
THICKNESS OF OVERBURDEN		DATE HOLE	STARTED <i>28 Oct 84</i>	COMPLETED <i>28 Oct 84</i>
DEPTH DRILLED INTO ROCK		ELEVATION TOP OF HOLE		
TOTAL DEPTH OF HOLE <i>20.0'</i>		ELEVATION GROUND WATER		
NAME OF DRILLER <i>Paul Clauson</i>		SIGNATURE OF INSPECTOR OR GEOLOGIST <i>Earl F. Titcomb PG.</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SPT	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
177.87						
171.86	0		Sackrete Backfill			
167.06	5		1/2" diameter Bentonite pellets			
165.26			Well Gravel			
	10					
157.76	15		Hole Reamed to 4 5/8" Diameter			
			Cuttings			
154.79	20		Riser Pipe 2" PVC th Screen 2" PVC prepacked "Rockwall"			



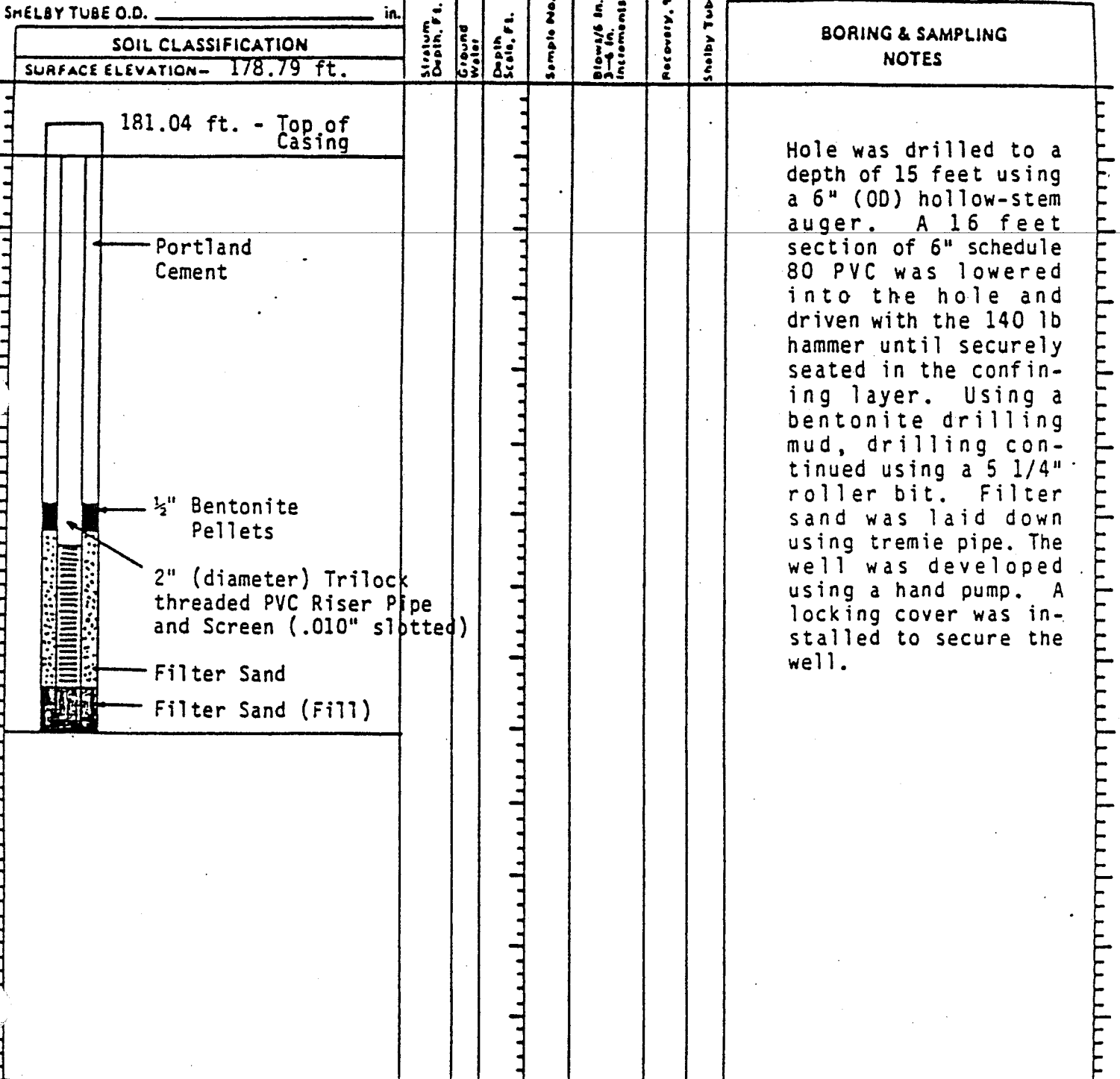
DRILLING LOG	COMPANY <i>Torrington</i>	INSTALLATION <i>Sylvania, Ga.</i>	SHEET OF 1 SHEETS
LOCATION (Coordinates or Station) <i>92.7 NW of wastewater treatment plant</i>	SIZE AND TYPE OF BIT <i>1 3/8 ID. Splitspoon</i>		
DRILLING AGENCY <i>Paul Clawson</i>	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN <i>4</i>		
THICKNESS OF OVERBURDEN <i>NA</i>	DATE HOLE	STARTED <i>28 Oct 84</i>	COMPLETED <i>28 Oct 84</i>
DEPTH DRILLED INTO ROCK <i>NA</i>	ELEVATION TOP OF HOLE <i>171.94' msl</i>		
TOTAL DEPTH OF HOLE <i>20.0'</i>	ELEVATION GROUND WATER <i>166.38 (3 Nov 84)</i>		
NAME OF DRILLER <i>Paul Clawson</i>	SIGNATURE OF INSPECTOR OR GEOLOGIST <i>Earl F. Titcomb P.G.</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SPT	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
171.94	0		SC mottled orange-gray very clayey medium sand			Extra quart jar of sample taken. Recovery was 100%.
<u>WL 5.5</u> 3 Nov 84 163.4	5			18	1	Boring advanced using liquid Poly Gel drilling fluid.
	10		CL orange-gray mottled silty clay. Clay gray with orange silt. sandy layer 11 to 12'	17	2	
	15		greenish gray, homogeneous very little or no silt Munsell 10Y 6/2 pale olive	10	3	
	20			17	4	
151.9	20		Bottom of Hole 20.0'			<u>BLOWS PER FOOT:</u> Number required to drive 2" ID splitspoon w/140 lb. hammer falling 30"..
			NOTE: Soils field classified in accordance with the Unified Soil Classification Systems.			

# WELL CONSTRUCTION DIAGRAM

CLIENT The Torrington Company BORING NO. W11  
 PROJECT NAME \_\_\_\_\_ JOB NO. \_\_\_\_\_ DATE 6-24-86  
 PROJECT LOCATION Sylvania, GA STATION \_\_\_\_\_

BORING METHOD \_\_\_\_\_ FOREMAN Bob Alexander (Sunrise/ATE)  
 ROCK CORE DIA. \_\_\_\_\_ in. INSPECTOR Mark A. Potts (SSA)  
 SHELBY TUBE O.D. \_\_\_\_\_ in.



**BORING METHOD**  
 HSA - HOLLOW STEM AUGER  
 CFA - CONTINUOUS FLIGHT AUGER  
 DC - DRIVEN CASING  
 MD - MUD DRILLING

**GROUND WATER**  
 NOTED ON ROOS \_\_\_\_\_ FT.  
 AT COMPLETION \_\_\_\_\_ FT.  
 AFTER HAS \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED IN BORING \_\_\_\_\_ DRILLED A FEW FEET FROM BORING \_\_\_\_\_

# RECORD OF SOIL EXPLORATION

Sheet No. 1 of 2

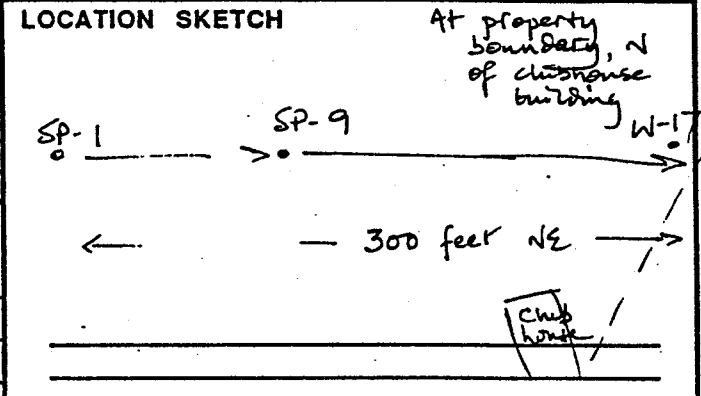
CLIENT The Torrington Company BORING NO. W11  
 PROJECT NAME \_\_\_\_\_ JOB NO. \_\_\_\_\_ DATE 6-24-86  
 PROJECT LOCATION Sylvania, GA STATION \_\_\_\_\_

BORING METHOD Mud Rotary, 5 1/4" Roller Bit FOREMAN Bob Alexander (Sunrise/AT)  
 ROCK CORE DIA. \_\_\_\_\_ in. INSPECTOR Mark A. Potts (SSA)  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

SOIL CLASSIFICATION		Stratum Depth, Ft.	Ground Water	Depth Scale, Ft.	SPT **		Recovery, %	Shelby Tube No.	BORING & SAMPLING NOTES
SURFACE ELEVATION - 178.83 ft.					Sample No.	Blows/6 in. 3" Increments			
				0					yellow-brown clayey medium SAND, very dense at surface (SC)
		8.8		5	1	6 10 11			medium compact mottled yellow-brown clayey medium to fine SAND (SC)
				10	2	4 5 8			stiff gray silty CLAY with purple mottling (CL)
				15	3	3 4 7			stiff gray CLAY with purple and yellow-brown mottling, trace sand (CH)
				20	4	6 7 9			very stiff greenish gray homogeneous, massive CLAY (CH)
		26		25	5	10 11 14			very stiff gray sandy CLAY (CH)
				30	6	5 6 8			stiff light gray medium to fine SAND (SP-SM)

BORING METHOD  
 MSA - MOLLOW STEM AUGER  
 CFA - CONTINUOUS FLIGHT AUGER  
 OC - DRIVEN CASING  
 GROUND WATER NOTED ON RODS \_\_\_\_\_ FT. AT COMPLETION \_\_\_\_\_ FT.  
 \*THESE SHELBY TUBE SAMPLES OBTAINED IN BORING \_\_\_\_\_ DRILLED A FEW \_\_\_\_\_ FT.

PROJECT: KORRINGTON JOB NUMBER \_\_\_\_\_  
 LOCATION: SYLVANIA, GA  
 WELL NUMBER: W-17 GROUND ELEVATION: 156.0  
 DATE INSTALLED: 7.24.87 WELL CASING ELEVATION: 157.46  
 FIELD REPRESENTATIVE: MARK POTTS PROTECTOR CASING ELEVATION: \_\_\_\_\_  
 DRILLING CONTRACTOR: GEOTHERMICS  
 DRILLER: Paul Clawson LICENSE NO. \_\_\_\_\_  
 DRILLING METHOD: YELLOW STEEL AUGER  
 RIG TYPE: ROTARY - SIMCO  
 CONDITION OF GROUND SURFACE: sloping  
 FORMATION SCREENED: uppermost aquifer



BIT TYPE	HOLE DIA. (IN.)	END DEPTH* (FT.)	FLUID TYPE
Auger	<del>6 7/8</del> 7 1/4"	23.5	NA
	O.D.		

PROTECTOR, CASING & SCREEN RECORD				
DESCRIPTION	DIA. (IN.)	TOTAL LENGTH	TOP	BOTTOM
PVC sch. 40 Tri-Loch - female plug	2	5"	-23.1	-23.5
PVC sch. 40 Tri-Loch riser pipe		14.56'	+1.4'	↓
PVC sch. 40 Tri-Loch screen (0.01")		10.0'	↑	↑
			-13.1	-23.1

COMPLETION MATERIALS RECORD		
DESCRIPTION	TOP	BOTTOM
30-40 mesh graded silica sand (1 1/2 bags)	-11'6"	
1/4" bentonite pellets	-9'4"	
portland cement bentonite	0'	
10:1 mix - grout		

TIME LOG			
ACTIVITY	DATE	START	END
DRILLING			
CASING			
FILTER PACK SEAL GROUT DEVELOPMENT SURVEY			
OTHER			

GROUND WATER LEVELS

DURING DRILLING:  
 ~ 12' water - bailing up on the augers of fine sand + clayey.

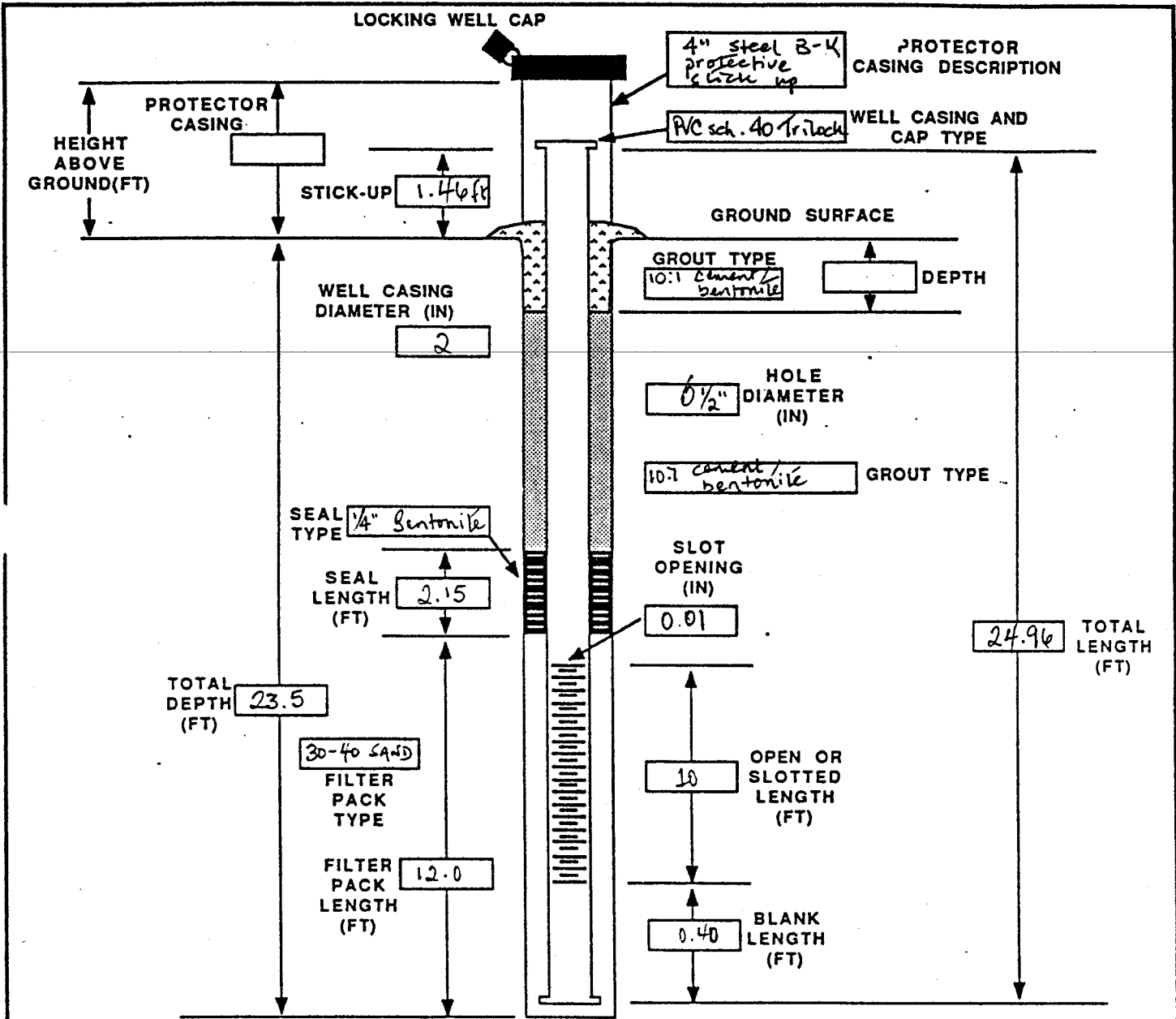
WELL DEVELOPMENT

Developed by bailing of wells until clean of sediment.

\* DEPTH FROM GROUND SURFACE

COMMENTS: All equipment - augers, driving rods, etc - and the rig were steam cleaned prior to usage

PROJECT: TORRINGTON JOB NUMBER: \_\_\_\_\_  
 LOCATION: SYLVANIA, GA.  
 WELL NUMBER: N-17 ELEVATION: 156.0  
 DATE INSTALLED: 7.24.87  GROUND  CASING  PROTECTOR CASING  
 ABOVE GROUND LEVEL  ABOVE MEAN SEA LEVEL

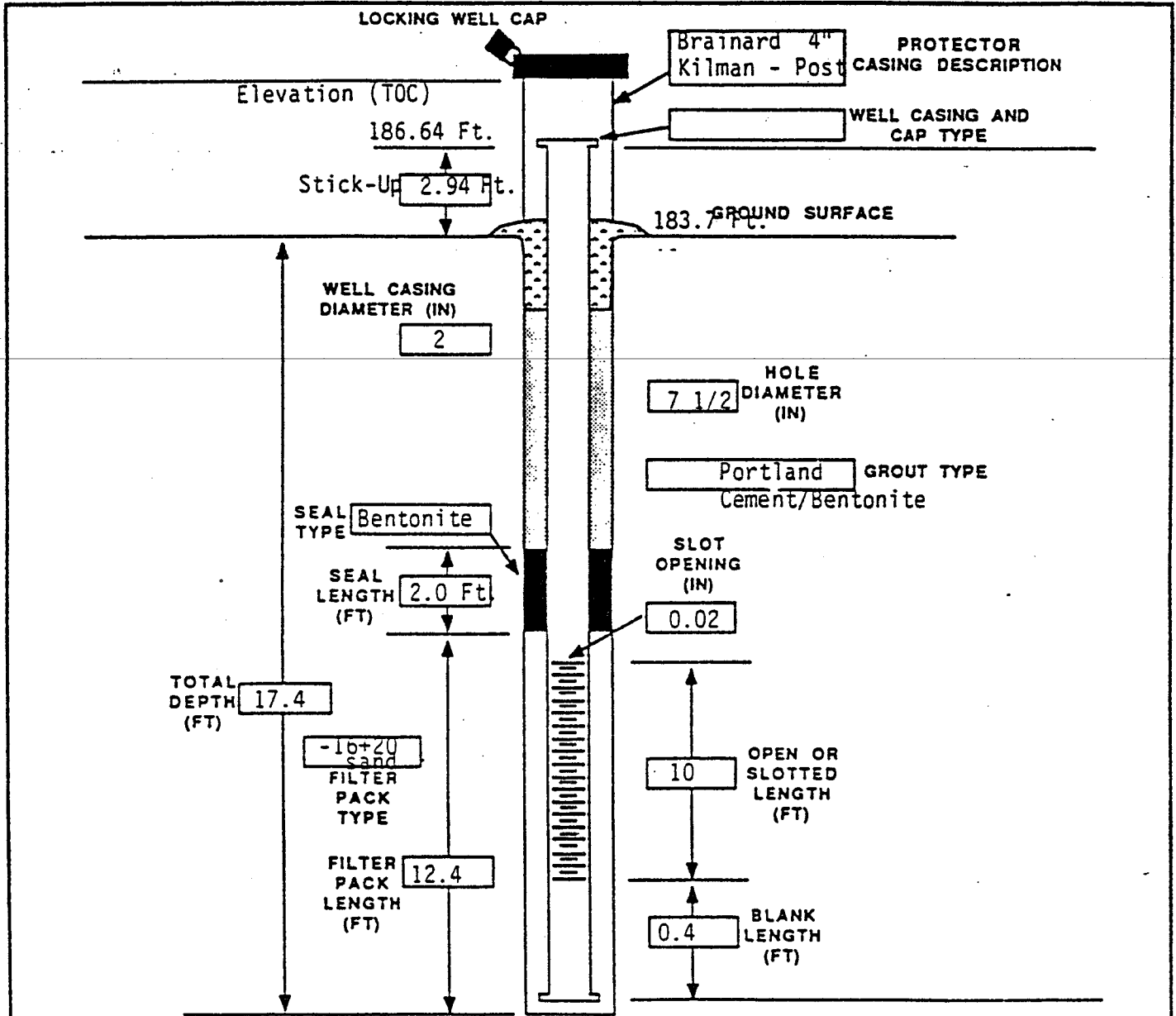


COMMENTS: per RCLA standards.

ATLANTA  
ENVIRONMENTAL  
MANAGEMENT INC.

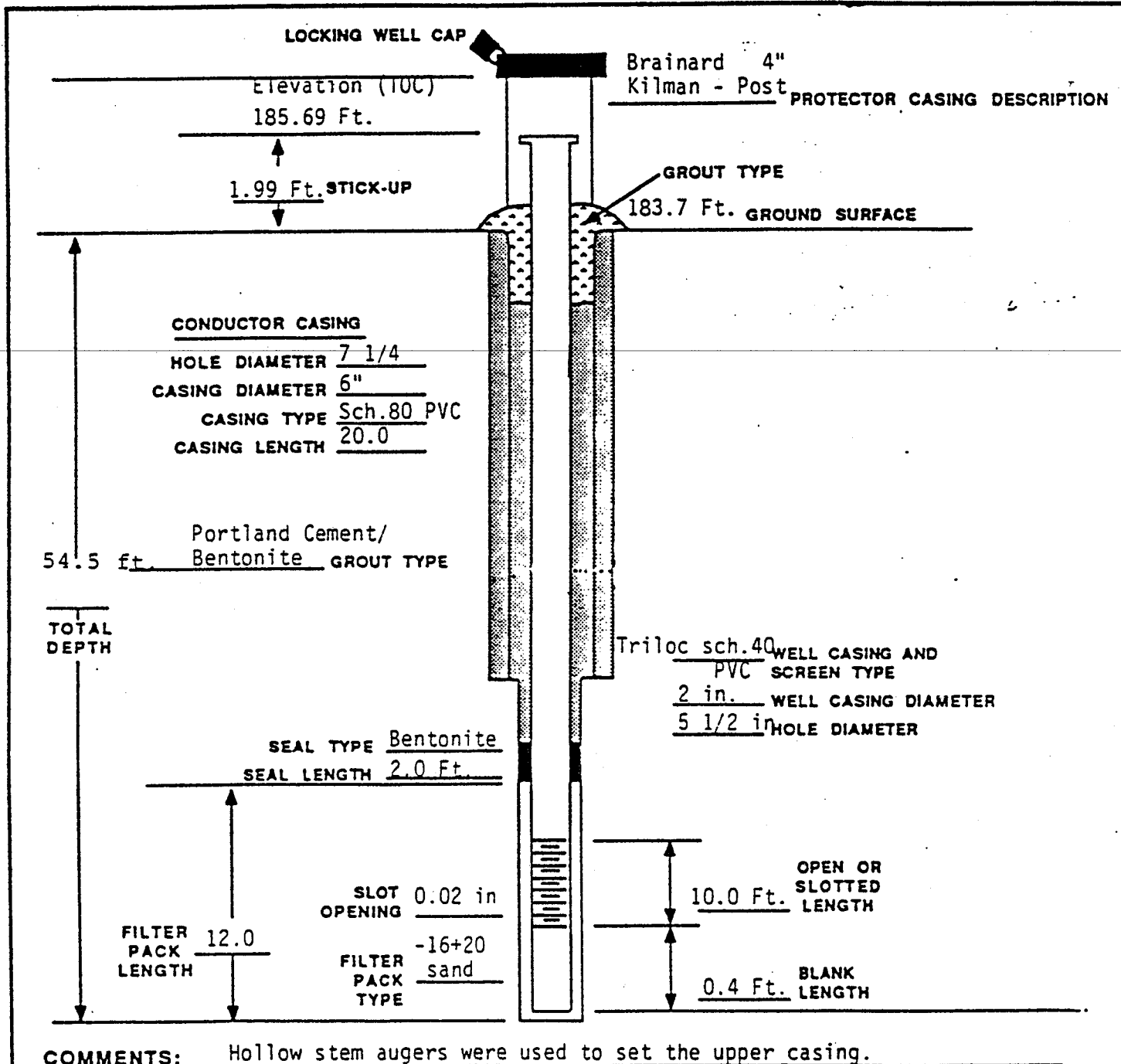
WELL CONSTRUCTION DIAGRAM

PROJECT: Torrington Co.  
 LOCATION: Sylvania, GA  
 WELL NUMBER: W-27S ELEVATION: 183.7 Ft.  
 DATE INSTALLED: April 15, 1988  GROUND  CASING  PROTECTOR CASING  
 ABOVE-GROUND LEVEL  ABOVE MEAN SEA LEVEL



COMMENTS: The well was drilled using a hollow stem auger.  
It was developed using a bailer.

PROJECT: Torrington  
 LOCATION: Sylvania, GA  
 WELL NUMBER: W-27D ELEVATION: 183.7 Ft.  
 DATE INSTALLED: April 13-14, 1988  GROUND  CASING  PROTECTOR CASING  
 ABOVE GROUND LEVEL  ABOVE MEAN SEA LEVEL



COMMENTS: Hollow stem augers were used to set the upper casing.  
Mud rotary drilling was used to total depth. The well was installed  
then developed using a Brainard-Kilman submersible hand pump.





# RECORD OF SOIL EXPLORATION

Sheet No. 2 of 2

CONTRACTOR The Torrington Company BORING NO. W11  
 PROJECT NAME \_\_\_\_\_ JOB NO. \_\_\_\_\_ DATE 6-24-86  
 PROJECT LOCATION Sylvania, GA STATION \_\_\_\_\_  
 BORING METHOD Mud Rotary, 5 1/2" Roller Bit FOREMAN Bob Alexander (Sunrise/A)  
 ROCK CORE DIA. \_\_\_\_\_ in. INSPECTOR Mark A. Potts (SSA)  
 SHELBY TUBE O.D. \_\_\_\_\_ in.

SOIL CLASSIFICATION	Stratium Depth, Ft.	Ground Water	Depth Scale, Ft.	Sample No.	SPT **	Recovery, %	Shelby Tube No.	BORING & SAMPLING NOTES
SURFACE ELEVATION - 178.83 ft.								
			35	7	2 3 4			medium stiff light gray SAND (SP-SM)
			40	8	4 5 7			medium stiff light gray SAND (SP-SM)

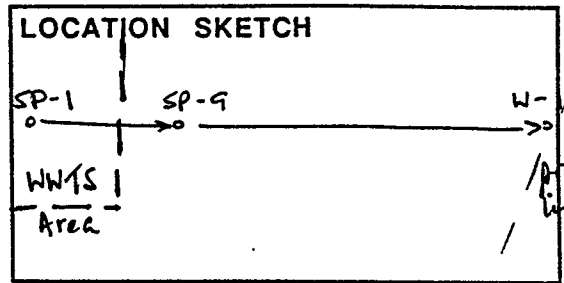
**BORING METHOD**  
 HSA - HOLLOW STEM AUGER  
 CFA - CONTINUOUS FLIGHT AUGER  
 OC - DRIVEN CASING  
 MD - MUD DRILLING  
 RC - ROCK CORING

**GROUND WATER**  
 NOTED ON RODS \_\_\_\_\_ FT.  
 AT COMPLETION \_\_\_\_\_ FT.  
 AFTER \_\_\_\_\_ HRS. \_\_\_\_\_ FT.

\*THESE SHELBY TUBE SAMPLES OBTAINED IN BORING \_\_\_\_\_ DRILLED A FEW FEET FROM BORING \_\_\_\_\_  
 \*\*STANDARD PENETRATION TEST

PROJECT: TERRINGTON  
 LOCATION: SYLVANIA, GA.  
 BOREHOLE NUMBER: N-17  
 DATE DRILLED: 7.24.87  
 FIELD REPRESENTATIVE: MARK POFFS  
 DRILLING CONTRACTOR: Geothermics  
 DRILLER: Paul Clawson  
 DRILLING METHOD: Horizontal Steam Auger  
 HOLE DIAMETER: 6 1/2"  
 GROUND ELEVATION: 156.0 ft.  
 CONDITION OF GROUND SURFACE: \_\_\_\_\_

JOB NUMBER: \_\_\_\_\_



COMMENTS: \_\_\_\_\_

DEPTH	SAMPLE				WATER TABLE	SAMPLE DESCRIPTION  (SOIL OR ROCK TYPE, COLOR, GRAIN SIZE, SORTING, ROUNDNESS, PLASTICITY, MOISTURE CONTENT, TRACE MATERIALS, ODOR, STAINING, TRACE GAS READINGS, FORMATION TOPS)
	NUMBER	INTERVAL AND TYPE	ADVANCED/RECOVERED	BLOW COUNTS PER 6 INCHES		
0						
5	1			3		Yellowish brown fine grained clayey sand. moderately well sorted.
10	2			4		Yellowish brown fine grained clayey sand moderately poorly sorted. ≈ 50/50 SC-CL sands / silts & clays
15	3			7		Orange brown clayey fine grained sand, less clay & silts than at 9', ≈ 25% fines soil bailing up on the auger. - Easter drilling at 16'.
20	4			8		Orange brown clayey fine grained sand, similar to above. moderately well sorted.
25	5			5		to 23.5 ft.

Mark A. Poffs  
 GEOLOGIST'S SIGNATURE