LOG OF BORING NO. GP-1

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **19.61 ft BLS**

DATE COMPLETED: **5/5/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **748.05**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						748.05	0				
						743.05	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	
	4	2.65				738.05	10			Orange brown micaceous **SILT**; saprolite Brown micaceous fine to medium **SAND**; saprolite Orange brown micaceous **SILT**; saprolite	
	4	2.6				733.05	15			Brown micaceous **SILT**; saprolite Orange brown micaceous **SILT**; saprolite	
	4	2.5									▼
	4	2.8				728.05	20			Brown micaceous **SILT**; saprolite	
	4	4				723.05	25				
	2	2									
						718.05	30			Boring Terminated at 30 feet	

NOTES:

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LOG OF BORING GP-1

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-1

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **19.61 ft BLS**

LATITUDE: **34°47'32.89"**
LONGITUDE: **82°53'47.36"**
TOP OF CASING ELEVATION: **750.87**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/5/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	748.05
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5				
Orange brown micaceous **SILT**; saprolite		10				
Brown micaceous fine to medium **SAND**; saprolite				13.00	BS	735.05
Orange brown micaceous **SILT**; saprolite				15.00	TSC	733.05
Brown micaceous **SILT**; saprolite		15				
Orange brown micaceous **SILT**; saprolite						
Brown micaceous **SILT**; saprolite		20				
		25				
Boring Terminated at 30 feet		30				

WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.82 ft ALS to 15 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 13 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **13 ft to 30 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **15 ft to 30 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-1

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-1

Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

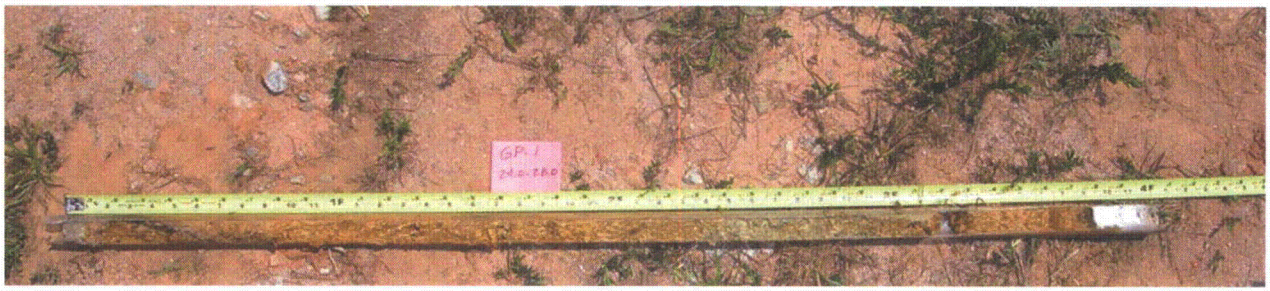
Sample No: 4 **Depth (ft-bls):** 20.0 - 24.0

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-1



Sample No: 5 **Depth (ft-bls): 24.0 - 28.0**

Sample No: 6 **Depth (ft-bls): 28.0 - 30.0**

LOG OF BORING NO. GP-2

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **18.26 ft BLS**

DATE COMPLETED: **5/5/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **747.56**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						747.56	0				
						742.56	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	
	4	4				737.56	10			Brown micaceous silty fine to medium **SAND**; saprolite	
										Orange brown micaceous **SILT**; saprolite	
	4	2.9				732.56	15			Brown micaceous silty fine to medium**SAND**; saprolite	▼
	4	3.1								Brown micaceous **SILT**; saprolite	
						727.56	20				
	4	3.6								Brown micaceous silty fine to medium **SAND**; saprolite	
	4	3.55				722.56	25				
	2	0				717.56	30				
										Boring Terminated at 30 feet	

NOTES:

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LOG OF BORING GP-2

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-2

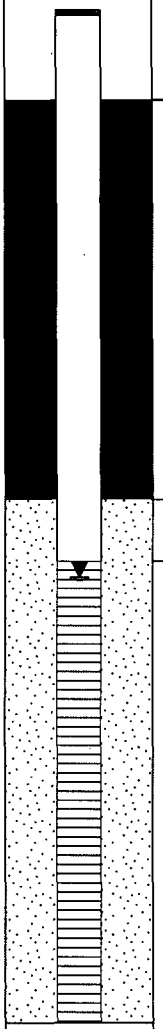
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **18.26 ft BLS**

LATITUDE: **34°47'33.70"**
LONGITUDE: **82°53'46.82"**
TOP OF CASING ELEVATION: **750.29**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/5/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	747.56
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5				
Brown micaceous silty fine to medium **SAND**; saprolite		10				
Orange brown micaceous **SILT**; saprolite				13.00	BS	734.56
Brown micaceous silty fine to medium**SAND**; saprolite		15		15.00	TSC	732.56
Brown micaceous **SILT**; saprolite						
		20				
Brown micaceous silty fine to medium **SAND**; saprolite		25				
Boring Terminated at 30 feet		30				



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.73 ft ALS to 15 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 13 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **13 ft to 30 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **15 ft to 30 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-2

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

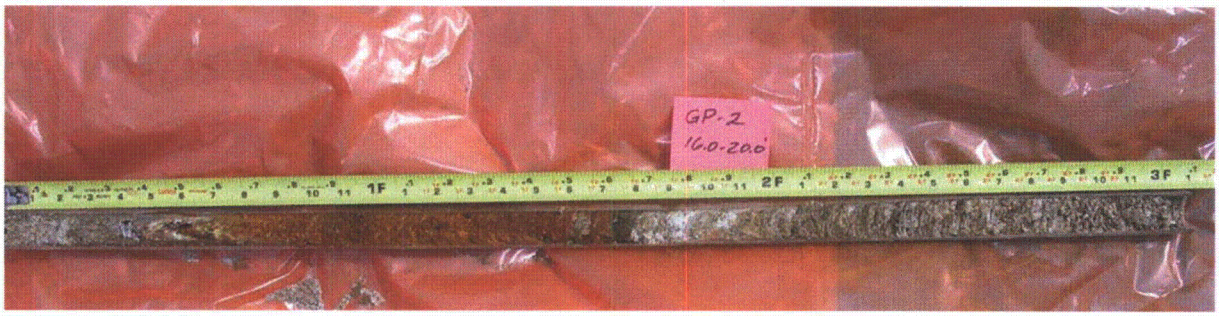
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-2

Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0



Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

Sample No: 4 **Depth (ft-bls):** 20.0 - 24.0

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-2

Sample No: 5 **Depth (ft-bls): 24.0 - 28.0**

COMPLETION REPORT OF TEMPORARY WELL No. GP-2

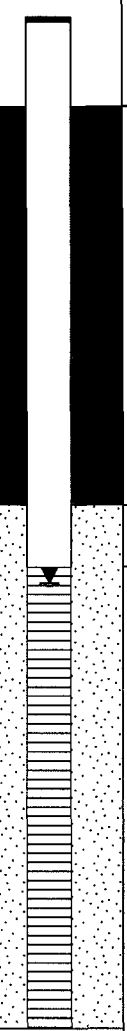
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **18.26 ft BLS**

LATITUDE: **34°47'33.70"**
LONGITUDE: **82°53'46.82"**
TOP OF CASING ELEVATION: **750.29**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/5/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	747.56
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		0, 5				
Brown micaceous silty fine to medium **SAND**; saprolite		10				
Orange brown micaceous **SILT**; saprolite				13.00	BS	734.56
Brown micaceous silty fine to medium**SAND**; saprolite		15		15.00	TSC	732.56
Brown micaceous **SILT**; saprolite						
Brown micaceous silty fine to medium **SAND**; saprolite		20, 25				
Boring Terminated at 30 feet		30				



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.73 ft ALS to 15 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 13 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **13 ft to 30 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **15 ft to 30 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-2

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

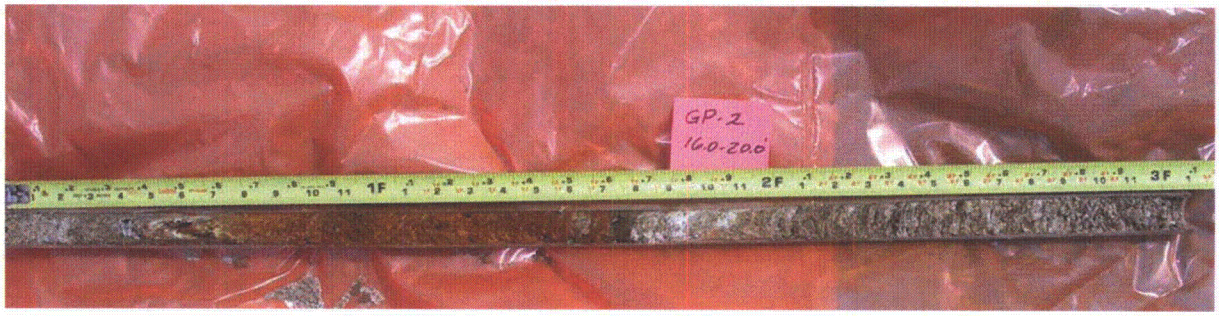
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-2

Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0



Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

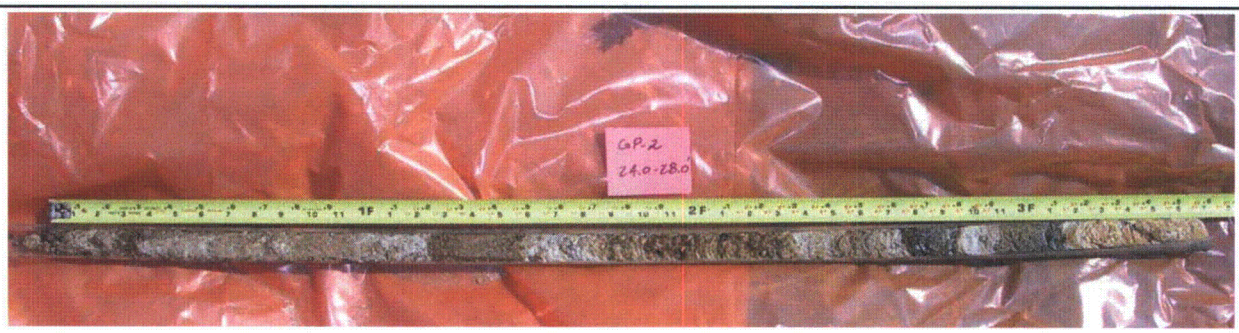
Sample No: 4 **Depth (ft-bls):** 20.0 - 24.0

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-2



Sample No: 5 **Depth (ft-bls): 24.0 - 28.0**

LOG OF BORING NO. GP-3

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **27.36 ft BLS**

DATE COMPLETED: **5/6/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **757.21**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						757.21	0				
						752.21	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	
	4	0.85				747.21	10			Brown micaceous sandy **SILT**; saprolite	
	4	0.5				742.21	15				
	4	2.85								Brown micaceous silty **SAND**; saprolite	
	4	3.25				737.21	20				
	4	3.8				732.21	25				
										Red brown micaceous silty **SAND**; saprolite	▼
	4	3.15				727.21	30			Brown micaceous silty **SAND**; saprolite	
	4	2.55				722.21	35				
	4	3.4									
						717.21	40			Boring Terminated at 40 feet	

NOTES:

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LOG OF BORING GP-3

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-3

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **27.36 ft BLS**

LATITUDE: **34°47'34.44"**
LONGITUDE: **82°53'46.22"**
TOP OF CASING ELEVATION: **757.34**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/6/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	757.21
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5				
Brown micaceous sandy **SILT**; saprolite		10, 15				
Brown micaceous silty **SAND**; saprolite		20		23.00	BS	734.21
		25		25.00	TSC	732.21
Red brown micaceous silty **SAND**; saprolite						
Brown micaceous silty **SAND**; saprolite		30, 35				
Boring Terminated at 40 feet		40				

WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **0.13 ft ALS to 25 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 23 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **23 ft to 40 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **25 ft to 40 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-3

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

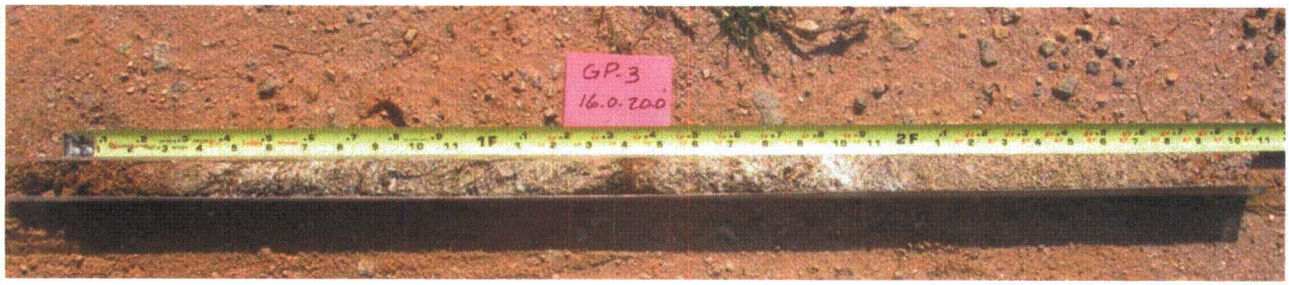
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-3

Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0



Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

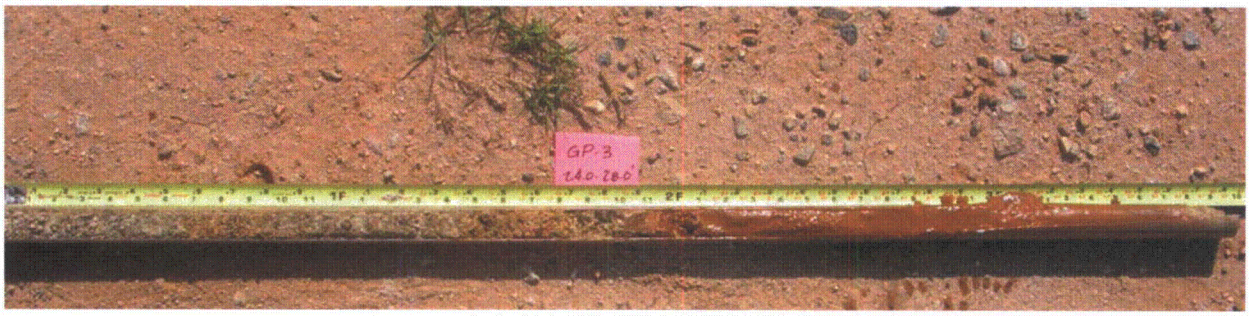
Sample No: 4 **Depth (ft-bls):** 20.0 - 24.0

MACRO-CORE SOIL SAMPLE PICTURES

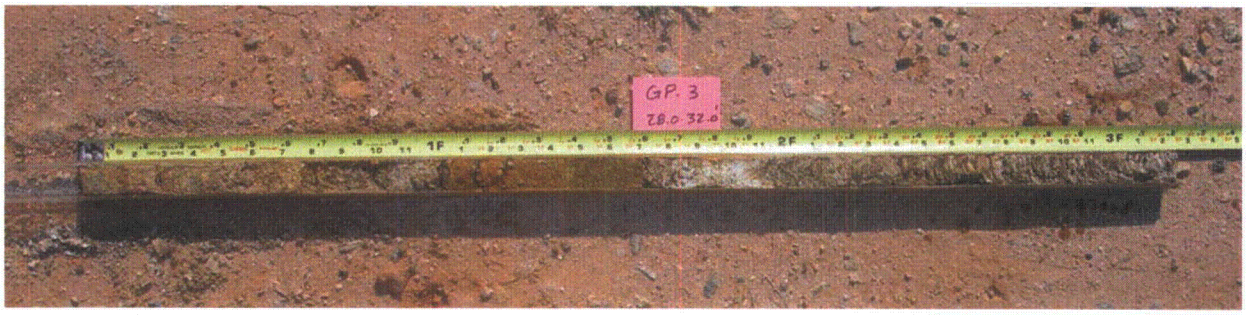
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-3



Sample No: 5 **Depth (ft-bls): 24.0 - 28.0**



Sample No: 6 **Depth (ft-bls): 28.0 - 32.0**

Sample No: 7 **Depth (ft-bls): 32.0 - 36.0**

Sample No: 8 **Depth (ft-bls): 36.0 - 40.0**

LOG OF BORING NO. GP-4

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **19.41 ft BLS**

DATE COMPLETED: **5/5/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **746.18**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						746.18	0				
						741.18	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	
	4	2.6				736.18	10			Brown micaceous silty fine to medium **SAND**; saprolite	
	4	2.4				731.18	15			Orange brown micaceous **SILT**; saprolite	
	4	2.8								Brown micaceous silty fine to medium **SAND**; saprolite	▼
						726.18	20			Orange brown micaceous **SILT**; saprolite	
	4	3									
	4	2.3				721.18	25			Brown micaceous **SILT**; saprolite	
										Orange brown micaceous **SILT**; saprolite	
	4	1.9				716.18	30			Brown micaceous **SILT**; saprolite Boring Terminated at 30 feet	

NOTES:

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LOG OF BORING GP-4

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-4

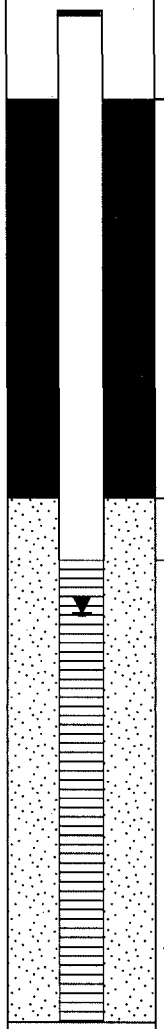
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **19.41 ft BLS**

LATITUDE: **34°47'32.76"**
LONGITUDE: **82°53'46.52"**
TOP OF CASING ELEVATION: **748.86**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/5/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	746.18
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5				
Brown micaceous silty fine to medium **SAND**; saprolite		10		13.00	BS	733.18
Orange brown micaceous **SILT**; saprolite		15		15.00	TSC	731.18
Brown micaceous silty fine to medium **SAND**; saprolite						
Orange brown micaceous **SILT**; saprolite		20				
Brown micaceous **SILT**; saprolite		25				
Orange brown micaceous **SILT**; saprolite		30				
Brown micaceous **SILT**; saprolite						
Boring Terminated at 30 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.68 ft ALS to 15 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 13 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **13 ft to 30 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **15 ft to 30 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-4

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-4

Sample No: 1 **Depth (ft-bls): 8.0 - 12.0**

Sample No: 2 **Depth (ft-bls): 12.0 - 16.0**

Sample No: 3 **Depth (ft-bls): 16.0 - 20.0**

Sample No: 4 **Depth (ft-bls): 20.0 - 24.0**

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-4

Sample No: 5 **Depth (ft-bls): 24.0 - 28.0**

Sample No: 6 **Depth (ft-bls): 28.0 - 30.0**

LOG OF BORING NO. GP-5

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **23.48 ft BLS**

DATE COMPLETED: **5/6/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **750.93**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						750.93	0				
						745.93	5			Drilling location had been vacuum excavated to a depth of 7 feet below ground surface	
	1	0								No recovery	
	4	3.15				740.93	10			Orange brown micaceous sandy **SILT**; saprolite	
	4	3.1				735.93	15			Brown micaceous silty **SAND**; saprolite	
	4	2.65									
	4	3.3				730.93	20				▼
										Orange brown micaceous silty **SAND**; saprolite	
	4	2.65				725.93	25			Brown micaceous silty **SAND**; saprolite	
	4	3.3				720.93	30				
	4	3.6				715.93	35				
										Boring Terminated at 36 feet	

NOTES:

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LOG OF BORING GP-5

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-5

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **23.48 ft BLS**

LATITUDE: **34°47'33.48"**
LONGITUDE: **82°53'45.93"**
TOP OF CASING ELEVATION: **753.36**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/6/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	750.93
Drilling location had been vacuum excavated to a depth of 7 feet below ground surface		5				
No recovery						
Orange brown micaceous sandy **SILT**; saprolite		10				
Brown micaceous silty **SAND**; saprolite		15		19.00	BS	731.93
		20		21.00	TSC	729.93
Orange brown micaceous silty **SAND**; saprolite		25				
Brown micaceous silty **SAND**; saprolite		30				
		35				
Boring Terminated at 36 feet						

WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.43 ft ALS to 21 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 19 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **19 ft to 36 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **21 ft to 36 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-5

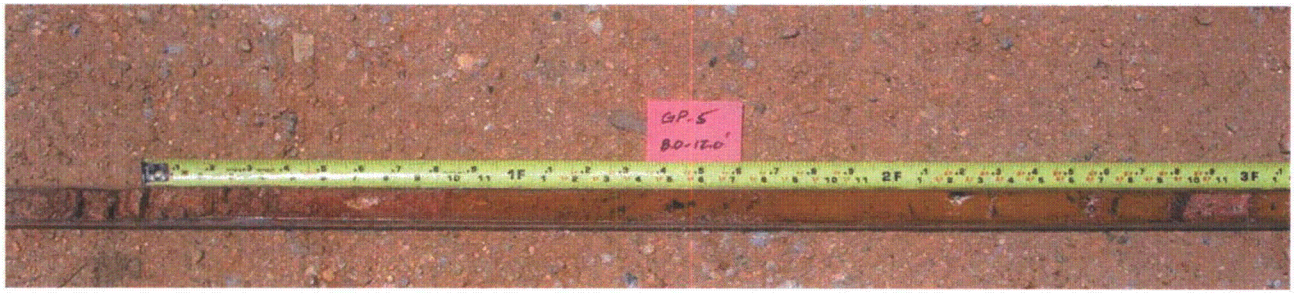
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

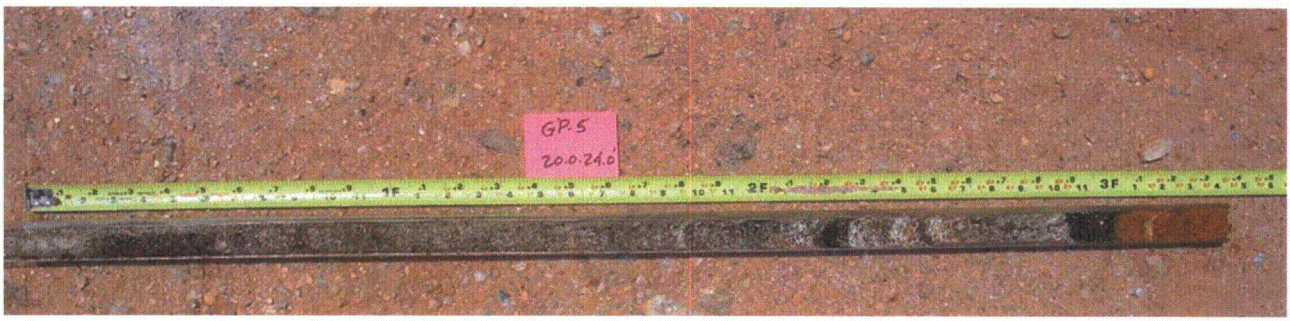
Boring Number: GP-5



Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0



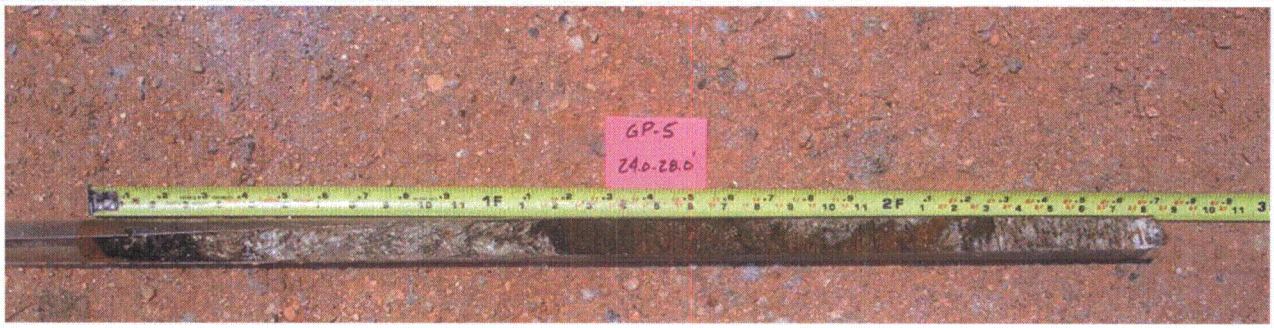
Sample No: 4 **Depth (ft-bls):** 20.0 - 24.0

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-5



Sample No: 5 **Depth (ft-bls):** 24.0 - 28.0

Sample No: 6 **Depth (ft-bls):** 28.0 - 32.0

Sample No: 7 **Depth (ft-bls):** 32.0 - 36.0

LOG OF BORING NO. GP-6

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **14.85 ft BLS**

DATE COMPLETED: **5/5/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.75**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.75	0				
						731.75	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	
										Brown micaceous clayey sandy **SILT**; saprolite	
	4	3.4				726.75	10			Orange brown clayey **SILT**; saprolite	
	4	4				721.75	15				▼
	4	4								Brown mottled micaceous silty fine to medium **SAND**; saprolite	
						716.75	20			Boring Terminated at 20 feet	

NOTES:

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LOG OF BORING GP-6

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-6

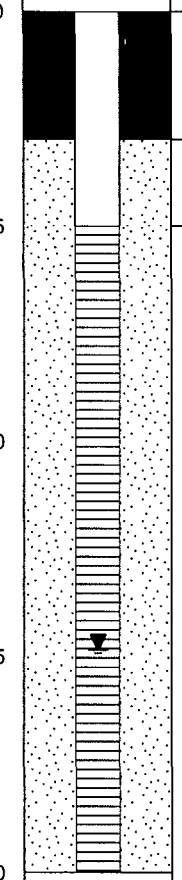
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **14.85 ft BLS**

LATITUDE: **34°47'31.71"**
LONGITUDE: **82°53'44.01"**
TOP OF CASING ELEVATION: **736.73**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/5/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.75
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5		3.00	BS	733.75
				5.00	TSC	731.75
Brown micaceous clayey sandy **SILT**; saprolite		10				
Orange brown clayey **SILT**; saprolite		15				
Brown mottled micaceous silty fine to medium **SAND**; saprolite		20				
Boring Terminated at 20 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **0.02 ft BLS to 5 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **0.52 to 3 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **3 ft to 20 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **5 ft to 20 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-6

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

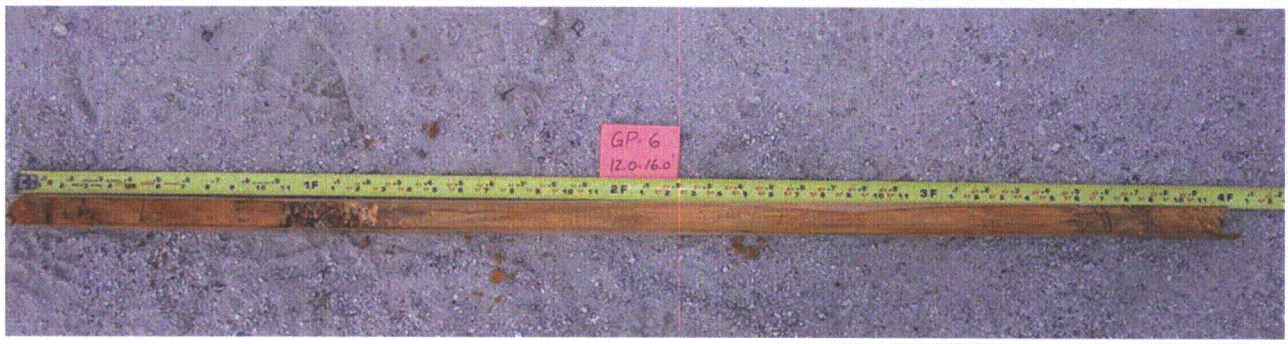
MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

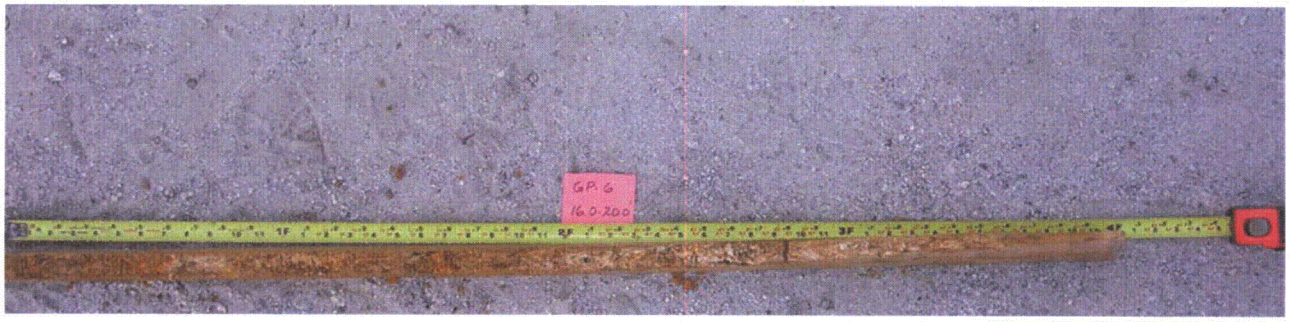
S&ME Project No: 1264-08-195

Boring Number: GP-6

Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0



Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0



Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

LOG OF BORING NO. GP-7

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **12.9 ft BLS**

DATE COMPLETED: **5/6/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **735.99**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						735.99	0				
	4	2.5								Brown micaceous silty **SAND**; saprolite	
	4	3.3				730.99	5				
	4	2.8				725.99	10				▼
	4	4				720.99	15			Red brown micaceous clayey silty **SAND**; saprolite	
	4	4								Brown micaceous silty **SAND**; saprolite	
						715.99	20			Boring Terminated at 20 feet	

NOTES:

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LOG OF BORING GP-7

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-7

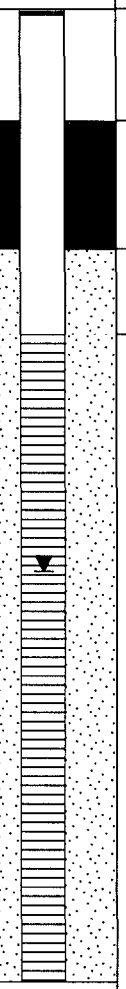
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **12.9 ft BLS**

LATITUDE: **34°47'32.61"**
LONGITUDE: **82°53'44.42"**
TOP OF CASING ELEVATION: **738.41**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/6/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	735.99
Brown micaceous silty **SAND**; saprolite		0		3.00	BS	732.99
		5		5.00	TSC	730.99
		10				
Red brown micaceous clayey silty **SAND**; saprolite		15				
Brown micaceous silty **SAND**; saprolite		20				
Boring Terminated at 20 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.42 ft ALS to 5 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 3 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **3 ft to 20 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **5 ft to 20 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-7

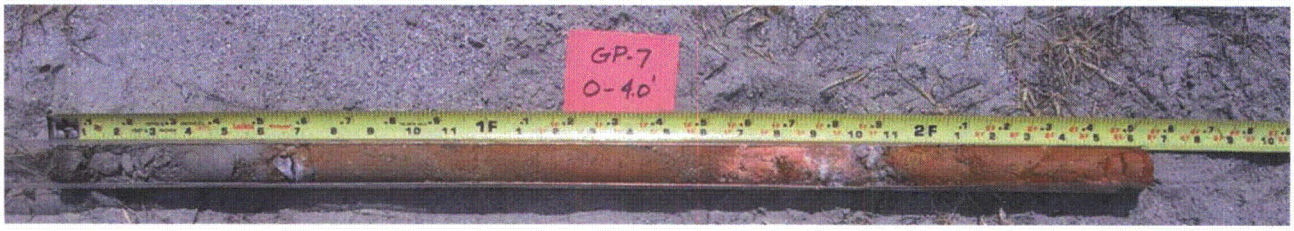
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

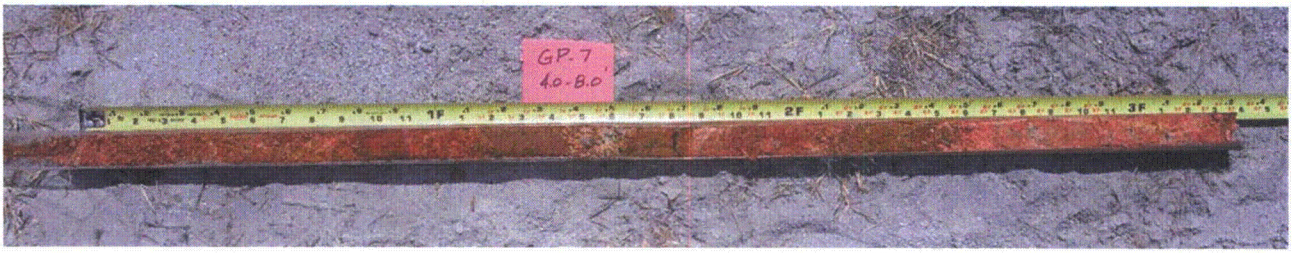
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-7



Sample No: 1 **Depth (ft-bls):** 0.0 - 4.0



Sample No: 2 **Depth (ft-bls):** 4.0 - 8.0

Sample No: 3 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 4 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 5 **Depth (ft-bls):** 16.0 - 20.0

LOG OF BORING NO. GP-8

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **10.14 ft BLS**

DATE COMPLETED: **5/1/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.24**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.24	0				
						731.24	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	▼
	4	4				726.24	10			Brown micaceous sandy **SILT**; saprolite	
	4	4				721.24	15			Brown sandy clayey **SILT**; saprolite	
	4	4				716.24	20			Boring Terminated at 20 feet	

NOTES:

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LOG OF BORING GP-8

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-8

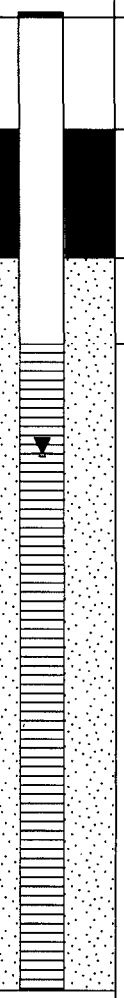
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **10.14 ft BLS**

LATITUDE: **34°47'33.40"**
LONGITUDE: **82°53'44.77"**
TOP OF CASING ELEVATION: **738.83**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/1/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.24
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5		3.00	BS	733.24
				5.00	TSC	731.24
Brown micaceous sandy **SILT**; saprolite		10				
Brown sandy clayey **SILT**; saprolite		15				
Boring Terminated at 20 feet		20				



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.59 ft ALS to 5 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 3 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **3 ft to 20 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **5 ft to 20 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-8

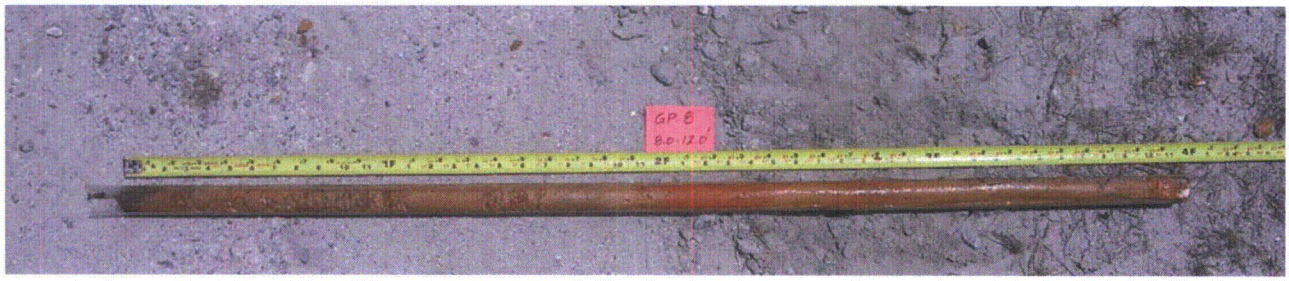
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

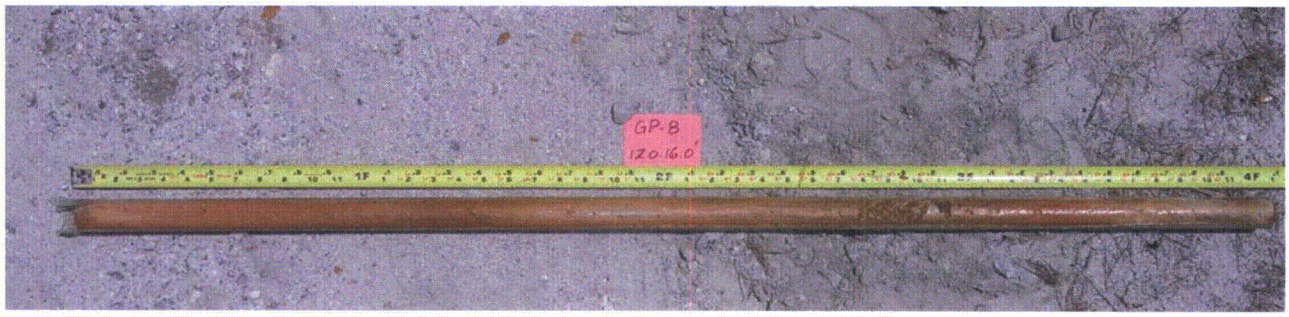
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

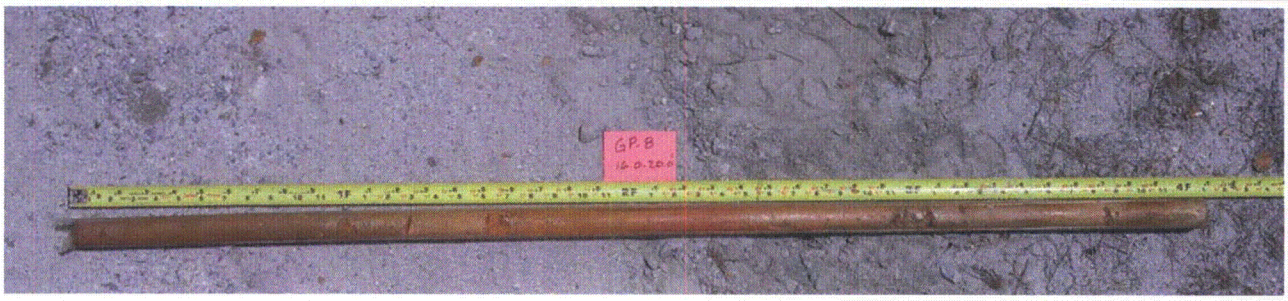
Boring Number: GP-8



Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0



Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0



Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

LOG OF BORING NO. GP-9

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **6.98 ft BLS**

DATE COMPLETED: **4/29/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.35**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.35	0				
						731.35	5			Drilling location had been vacuum excavated to a depth of 7.3 feet below ground surface	▼
	0.7	0.4								Orange brown clayey **SILT**; saprolite	
	4	4				726.35	10			Brown micaceous fine sandy **SILT**; saprolite	
										Orange micaceous clayey **SAND**; saprolite	
	4	4				721.35	15			Brown micaceous silty **SAND**; saprolite	
	4	4									
						716.35	20			Boring Terminated at 20 feet	

NOTES:

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LOG OF BORING GP-9

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-9

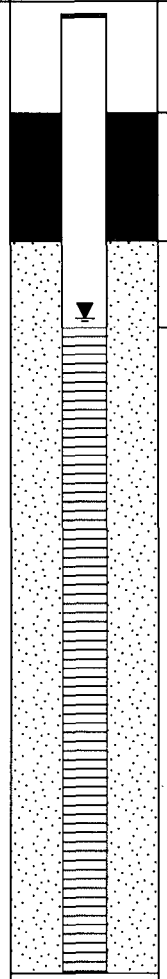
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **6.98 ft BLS**

LATITUDE: **34°47'35.06"**
LONGITUDE: **82°53'45.51"**
TOP OF CASING ELEVATION: **738.54**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **4/29/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.35
Drilling location had been vacuum excavated to a depth of 7.3 feet below ground surface				3.00	BS	733.35
		5		5.00	TSC	731.35
Orange brown clayey **SILT**; saprolite						
Brown micaceous fine sandy **SILT**; saprolite						
Orange micaceous clayey **SAND**; saprolite		10				
Brown micaceous silty **SAND**; saprolite		15				
Boring Terminated at 20 feet		20				



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.19 ft ALS to 5 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 3 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **3 ft to 20 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **5 ft to 20 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-9

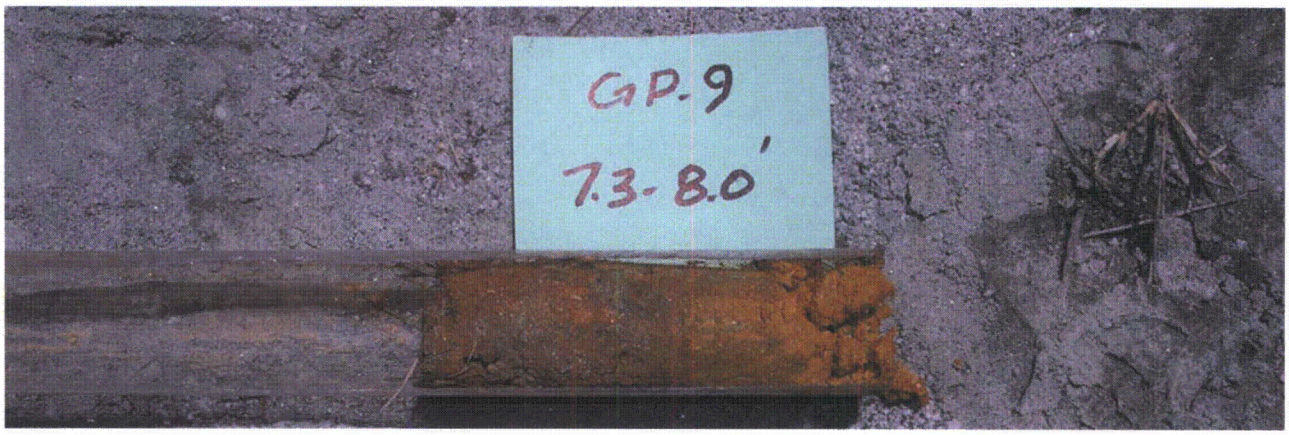
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

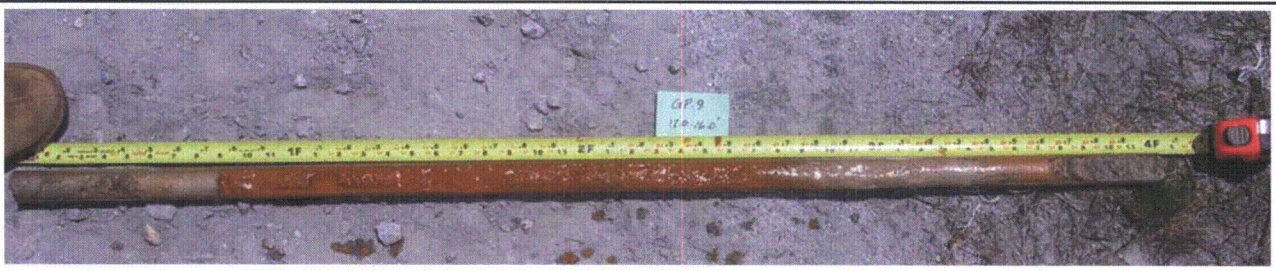
S&ME Project No: 1264-08-195

Boring Number: GP-9



Sample No: 1 **Depth (ft-bls):** 7.3 - 8.0

Sample No: 2 **Depth (ft-bls):** 8.0 - 12.0



Sample No: 3 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 4 **Depth (ft-bls):** 16.0 - 20.0

LOG OF BORING NO. GP-10

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **6.53 ft BLS**

DATE COMPLETED: **4/29/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.70**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.70	0				
						731.70	5			Drilling location had been vacuum excavated to a depth of 7.3 feet below ground surface	▼
	0.7	0.4								Brown micaceous sandy **SILT**; saprolite	
	4	4				726.70	10			Orange brown clayey **SILT**; saprolite Brown micaceous fine sandy **SILT**; saprolite	
										Orange micaceous clayey **SAND**; saprolite	
	4	4								Quartz fragments	
						721.70	15			Brown micaceous silty **SAND**; saprolite	
	4	1.55								Boring Terminated at 18 feet	

NOTES:

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LOG OF BORING GP-10

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-10

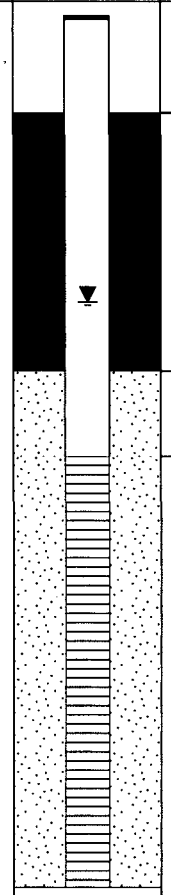
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **6.53 ft BLS**

LATITUDE: **34°47'35.91"**
LONGITUDE: **82°53'45.87"**
TOP OF CASING ELEVATION: **738.84**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **4/29/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	736.70
Drilling location had been vacuum excavated to a depth of 7.3 feet below ground surface		0				
		5		6.00	BS	730.70
				8.00	TSC	728.70
Brown micaceous sandy **SILT**; saprolite						
Orange brown clayey **SILT**; saprolite		10				
Brown micaceous fine sandy **SILT**; saprolite						
Orange micaceous clayey **SAND**; saprolite						
Quartz fragments						
Brown micaceous silty **SAND**; saprolite		15				
Boring Terminated at 18 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.14 ft ALS to 8 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 6 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **6 ft to 18 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **8 ft to 18 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-10

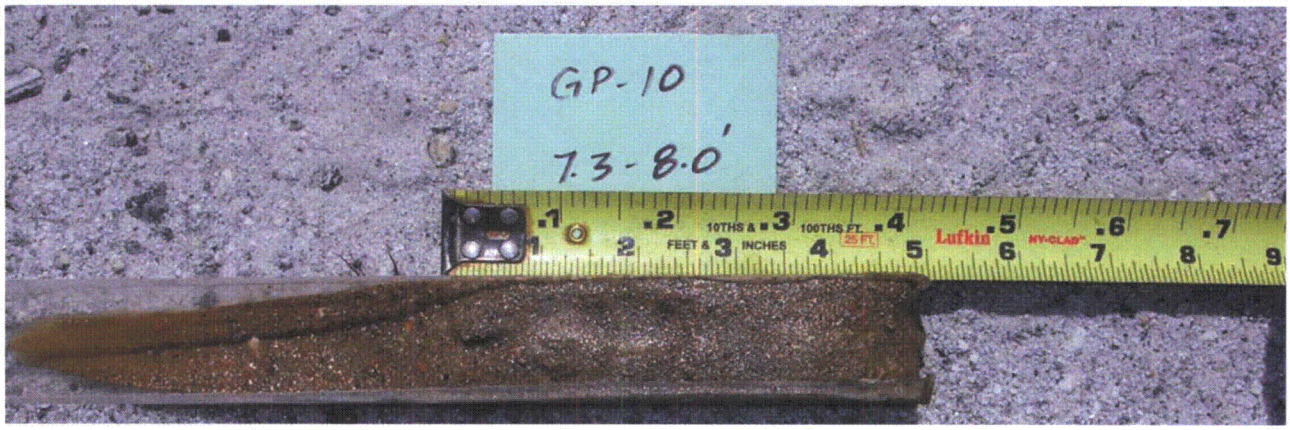
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

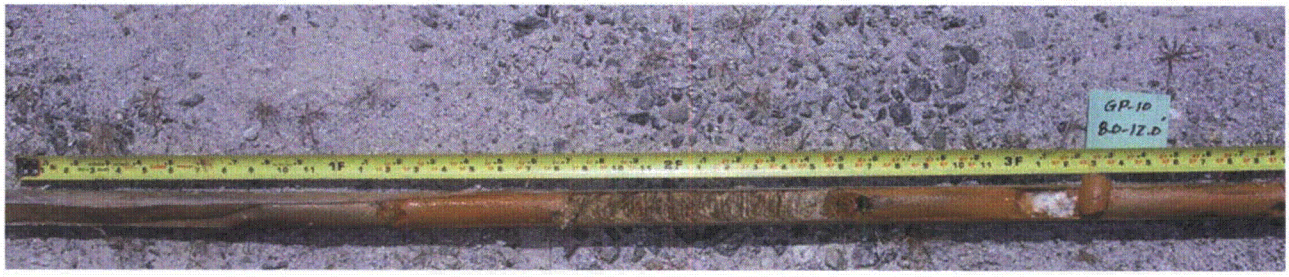
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-10



Sample No: 1 **Depth (ft-bls): 7.3 - 8.0**



Sample No: 2 **Depth (ft-bls): 8.0 - 12.0**

Sample No: 3 **Depth (ft-bls): 16.0 - 18.0**

LOG OF BORING NO. GP-11

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **5.76 ft BLS**

DATE COMPLETED: **4/30/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.16**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.16	0				
						731.16	5			Drilling location had been vacuum excavated to a depth of 7 feet below ground surface	▼
	1	0.75								Brown micaceous sandy **SILT**; saprolite	
	4	3				726.16	10			Brown micaceous clayey sandy **SILT**; saprolite	
	4	4				721.16	15				
	2	2.2									
										Boring Terminated at 18 feet	

NOTES:

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LOG OF BORING GP-11

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-11

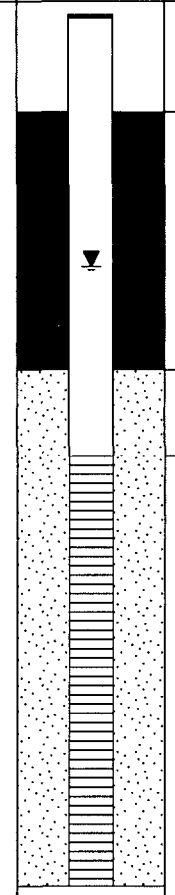
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **5.76 ft BLS**

LATITUDE: **34°47'36.81"**
LONGITUDE: **82°53'45.87"**
TOP OF CASING ELEVATION: **738.32**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **4/30/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.16
Drilling location had been vacuum excavated to a depth of 7 feet below ground surface		5		6.00	BS	730.16
Brown micaceous sandy **SILT**; saprolite				8.00	TSC	728.16
Brown micaceous clayey sandy **SILT**; saprolite		10, 15				
Boring Terminated at 18 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.16 ft ALS to 8 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 6 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **6 ft to 18 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **8 ft to 18 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-11

Sheet 1 of 1

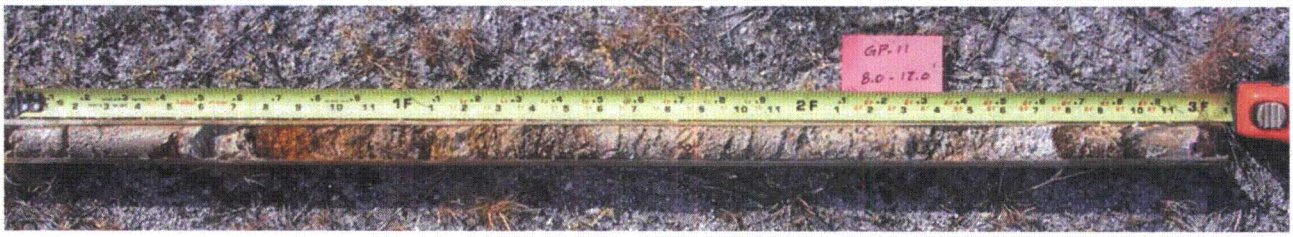
MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

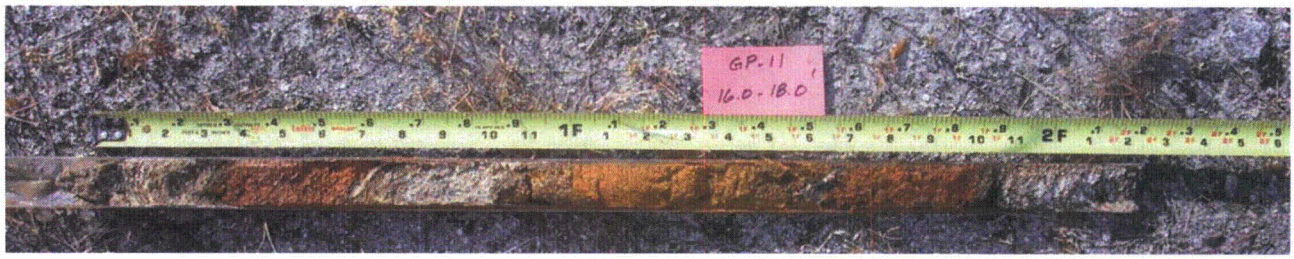
Boring Number: GP-11

Sample No: 1 **Depth (ft-bls):** 7.0 - 8.0



Sample No: 2 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 3 **Depth (ft-bls):** 12.0 - 16.0



Sample No: 4 **Depth (ft-bls):** 16.0 - 18.0

LOG OF BORING NO. GP-12

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **6.23 ft BLS**

DATE COMPLETED: **4/30/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.26**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.26	0				
						731.26	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	▼
	4	2.8				726.26	10			Brown micaceous sandy **SILT**, with quartz fragments; saprolite	
	4	4				721.26	15				
	2	2									
										Boring Terminated at 18 feet	

NOTES:

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LOG OF BORING GP-12

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-12

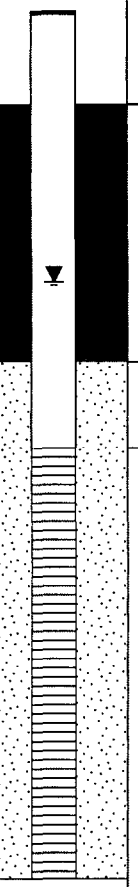
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **6.23 ft BLS**

LATITUDE: **34°47'37.19"**
LONGITUDE: **82°53'44.89"**
TOP OF CASING ELEVATION: **738.33**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **4/30/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.26
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5		6.00	BS	730.26
				8.00	TSC	728.26
Brown micaceous sandy **SILT**, with quartz fragments; saprolite		10				
		15				
Boring Terminated at 18 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.07 ft ALS to 8 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 6 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **6 ft to 18 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **8 ft to 18 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-12

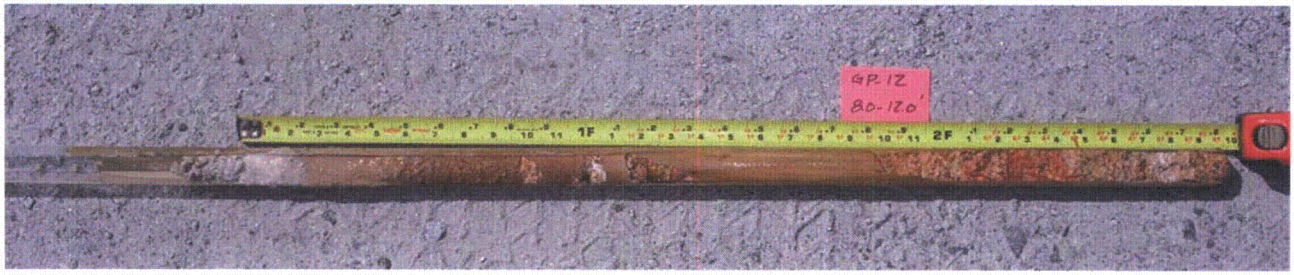
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

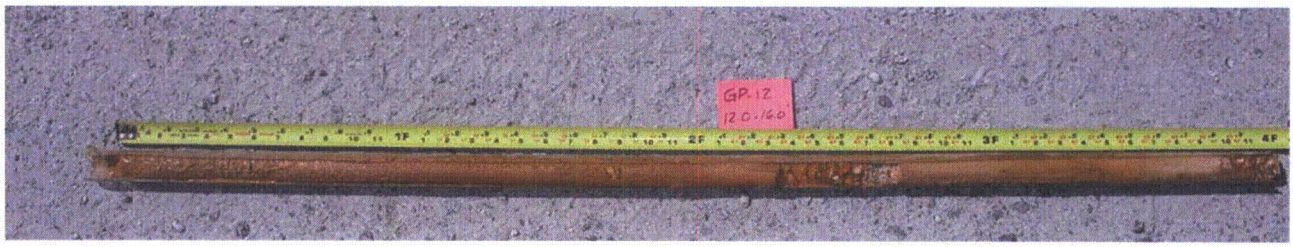
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-12



Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0



Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 3 **Depth (ft-bls):** 16.0 - 18.0

LOG OF BORING NO. GP-13

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **4.39 ft BLS**

DATE COMPLETED: **4/30/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.12**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

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SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.12	0				
						731.12	5			Drilling location had been vacuum excavated to a depth of 7 feet below ground surface	▼
	1	0.42								Brown micaceous sandy **SILT**; saprolite	
	4	3				726.12	10			Red brown micaceous clayey **SILT**; saprolite	
	4	4				721.12	15				
	2	0								No recovery	
										Boring Terminated at 18 feet	

NOTES:

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LOG OF BORING GP-13

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-13

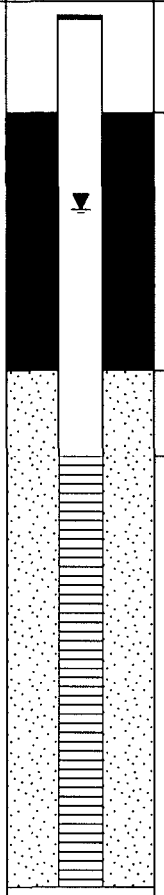
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **4.39 ft BLS**

LATITUDE: **34°47'37.49"**
LONGITUDE: **82°53'43.88"**
TOP OF CASING ELEVATION: **738.26**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **4/30/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.12
Drilling location had been vacuum excavated to a depth of 7 feet below ground surface		5		6.00	BS	730.12
Brown micaceous sandy **SILT**; saprolite				8.00	TSC	728.12
Red brown micaceous clayey **SILT**; saprolite		10				
		15				
No recovery						
Boring Terminated at 18 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.14 ft ALS to 8 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 6 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **6 ft to 18 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **8 ft to 18 ft**

LEGEND
- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-13

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

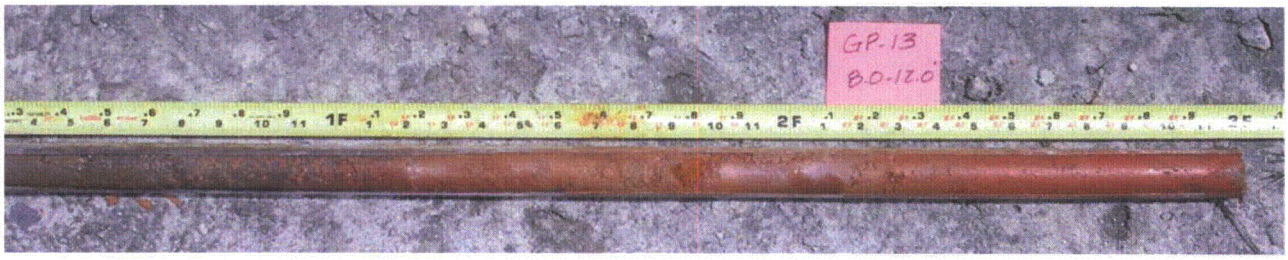
MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-13

Sample No: 1 **Depth (ft-bls):** 7.0 - 8.0



Sample No: 2 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 3 **Depth (ft-bls):** 12.0 - 16.0

LOG OF BORING NO. GP-14

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **3.8 ft BLS**

DATE COMPLETED: **5/1/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.39**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.39	0				
						731.39	5			Drilling location had been vacuum excavated to a depth of 7 feet below ground surface	▼
	1	1								Brown micaceous sandy **SILT**; saprolite	
	4	4				726.39	10			Brown micaceous clayey **SILT**; saprolite	
	4	4				721.39	15				
	4	4								Tan micaceous clayey **SAND**	
						716.39	20			Boring Terminated at 20 feet	

NOTES:

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LOG OF BORING GP-14

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-14

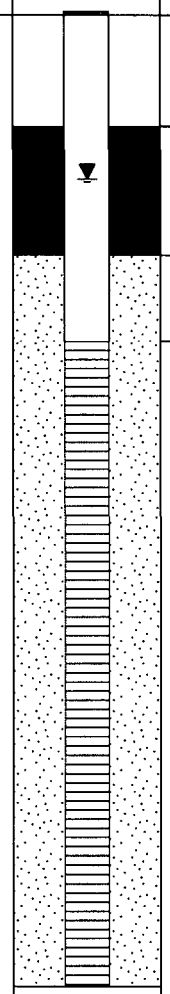
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **3.8 ft BLS**

LATITUDE: **34°47'37.80"**
LONGITUDE: **82°53'42.85"**
TOP OF CASING ELEVATION: **738.95**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/1/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.39
Drilling location had been vacuum excavated to a depth of 7 feet below ground surface				3.00	BS	733.39
		5		5.00	TSC	731.39
Brown micaceous sandy **SILT**; saprolite						
		10				
Brown micaceous clayey **SILT**; saprolite						
		15				
Tan micaceous clayey **SAND**						
		20				
Boring Terminated at 20 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.56 ft ALS to 5 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 3 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **3 ft to 20 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **5 ft to 20 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-14

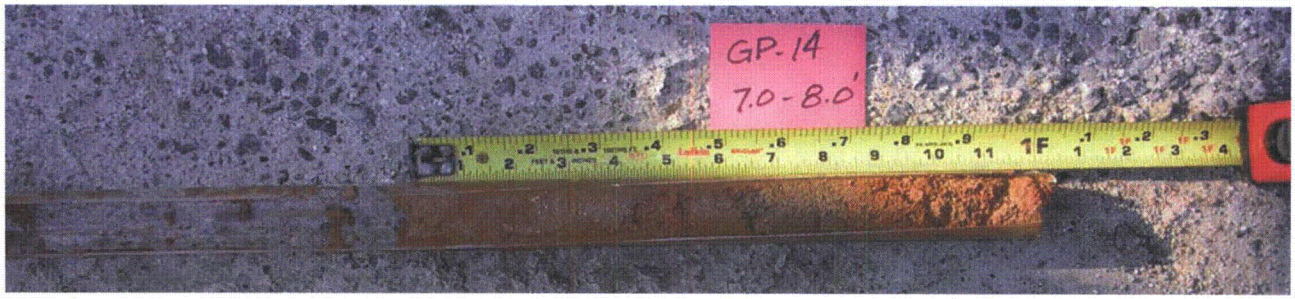
TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

MACRO-CORE SOIL SAMPLE PICTURES

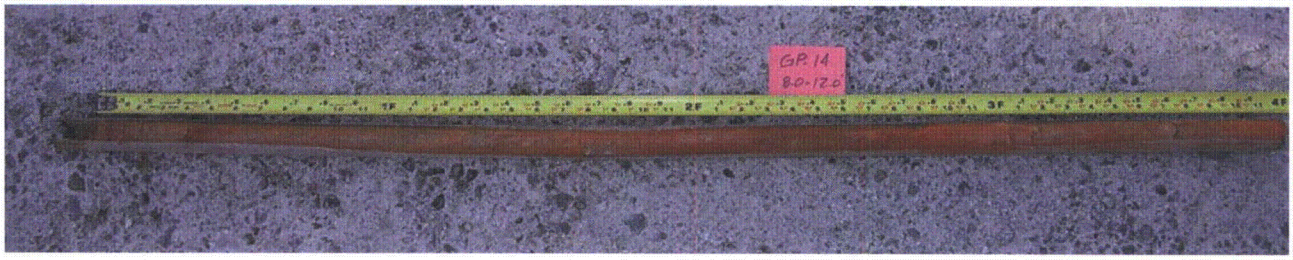
Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-14



Sample No: 1 **Depth (ft-bls):** 7.0 - 8.0



Sample No: 2 **Depth (ft-bls):** 8.0 - 12.0

Sample No: 3 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 4 **Depth (ft-bls):** 16.0 - 20.0

LOG OF BORING NO. GP-15

PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **2.51 ft BLS**

DATE COMPLETED: **5/1/08**
DRILLING CONTRACTOR: **S&ME**
DRILLER: **A. Jennings**
DRILLING METHOD: **Direct-Push**
SAMPLING METHOD: **Macro-Core**

GROUND SURFACE ELEVATION: **736.28**
DATUM: **MSL**
WEATHER: **Sunny**
LOGGED BY: **S. Dacus**

This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

SAMPLE NUMBER	SAMPLE ADVANCE (ft.)	SAMPLE RECOVERY (ft.)	N-VALUE (blows / foot)	% RQD	OVA (ppm)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
						736.28	0				▼
						731.28	5			Drilling location had been vacuum excavated to a depth of 8 feet below ground surface	
	4	2.3				726.28	10			Brown micaceous silty **SAND**; saprolite	
	4	4				721.28	15			Brown silty sandy **CLAY**; saprolite	
	4	4				716.28	20			Tan micaceous silty sandy **CLAY**	
										Boring Terminated at 20 feet	

NOTES:

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LOG OF BORING GP-15

ENV BORING LOG 6408195.GPJ S&ME.GDT 8/29/08

COMPLETION REPORT OF TEMPORARY WELL No. GP-15

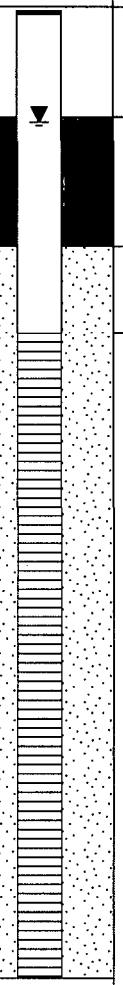
PROJECT: **Oconee Nuclear Station**
PROJECT NO: **1264-08-195**
PROJECT LOCATION: **Seneca, South Carolina**

WATER LEVEL: **2.51 ft BLS**

LATITUDE: **34°47'38.10"**
LONGITUDE: **82°53'41.85"**
TOP OF CASING ELEVATION: **738.66**
DATUM: **MSL**
LOGGED BY: **S. Dacus**

DRILLING CONTRACTOR: **S&ME**
DRILLING METHOD: **Direct-Push**
DATE COMPLETED: **5/1/08**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
		0		0.00	GS	736.28
Drilling location had been vacuum excavated to a depth of 8 feet below ground surface		5		3.00	BS	733.28
				5.00	TSC	731.28
Brown micaceous silty **SAND**; saprolite		10				
Brown silty sandy **CLAY**; saprolite		15				
Tan micaceous silty sandy **CLAY**		20				
Boring Terminated at 20 feet						



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter:
Type:
Interval:

RISER CASING
Diameter: **0.75 inch**
Type: **PVC**
Interval: **2.38 ft ALS to 5 ft BLS**

GROUT
Type: **Granular Bentonite**
Interval: **GS to 3 ft**

SEAL
Type:
Interval:

FILTERPACK
Type: **#1 Sand**
Interval: **3 ft to 20 ft**

SCREEN
Diameter: **0.75 inch**
Type: **PVC with Pre-packed Sand**
Interval: **5 ft to 20 ft**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
BOC	BASE OF OUTER CASING
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF TEMPORARY WELL No. GP-15

TEMP MONITORING WELL 6408195.GPJ S&ME.GDT 8/29/08

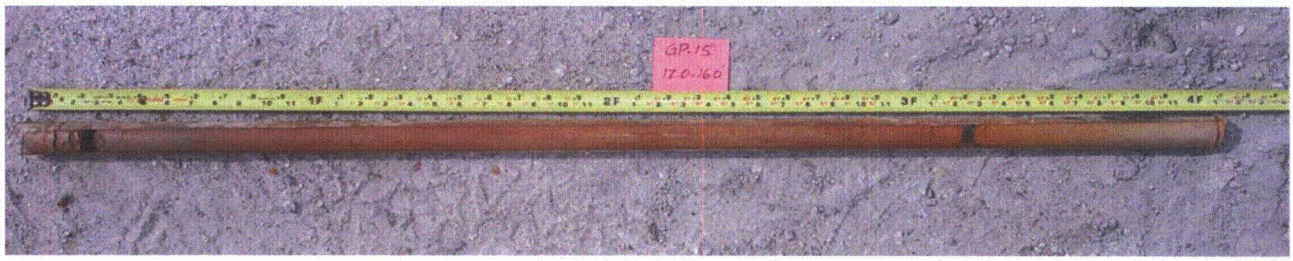
MACRO-CORE SOIL SAMPLE PICTURES

Oconee Nuclear Station - Groundwater Protection Project

S&ME Project No: 1264-08-195

Boring Number: GP-15

Sample No: 1 **Depth (ft-bls):** 8.0 - 12.0



Sample No: 2 **Depth (ft-bls):** 12.0 - 16.0

Sample No: 3 **Depth (ft-bls):** 16.0 - 20.0

APPENDIX F

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 01308

2. Page 1 of

3. Generator's Name and Mailing Address
Bill Lindsay
Oconee Nuclear Station
7800 Rockchester Hwy 135
Seneca, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name: STAT, INC

6. US EPA ID Number: WCD980799142

A. State Transporter's ID

B. Transporter 1 Phone: 800 627 1451

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
STAT, INC
3062 Eli Lane
Hudson, NC 28638

10. US EPA ID Number: WCD980799142

E. State Facility's ID

F. Facility's Phone: 800 627 1451

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Soil + gravel	001	CM	½	T
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
1-800 627 1451 G. Sparks

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: William H. Lindsay
Signature: William H Lindsay
Date: Month 1 Day 30 Year 08

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Kevin Walker
Signature: Kevin Walker
Date: Month 1 Day 30 Year 08

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.
STAT
Printed/Typed Name: Kathy Eckard
Signature: Kathy Eckard
Date: Month 01 Day 30 Year 08

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

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RAIN FOR RENT

INVOICE

RAIN FOR RENT

NORTH CAROLINA
4350 GOLF ACRES DRIVE
CHARLOTTE, NC 28208-5861
704-393-3345

RENTAL RETURN WORKSHEET

BILL TO: S&ME
155 TRADD STREET
SPARTANBURG SC 29301

SHIP TO: S&ME
OCONEE NUCLEAR PLANT
HWY 130
SENECA, SC 29672

CUSTOMER PICKUP

CONTRACT #: 028000321
DATE PRINTED: 01/31/2008
SITE:
DIVISION: 028
SM: 33489
PO#:
CUSTOMER: 280446
TEL: 864-574-2360
TERMS:

PAGE: 1 IC1

RETURN DATE: _____

DATE OFF RENT: _____

CYCLE BILLING

PRODUCT #	DESCRIPTION	QTY OUT	SEQ	RETURN	SOLD	MISSING
279168	BOX-FILTER 25 YD	1.00	001	1		
721084	GATE VALVE BR 4	1.00	003			
320046	400-F DX MALE ADAPT MNPT 4	1.00	004			
322038	400-B DIX FEM COUP MNPT 4	1.00	005			

tarp torn.
Fittings & gate valve missing
Stat. Inc brought to yard.

TC

STOMER (RENTEE or BUYER as context requires), shall be deemed to accept terms, conditions and provisions hereof upon execution of this agreement, ordering, or delivery of equipment to customer, whichever comes first.

Date:

SIGNATURE TITLE DATE

THIS IS AN AGREEMENT, READ BOTH SIDES BEFORE SIGNING.

pts_td

BRANCH A/R

APPENDIX G

Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE
Location: MW-RP01
Type: BURIAL WELL

Sample #: 28000018
Collection Date: 1/9/2008 10:30:00
ONS TUBE BURIAL / MW-RP01

ALPHAH20_P — GROSS ALPHA WATER ANALYSIS (PICOCURIES)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
ALPHA	3.160E-01	1.940E-01	0.627	No limits specified

BETAH20 — GROSS BETA WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
BETA	< 1.49E-01		1.25	No limits specified

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.525E+00	0.000E+00	3.525	No limits specified
CO58	< 4.688E+00	0.000E+00	4.688	No limits specified
FE59	< 9.614E+00	0.000E+00	9.614	No limits specified
CO60	< 5.045E+00	0.000E+00	5.045	No limits specified
ZN65	< 7.779E+00	0.000E+00	7.779	No limits specified
NB95	< 4.846E+00	0.000E+00	4.846	No limits specified
ZR95	< 7.244E+00	0.000E+00	7.244	No limits specified
I131	< 5.662E+00	0.000E+00	5.662	No limits specified
CS134	< 4.306E+00	0.000E+00	4.306	No limits specified
CS137	< 4.164E+00	0.000E+00	4.164	No limits specified
BALA140	< 5.728E+00	0.000E+00	5.728	No limits specified
BE7	< 3.381E+01	0.000E+00	33.81	No limits specified
K40	1.485E+02	2.710E+01	42.59	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -1.64E+02		190	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 4.97
Temp Celcius (degrees C) 19.8
Dissolved Oxygen (mg/L) 1.63
Spec. Cond. (field) micromhos/cm 20
Oxidation Reduction Potential (ORP)(mV) 468
Turbidity (field) NTU 2.1

Station: OCONEE
Location: MW-RP02
Type: BURIAL WELL

Sample #: 28000019
Collection Date: 1/9/2008 08:50:00
ONS TUBE BURIAL / MW-RP02

ALPHAH20_P — GROSS ALPHA WATER ANALYSIS (PICOCURIES)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
ALPHA	5.260E-01	2.200E-01	0.648	No limits specified

EnRad Laboratories @ Duke Energy
13339 Hagers Ferry Road
Huntersville, NC 28078-7929

Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE
Location: MW-RP02
Type: BURIAL WELL

Sample #: 28000019
Collection Date: 1/9/2008 08:50:00
ONS TUBE BURIAL / MW-RP02

BETAH20 — GROSS BETA WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
BETA	1.280E+00	3.990E-01	1.25	No limits specified

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.470E+00	0.000E+00	5.470	No limits specified
CO58	< 5.434E+00	0.000E+00	5.434	No limits specified
FE59	< 9.048E+00	0.000E+00	9.048	No limits specified
CO60	< 5.552E+00	0.000E+00	5.552	No limits specified
ZN65	< 9.869E+00	0.000E+00	9.869	No limits specified
NB95	< 6.455E+00	0.000E+00	6.455	No limits specified
ZR95	< 9.623E+00	0.000E+00	9.623	No limits specified
I131	< 7.812E+00	0.000E+00	7.812	No limits specified
CS134	< 4.263E+00	0.000E+00	4.263	No limits specified
CS137	< 4.393E+00	0.000E+00	4.393	No limits specified
BALA140	< 9.209E+00	0.000E+00	9.209	No limits specified
BE7	< 3.858E+01	0.000E+00	38.58	No limits specified
K40	7.126E+01	1.940E+01	37.84	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -6.43E+01		188	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 6.09
Temp Celcius (degrees C) 19.05
Dissolved Oxygen (mg/L) .25
Spec. Cond. (field) micromhos/cm 60.6
Oxidation Reduction Potential (ORP)(mV) 285
Turbidity (field) NTU 13.1

Station: OCONEE
Location: MW-RP03
Type: BURIAL WELL

Sample #: 28000020
Collection Date: 1/9/2008 10:25:00
ONS TUBE BURIAL / MW-RP03

ALPHAH20_P — GROSS ALPHA WATER ANALYSIS (PICOCURIES)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
ALPHA	3.240E-01	2.000E-01	0.648	No limits specified

BETAH20 — GROSS BETA WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
BETA	7.380E-01	3.860E-01	1.25	No limits specified

EnRad Laboratories @ Duke Energy
13339 Hagers Ferry Road
Huntersville, NC 28078-7929

Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE
Location: MW-RP03
Type: BURIAL WELL

Sample #: 28000020
Collection Date: 1/9/2008 10:25:00
ONS TUBE BURIAL / MW-RP03

GAMMAGW | GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.990E+00	0.000E+00	4.990	No limits specified
CO58	< 7.369E+00	0.000E+00	7.369	No limits specified
FE59	< 1.292E+01	0.000E+00	12.92	No limits specified
CO60	< 5.851E+00	0.000E+00	5.851	No limits specified
ZN65	< 9.463E+00	0.000E+00	9.463	No limits specified
NB95	< 7.245E+00	0.000E+00	7.245	No limits specified
ZR95	< 1.002E+01	0.000E+00	10.02	No limits specified
I131	< 8.731E+00	0.000E+00	8.731	No limits specified
CS134	< 7.295E+00	0.000E+00	7.295	No limits specified
CS137	< 6.523E+00	0.000E+00	6.523	No limits specified
BALA140	< 1.069E+01	0.000E+00	10.69	No limits specified
BE7	< 6.252E+01	0.000E+00	62.52	No limits specified
K40	6.958E+01	2.572E+01	85.50	No limits specified

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -7.92E+01		187	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 5.71
Temp Celcius (degrees C) 19.17
Dissolved Oxygen (mg/L) 2.02
Spec. Cond. (field) micromhos/cm 30.9
Oxidation Reduction Potential (ORP)(mV) 320
Turbidity (field) NTU 16.2

Station: OCONEE
Location: A-1
Type: CTP GWATER

Sample #: 28000021
Collection Date: 1/9/2008 08:15:00
ONS GROUND WATER PROTECTION PROGRAM / A-1

GAMMAGW | GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.477E+00	0.000E+00	4.477	No limits specified
CO58	< 4.308E+00	0.000E+00	4.308	No limits specified
FE59	< 8.662E+00	0.000E+00	8.662	No limits specified
CO60	< 5.106E+00	0.000E+00	5.106	No limits specified
ZN65	< 9.882E+00	0.000E+00	9.882	No limits specified
NB95	< 5.298E+00	0.000E+00	5.298	No limits specified
ZR95	< 7.339E+00	0.000E+00	7.339	No limits specified
I131	< 5.329E+00	0.000E+00	5.329	No limits specified
CS134	< 4.850E+00	0.000E+00	4.850	No limits specified
CS137	< 4.133E+00	0.000E+00	4.133	No limits specified
BALA140	< 5.816E+00	0.000E+00	5.816	No limits specified
BE7	< 3.908E+01	0.000E+00	39.08	No limits specified
K40	5.424E+01	2.740E+01	47.07	No limits specified

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000021**
Location: A-1 | **Collection Date: 1/9/2008 08:15:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-1**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.120E+03	7.696E+01	159	No limits specified

Field Parameters

Elevation (ft (msl)) 793.44
pH (field) SU 6.51
Temp Celcius (degrees C) 18.07
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 181
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 3.5

Station: OCONEE | **Sample #: 28000022**
Location: A-2 | **Collection Date: 1/8/2008 11:30:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-2**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.816E+00	0.000E+00	3.816	No limits specified
CO58	< 4.121E+00	0.000E+00	4.121	No limits specified
FE59	< 7.906E+00	0.000E+00	7.906	No limits specified
CO60	< 4.685E+00	0.000E+00	4.685	No limits specified
ZN65	< 8.915E+00	0.000E+00	8.915	No limits specified
NB95	< 4.670E+00	0.000E+00	4.670	No limits specified
ZR95	< 7.030E+00	0.000E+00	7.030	No limits specified
I131	< 4.336E+00	0.000E+00	4.336	No limits specified
CS134	< 3.833E+00	0.000E+00	3.833	No limits specified
CS137	< 3.737E+00	0.000E+00	3.737	No limits specified
BALA140	< 5.396E+00	0.000E+00	5.396	No limits specified
BE7	< 3.168E+01	0.000E+00	31.68	No limits specified
K40	< 5.260E+01	0.000E+00	52.60	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	4.890E+02	5.590E+01	158	No limits specified

Field Parameters

Elevation (ft (msl)) 793.31
pH (field) SU 6.37
Temp Celcius (degrees C) 19.38
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 126
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 1.6

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000023**
Location: A-8 | **Collection Date: 1/9/2008 09:45:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-8**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.725E+00	0.000E+00	3.725	No limits specified
CO58	< 3.280E+00	0.000E+00	3.280	No limits specified
FE59	< 7.750E+00	0.000E+00	7.750	No limits specified
CO60	< 3.565E+00	0.000E+00	3.565	No limits specified
ZN65	< 8.858E+00	0.000E+00	8.858	No limits specified
NB95	< 4.100E+00	0.000E+00	4.100	No limits specified
ZR95	< 6.422E+00	0.000E+00	6.422	No limits specified
I131	< 4.284E+00	0.000E+00	4.284	No limits specified
CS134	< 3.787E+00	0.000E+00	3.787	No limits specified
CS137	< 3.455E+00	0.000E+00	3.455	No limits specified
BALA140	< 5.648E+00	0.000E+00	5.648	No limits specified
BE7	< 3.182E+01	0.000E+00	31.82	No limits specified
K40	< 6.517E+01	0.000E+00	65.17	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	1.740E+02	5.100E+01	158	No limits specified

Field Parameters

Elevation (ft (msl)) 800.08
pH (field) SU 5.41
Temp Celcius (degrees C) 18
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 53.2
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 1.51

Station: OCONEE | **Sample #: 28000024**
Location: A-9 | **Collection Date: 1/7/2008 13:45:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-9**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.854E+00	0.000E+00	3.854	No limits specified
CO58	< 4.595E+00	0.000E+00	4.595	No limits specified
FE59	< 8.939E+00	0.000E+00	8.939	No limits specified
CO60	< 5.085E+00	0.000E+00	5.085	No limits specified
ZN65	< 9.834E+00	0.000E+00	9.834	No limits specified
NB95	< 4.475E+00	0.000E+00	4.475	No limits specified
ZR95	< 7.665E+00	0.000E+00	7.665	No limits specified
I131	< 6.608E+00	0.000E+00	6.608	No limits specified
CS134	< 3.804E+00	0.000E+00	3.804	No limits specified
CS137	< 4.098E+00	0.000E+00	4.098	No limits specified
BALA140	< 6.959E+00	0.000E+00	6.959	No limits specified
BE7	< 3.767E+01	0.000E+00	37.67	No limits specified
K40	6.147E+01	2.431E+01	48.99	No limits specified

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000024**
Location: A-9 | **Collection Date: 1/7/2008 13:45:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-9**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.740E+03	8.350E+01	159	No limits specified

Field Parameters

Elevation (ft (msl)) 792.82
pH (field) SU 5.98
Temp Celcius (degrees C) 19.23
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 361.1
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 3.28

Station: OCONEE | **Sample #: 28000025**
Location: A-10 | **Collection Date: 1/9/2008 12:45:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-10**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.669E+00	0.000E+00	4.669	No limits specified
CO58	< 4.642E+00	0.000E+00	4.642	No limits specified
FE59	< 9.570E+00	0.000E+00	9.570	No limits specified
CO60	< 4.931E+00	0.000E+00	4.931	No limits specified
ZN65	< 9.864E+00	0.000E+00	9.864	No limits specified
NB95	< 6.545E+00	0.000E+00	6.545	No limits specified
ZR95	< 8.027E+00	0.000E+00	8.027	No limits specified
I131	< 5.615E+00	0.000E+00	5.615	No limits specified
CS134	< 5.160E+00	0.000E+00	5.160	No limits specified
CS137	< 4.803E+00	0.000E+00	4.803	No limits specified
BALA140	< 6.839E+00	0.000E+00	6.839	No limits specified
BE7	< 3.905E+01	0.000E+00	39.05	No limits specified
K40	7.125E+01	3.093E+01	57.07	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	5.340E+02	5.630E+01	157	No limits specified

Field Parameters

Elevation (ft (msl)) 691.05
pH (field) SU 6.23
Temp Celcius (degrees C) 18.46
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 146.1
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 1.83

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000026**
Location: A-11 | **Collection Date: 1/9/2008 12:50:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-11**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.014E+00	0.000E+00	5.014	No limits specified
CO58	< 4.342E+00	0.000E+00	4.342	No limits specified
FE59	< 8.623E+00	0.000E+00	8.623	No limits specified
CO60	< 5.072E+00	0.000E+00	5.072	No limits specified
ZN65	< 9.983E+00	0.000E+00	9.983	No limits specified
NB95	< 5.578E+00	0.000E+00	5.578	No limits specified
ZR95	< 7.145E+00	0.000E+00	7.145	No limits specified
I131	< 4.839E+00	0.000E+00	4.839	No limits specified
CS134	< 4.609E+00	0.000E+00	4.609	No limits specified
CS137	< 4.231E+00	0.000E+00	4.231	No limits specified
BALA140	< 5.586E+00	0.000E+00	5.586	No limits specified
BE7	< 3.736E+01	0.000E+00	37.36	No limits specified
K40	9.784E+01	2.391E+01	45.02	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.780E+02	5.270E+01	158	No limits specified

Field Parameters

Elevation (ft (msl)) 695.48
pH (field) SU 5.51
Temp Celcius (degrees C) 17.51
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 47
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 2.42

Station: OCONEE | **Sample #: 28000027**
Location: A-12 | **Collection Date: 1/9/2008 10:55:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-12**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.666E+00	0.000E+00	3.666	No limits specified
CO58	< 3.868E+00	0.000E+00	3.868	No limits specified
FE59	< 7.759E+00	0.000E+00	7.759	No limits specified
CO60	< 3.549E+00	0.000E+00	3.549	No limits specified
ZN65	< 7.933E+00	0.000E+00	7.933	No limits specified
NB95	< 5.019E+00	0.000E+00	5.019	No limits specified
ZR95	< 6.244E+00	0.000E+00	6.244	No limits specified
I131	< 4.329E+00	0.000E+00	4.329	No limits specified
CS134	< 3.519E+00	0.000E+00	3.519	No limits specified
CS137	< 3.675E+00	0.000E+00	3.675	No limits specified
BALA140	< 5.118E+00	0.000E+00	5.118	No limits specified
BE7	< 3.157E+01	0.000E+00	31.57	No limits specified
K40	1.357E+02	2.502E+01	39.48	No limits specified

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000027**
Location: A-12 | **Collection Date: 1/9/2008 10:55:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-12**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -5.84E+01	157	No limits specified

Field Parameters

Elevation (ft (msl)) 709.21
pH (field) SU 5.1
Temp Celcius (degrees C) 16.34
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 18.4
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 4.1

Station: OCONEE | **Sample #: 28000028**
Location: A-13 | **Collection Date: 1/7/2008 15:50:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-13**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 3.478E+00	0.000E+00	3.478	No limits specified
CO58	< 4.205E+00	0.000E+00	4.205	No limits specified
FE59	< 7.276E+00	0.000E+00	7.276	No limits specified
CO60	< 3.909E+00	0.000E+00	3.909	No limits specified
ZN65	< 9.508E+00	0.000E+00	9.508	No limits specified
NB95	< 4.810E+00	0.000E+00	4.810	No limits specified
ZR95	< 6.687E+00	0.000E+00	6.687	No limits specified
I131	< 5.584E+00	0.000E+00	5.584	No limits specified
CS134	< 3.887E+00	0.000E+00	3.887	No limits specified
CS137	< 3.631E+00	0.000E+00	3.631	No limits specified
BALA140	< 5.005E+00	0.000E+00	5.005	No limits specified
BE7	< 3.845E+01	0.000E+00	38.45	No limits specified
K40	8.591E+01	2.009E+01	45.89	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	1.410E+03	6.870E+01	159	No limits specified

Field Parameters

Elevation (ft (msl)) 787.03
pH (field) SU 6.32
Temp Celcius (degrees C) 19.33
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 331
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 60.8

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000029**
Location: A-14 | **Collection Date: 1/7/2008 17:00:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-14**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.618E+00	0.000E+00	4.618	No limits specified
CO58	< 5.104E+00	0.000E+00	5.104	No limits specified
FE59	< 9.456E+00	0.000E+00	9.456	No limits specified
CO60	< 5.073E+00	0.000E+00	5.073	No limits specified
ZN65	< 9.668E+00	0.000E+00	9.668	No limits specified
NB95	< 6.662E+00	0.000E+00	6.662	No limits specified
ZR95	< 7.580E+00	0.000E+00	7.580	No limits specified
I131	< 6.768E+00	0.000E+00	6.768	No limits specified
CS134	< 5.212E+00	0.000E+00	5.212	No limits specified
CS137	< 4.928E+00	0.000E+00	4.928	No limits specified
BALA140	< 7.370E+00	0.000E+00	7.370	No limits specified
BE7	< 4.471E+01	0.000E+00	44.71	No limits specified
K40	1.200E+02	2.840E+01	48.52	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	1.540E+03	6.970E+01	157	No limits specified

Field Parameters

Elevation (ft (msl)) 785.05
pH (field) SU 6.29
Temp Celcius (degrees C) 19.67
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 198.9
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 278

Station: OCONEE | **Sample #: 28000030**
Location: A-17 | **Collection Date: 1/8/2008 13:50:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-17**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.919E+00	0.000E+00	4.919	No limits specified
CO58	< 5.531E+00	0.000E+00	5.531	No limits specified
FE59	< 8.818E+00	0.000E+00	8.818	No limits specified
CO60	< 6.311E+00	0.000E+00	6.311	No limits specified
ZN65	< 9.513E+00	0.000E+00	9.513	No limits specified
NB95	< 5.521E+00	0.000E+00	5.521	No limits specified
ZR95	< 8.248E+00	0.000E+00	8.248	No limits specified
I131	< 6.556E+00	0.000E+00	6.556	No limits specified
CS134	< 5.350E+00	0.000E+00	5.350	No limits specified
CS137	< 5.135E+00	0.000E+00	5.135	No limits specified
BALA140	< 7.531E+00	0.000E+00	7.531	No limits specified
BE7	< 3.706E+01	0.000E+00	37.06	No limits specified
K40	6.562E+01	3.612E+01	64.77	No limits specified

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE | **Sample #: 28000030**
Location: A-17 | **Collection Date: 1/8/2008 13:50:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-17**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	3.820E+02	5.295E+01	154	No limits specified

Field Parameters

Elevation (ft (msl)) 791.24
pH (field) SU 6.35
Temp Celcius (degrees C) 20.85
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 49
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 55.6

Station: OCONEE | **Sample #: 28000031**
Location: A-18 | **Collection Date: 1/8/2008 12:55:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-18**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.283E+00	0.000E+00	4.283	No limits specified
CO58	< 3.918E+00	0.000E+00	3.918	No limits specified
FE59	< 9.595E+00	0.000E+00	9.595	No limits specified
CO60	< 5.824E+00	0.000E+00	5.824	No limits specified
ZN65	< 9.980E+00	0.000E+00	9.980	No limits specified
NB95	< 5.261E+00	0.000E+00	5.261	No limits specified
ZR95	< 9.046E+00	0.000E+00	9.046	No limits specified
I131	< 5.752E+00	0.000E+00	5.752	No limits specified
CS134	< 4.232E+00	0.000E+00	4.232	No limits specified
CS137	< 4.912E+00	0.000E+00	4.912	No limits specified
BALA140	< 5.310E+00	0.000E+00	5.310	No limits specified
BE7	< 4.052E+01	0.000E+00	40.52	No limits specified
K40	2.128E+02	2.425E+01	41.43	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< 9.93E+01		157	No limits specified

Field Parameters

Elevation (ft (msl)) 794.03
pH (field) SU 6.31
Temp Celcius (degrees C) 21
Dissolved Oxygen (mg/L) N/A
Spec. Cond. (field) micromhos/cm 68
Oxidation Reduction Potential (ORP)(mV) N/A
Turbidity (field) NTU 9.75

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 11:23:32

Station: OCONEE
Location: BG-4
Type: CTP GWATER

Sample #: 28000032
Collection Date: 1/9/2008 12:45:00
ONS GROUND WATER PROTECTION PROGRAM / BG-4

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.035E+00	0.000E+00	4.035	No limits specified
CO58	< 4.425E+00	0.000E+00	4.425	No limits specified
FE59	< 7.712E+00	0.000E+00	7.712	No limits specified
CO60	< 4.350E+00	0.000E+00	4.350	No limits specified
ZN65	< 8.907E+00	0.000E+00	8.907	No limits specified
NB95	< 4.857E+00	0.000E+00	4.857	No limits specified
ZR95	< 7.138E+00	0.000E+00	7.138	No limits specified
I131	< 5.114E+00	0.000E+00	5.114	No limits specified
CS134	< 4.301E+00	0.000E+00	4.301	No limits specified
CS137	< 4.022E+00	0.000E+00	4.022	No limits specified
BALA140	< 5.374E+00	0.000E+00	5.374	No limits specified
BE7	< 3.614E+01	0.000E+00	36.14	No limits specified
K40	5.351E+01	2.898E+01	45.08	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< 7.73E+01		158	No limits specified

Field Parameters

Elevation (ft (msl)) 812.26
pH (field) SU 6.41
Temp Celcius (degrees C) 16.26
Dissolved Oxygen (mg/L) 9.4
Spec. Cond. (field) micromhos/cm 54.3
Oxidation Reduction Potential (ORP)(mV) 364
Turbidity (field) NTU 2.5

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 10:01:35

Station: OCONEE | **Sample #: 28000033**
Location: GM-1R | **Collection Date: 1/8/2008 10:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-1R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.804E+00	0.000E+00	4.804	Less than 1000
CO58	< 4.244E+00	0.000E+00	4.244	Less than 1000
FE59	< 9.065E+00	0.000E+00	9.065	Less than 400.0
CO60	< 5.120E+00	0.000E+00	5.120	Less than 300.0
ZN65	< 9.043E+00	0.000E+00	9.043	Less than 300.0
NB95	< 4.677E+00	0.000E+00	4.677	Less than 400.0
ZR95	< 7.411E+00	0.000E+00	7.411	Less than 400.0
I131	< 5.403E+00	0.000E+00	5.403	Less than 2.000
CS134	< 4.393E+00	0.000E+00	4.393	Less than 30.00
CS137	< 4.356E+00	0.000E+00	4.356	Less than 50.00
BALA140	< 6.208E+00	0.000E+00	6.208	Less than 200.0
BE7	< 3.690E+01	0.000E+00	36.90	No limits specified
K40	< 6.124E+01	0.000E+00	61.24	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	8.860E+02	6.140E+01	157	Less than 20000

Field Parameters

Elevation (ft (msl)) 793.11
pH (field) SU 6.23
Temp Celcius (degrees C) 18.29
Dissolved Oxygen (mg/L) 9.4
Spec. Cond. (field) micromhos/cm 114
Oxidation Reduction Potential (ORP)(mV) 389
Turbidity (field) NTU 5.4

Station: OCONEE | **Sample #: 28000034**
Location: GM-2R | **Collection Date: 1/7/2008 13:15:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.071E+00	0.000E+00	4.071	Less than 1000
CO58	< 4.309E+00	0.000E+00	4.309	Less than 1000
FE59	< 8.630E+00	0.000E+00	8.630	Less than 400.0
CO60	< 4.607E+00	0.000E+00	4.607	Less than 300.0
ZN65	< 9.159E+00	0.000E+00	9.159	Less than 300.0
NB95	< 6.432E+00	0.000E+00	6.432	Less than 400.0
ZR95	< 7.655E+00	0.000E+00	7.655	Less than 400.0
I131	< 6.112E+00	0.000E+00	6.112	Less than 2.000
CS134	< 4.403E+00	0.000E+00	4.403	Less than 30.00
CS137	< 3.913E+00	0.000E+00	3.913	Less than 50.00
BALA140	< 6.830E+00	0.000E+00	6.830	Less than 200.0
BE7	< 3.710E+01	0.000E+00	37.10	No limits specified
K40	8.840E+01	2.503E+01	45.04	No limits specified

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Station: OCONEE | **Sample #: 28000034**
Location: GM-2R | **Collection Date: 1/7/2008 13:15:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.620E+03	8.130E+01	155	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 8.77E-01			No limits specified
SR90	< 1.44E+00			No limits specified

Field Parameters

Elevation (ft (msl)) 768.61
pH (field) SU 5.79
Temp Celcius (degrees C) 19.38
Dissolved Oxygen (mg/L) 6.97
Spec. Cond. (field) micromhos/cm 328.6
Oxidation Reduction Potential (ORP)(mV) 407
Turbidity (field) NTU 14.7

Station: OCONEE | **Sample #: 28000035**
Location: GM-2DR | **Collection Date: 1/7/2008 13:35:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2DR**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.004E+00	0.000E+00	4.004	Less than 1000
CO58	< 4.007E+00	0.000E+00	4.007	Less than 1000
FE59	< 7.959E+00	0.000E+00	7.959	Less than 400.0
CO60	< 4.341E+00	0.000E+00	4.341	Less than 300.0
ZN65	< 8.961E+00	0.000E+00	8.961	Less than 300.0
NB95	< 6.158E+00	0.000E+00	6.158	Less than 400.0
ZR95	< 6.797E+00	0.000E+00	6.797	Less than 400.0
I131	< 5.872E+00	0.000E+00	5.872	Less than 2.000
CS134	< 3.973E+00	0.000E+00	3.973	Less than 30.00
CS137	< 3.662E+00	0.000E+00	3.662	Less than 50.00
BALA140	< 6.815E+00	0.000E+00	6.815	Less than 200.0
BE7	< 3.540E+01	0.000E+00	35.40	No limits specified
K40	1.102E+02	2.665E+01	44.17	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	6.200E+02	5.750E+01	156	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 1.15E+00			No limits specified

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Station: OCONEE | **Sample #: 28000035**
Location: GM-2DR | **Collection Date: 1/7/2008 13:35:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2DR**

SR89SR90 RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
SR90	< 1.04E+00		No limits specified

Field Parameters

Elevation (ft (msl)) 759.33
pH (field) SU 6.43
Temp Celcius (degrees C) 19
Dissolved Oxygen (mg/L) 5.65
Spec. Cond. (field) micromhos/cm 271.7
Oxidation Reduction Potential (ORP)(mV) 313
Turbidity (field) NTU 44.8

Station: OCONEE | **Sample #: 28000036**
Location: GM-3
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3**

UNAVAIL UNAVAILABLE SAMPLE (NO TESTS PERFORMED)

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
	NO SAMPLE		

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU NA
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm NA
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE | **Sample #: 28000037**
Location: GM-3R
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3R**

UNAVAIL UNAVAILABLE SAMPLE (NO TESTS PERFORMED)

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
	NO SAMPLE		

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU NA
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm NA
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

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Station: OCONEE **Sample #: 28000038**
Location: GM-3DR
Type: GROUND WATER **ONS GROUND WATER PROTECTION PROGRAM / GM-3DR**

UNAVAIL — UNAVAILABLE SAMPLE (NO TESTS PERFORMED)

Units: pCi/liter

Activity - Error	Calculated MDA	Reporting Level
NO SAMPLE		

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU NA
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm NA
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE **Sample #: 28000039**
Location: GM-4 **Collection Date: 1/8/2008 08:00:00**
Type: GROUND WATER **ONS GROUND WATER PROTECTION PROGRAM / GM-4**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 4.310E+00	0.000E+00	4.310	Less than	1000
CO58	< 4.302E+00	0.000E+00	4.302	Less than	1000
FE59	< 8.395E+00	0.000E+00	8.395	Less than	400.0
CO60	< 5.554E+00	0.000E+00	5.554	Less than	300.0
ZN65	< 9.149E+00	0.000E+00	9.149	Less than	300.0
NB95	< 5.735E+00	0.000E+00	5.735	Less than	400.0
ZR95	< 8.153E+00	0.000E+00	8.153	Less than	400.0
I131	< 5.872E+00	0.000E+00	5.872	Less than	2.000
CS134	< 4.869E+00	0.000E+00	4.869	Less than	30.00
CS137	< 4.918E+00	0.000E+00	4.918	Less than	50.00
BALA140	< 5.262E+00	0.000E+00	5.262	Less than	200.0
BE7	< 3.920E+01	0.000E+00	39.20	No limits specified	
K40	6.583E+01	2.985E+01	39.12	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
H3	4.260E+02	5.450E+01	156	Less than	20000

Field Parameters

Elevation (ft (msl)) 786.47
pH (field) SU 5.01
Temp Celcius (degrees C) 20.39
Dissolved Oxygen (mg/L) 4
Spec. Cond. (field) micromhos/cm 27
Oxidation Reduction Potential (ORP)(mV) 398
Turbidity (field) NTU 331

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Station: OCONEE | **Sample #: 28000040**
Location: GM-5 | **Collection Date: 1/7/2008 15:40:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-5**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.120E+00	0.000E+00	3.120	Less than	1000
CO58	< 3.432E+00	0.000E+00	3.432	Less than	1000
FE59	< 7.070E+00	0.000E+00	7.070	Less than	400.0
CO60	< 4.734E+00	0.000E+00	4.734	Less than	300.0
ZN65	< 7.649E+00	0.000E+00	7.649	Less than	300.0
NB95	< 4.311E+00	0.000E+00	4.311	Less than	400.0
ZR95	< 6.877E+00	0.000E+00	6.877	Less than	400.0
I131	< 5.616E+00	0.000E+00	5.616	Less than	2.000
CS134	< 3.809E+00	0.000E+00	3.809	Less than	30.00
CS137	< 4.128E+00	0.000E+00	4.128	Less than	50.00
BALA140	< 6.556E+00	0.000E+00	6.556	Less than	200.0
BE7	< 3.482E+01	0.000E+00	34.82	No limits specified	
K40	1.094E+02	2.364E+01	43.84	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
H3	< 1.03E+02		156	Less than	20000

Field Parameters

Elevation (ft (msl)) 762.09
pH (field) SU 5.48
Temp Celcius (degrees C) 21.65
Dissolved Oxygen (mg/L) 1.23
Spec. Cond. (field) micromhos/cm 54.5
Oxidation Reduction Potential (ORP)(mV) 384
Turbidity (field) NTU 261

Station: OCONEE | **Sample #: 28000041**
Location: GM-5R | **Collection Date: 1/7/2008 16:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-5R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 4.388E+00	0.000E+00	4.388	Less than	1000
CO58	< 4.672E+00	0.000E+00	4.672	Less than	1000
FE59	< 9.084E+00	0.000E+00	9.084	Less than	400.0
CO60	< 4.823E+00	0.000E+00	4.823	Less than	300.0
ZN65	< 9.630E+00	0.000E+00	9.630	Less than	300.0
NB95	< 5.678E+00	0.000E+00	5.678	Less than	400.0
ZR95	< 8.000E+00	0.000E+00	8.000	Less than	400.0
I131	< 6.915E+00	0.000E+00	6.915	Less than	2.000
CS134	< 4.464E+00	0.000E+00	4.464	Less than	30.00
CS137	< 4.088E+00	0.000E+00	4.088	Less than	50.00
BALA140	< 7.551E+00	0.000E+00	7.551	Less than	200.0
BE7	< 3.829E+01	0.000E+00	38.29	No limits specified	
K40	6.796E+01	2.416E+01	47.22	No limits specified	

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Station: OCONEE | **Sample #: 28000041**
Location: GM-5R | **Collection Date: 1/7/2008 16:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-5R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -4.04E+00	156	Less than 20000

Field Parameters

Elevation (ft (msl)) 754.61
pH (field) SU 6.53
Temp Celcius (degrees C) 18.9
Dissolved Oxygen (mg/L) 1.09
Spec. Cond. (field) micromhos/cm 47.1
Oxidation Reduction Potential (ORP)(mV) 46
Turbidity (field) NTU 42.9

Station: OCONEE | **Sample #: 28000042**
Location: GM-6 | **Collection Date: 1/8/2008 12:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-6**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 2.697E+00	0.000E+00	2.697	Less than 1000
CO58	< 2.918E+00	0.000E+00	2.918	Less than 1000
FE59	< 5.125E+00	0.000E+00	5.125	Less than 400.0
CO60	< 2.276E+00	0.000E+00	2.276	Less than 300.0
ZN65	< 7.158E+00	0.000E+00	7.158	Less than 300.0
NB95	< 2.999E+00	0.000E+00	2.999	Less than 400.0
ZR95	< 5.735E+00	0.000E+00	5.735	Less than 400.0
I131	< 3.485E+00	0.000E+00	3.485	Less than 2.000
CS134	< 2.999E+00	0.000E+00	2.999	Less than 30.00
CS137	< 2.316E+00	0.000E+00	2.316	Less than 50.00
BALA140	< 4.763E+00	0.000E+00	4.763	Less than 200.0
BE7	< 2.223E+01	0.000E+00	22.23	No limits specified
K40	6.177E+01	1.430E+01	33.23	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 0.00E+00	156	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.2
pH (field) SU 5.24
Temp Celcius (degrees C) 18.29
Dissolved Oxygen (mg/L) 4.53
Spec. Cond. (field) micromhos/cm 27.2
Oxidation Reduction Potential (ORP)(mV) 434
Turbidity (field) NTU 189

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Station: OCONEE | **Sample #: 28000043**
Location: GM-6R | **Collection Date: 1/8/2008 12:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-6R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.093E+00	0.000E+00	4.093	Less than 1000
CO58	< 4.245E+00	0.000E+00	4.245	Less than 1000
FE59	< 8.844E+00	0.000E+00	8.844	Less than 400.0
CO60	< 4.232E+00	0.000E+00	4.232	Less than 300.0
ZN65	< 9.978E+00	0.000E+00	9.978	Less than 300.0
NB95	< 5.852E+00	0.000E+00	5.852	Less than 400.0
ZR95	< 7.364E+00	0.000E+00	7.364	Less than 400.0
I131	< 6.194E+00	0.000E+00	6.194	Less than 2.000
CS134	< 4.080E+00	0.000E+00	4.080	Less than 30.00
CS137	< 4.359E+00	0.000E+00	4.359	Less than 50.00
BALA140	< 6.674E+00	0.000E+00	6.674	Less than 200.0
BE7	< 3.597E+01	0.000E+00	35.97	No limits specified
K40	7.065E+01	2.422E+01	46.97	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Calculated MDA	Reporting Level
H3	< 1.43E+01	158	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.67
pH (field) SU 6.49
Temp Celcius (degrees C) 17.85
Dissolved Oxygen (mg/L) 10.22
Spec. Cond. (field) micromhos/cm 55.8
Oxidation Reduction Potential (ORP)(mV) 276
Turbidity (field) NTU 17.3

Station: OCONEE | **Sample #: 28000044**
Location: GM-7 | **Collection Date: 1/8/2008 10:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-7**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.327E+00	0.000E+00	4.327	Less than 1000
CO58	< 4.798E+00	0.000E+00	4.798	Less than 1000
FE59	< 8.916E+00	0.000E+00	8.916	Less than 400.0
CO60	< 4.716E+00	0.000E+00	4.716	Less than 300.0
ZN65	< 9.934E+00	0.000E+00	9.934	Less than 300.0
NB95	< 5.981E+00	0.000E+00	5.981	Less than 400.0
ZR95	< 8.051E+00	0.000E+00	8.051	Less than 400.0
I131	< 7.305E+00	0.000E+00	7.305	Less than 2.000
CS134	< 4.565E+00	0.000E+00	4.565	Less than 30.00
CS137	< 5.226E+00	0.000E+00	5.226	Less than 50.00
BALA140	< 6.067E+00	0.000E+00	6.067	Less than 200.0
BE7	< 3.468E+01	0.000E+00	34.68	No limits specified
K40	< 7.615E+01	0.000E+00	76.15	No limits specified

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 10:01:35

Station: OCONEE | **Sample #: 28000044**
Location: GM-7 | **Collection Date: 1/8/2008 10:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-7**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
H3	1.980E+04	1.930E+02	168	Less than	20000

Field Parameters

Elevation (ft (msl)) 728.11
pH (field) SU 4.72
Temp Celcius (degrees C) 18
Dissolved Oxygen (mg/L) 8.07
Spec. Cond. (field) micromhos/cm 55
Oxidation Reduction Potential (ORP)(mV) 516
Turbidity (field) NTU 97.9

Station: OCONEE | **Sample #: 28000045**
Location: GM-7R | **Collection Date: 1/8/2008 10:15:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-7R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.233E+00	0.000E+00	3.233	Less than	1000
CO58	< 3.976E+00	0.000E+00	3.976	Less than	1000
FE59	< 6.382E+00	0.000E+00	6.382	Less than	400.0
CO60	< 3.868E+00	0.000E+00	3.868	Less than	300.0
ZN65	< 8.774E+00	0.000E+00	8.774	Less than	300.0
NB95	< 4.320E+00	0.000E+00	4.320	Less than	400.0
ZR95	< 5.912E+00	0.000E+00	5.912	Less than	400.0
I131	< 5.080E+00	0.000E+00	5.080	Less than	2.000
CS134	< 3.620E+00	0.000E+00	3.620	Less than	30.00
CS137	< 3.556E+00	0.000E+00	3.556	Less than	50.00
BALA140	< 5.694E+00	0.000E+00	5.694	Less than	200.0
BE7	< 3.094E+01	0.000E+00	30.94	No limits specified	
K40	5.445E+01	2.352E+01	40.91	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
H3	2.670E+03	8.590E+01	170	Less than	20000

Field Parameters

Elevation (ft (msl)) 727.58
pH (field) SU 5.81
Temp Celcius (degrees C) 17.7
Dissolved Oxygen (mg/L) 6.74
Spec. Cond. (field) micromhos/cm 198.6
Oxidation Reduction Potential (ORP)(mV) 220
Turbidity (field) NTU 44.6

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 10:01:35

Station: OCONEE | **Sample #: 28000046**
Location: GM-8 | **Collection Date: 1/7/2008 13:45:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-8**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.445E+00	0.000E+00	3.445	Less than 1000
CO58	< 4.346E+00	0.000E+00	4.346	Less than 1000
FE59	< 7.241E+00	0.000E+00	7.241	Less than 400.0
CO60	< 4.860E+00	0.000E+00	4.860	Less than 300.0
ZN65	< 9.264E+00	0.000E+00	9.264	Less than 300.0
NB95	< 3.831E+00	0.000E+00	3.831	Less than 400.0
ZR95	< 7.109E+00	0.000E+00	7.109	Less than 400.0
I131	< 6.594E+00	0.000E+00	6.594	Less than 2.000
CS134	< 4.357E+00	0.000E+00	4.357	Less than 30.00
CS137	< 4.023E+00	0.000E+00	4.023	Less than 50.00
BALA140	< 6.454E+00	0.000E+00	6.454	Less than 200.0
BE7	< 3.773E+01	0.000E+00	37.73	No limits specified
K40	4.527E+01	2.398E+01	37.36	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.840E+02	5.590E+01	169	Less than 20000

Field Parameters

Elevation (ft (msl)) 742.6
pH (field) SU 6.37
Temp Celcius (degrees C) 23.17
Dissolved Oxygen (mg/L) 8.59
Spec. Cond. (field) micromhos/cm 137.9
Oxidation Reduction Potential (ORP)(mV) 344
Turbidity (field) NTU 404

Station: OCONEE | **Sample #: 28000047**
Location: GM-8R | **Collection Date: 1/7/2008 13:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-8R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.636E+00	0.000E+00	4.636	Less than 1000
CO58	< 4.331E+00	0.000E+00	4.331	Less than 1000
FE59	< 7.516E+00	0.000E+00	7.516	Less than 400.0
CO60	< 5.484E+00	0.000E+00	5.484	Less than 300.0
ZN65	< 9.192E+00	0.000E+00	9.192	Less than 300.0
NB95	< 6.334E+00	0.000E+00	6.334	Less than 400.0
ZR95	< 8.630E+00	0.000E+00	8.630	Less than 400.0
I131	< 8.397E+00	0.000E+00	8.397	Less than 2.000
CS134	< 4.687E+00	0.000E+00	4.687	Less than 30.00
CS137	< 5.410E+00	0.000E+00	5.410	Less than 50.00
BALA140	< 8.856E+00	0.000E+00	8.856	Less than 200.0
BE7	< 4.659E+01	0.000E+00	46.59	No limits specified
K40	1.501E+02	3.174E+01	67.75	No limits specified

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Station: OCONEE | **Sample #: 28000047**
Location: GM-8R | **Collection Date: 1/7/2008 13:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-8R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.41E+02	169	Less than 20000

Field Parameters

Elevation (ft (msl)) 742.95
pH (field) SU 7.63
Temp Celcius (degrees C) 22.5
Dissolved Oxygen (mg/L) 10.55
Spec. Cond. (field) micromhos/cm 291.5
Oxidation Reduction Potential (ORP)(mV) 97
Turbidity (field) NTU 334

Station: OCONEE | **Sample #: 28000048**
Location: GM-9 | **Collection Date: 1/7/2008 15:15:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-9**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.376E+00	0.000E+00	5.376	Less than 1000
CO58	< 4.884E+00	0.000E+00	4.884	Less than 1000
FE59	< 1.153E+01	0.000E+00	11.53	Less than 400.0
CO60	< 5.529E+00	0.000E+00	5.529	Less than 300.0
ZN65	< 9.860E+00	0.000E+00	9.860	Less than 300.0
NB95	< 6.765E+00	0.000E+00	6.765	Less than 400.0
ZR95	< 6.951E+00	0.000E+00	6.951	Less than 400.0
I131	< 9.765E+00	0.000E+00	9.765	Less than 2.000
CS134	< 6.596E+00	0.000E+00	6.596	Less than 30.00
CS137	< 4.903E+00	0.000E+00	4.903	Less than 50.00
BALA140	< 9.170E+00	0.000E+00	9.170	Less than 200.0
BE7	< 4.697E+01	0.000E+00	46.97	No limits specified
K40	< 9.567E+01	0.000E+00	95.67	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.65E+02	169	Less than 20000

Field Parameters

Elevation (ft (msl)) 746.76
pH (field) SU 5.45
Temp Celcius (degrees C) 20.77
Dissolved Oxygen (mg/L) 5.74
Spec. Cond. (field) micromhos/cm 75.5
Oxidation Reduction Potential (ORP)(mV) 341
Turbidity (field) NTU 10.3

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Station: OCONEE | **Sample #: 28000049**
Location: GM-9R | **Collection Date: 1/7/2008 15:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-9R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.250E+00	0.000E+00	4.250	Less than 1000
CO58	< 3.604E+00	0.000E+00	3.604	Less than 1000
FE59	< 7.160E+00	0.000E+00	7.160	Less than 400.0
CO60	< 5.285E+00	0.000E+00	5.285	Less than 300.0
ZN65	< 9.915E+00	0.000E+00	9.915	Less than 300.0
NB95	< 5.679E+00	0.000E+00	5.679	Less than 400.0
ZR95	< 6.911E+00	0.000E+00	6.911	Less than 400.0
I131	< 6.387E+00	0.000E+00	6.387	Less than 2.000
CS134	< 3.709E+00	0.000E+00	3.709	Less than 30.00
CS137	< 3.166E+00	0.000E+00	3.166	Less than 50.00
BALA140	< 7.186E+00	0.000E+00	7.186	Less than 200.0
BE7	< 4.281E+01	0.000E+00	42.81	No limits specified
K40	1.175E+02	3.742E+01	57.99	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Calculated MDA	Reporting Level
H3	< -1.06E+01	170	Less than 20000

Field Parameters

Elevation (ft (msl)) 749.62
pH (field) SU 7.09
Temp Celcius (degrees C) 20.65
Dissolved Oxygen (mg/L) 11.74
Spec. Cond. (field) micromhos/cm 101.3
Oxidation Reduction Potential (ORP)(mV) 246
Turbidity (field) NTU 15.2

Station: OCONEE | **Sample #: 28000050**
Location: GM-10 | **Collection Date: 1/8/2008 14:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-10**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.214E+00	0.000E+00	5.214	Less than 1000
CO58	< 5.124E+00	0.000E+00	5.124	Less than 1000
FE59	< 8.413E+00	0.000E+00	8.413	Less than 400.0
CO60	< 6.184E+00	0.000E+00	6.184	Less than 300.0
ZN65	< 7.899E+00	0.000E+00	7.899	Less than 300.0
NB95	< 6.822E+00	0.000E+00	6.822	Less than 400.0
ZR95	< 9.785E+00	0.000E+00	9.785	Less than 400.0
I131	< 8.213E+00	0.000E+00	8.213	Less than 2.000
CS134	< 4.324E+00	0.000E+00	4.324	Less than 30.00
CS137	< 5.768E+00	0.000E+00	5.768	Less than 50.00
BALA140	< 6.211E+00	0.000E+00	6.211	Less than 200.0
BE7	< 4.476E+01	0.000E+00	44.76	No limits specified
K40	< 1.168E+02	0.000E+00	116.8	No limits specified

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Station: OCONEE | **Sample #: 28000050**
Location: GM-10 | **Collection Date: 1/8/2008 14:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-10**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 2.11E+01	169	Less than 20000

Field Parameters

Elevation (ft (msl)) 729.69
pH (field) SU 5.07
Temp Celcius (degrees C) 20.71
Dissolved Oxygen (mg/L) 6.37
Spec. Cond. (field) micromhos/cm 15
Oxidation Reduction Potential (ORP)(mV) 455
Turbidity (field) NTU 541

Station: OCONEE | **Sample #: 28000051**
Location: GM-10R | **Collection Date: 1/8/2008 13:50:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-10R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.371E+00	0.000E+00	4.371	Less than 1000
CO58	< 4.242E+00	0.000E+00	4.242	Less than 1000
FE59	< 8.482E+00	0.000E+00	8.482	Less than 400.0
CO60	< 4.352E+00	0.000E+00	4.352	Less than 300.0
ZN65	< 9.743E+00	0.000E+00	9.743	Less than 300.0
NB95	< 6.332E+00	0.000E+00	6.332	Less than 400.0
ZR95	< 7.615E+00	0.000E+00	7.615	Less than 400.0
I131	< 6.605E+00	0.000E+00	6.605	Less than 2.000
CS134	< 4.241E+00	0.000E+00	4.241	Less than 30.00
CS137	< 4.360E+00	0.000E+00	4.360	Less than 50.00
BALA140	< 7.593E+00	0.000E+00	7.593	Less than 200.0
BE7	< 3.953E+01	0.000E+00	39.53	No limits specified
K40	1.597E+02	2.728E+01	47.23	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 5.72E+01	170	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.14
pH (field) SU 5.96
Temp Celcius (degrees C) 20.06
Dissolved Oxygen (mg/L) 6.98
Spec. Cond. (field) micromhos/cm 39.9
Oxidation Reduction Potential (ORP)(mV) 344
Turbidity (field) NTU 53

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Station: OCONEE | **Sample #: 28000052**
Location: GM-11 | **Collection Date: 1/9/2008 08:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-11**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.197E+00	0.000E+00	3.197	Less than	1000
CO58	< 3.468E+00	0.000E+00	3.468	Less than	1000
FE59	< 5.101E+00	0.000E+00	5.101	Less than	400.0
CO60	< 4.162E+00	0.000E+00	4.162	Less than	300.0
ZN65	< 8.409E+00	0.000E+00	8.409	Less than	300.0
NB95	< 3.779E+00	0.000E+00	3.779	Less than	400.0
ZR95	< 6.119E+00	0.000E+00	6.119	Less than	400.0
I131	< 4.077E+00	0.000E+00	4.077	Less than	2.000
CS134	< 3.044E+00	0.000E+00	3.044	Less than	30.00
CS137	< 3.650E+00	0.000E+00	3.650	Less than	50.00
BALA140	< 4.469E+00	0.000E+00	4.469	Less than	200.0
BE7	< 2.689E+01	0.000E+00	26.89	No limits specified	
K40	1.030E+02	2.244E+01	33.06	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
H3	< -6.54E-01		169	Less than	20000

Field Parameters

Elevation (ft (msl)) 690.4
pH (field) SU 5.31
Temp Celcius (degrees C) 18.6
Dissolved Oxygen (mg/L) 7.03
Spec. Cond. (field) micromhos/cm 29.2
Oxidation Reduction Potential (ORP)(mV) 440
Turbidity (field) NTU 438

Station: OCONEE | **Sample #: 28000053**
Location: GM-11R | **Collection Date: 1/9/2008 08:35:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-11R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 4.293E+00	0.000E+00	4.293	Less than	1000
CO58	< 4.492E+00	0.000E+00	4.492	Less than	1000
FE59	< 7.786E+00	0.000E+00	7.786	Less than	400.0
CO60	< 4.904E+00	0.000E+00	4.904	Less than	300.0
ZN65	< 9.106E+00	0.000E+00	9.106	Less than	300.0
NB95	< 6.124E+00	0.000E+00	6.124	Less than	400.0
ZR95	< 6.768E+00	0.000E+00	6.768	Less than	400.0
I131	< 6.233E+00	0.000E+00	6.233	Less than	2.000
CS134	< 4.018E+00	0.000E+00	4.018	Less than	30.00
CS137	< 4.341E+00	0.000E+00	4.341	Less than	50.00
BALA140	< 6.299E+00	0.000E+00	6.299	Less than	200.0
BE7	< 3.776E+01	0.000E+00	37.76	No limits specified	
K40	1.016E+02	2.744E+01	39.39	No limits specified	

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Station: OCONEE | **Sample #: 28000053**
Location: GM-11R | **Collection Date: 1/9/2008 08:35:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-11R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 5.74E+01	171	Less than 20000

Field Parameters

Elevation (ft (msl)) 691.76
pH (field) SU 5.76
Temp Celcius (degrees C) 19.17
Dissolved Oxygen (mg/L) 11.12
Spec. Cond. (field) micromhos/cm 40
Oxidation Reduction Potential (ORP)(mV) 344
Turbidity (field) NTU 21.1

Station: OCONEE | **Sample #: 28000054**
Location: GM-12 | **Collection Date: 1/8/2008 10:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-12**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 3.574E+00	0.000E+00	3.574	Less than 1000
CO58	< 3.645E+00	0.000E+00	3.645	Less than 1000
FE59	< 7.250E+00	0.000E+00	7.250	Less than 400.0
CO60	< 3.796E+00	0.000E+00	3.796	Less than 300.0
ZN65	< 7.986E+00	0.000E+00	7.986	Less than 300.0
NB95	< 4.378E+00	0.000E+00	4.378	Less than 400.0
ZR95	< 6.287E+00	0.000E+00	6.287	Less than 400.0
I131	< 5.601E+00	0.000E+00	5.601	Less than 2.000
CS134	< 3.697E+00	0.000E+00	3.697	Less than 30.00
CS137	< 3.483E+00	0.000E+00	3.483	Less than 50.00
BALA140	< 6.107E+00	0.000E+00	6.107	Less than 200.0
BE7	< 3.152E+01	0.000E+00	31.52	No limits specified
K40	5.798E+01	2.160E+01	37.19	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -3.55E+01	188	Less than 20000

Field Parameters

Elevation (ft (msl)) 687.54
pH (field) SU 5.77
Temp Celcius (degrees C) 17.59
Dissolved Oxygen (mg/L) 3.7
Spec. Cond. (field) micromhos/cm 42
Oxidation Reduction Potential (ORP)(mV) 382
Turbidity (field) NTU 203

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Station: OCONEE | **Sample #: 28000055**
Location: GM-12R | **Collection Date: 1/8/2008 10:25:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-12R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.203E+00	0.000E+00	3.203	Less than 1000
CO58	< 3.194E+00	0.000E+00	3.194	Less than 1000
FE59	< 5.911E+00	0.000E+00	5.911	Less than 400.0
CO60	< 3.076E+00	0.000E+00	3.076	Less than 300.0
ZN65	< 7.174E+00	0.000E+00	7.174	Less than 300.0
NB95	< 3.542E+00	0.000E+00	3.542	Less than 400.0
ZR95	< 5.342E+00	0.000E+00	5.342	Less than 400.0
I131	< 4.357E+00	0.000E+00	4.357	Less than 2.000
CS134	< 3.056E+00	0.000E+00	3.056	Less than 30.00
CS137	< 2.859E+00	0.000E+00	2.859	Less than 50.00
BALA140	< 4.952E+00	0.000E+00	4.952	Less than 200.0
BE7	< 2.463E+01	0.000E+00	24.63	No limits specified
K40	9.602E+01	1.940E+01	35.92	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -7.54E+01		188	Less than 20000

Field Parameters

Elevation (ft (msl)) 688.16
pH (field) SU 6.55
Temp Celcius (degrees C) 17.12
Dissolved Oxygen (mg/L) 1.54
Spec. Cond. (field) micromhos/cm 83.5
Oxidation Reduction Potential (ORP)(mV) 49
Turbidity (field) NTU 6.2

Station: OCONEE | **Sample #: 28000056**
Location: GM-13 | **Collection Date: 1/8/2008 12:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-13**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.026E+00	0.000E+00	4.026	Less than 1000
CO58	< 4.050E+00	0.000E+00	4.050	Less than 1000
FE59	< 8.080E+00	0.000E+00	8.080	Less than 400.0
CO60	< 3.996E+00	0.000E+00	3.996	Less than 300.0
ZN65	< 8.808E+00	0.000E+00	8.808	Less than 300.0
NB95	< 4.986E+00	0.000E+00	4.986	Less than 400.0
ZR95	< 6.459E+00	0.000E+00	6.459	Less than 400.0
I131	< 5.467E+00	0.000E+00	5.467	Less than 2.000
CS134	< 3.502E+00	0.000E+00	3.502	Less than 30.00
CS137	< 4.233E+00	0.000E+00	4.233	Less than 50.00
BALA140	< 7.291E+00	0.000E+00	7.291	Less than 200.0
BE7	< 3.032E+01	0.000E+00	30.32	No limits specified
K40	< 7.401E+01	0.000E+00	74.01	No limits specified

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Station: OCONEE | **Sample #: 28000056**
Location: GM-13 | **Collection Date: 1/8/2008 12:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-13**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -2.22E+00	188	Less than 20000

Field Parameters

Elevation (ft (msl)) 699.16
pH (field) SU 5.66
Temp Celcius (degrees C) 18.22
Dissolved Oxygen (mg/L) 3.46
Spec. Cond. (field) micromhos/cm 31.4
Oxidation Reduction Potential (ORP)(mV) 339
Turbidity (field) NTU 7.74

Station: OCONEE | **Sample #: 28000057**
Location: GM-13R | **Collection Date: 1/8/2008 12:40:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-13R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 3.878E+00	0.000E+00	3.878	Less than 1000
CO58	< 3.783E+00	0.000E+00	3.783	Less than 1000
FE59	< 7.383E+00	0.000E+00	7.383	Less than 400.0
CO60	< 4.149E+00	0.000E+00	4.149	Less than 300.0
ZN65	< 8.417E+00	0.000E+00	8.417	Less than 300.0
NB95	< 5.250E+00	0.000E+00	5.250	Less than 400.0
ZR95	< 6.768E+00	0.000E+00	6.768	Less than 400.0
I131	< 7.049E+00	0.000E+00	7.049	Less than 2.000
CS134	< 3.917E+00	0.000E+00	3.917	Less than 30.00
CS137	< 3.947E+00	0.000E+00	3.947	Less than 50.00
BALA140	< 6.593E+00	0.000E+00	6.593	Less than 200.0
BE7	< 3.403E+01	0.000E+00	34.03	No limits specified
K40	1.427E+02	2.904E+01	40.34	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.12E+01	190	Less than 20000

Field Parameters

Elevation (ft (msl)) 702.72
pH (field) SU 6.73
Temp Celcius (degrees C) 18.04
Dissolved Oxygen (mg/L) 1.29
Spec. Cond. (field) micromhos/cm 64.9
Oxidation Reduction Potential (ORP)(mV) 212
Turbidity (field) NTU 8.94

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 10:01:35

Station: OCONEE | **Sample #: 28000058**
Location: GM-14 | **Collection Date: 1/8/2008 14:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-14**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 4.495E+00	0.000E+00	4.495	Less than	1000
CO58	< 4.700E+00	0.000E+00	4.700	Less than	1000
FE59	< 9.946E+00	0.000E+00	9.946	Less than	400.0
CO60	< 4.902E+00	0.000E+00	4.902	Less than	300.0
ZN65	< 9.039E+00	0.000E+00	9.039	Less than	300.0
NB95	< 5.909E+00	0.000E+00	5.909	Less than	400.0
ZR95	< 7.038E+00	0.000E+00	7.038	Less than	400.0
I131	< 8.024E+00	0.000E+00	8.024	Less than	2.000
CS134	< 3.696E+00	0.000E+00	3.696	Less than	30.00
CS137	< 4.131E+00	0.000E+00	4.131	Less than	50.00
BALA140	< 8.013E+00	0.000E+00	8.013	Less than	200.0
BE7	< 3.500E+01	0.000E+00	35.00	No limits specified	
K40	9.761E+01	2.406E+01	42.74	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Calculated MDA	Reporting Level	
H3	< -3.34E+01	189	Less than	20000

Field Parameters

Elevation (ft (msl)) 700.97
pH (field) SU 5.72
Temp Celcius (degrees C) 19.11
Dissolved Oxygen (mg/L) 2.28
Spec. Cond. (field) micromhos/cm 26.6
Oxidation Reduction Potential (ORP)(mV) 279
Turbidity (field) NTU 8.1

Station: OCONEE | **Sample #: 28000059**
Location: GM-14R | **Collection Date: 1/8/2008 15:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-14R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.048E+00	0.000E+00	3.048	Less than	1000
CO58	< 2.869E+00	0.000E+00	2.869	Less than	1000
FE59	< 6.372E+00	0.000E+00	6.372	Less than	400.0
CO60	< 3.798E+00	0.000E+00	3.798	Less than	300.0
ZN65	< 7.219E+00	0.000E+00	7.219	Less than	300.0
NB95	< 3.249E+00	0.000E+00	3.249	Less than	400.0
ZR95	< 6.099E+00	0.000E+00	6.099	Less than	400.0
I131	< 5.049E+00	0.000E+00	5.049	Less than	2.000
CS134	< 2.880E+00	0.000E+00	2.880	Less than	30.00
CS137	< 2.700E+00	0.000E+00	2.700	Less than	50.00
BALA140	< 5.658E+00	0.000E+00	5.658	Less than	200.0
BE7	< 2.494E+01	0.000E+00	24.94	No limits specified	
K40	9.709E+01	1.958E+01	28.38	No limits specified	

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Radiological Data for Job: 08-JAN-0002

Report Generated: 2/4/2008 10:01:35

Station: OCONEE
Location: GM-14R
Type: GROUND WATER

Sample #: 28000059
Collection Date: 1/8/2008 15:05:00
ONS GROUND WATER PROTECTION PROGRAM / GM-14R

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -4.88E+01	188	Less than 20000

Field Parameters

Elevation (ft (msl)) 720.54
pH (field) SU 7.32
Temp Celcius (degrees C) 18.58
Dissolved Oxygen (mg/L) 3.56
Spec. Cond. (field) micromhos/cm 113.3
Oxidation Reduction Potential (ORP)(mV) 150
Turbidity (field) NTU 8.14

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Radiological Data for Job: 08-JAN-0016

Report Generated: 2/4/2008 13:53:35

Station: OCONEE | **Sample #: 28000221**
Location: GM-7 | **Collection Date: 1/9/2008 14:55:00**
Type: GROUND WATER | **RESAMPLE OF GM-7 (ORIGINAL JOB 08-JAN-0002)**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.513E+00	0.000E+00	5.513	Less than 1000
CO58	< 5.478E+00	0.000E+00	5.478	Less than 1000
FE59	< 1.004E+01	0.000E+00	10.04	Less than 400.0
CO60	< 6.006E+00	0.000E+00	6.006	Less than 300.0
ZN65	< 8.865E+00	0.000E+00	8.865	Less than 300.0
NB95	< 6.735E+00	0.000E+00	6.735	Less than 400.0
ZR95	< 9.272E+00	0.000E+00	9.272	Less than 400.0
I131	< 7.534E+00	0.000E+00	7.534	Less than 2.000
CS134	< 4.497E+00	0.000E+00	4.497	Less than 30.00
CS137	< 4.878E+00	0.000E+00	4.878	Less than 50.00
BALA140	< 1.082E+01	0.000E+00	10.82	Less than 200.0
BE7	< 4.442E+01	0.000E+00	44.42	No limits specified
K40	8.187E+01	2.915E+01	62.06	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	1.950E+04	1.890E+02	151	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.09
pH (field) SU 5.15
Temp Celcius (degrees C) 19.79
Dissolved Oxygen (mg/L) 8.22
Spec. Cond. (field) micromhos/cm 55
Oxidation Reduction Potential (ORP)(mV) 491
Turbidity (field) NTU 107

Station: OCONEE | **Sample #: 28000224**
Location: GM-7R | **Collection Date: 1/9/2008 15:05:00**
Type: GROUND WATER | **RESAMPLE OF GM-7R (ORIGINAL JOB 08-JAN-0002)**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.805E+00	0.000E+00	4.805	Less than 1000
CO58	< 4.203E+00	0.000E+00	4.203	Less than 1000
FE59	< 8.962E+00	0.000E+00	8.962	Less than 400.0
CO60	< 5.439E+00	0.000E+00	5.439	Less than 300.0
ZN65	< 9.990E+00	0.000E+00	9.990	Less than 300.0
NB95	< 5.752E+00	0.000E+00	5.752	Less than 400.0
ZR95	< 8.690E+00	0.000E+00	8.690	Less than 400.0
I131	< 7.988E+00	0.000E+00	7.988	Less than 2.000
CS134	< 4.842E+00	0.000E+00	4.842	Less than 30.00
CS137	< 4.348E+00	0.000E+00	4.348	Less than 50.00
BALA140	< 8.326E+00	0.000E+00	8.326	Less than 200.0
BE7	< 4.809E+01	0.000E+00	48.09	No limits specified
K40	1.300E+02	2.779E+01	56.60	No limits specified

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Radiological Data for Job: 08-JAN-0016

Report Generated: 2/4/2008 13:53:35

Station: OCONEE
Location: GM-7R
Type: GROUND WATER

Sample #: 28000224
Collection Date: 1/9/2008 15:05:00
RESAMPLE OF GM-7R (ORIGINAL JOB 08-JAN-0002)

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
H3	2.850E+03	8.464E+01	153	Less than	20000

Field Parameters

Elevation (ft (msl)) 727.63
pH (field) SU 6.22
Temp Celcius (degrees C) 19.14
Dissolved Oxygen (mg/L) 5.4
Spec. Cond. (field) micromhos/cm 200
Oxidation Reduction Potential (ORP)(mV) 341
Turbidity (field) NTU 52.5

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Radiological Data for Job: 08-JAN-0026

Report Generated: 2/14/2008 07:21:13

Station: OCONEE | **Sample #: 28000454**
Location: GM-3DR | **Collection Date: 1/30/2008 10:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3DR**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.904E+00	0.000E+00	3.904	Less than 1000
CO58	< 3.758E+00	0.000E+00	3.758	Less than 1000
FE59	< 7.660E+00	0.000E+00	7.660	Less than 400.0
CO60	< 4.204E+00	0.000E+00	4.204	Less than 300.0
ZN65	< 8.733E+00	0.000E+00	8.733	Less than 300.0
NB95	< 4.583E+00	0.000E+00	4.583	Less than 400.0
ZR95	< 6.333E+00	0.000E+00	6.333	Less than 400.0
I131	< 4.675E+00	0.000E+00	4.675	Less than 2.000
CS134	< 3.839E+00	0.000E+00	3.839	Less than 30.00
CS137	< 3.550E+00	0.000E+00	3.550	Less than 50.00
BALA140	< 5.616E+00	0.000E+00	5.616	Less than 200.0
BE7	< 3.197E+01	0.000E+00	31.97	No limits specified
K40	5.395E+01	2.103E+01	42.86	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.230E+02	5.990E+01	186	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 5.73E-01			No limits specified
SR90	< 4.12E-01			No limits specified

Field Parameters

Elevation (ft (msl)) 770.60
pH (field) SU 6.49
Temp Celcius (degrees C) 17.07
Dissolved Oxygen (mg/L) 9.87
Spec. Cond. (field) micromhos/cm 15.3
Oxidation Reduction Potential (ORP)(mV) 400
Turbidity (field) NTU 20.1

Station: OCONEE | **Sample #: 28000456**
Location: GM-3R | **Collection Date: 1/30/2008 10:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.070E+00	0.000E+00	5.070	Less than 1000
CO58	< 4.433E+00	0.000E+00	4.433	Less than 1000
FE59	< 8.548E+00	0.000E+00	8.548	Less than 400.0
CO60	< 5.429E+00	0.000E+00	5.429	Less than 300.0
ZN65	< 9.766E+00	0.000E+00	9.766	Less than 300.0
NB95	< 5.227E+00	0.000E+00	5.227	Less than 400.0
ZR95	< 8.322E+00	0.000E+00	8.322	Less than 400.0
I131	< 6.189E+00	0.000E+00	6.189	Less than 2.000

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Radiological Data for Job: 08-JAN-0026

Report Generated: 2/14/2008 07:21:13

Station: OCONEE
Location: GM-3R
Type: GROUND WATER

Sample #: 28000456
Collection Date: 1/30/2008 10:05:00
ONS GROUND WATER PROTECTION PROGRAM / GM-3R

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
CS134	< 4.726E+00	0.000E+00	4.726	Less than 30.00
CS137	< 4.576E+00	0.000E+00	4.576	Less than 50.00
BALA140	< 6.470E+00	0.000E+00	6.470	Less than 200.0
BE7	< 4.197E+01	0.000E+00	41.97	No limits specified
K40	3.049E+02	3.209E+01	48.12	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Calculated MDA	Reporting Level
H3	< 1.55E+02	187	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Calculated MDA	Reporting Level
SR89	< 7.28E-01		No limits specified
SR90	< 3.42E-01		No limits specified

Field Parameters

Elevation (ft (msl)) 770.14
pH (field) SU 5.92
Temp Celcius (degrees C) 16.17
Dissolved Oxygen (mg/L) 3.94
Spec. Cond. (field) micromhos/cm 146.9
Oxidation Reduction Potential (ORP)(mV) 360
Turbidity (field) NTU 82.3

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APPENDIX H

Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002021**
Location: GM-1R | **Collection Date: 4/8/2008 10:50:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-1R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.459E+00	0.000E+00	4.459	Less than 1000
CO58	< 4.677E+00	0.000E+00	4.677	Less than 1000
FE59	< 8.753E+00	0.000E+00	8.753	Less than 400.0
CO60	< 4.980E+00	0.000E+00	4.980	Less than 300.0
ZN65	< 9.836E+00	0.000E+00	9.836	Less than 300.0
NB95	< 5.064E+00	0.000E+00	5.064	Less than 400.0
ZR95	< 7.489E+00	0.000E+00	7.489	Less than 400.0
I131	< 5.801E+00	0.000E+00	5.801	Less than 2.000
CS134	< 4.267E+00	0.000E+00	4.267	Less than 30.00
CS137	< 4.241E+00	0.000E+00	4.241	Less than 50.00
BALA140	< 6.052E+00	0.000E+00	6.052	Less than 200.0
BE7	< 3.994E+01	0.000E+00	39.94	No limits specified
K40	< 6.225E+01	0.000E+00	62.25	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	7.270E+02	6.010E+01	159	Less than 20000

Field Parameters

Elevation (ft (msl)) 792.85
pH (field) SU 6.6
Temp Celcius (degrees C) 18.36
Dissolved Oxygen (mg/L) 11.35
Spec. Cond. (field) micromhos/cm 119
Oxidation Reduction Potential (ORP)(mV) 340
Turbidity (field) NTU 2.91

Station: OCONEE | **Sample #: 28002022**
Location: GM-2R | **Collection Date: 4/7/2008 11:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.827E+00	0.000E+00	4.827	Less than 1000
CO58	< 4.054E+00	0.000E+00	4.054	Less than 1000
FE59	< 8.051E+00	0.000E+00	8.051	Less than 400.0
CO60	< 4.960E+00	0.000E+00	4.960	Less than 300.0
ZN65	< 8.876E+00	0.000E+00	8.876	Less than 300.0
NB95	< 5.893E+00	0.000E+00	5.893	Less than 400.0
ZR95	< 8.762E+00	0.000E+00	8.762	Less than 400.0
I131	< 6.852E+00	0.000E+00	6.852	Less than 2.000
CS134	< 4.574E+00	0.000E+00	4.574	Less than 30.00
CS137	< 4.362E+00	0.000E+00	4.362	Less than 50.00
BALA140	< 6.377E+00	0.000E+00	6.377	Less than 200.0
BE7	< 3.970E+01	0.000E+00	39.70	No limits specified
K40	1.875E+02	3.240E+01	46.12	No limits specified

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Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002022**
Location: GM-2R | **Collection Date: 4/7/2008 11:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	4.280E+03	1.000E+02	162	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 2.29E-01			No limits specified
SR90	< 3.56E-01			No limits specified

Field Parameters

Elevation (ft (msl)) 768.46
pH (field) SU 5.84
Temp Celcius (degrees C) 19.24
Dissolved Oxygen (mg/L) 8.02
Spec. Cond. (field) micromhos/cm 353.6
Oxidation Reduction Potential (ORP)(mV) 409
Turbidity (field) NTU 8.67

Station: OCONEE | **Sample #: 28002023**
Location: GM-2DR | **Collection Date: 4/7/2008 11:25:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2DR**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.674E+00	0.000E+00	3.674	Less than 1000
CO58	< 3.572E+00	0.000E+00	3.572	Less than 1000
FE59	< 7.168E+00	0.000E+00	7.168	Less than 400.0
CO60	< 3.742E+00	0.000E+00	3.742	Less than 300.0
ZN65	< 8.192E+00	0.000E+00	8.192	Less than 300.0
NB95	< 4.181E+00	0.000E+00	4.181	Less than 400.0
ZR95	< 6.338E+00	0.000E+00	6.338	Less than 400.0
I131	< 5.044E+00	0.000E+00	5.044	Less than 2.000
CS134	< 3.705E+00	0.000E+00	3.705	Less than 30.00
CS137	< 3.419E+00	0.000E+00	3.419	Less than 50.00
BALA140	< 5.859E+00	0.000E+00	5.859	Less than 200.0
BE7	< 2.999E+01	0.000E+00	29.99	No limits specified
K40	6.103E+01	2.509E+01	38.79	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	9.620E+02	6.340E+01	159	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 2.87E-01			No limits specified

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Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002023**
Location: GM-2DR | **Collection Date: 4/7/2008 11:25:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-2DR**

SR89SR90 | RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
SR90	< 5.50E-01		No limits specified

Field Parameters

Elevation (ft (msl)) 759.23
pH (field) SU 5.82
Temp Celcius (degrees C) 19.35
Dissolved Oxygen (mg/L) 5.52
Spec. Cond. (field) micromhos/cm 275.1
Oxidation Reduction Potential (ORP)(mV) 392
Turbidity (field) NTU 13

Station: OCONEE | **Sample #: 28002024**
Location: GM-3
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3**

UNAVAIL | UNAVAILABLE SAMPLE (NO TESTS PERFORMED)

Units: pCi/liter

Activity - Error	Calculated MDA	Reporting Level
NO SAMPLE		

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU NA
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm NA
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE | **Sample #: 28002025**
Location: GM-3R | **Collection Date: 4/7/2008 11:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3R**

GAMMAGW | GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.815E+00	0.000E+00	4.815	Less than 1000
CO58	< 6.363E+00	0.000E+00	6.363	Less than 1000
FE59	< 1.092E+01	0.000E+00	10.92	Less than 400.0
CO60	< 6.489E+00	0.000E+00	6.489	Less than 300.0
ZN65	< 8.813E+00	0.000E+00	8.813	Less than 300.0
NB95	< 7.611E+00	0.000E+00	7.611	Less than 400.0
ZR95	< 1.085E+01	0.000E+00	10.85	Less than 400.0
I131	< 7.602E+00	0.000E+00	7.602	Less than 2.000
CS134	< 4.763E+00	0.000E+00	4.763	Less than 30.00
CS137	< 7.092E+00	0.000E+00	7.092	Less than 50.00
BALA140	< 8.369E+00	0.000E+00	8.369	Less than 200.0
BE7	< 5.928E+01	0.000E+00	59.28	No limits specified
K40	< 8.555E+01	0.000E+00	85.55	No limits specified

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Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002025**
Location: GM-3R | **Collection Date: 4/7/2008 11:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	1.780E+02	5.080E+01	157	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 4.44E-01			No limits specified
SR90	< 5.97E-01			No limits specified

Field Parameters

Elevation (ft (msl)) 770.25
pH (field) SU 6.01
Temp Celcius (degrees C) 19.6
Dissolved Oxygen (mg/L) 7.65
Spec. Cond. (field) micromhos/cm 63.8
Oxidation Reduction Potential (ORP)(mV) 353
Turbidity (field) NTU 77.9

Station: OCONEE | **Sample #: 28002026**
Location: GM-3DR | **Collection Date: 4/7/2008 11:15:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3DR**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.363E+00	0.000E+00	4.363	Less than 1000
CO58	< 4.400E+00	0.000E+00	4.400	Less than 1000
FE59	< 8.598E+00	0.000E+00	8.598	Less than 400.0
CO60	< 4.584E+00	0.000E+00	4.584	Less than 300.0
ZN65	< 9.427E+00	0.000E+00	9.427	Less than 300.0
NB95	< 6.284E+00	0.000E+00	6.284	Less than 400.0
ZR95	< 7.498E+00	0.000E+00	7.498	Less than 400.0
I131	< 5.971E+00	0.000E+00	5.971	Less than 2.000
CS134	< 4.289E+00	0.000E+00	4.289	Less than 30.00
CS137	< 4.275E+00	0.000E+00	4.275	Less than 50.00
BALA140	< 6.958E+00	0.000E+00	6.958	Less than 200.0
BE7	< 3.904E+01	0.000E+00	39.04	No limits specified
K40	8.944E+01	2.057E+01	47.28	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.430E+02	5.290E+01	160	Less than 20000

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
SR89	< 2.24E-01			No limits specified

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Station: OCONEE | **Sample #: 28002026**
Location: GM-3DR | **Collection Date: 4/7/2008 11:15:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-3DR**

SR89SR90 — RADIOSTRONTIUM (SR89 & SR90)

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
SR90	< 4.76E-01		No limits specified

Field Parameters

Elevation (ft (msl)) 770.55
pH (field) SU 6.32
Temp Celcius (degrees C) 19.16
Dissolved Oxygen (mg/L) 7.89
Spec. Cond. (field) micromhos/cm 106.8
Oxidation Reduction Potential (ORP)(mV) 367
Turbidity (field) NTU 21.3

Station: OCONEE | **Sample #: 28002027**
Location: GM-4 | **Collection Date: 4/7/2008 15:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-4**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.028E+00	0.000E+00	4.028	Less than 1000
CO58	< 3.874E+00	0.000E+00	3.874	Less than 1000
FE59	< 7.913E+00	0.000E+00	7.913	Less than 400.0
CO60	< 3.825E+00	0.000E+00	3.825	Less than 300.0
ZN65	< 8.805E+00	0.000E+00	8.805	Less than 300.0
NB95	< 5.252E+00	0.000E+00	5.252	Less than 400.0
ZR95	< 6.268E+00	0.000E+00	6.268	Less than 400.0
I131	< 6.062E+00	0.000E+00	6.062	Less than 2.000
CS134	< 3.493E+00	0.000E+00	3.493	Less than 30.00
CS137	< 4.100E+00	0.000E+00	4.100	Less than 50.00
BALA140	< 6.344E+00	0.000E+00	6.344	Less than 200.0
BE7	< 3.327E+01	0.000E+00	33.27	No limits specified
K40	1.474E+02	2.591E+01	44.25	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.970E+02	5.280E+01	157	Less than 20000

Field Parameters

Elevation (ft (msl)) 786.98
pH (field) SU 8.1
Temp Celcius (degrees C) 19.87
Dissolved Oxygen (mg/L) 4.58
Spec. Cond. (field) micromhos/cm 25.7
Oxidation Reduction Potential (ORP)(mV) 361
Turbidity (field) NTU 228

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Station: OCONEE | **Sample #: 28002028**
Location: GM-5 | **Collection Date: 4/7/2008 13:45:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-5**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity - Error		Calculated MDA	Reporting Level
MN54	< 6.315E+00	0.000E+00	6.315	Less than 1000
CO58	< 6.541E+00	0.000E+00	6.541	Less than 1000
FE59	< 1.153E+01	0.000E+00	11.53	Less than 400.0
CO60	< 4.778E+00	0.000E+00	4.778	Less than 300.0
ZN65	< 9.508E+00	0.000E+00	9.508	Less than 300.0
NB95	< 7.129E+00	0.000E+00	7.129	Less than 400.0
ZR95	< 1.166E+01	0.000E+00	11.66	Less than 400.0
I131	< 8.133E+00	0.000E+00	8.133	Less than 2.000
CS134	< 5.517E+00	0.000E+00	5.517	Less than 30.00
CS137	< 6.577E+00	0.000E+00	6.577	Less than 50.00
BALA140	< 6.941E+00	0.000E+00	6.941	Less than 200.0
BE7	< 5.220E+01	0.000E+00	52.20	No limits specified
K40	6.870E+01	2.445E+01	61.81	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.42E+02	158	Less than 20000

Field Parameters

Elevation (ft (msl)) 761.77
pH (field) SU 4.88
Temp Celcius (degrees C) 20.69
Dissolved Oxygen (mg/L) .53
Spec. Cond. (field) micromhos/cm 54.5
Oxidation Reduction Potential (ORP)(mV) 394
Turbidity (field) NTU 693

Station: OCONEE | **Sample #: 28002029**
Location: GM-5R | **Collection Date: 4/7/2008 14:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-5R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity - Error		Calculated MDA	Reporting Level
MN54	< 3.709E+00	0.000E+00	3.709	Less than 1000
CO58	< 3.840E+00	0.000E+00	3.840	Less than 1000
FE59	< 7.576E+00	0.000E+00	7.576	Less than 400.0
CO60	< 4.477E+00	0.000E+00	4.477	Less than 300.0
ZN65	< 9.113E+00	0.000E+00	9.113	Less than 300.0
NB95	< 4.342E+00	0.000E+00	4.342	Less than 400.0
ZR95	< 6.540E+00	0.000E+00	6.540	Less than 400.0
I131	< 5.459E+00	0.000E+00	5.459	Less than 2.000
CS134	< 3.911E+00	0.000E+00	3.911	Less than 30.00
CS137	< 3.639E+00	0.000E+00	3.639	Less than 50.00
BALA140	< 6.023E+00	0.000E+00	6.023	Less than 200.0
BE7	< 3.189E+01	0.000E+00	31.89	No limits specified
K40	< 6.160E+01	0.000E+00	61.60	No limits specified

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Station: OCONEE | **Sample #: 28002029**
Location: GM-5R | **Collection Date: 4/7/2008 14:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-5R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 2.07E+01	158	Less than 20000

Field Parameters

Elevation (ft (msl)) 754.36
pH (field) SU 6.09
Temp Celcius (degrees C) 19.11
Dissolved Oxygen (mg/L) 13.57
Spec. Cond. (field) micromhos/cm 47.1
Oxidation Reduction Potential (ORP)(mV) 251
Turbidity (field) NTU 63.2

Station: OCONEE | **Sample #: 28002030**
Location: GM-6 | **Collection Date: 4/8/2008 10:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-6**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 5.633E+00	0.000E+00	5.633	Less than 1000
CO58	< 5.154E+00	0.000E+00	5.154	Less than 1000
FE59	< 9.992E+00	0.000E+00	9.992	Less than 400.0
CO60	< 5.088E+00	0.000E+00	5.088	Less than 300.0
ZN65	< 9.957E+00	0.000E+00	9.957	Less than 300.0
NB95	< 5.852E+00	0.000E+00	5.852	Less than 400.0
ZR95	< 8.008E+00	0.000E+00	8.008	Less than 400.0
I131	< 7.694E+00	0.000E+00	7.694	Less than 2.000
CS134	< 4.770E+00	0.000E+00	4.770	Less than 30.00
CS137	< 5.024E+00	0.000E+00	5.024	Less than 50.00
BALA140	< 8.147E+00	0.000E+00	8.147	Less than 200.0
BE7	< 4.600E+01	0.000E+00	46.00	No limits specified
K40	2.214E+02	3.287E+01	55.25	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 6.08E+01	159	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.39
pH (field) SU 5.76
Temp Celcius (degrees C) 17.79
Dissolved Oxygen (mg/L) 4.76
Spec. Cond. (field) micromhos/cm 28.6
Oxidation Reduction Potential (ORP)(mV) 395
Turbidity (field) NTU 29

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Station: OCONEE | **Sample #: 28002031**
Location: GM-6R | **Collection Date: 4/8/2008 10:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-6R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.653E+00	0.000E+00	4.653	Less than 1000
CO58	< 4.596E+00	0.000E+00	4.596	Less than 1000
FE59	< 8.509E+00	0.000E+00	8.509	Less than 400.0
CO60	< 4.674E+00	0.000E+00	4.674	Less than 300.0
ZN65	< 9.471E+00	0.000E+00	9.471	Less than 300.0
NB95	< 7.057E+00	0.000E+00	7.057	Less than 400.0
ZR95	< 8.054E+00	0.000E+00	8.054	Less than 400.0
I131	< 6.784E+00	0.000E+00	6.784	Less than 2.000
CS134	< 4.681E+00	0.000E+00	4.681	Less than 30.00
CS137	< 4.457E+00	0.000E+00	4.457	Less than 50.00
BALA140	< 6.625E+00	0.000E+00	6.625	Less than 200.0
BE7	< 4.380E+01	0.000E+00	43.80	No limits specified
K40	4.828E+01	2.372E+01	48.20	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< 5.53E+01		162	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.86
pH (field) SU 6.75
Temp Celcius (degrees C) 16.99
Dissolved Oxygen (mg/L) 8.01
Spec. Cond. (field) micromhos/cm 56.9
Oxidation Reduction Potential (ORP)(mV) 243
Turbidity (field) NTU 11.8

Station: OCONEE | **Sample #: 28002032**
Location: GM-7 | **Collection Date: 4/8/2008 09:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-7**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.913E+00	0.000E+00	4.913	Less than 1000
CO58	< 4.507E+00	0.000E+00	4.507	Less than 1000
FE59	< 9.922E+00	0.000E+00	9.922	Less than 400.0
CO60	< 5.601E+00	0.000E+00	5.601	Less than 300.0
ZN65	< 9.532E+00	0.000E+00	9.532	Less than 300.0
NB95	< 4.724E+00	0.000E+00	4.724	Less than 400.0
ZR95	< 9.897E+00	0.000E+00	9.897	Less than 400.0
I131	< 5.932E+00	0.000E+00	5.932	Less than 2.000
CS134	< 5.082E+00	0.000E+00	5.082	Less than 30.00
CS137	< 4.184E+00	0.000E+00	4.184	Less than 50.00
BALA140	< 8.375E+00	0.000E+00	8.375	Less than 200.0
BE7	< 4.495E+01	0.000E+00	44.95	No limits specified
K40	1.980E+02	3.336E+01	57.02	No limits specified

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Radiological Data for Job: 08-APR-0002

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Station: OCONEE | **Sample #: 28002032**
Location: GM-7 | **Collection Date: 4/8/2008 09:00:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-7**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	1.200E+04	1.530E+02	159	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.44
pH (field) SU 5.23
Temp Celcius (degrees C) 15.94
Dissolved Oxygen (mg/L) 8.82
Spec. Cond. (field) micromhos/cm 52.2
Oxidation Reduction Potential (ORP)(mV) 422
Turbidity (field) NTU 33.5

Station: OCONEE | **Sample #: 28002033**
Location: GM-7R | **Collection Date: 4/8/2008 08:45:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-7R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.378E+00	0.000E+00	3.378	Less than 1000
CO58	< 2.948E+00	0.000E+00	2.948	Less than 1000
FE59	< 6.739E+00	0.000E+00	6.739	Less than 400.0
CO60	< 4.059E+00	0.000E+00	4.059	Less than 300.0
ZN65	< 7.227E+00	0.000E+00	7.227	Less than 300.0
NB95	< 3.858E+00	0.000E+00	3.858	Less than 400.0
ZR95	< 6.073E+00	0.000E+00	6.073	Less than 400.0
I131	< 4.466E+00	0.000E+00	4.466	Less than 2.000
CS134	< 3.505E+00	0.000E+00	3.505	Less than 30.00
CS137	< 3.200E+00	0.000E+00	3.200	Less than 50.00
BALA140	< 4.727E+00	0.000E+00	4.727	Less than 200.0
BE7	< 3.366E+01	0.000E+00	33.66	No limits specified
K40	4.968E+01	2.052E+01	38.19	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	3.670E+03	9.610E+01	170	Less than 20000

Field Parameters

Elevation (ft (msl)) 727.7
pH (field) SU 6.2
Temp Celcius (degrees C) 17.12
Dissolved Oxygen (mg/L) 7.56
Spec. Cond. (field) micromhos/cm 166.7
Oxidation Reduction Potential (ORP)(mV) 324
Turbidity (field) NTU 86.4

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Station: OCONEE | **Sample #: 28002034**
Location: GM-8 | **Collection Date: 4/7/2008 15:35:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-8**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.606E+00	0.000E+00	5.606	Less than 1000
CO58	< 5.244E+00	0.000E+00	5.244	Less than 1000
FE59	< 9.077E+00	0.000E+00	9.077	Less than 400.0
CO60	< 4.988E+00	0.000E+00	4.988	Less than 300.0
ZN65	< 9.003E+00	0.000E+00	9.003	Less than 300.0
NB95	< 6.215E+00	0.000E+00	6.215	Less than 400.0
ZR95	< 1.129E+01	0.000E+00	11.29	Less than 400.0
I131	< 8.641E+00	0.000E+00	8.641	Less than 2.000
CS134	< 5.468E+00	0.000E+00	5.468	Less than 30.00
CS137	< 5.906E+00	0.000E+00	5.906	Less than 50.00
BALA140	< 7.080E+00	0.000E+00	7.080	Less than 200.0
BE7	< 5.329E+01	0.000E+00	53.29	No limits specified
K40	1.646E+02	3.101E+01	34.56	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.270E+02	5.490E+01	168	Less than 20000

Field Parameters

Elevation (ft (msl)) 742.87
pH (field) SU 6.56
Temp Celcius (degrees C) 22.77
Dissolved Oxygen (mg/L) 7.71
Spec. Cond. (field) micromhos/cm 141.2
Oxidation Reduction Potential (ORP)(mV) 292
Turbidity (field) NTU 158

Station: OCONEE | **Sample #: 28002035**
Location: GM-8R | **Collection Date: 4/7/2008 15:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-8R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 2.780E+00	0.000E+00	2.780	Less than 1000
CO58	< 3.163E+00	0.000E+00	3.163	Less than 1000
FE59	< 7.137E+00	0.000E+00	7.137	Less than 400.0
CO60	< 3.188E+00	0.000E+00	3.188	Less than 300.0
ZN65	< 7.311E+00	0.000E+00	7.311	Less than 300.0
NB95	< 3.372E+00	0.000E+00	3.372	Less than 400.0
ZR95	< 5.311E+00	0.000E+00	5.311	Less than 400.0
I131	< 3.843E+00	0.000E+00	3.843	Less than 2.000
CS134	< 3.411E+00	0.000E+00	3.411	Less than 30.00
CS137	< 3.392E+00	0.000E+00	3.392	Less than 50.00
BALA140	< 5.303E+00	0.000E+00	5.303	Less than 200.0
BE7	< 2.910E+01	0.000E+00	29.10	No limits specified
K40	8.754E+01	2.709E+01	41.20	No limits specified

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Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002035**
Location: GM-8R | **Collection Date: 4/7/2008 15:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-8R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.390E+02	5.550E+01	170	Less than 20000

Field Parameters

Elevation (ft (msl)) 743.31
pH (field) SU 7.87
Temp Celcius (degrees C) 22.36
Dissolved Oxygen (mg/L) 10.21
Spec. Cond. (field) micromhos/cm 253.4
Oxidation Reduction Potential (ORP)(mV) 127
Turbidity (field) NTU 430

Station: OCONEE | **Sample #: 28002036**
Location: GM-9 | **Collection Date: 4/7/2008 13:55:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-9**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.315E+00	0.000E+00	5.315	Less than 1000
CO58	< 4.756E+00	0.000E+00	4.756	Less than 1000
FE59	< 9.926E+00	0.000E+00	9.926	Less than 400.0
CO60	< 4.025E+00	0.000E+00	4.025	Less than 300.0
ZN65	< 8.752E+00	0.000E+00	8.752	Less than 300.0
NB95	< 5.653E+00	0.000E+00	5.653	Less than 400.0
ZR95	< 7.434E+00	0.000E+00	7.434	Less than 400.0
I131	< 7.742E+00	0.000E+00	7.742	Less than 2.000
CS134	< 4.918E+00	0.000E+00	4.918	Less than 30.00
CS137	< 5.187E+00	0.000E+00	5.187	Less than 50.00
BALA140	< 4.303E+00	0.000E+00	4.303	Less than 200.0
BE7	< 4.266E+01	0.000E+00	42.66	No limits specified
K40	2.149E+02	3.845E+01	59.42	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -1.07E+01		170	Less than 20000

Field Parameters

Elevation (ft (msl)) 747.09
pH (field) SU 5.94
Temp Celcius (degrees C) 21.06
Dissolved Oxygen (mg/L) 4.35
Spec. Cond. (field) micromhos/cm 124
Oxidation Reduction Potential (ORP)(mV) 265
Turbidity (field) NTU 11.3

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Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002037**
Location: GM-9R | **Collection Date: 4/7/2008 14:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-9R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.901E+00	0.000E+00	3.901	Less than 1000
CO58	< 4.394E+00	0.000E+00	4.394	Less than 1000
FE59	< 8.004E+00	0.000E+00	8.004	Less than 400.0
CO60	< 5.081E+00	0.000E+00	5.081	Less than 300.0
ZN65	< 9.248E+00	0.000E+00	9.248	Less than 300.0
NB95	< 5.378E+00	0.000E+00	5.378	Less than 400.0
ZR95	< 7.564E+00	0.000E+00	7.564	Less than 400.0
I131	< 6.430E+00	0.000E+00	6.430	Less than 2.000
CS134	< 4.126E+00	0.000E+00	4.126	Less than 30.00
CS137	< 4.665E+00	0.000E+00	4.665	Less than 50.00
BALA140	< 7.102E+00	0.000E+00	7.102	Less than 200.0
BE7	< 3.903E+01	0.000E+00	39.03	No limits specified
K40	8.558E+01	2.970E+01	41.11	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< 1.08E+01		171	Less than 20000

Field Parameters

Elevation (ft (msl)) 748.6
pH (field) SU 7.18
Temp Celcius (degrees C) 20.8
Dissolved Oxygen (mg/L) 10.23
Spec. Cond. (field) micromhos/cm 107.6
Oxidation Reduction Potential (ORP)(mV) 221
Turbidity (field) NTU 4.6

Station: OCONEE | **Sample #: 28002038**
Location: GM-10 | **Collection Date: 4/8/2008 14:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-10**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.675E+00	0.000E+00	3.675	Less than 1000
CO58	< 3.950E+00	0.000E+00	3.950	Less than 1000
FE59	< 7.152E+00	0.000E+00	7.152	Less than 400.0
CO60	< 3.794E+00	0.000E+00	3.794	Less than 300.0
ZN65	< 9.905E+00	0.000E+00	9.905	Less than 300.0
NB95	< 3.548E+00	0.000E+00	3.548	Less than 400.0
ZR95	< 7.208E+00	0.000E+00	7.208	Less than 400.0
I131	< 5.190E+00	0.000E+00	5.190	Less than 2.000
CS134	< 3.640E+00	0.000E+00	3.640	Less than 30.00
CS137	< 3.786E+00	0.000E+00	3.786	Less than 50.00
BALA140	< 5.136E+00	0.000E+00	5.136	Less than 200.0
BE7	< 3.470E+01	0.000E+00	34.70	No limits specified
K40	2.372E+02	2.618E+01	32.51	No limits specified

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Station: OCONEE | **Sample #: 28002038**
Location: GM-10 | **Collection Date: 4/8/2008 14:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-10**

H3GW TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 2.14E+00	170	Less than 20000

Field Parameters

Elevation (ft (msl)) 730.17
pH (field) SU 5.49
Temp Celcius (degrees C) 18.5
Dissolved Oxygen (mg/L) 5.34
Spec. Cond. (field) micromhos/cm 13.2
Oxidation Reduction Potential (ORP)(mV) 427
Turbidity (field) NTU 182

Station: OCONEE | **Sample #: 28002039**
Location: GM-10R | **Collection Date: 4/8/2008 14:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-10R**

GAMMAGW GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.938E+00	0.000E+00	3.938	Less than 1000
CO58	< 4.028E+00	0.000E+00	4.028	Less than 1000
FE59	< 7.748E+00	0.000E+00	7.748	Less than 400.0
CO60	< 4.206E+00	0.000E+00	4.206	Less than 300.0
ZN65	< 9.144E+00	0.000E+00	9.144	Less than 300.0
NB95	< 5.705E+00	0.000E+00	5.705	Less than 400.0
ZR95	< 6.806E+00	0.000E+00	6.806	Less than 400.0
I131	< 5.420E+00	0.000E+00	5.420	Less than 2.000
CS134	< 3.995E+00	0.000E+00	3.995	Less than 30.00
CS137	< 3.704E+00	0.000E+00	3.704	Less than 50.00
BALA140	< 6.010E+00	0.000E+00	6.010	Less than 200.0
BE7	< 3.573E+01	0.000E+00	35.73	No limits specified
K40	2.037E+02	2.884E+01	42.94	No limits specified

H3GW TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 3.19E+01	169	Less than 20000

Field Parameters

Elevation (ft (msl)) 728.51
pH (field) SU 6.45
Temp Celcius (degrees C) 18.86
Dissolved Oxygen (mg/L) 5.89
Spec. Cond. (field) micromhos/cm 39.2
Oxidation Reduction Potential (ORP)(mV) 305
Turbidity (field) NTU 51.9

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Station: OCONEE | **Sample #: 28002040**
Location: GM-11 | **Collection Date: 4/8/2008 15:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-11**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.866E+00	0.000E+00	5.866	Less than 1000
CO58	< 5.346E+00	0.000E+00	5.346	Less than 1000
FE59	< 8.296E+00	0.000E+00	8.296	Less than 400.0
CO60	< 5.969E+00	0.000E+00	5.969	Less than 300.0
ZN65	< 8.457E+00	0.000E+00	8.457	Less than 300.0
NB95	< 4.335E+00	0.000E+00	4.335	Less than 400.0
ZR95	< 6.786E+00	0.000E+00	6.786	Less than 400.0
I131	< 4.605E+00	0.000E+00	4.605	Less than 2.000
CS134	< 5.127E+00	0.000E+00	5.127	Less than 30.00
CS137	< 5.045E+00	0.000E+00	5.045	Less than 50.00
BALA140	< 6.002E+00	0.000E+00	6.002	Less than 200.0
BE7	< 3.478E+01	0.000E+00	34.78	No limits specified
K40	6.873E+01	1.922E+01	57.81	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -1.69E+01		168	Less than 20000

Field Parameters

Elevation (ft (msl)) 690.63
pH (field) SU 5.97
Temp Celcius (degrees C) 20.03
Dissolved Oxygen (mg/L) 6.87
Spec. Cond. (field) micromhos/cm 30
Oxidation Reduction Potential (ORP)(mV) 399
Turbidity (field) NTU 65

Station: OCONEE | **Sample #: 28002041**
Location: GM-11R | **Collection Date: 4/8/2008 15:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-11R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.086E+00	0.000E+00	4.086	Less than 1000
CO58	< 3.981E+00	0.000E+00	3.981	Less than 1000
FE59	< 7.769E+00	0.000E+00	7.769	Less than 400.0
CO60	< 4.377E+00	0.000E+00	4.377	Less than 300.0
ZN65	< 9.245E+00	0.000E+00	9.245	Less than 300.0
NB95	< 4.864E+00	0.000E+00	4.864	Less than 400.0
ZR95	< 7.414E+00	0.000E+00	7.414	Less than 400.0
I131	< 5.452E+00	0.000E+00	5.452	Less than 2.000
CS134	< 4.120E+00	0.000E+00	4.120	Less than 30.00
CS137	< 3.922E+00	0.000E+00	3.922	Less than 50.00
BALA140	< 6.012E+00	0.000E+00	6.012	Less than 200.0
BE7	< 3.405E+01	0.000E+00	34.05	No limits specified
K40	< 5.384E+01	0.000E+00	53.84	No limits specified

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Station: OCONEE | **Sample #: 28002041**
Location: GM-11R | **Collection Date: 4/8/2008 15:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-11R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -1.28E+01	169	Less than 20000

Field Parameters

Elevation (ft (msl)) 692
pH (field) SU 6.09
Temp Celcius (degrees C) 19.56
Dissolved Oxygen (mg/L) 3.42
Spec. Cond. (field) micromhos/cm 39.2
Oxidation Reduction Potential (ORP)(mV) 352
Turbidity (field) NTU 8.82

Station: OCONEE | **Sample #: 28002042**
Location: GM-12 | **Collection Date: 4/8/2008 11:05:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-12**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 4.449E+00	0.000E+00	4.449	Less than 1000
CO58	< 4.527E+00	0.000E+00	4.527	Less than 1000
FE59	< 8.622E+00	0.000E+00	8.622	Less than 400.0
CO60	< 4.726E+00	0.000E+00	4.726	Less than 300.0
ZN65	< 9.667E+00	0.000E+00	9.667	Less than 300.0
NB95	< 6.331E+00	0.000E+00	6.331	Less than 400.0
ZR95	< 7.284E+00	0.000E+00	7.284	Less than 400.0
I131	< 5.829E+00	0.000E+00	5.829	Less than 2.000
CS134	< 4.272E+00	0.000E+00	4.272	Less than 30.00
CS137	< 4.152E+00	0.000E+00	4.152	Less than 50.00
BALA140	< 6.923E+00	0.000E+00	6.923	Less than 200.0
BE7	< 3.634E+01	0.000E+00	36.34	No limits specified
K40	1.210E+02	2.497E+01	47.98	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.94E+01	171	Less than 20000

Field Parameters

Elevation (ft (msl)) 687.84
pH (field) SU 5.1
Temp Celcius (degrees C) 16.6
Dissolved Oxygen (mg/L) 2.99
Spec. Cond. (field) micromhos/cm 39.7
Oxidation Reduction Potential (ORP)(mV) 375
Turbidity (field) NTU 745

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Station: OCONEE | **Sample #: 28002043**
Location: GM-12R | **Collection Date: 4/8/2008 11:20:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-12R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.518E+00	0.000E+00	3.518	Less than	1000
CO58	< 3.133E+00	0.000E+00	3.133	Less than	1000
FE59	< 7.056E+00	0.000E+00	7.056	Less than	400.0
CO60	< 4.106E+00	0.000E+00	4.106	Less than	300.0
ZN65	< 7.530E+00	0.000E+00	7.530	Less than	300.0
NB95	< 4.058E+00	0.000E+00	4.058	Less than	400.0
ZR95	< 6.185E+00	0.000E+00	6.185	Less than	400.0
I131	< 4.320E+00	0.000E+00	4.320	Less than	2.000
CS134	< 3.599E+00	0.000E+00	3.599	Less than	30.00
CS137	< 3.312E+00	0.000E+00	3.312	Less than	50.00
BALA140	< 5.379E+00	0.000E+00	5.379	Less than	200.0
BE7	< 2.983E+01	0.000E+00	29.83	No limits specified	
K40	< 5.297E+01	0.000E+00	52.97	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Calculated MDA	Reporting Level	
H3	< 4.01E+01	174	Less than	20000

Field Parameters

Elevation (ft (msl)) 688.41
pH (field) SU 6.03
Temp Celcius (degrees C) 16.9
Dissolved Oxygen (mg/L) 2.73
Spec. Cond. (field) micromhos/cm 81.3
Oxidation Reduction Potential (ORP)(mV) 151
Turbidity (field) NTU 7.82

Station: OCONEE | **Sample #: 28002044**
Location: GM-13 | **Collection Date: 4/8/2008 14:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-13**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.977E+00	0.000E+00	3.977	Less than	1000
CO58	< 4.269E+00	0.000E+00	4.269	Less than	1000
FE59	< 7.666E+00	0.000E+00	7.666	Less than	400.0
CO60	< 3.963E+00	0.000E+00	3.963	Less than	300.0
ZN65	< 9.577E+00	0.000E+00	9.577	Less than	300.0
NB95	< 5.233E+00	0.000E+00	5.233	Less than	400.0
ZR95	< 6.675E+00	0.000E+00	6.675	Less than	400.0
I131	< 4.708E+00	0.000E+00	4.708	Less than	2.000
CS134	< 3.760E+00	0.000E+00	3.760	Less than	30.00
CS137	< 3.656E+00	0.000E+00	3.656	Less than	50.00
BALA140	< 4.555E+00	0.000E+00	4.555	Less than	200.0
BE7	< 3.217E+01	0.000E+00	32.17	No limits specified	
K40	1.417E+02	2.147E+01	45.14	No limits specified	

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Station: OCONEE | **Sample #: 28002044**
Location: GM-13 | **Collection Date: 4/8/2008 14:30:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-13**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -4.87E+01	174	Less than 20000

Field Parameters

Elevation (ft (msl)) 699.62
pH (field) SU 4.98
Temp Celcius (degrees C) 18.44
Dissolved Oxygen (mg/L) 5.08
Spec. Cond. (field) micromhos/cm 29.1
Oxidation Reduction Potential (ORP)(mV) 423
Turbidity (field) NTU 33.7

Station: OCONEE | **Sample #: 28002045**
Location: GM-13R | **Collection Date: 4/8/2008 14:45:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-13R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level	
MN54	< 3.666E+00	0.000E+00	3.666	Less than	1000
CO58	< 3.739E+00	0.000E+00	3.739	Less than	1000
FE59	< 7.961E+00	0.000E+00	7.961	Less than	400.0
CO60	< 4.258E+00	0.000E+00	4.258	Less than	300.0
ZN65	< 8.641E+00	0.000E+00	8.641	Less than	300.0
NB95	< 4.588E+00	0.000E+00	4.588	Less than	400.0
ZR95	< 6.494E+00	0.000E+00	6.494	Less than	400.0
I131	< 5.060E+00	0.000E+00	5.060	Less than	2.000
CS134	< 3.974E+00	0.000E+00	3.974	Less than	30.00
CS137	< 3.715E+00	0.000E+00	3.715	Less than	50.00
BALA140	< 5.895E+00	0.000E+00	5.895	Less than	200.0
BE7	< 3.267E+01	0.000E+00	32.67	No limits specified	
K40	< 4.911E+01	0.000E+00	49.11	No limits specified	

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 8.57E+00	176	Less than 20000

Field Parameters

Elevation (ft (msl)) 703.03
pH (field) SU 6.05
Temp Celcius (degrees C) 18.02
Dissolved Oxygen (mg/L) 1.42
Spec. Cond. (field) micromhos/cm 60.3
Oxidation Reduction Potential (ORP)(mV) 296
Turbidity (field) NTU 14.6

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Station: OCONEE | **Sample #: 28002046**
Location: GM-14 | **Collection Date: 4/8/2008 09:10:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-14**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.767E+00	0.000E+00	3.767	Less than 1000
CO58	< 3.822E+00	0.000E+00	3.822	Less than 1000
FE59	< 7.949E+00	0.000E+00	7.949	Less than 400.0
CO60	< 3.860E+00	0.000E+00	3.860	Less than 300.0
ZN65	< 8.830E+00	0.000E+00	8.830	Less than 300.0
NB95	< 5.434E+00	0.000E+00	5.434	Less than 400.0
ZR95	< 5.818E+00	0.000E+00	5.818	Less than 400.0
I131	< 5.255E+00	0.000E+00	5.255	Less than 2.000
CS134	< 4.223E+00	0.000E+00	4.223	Less than 30.00
CS137	< 3.835E+00	0.000E+00	3.835	Less than 50.00
BALA140	< 5.836E+00	0.000E+00	5.836	Less than 200.0
BE7	< 3.304E+01	0.000E+00	33.04	No limits specified
K40	1.849E+02	2.789E+01	41.30	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -1.10E+02		178	Less than 20000

Field Parameters

Elevation (ft (msl)) 701.82
pH (field) SU 4.88
Temp Celcius (degrees C) 17.88
Dissolved Oxygen (mg/L) 2.86
Spec. Cond. (field) micromhos/cm 24
Oxidation Reduction Potential (ORP)(mV) 457
Turbidity (field) NTU 23.8

Station: OCONEE | **Sample #: 28002047**
Location: GM-14R | **Collection Date: 4/8/2008 09:45:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-14R**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 3.767E+00	0.000E+00	3.767	Less than 1000
CO58	< 3.508E+00	0.000E+00	3.508	Less than 1000
FE59	< 6.833E+00	0.000E+00	6.833	Less than 400.0
CO60	< 3.841E+00	0.000E+00	3.841	Less than 300.0
ZN65	< 7.643E+00	0.000E+00	7.643	Less than 300.0
NB95	< 4.083E+00	0.000E+00	4.083	Less than 400.0
ZR95	< 6.432E+00	0.000E+00	6.432	Less than 400.0
I131	< 5.136E+00	0.000E+00	5.136	Less than 2.000
CS134	< 3.490E+00	0.000E+00	3.490	Less than 30.00
CS137	< 3.482E+00	0.000E+00	3.482	Less than 50.00
BALA140	< 5.513E+00	0.000E+00	5.513	Less than 200.0
BE7	< 3.271E+01	0.000E+00	32.71	No limits specified
K40	< 5.357E+01	0.000E+00	53.57	No limits specified

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Station: OCONEE | **Sample #: 28002047**
Location: GM-14R | **Collection Date: 4/8/2008 09:45:00**
Type: GROUND WATER | **ONS GROUND WATER PROTECTION PROGRAM / GM-14R**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -5.72E+01	174	Less than 20000

Field Parameters

Elevation (ft (msl)) 721.41
pH (field) SU 6.75
Temp Celcius (degrees C) 17.27
Dissolved Oxygen (mg/L) 2.48
Spec. Cond. (field) micromhos/cm 104.4
Oxidation Reduction Potential (ORP)(mV) 82
Turbidity (field) NTU 10

Station: OCONEE | **Sample #: 28002048**
Location: A-1 | **Collection Date: 4/8/2008 09:10:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-1**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 4.488E+00	0.000E+00	4.488	No limits specified
CO58	< 3.770E+00	0.000E+00	3.770	No limits specified
FE59	< 9.129E+00	0.000E+00	9.129	No limits specified
CO60	< 4.713E+00	0.000E+00	4.713	No limits specified
ZN65	< 9.961E+00	0.000E+00	9.961	No limits specified
NB95	< 5.193E+00	0.000E+00	5.193	No limits specified
ZR95	< 7.365E+00	0.000E+00	7.365	No limits specified
I131	< 5.590E+00	0.000E+00	5.590	No limits specified
CS134	< 4.394E+00	0.000E+00	4.394	No limits specified
CS137	< 4.040E+00	0.000E+00	4.040	No limits specified
BALA140	< 5.366E+00	0.000E+00	5.366	No limits specified
BE7	< 3.514E+01	0.000E+00	35.14	No limits specified
K40	3.175E+01	2.052E+01	50.76	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	1.780E+03	7.670E+01	173	No limits specified

Field Parameters

Elevation (ft (msl)) 793.42
pH (field) SU 6.83
Temp Celcius (degrees C) 17.34
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 176
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 2.55

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Huntersville, NC 28078-7929

Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002049**
Location: A-2 | **Collection Date: 4/8/2008 10:10:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-2**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.842E+00	0.000E+00	4.842	No limits specified
CO58	< 4.686E+00	0.000E+00	4.686	No limits specified
FE59	< 9.898E+00	0.000E+00	9.898	No limits specified
CO60	< 5.223E+00	0.000E+00	5.223	No limits specified
ZN65	< 9.907E+00	0.000E+00	9.907	No limits specified
NB95	< 5.842E+00	0.000E+00	5.842	No limits specified
ZR95	< 7.401E+00	0.000E+00	7.401	No limits specified
I131	< 6.540E+00	0.000E+00	6.540	No limits specified
CS134	< 4.885E+00	0.000E+00	4.885	No limits specified
CS137	< 4.690E+00	0.000E+00	4.690	No limits specified
BALA140	< 6.781E+00	0.000E+00	6.781	No limits specified
BE7	< 4.406E+01	0.000E+00	44.06	No limits specified
K40	< 8.180E+01	0.000E+00	81.80	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	2.740E+02	5.760E+01	175	No limits specified

Field Parameters

Elevation (ft (msl)) 793.07
pH (field) SU 6.44
Temp Celcius (degrees C) 18.64
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 129
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 1.01

Station: OCONEE | **Sample #: 28002050**
Location: A-8 | **Collection Date: 4/9/2008 08:50:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-8**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.308E+00	0.000E+00	5.308	No limits specified
CO58	< 4.978E+00	0.000E+00	4.978	No limits specified
FE59	< 1.027E+01	0.000E+00	10.27	No limits specified
CO60	< 5.293E+00	0.000E+00	5.293	No limits specified
ZN65	< 9.728E+00	0.000E+00	9.728	No limits specified
NB95	< 5.991E+00	0.000E+00	5.991	No limits specified
ZR95	< 8.624E+00	0.000E+00	8.624	No limits specified
I131	< 6.670E+00	0.000E+00	6.670	No limits specified
CS134	< 5.039E+00	0.000E+00	5.039	No limits specified
CS137	< 5.415E+00	0.000E+00	5.415	No limits specified
BALA140	< 5.649E+00	0.000E+00	5.649	No limits specified
BE7	< 4.237E+01	0.000E+00	42.37	No limits specified
K40	1.828E+02	2.969E+01	56.07	No limits specified

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Station: OCONEE | **Sample #: 28002050**
Location: A-8 | **Collection Date: 4/9/2008 08:50:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-8**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.30E+02	176	No limits specified

Field Parameters

Elevation (ft (msl)) 800.09
pH (field) SU 5.77
Temp Celcius (degrees C) 17.38
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 44.5
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 3.05

Station: OCONEE | **Sample #: 28002051**
Location: A-9 | **Collection Date: 4/7/2008 11:10:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-9**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 4.423E+00	0.000E+00	4.423	No limits specified
CO58	< 4.298E+00	0.000E+00	4.298	No limits specified
FE59	< 9.572E+00	0.000E+00	9.572	No limits specified
CO60	< 4.559E+00	0.000E+00	4.559	No limits specified
ZN65	< 9.300E+00	0.000E+00	9.300	No limits specified
NB95	< 5.167E+00	0.000E+00	5.167	No limits specified
ZR95	< 8.224E+00	0.000E+00	8.224	No limits specified
I131	< 5.629E+00	0.000E+00	5.629	No limits specified
CS134	< 4.027E+00	0.000E+00	4.027	No limits specified
CS137	< 3.869E+00	0.000E+00	3.869	No limits specified
BALA140	< 5.076E+00	0.000E+00	5.076	No limits specified
BE7	< 3.314E+01	0.000E+00	33.14	No limits specified
K40	2.044E+02	3.026E+01	35.76	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	1.790E+03	7.720E+01	174	No limits specified

Field Parameters

Elevation (ft (msl)) 792.39
pH (field) SU 6.4
Temp Celcius (degrees C) 16.68
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 347.7
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 8.97

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Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002052**
Location: A-10 | **Collection Date: 4/9/2008 10:40:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-10**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.035E+00	0.000E+00	4.035	No limits specified
CO58	< 4.731E+00	0.000E+00	4.731	No limits specified
FE59	< 1.083E+01	0.000E+00	10.83	No limits specified
CO60	< 4.789E+00	0.000E+00	4.789	No limits specified
ZN65	< 9.911E+00	0.000E+00	9.911	No limits specified
NB95	< 4.812E+00	0.000E+00	4.812	No limits specified
ZR95	< 8.091E+00	0.000E+00	8.091	No limits specified
I131	< 5.356E+00	0.000E+00	5.356	No limits specified
CS134	< 4.457E+00	0.000E+00	4.457	No limits specified
CS137	< 4.553E+00	0.000E+00	4.553	No limits specified
BALA140	< 5.055E+00	0.000E+00	5.055	No limits specified
BE7	< 3.847E+01	0.000E+00	38.47	No limits specified
K40	2.146E+02	3.777E+01	51.13	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	3.460E+02	5.930E+01	177	No limits specified

Field Parameters

Elevation (ft (msl)) 691.28
pH (field) SU 5.92
Temp Celcius (degrees C) 15.19
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 140.7
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 3.47

Station: OCONEE | **Sample #: 28002053**
Location: A-11 | **Collection Date: 4/9/2008 11:15:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-11**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.127E+00	0.000E+00	4.127	No limits specified
CO58	< 3.807E+00	0.000E+00	3.807	No limits specified
FE59	< 7.960E+00	0.000E+00	7.960	No limits specified
CO60	< 3.630E+00	0.000E+00	3.630	No limits specified
ZN65	< 8.465E+00	0.000E+00	8.465	No limits specified
NB95	< 4.655E+00	0.000E+00	4.655	No limits specified
ZR95	< 6.738E+00	0.000E+00	6.738	No limits specified
I131	< 4.786E+00	0.000E+00	4.786	No limits specified
CS134	< 4.042E+00	0.000E+00	4.042	No limits specified
CS137	< 3.744E+00	0.000E+00	3.744	No limits specified
BALA140	< 5.624E+00	0.000E+00	5.624	No limits specified
BE7	< 3.340E+01	0.000E+00	33.40	No limits specified
K40	< 6.815E+01	0.000E+00	68.15	No limits specified

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Station: OCONEE | **Sample #: 28002053**
Location: A-11 | **Collection Date: 4/9/2008 11:15:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-11**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 7.33E+01	153	No limits specified

Field Parameters

Elevation (ft (msl)) 695.89
pH (field) SU 5.9
Temp Celcius (degrees C) 15.9
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 43
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 2.1

Station: OCONEE | **Sample #: 28002054**
Location: A-12 | **Collection Date: 4/9/2008 10:35:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-12**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 3.862E+00	0.000E+00	3.862	No limits specified
CO58	< 3.912E+00	0.000E+00	3.912	No limits specified
FE59	< 9.112E+00	0.000E+00	9.112	No limits specified
CO60	< 3.450E+00	0.000E+00	3.450	No limits specified
ZN65	< 9.112E+00	0.000E+00	9.112	No limits specified
NB95	< 5.056E+00	0.000E+00	5.056	No limits specified
ZR95	< 7.168E+00	0.000E+00	7.168	No limits specified
I131	< 5.426E+00	0.000E+00	5.426	No limits specified
CS134	< 3.623E+00	0.000E+00	3.623	No limits specified
CS137	< 4.129E+00	0.000E+00	4.129	No limits specified
BALA140	< 5.623E+00	0.000E+00	5.623	No limits specified
BE7	< 3.496E+01	0.000E+00	34.96	No limits specified
K40	8.682E+01	1.792E+01	43.30	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 7.62E+01	151	No limits specified

Field Parameters

Elevation (ft (msl)) 709.28
pH (field) SU 5.5
Temp Celcius (degrees C) 15.37
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 20
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 8.67

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Station: OCONEE | **Sample #: 28002055**
Location: A-13 | **Collection Date: 4/7/2008 14:20:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-13**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.185E+00	0.000E+00	5.185	No limits specified
CO58	< 5.651E+00	0.000E+00	5.651	No limits specified
FE59	< 1.014E+01	0.000E+00	10.14	No limits specified
CO60	< 6.518E+00	0.000E+00	6.518	No limits specified
ZN65	< 9.839E+00	0.000E+00	9.839	No limits specified
NB95	< 5.547E+00	0.000E+00	5.547	No limits specified
ZR95	< 1.073E+01	0.000E+00	10.73	No limits specified
I131	< 7.612E+00	0.000E+00	7.612	No limits specified
CS134	< 3.963E+00	0.000E+00	3.963	No limits specified
CS137	< 4.761E+00	0.000E+00	4.761	No limits specified
BALA140	< 9.021E+00	0.000E+00	9.021	No limits specified
BE7	< 3.509E+01	0.000E+00	35.09	No limits specified
K40	1.053E+02	3.607E+01	60.58	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	1.070E+03	6.250E+01	151	No limits specified

Field Parameters

Elevation (ft (msl)) 786.8
pH (field) SU 8.45
Temp Celcius (degrees C) 20.19
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 262
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 22.4

Station: OCONEE | **Sample #: 28002056**
Location: A-14 | **Collection Date: 4/7/2008 13:35:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-14**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.062E+00	0.000E+00	5.062	No limits specified
CO58	< 4.752E+00	0.000E+00	4.752	No limits specified
FE59	< 9.767E+00	0.000E+00	9.767	No limits specified
CO60	< 5.068E+00	0.000E+00	5.068	No limits specified
ZN65	< 9.006E+00	0.000E+00	9.006	No limits specified
NB95	< 5.506E+00	0.000E+00	5.506	No limits specified
ZR95	< 9.453E+00	0.000E+00	9.453	No limits specified
I131	< 8.230E+00	0.000E+00	8.230	No limits specified
CS134	< 4.007E+00	0.000E+00	4.007	No limits specified
CS137	< 4.250E+00	0.000E+00	4.250	No limits specified
BALA140	< 7.892E+00	0.000E+00	7.892	No limits specified
BE7	< 4.392E+01	0.000E+00	43.92	No limits specified
K40	2.114E+02	3.866E+01	47.50	No limits specified

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Station: OCONEE | **Sample #: 28002056**
Location: A-14 | **Collection Date: 4/7/2008 13:35:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-14**

H3GW TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	1.380E+03	6.690E+01	152	No limits specified

Field Parameters

Elevation (ft (msl)) 784.83
pH (field) SU 8.98
Temp Celcius (degrees C) 20.04
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 201.5
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 2.31

Station: OCONEE | **Sample #: 28002057**
Location: A-17 | **Collection Date: 4/8/2008 14:45:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-17**

GAMMAGW GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 4.688E+00	0.000E+00	4.688	No limits specified
CO58	< 4.467E+00	0.000E+00	4.467	No limits specified
FE59	< 9.995E+00	0.000E+00	9.995	No limits specified
CO60	< 5.574E+00	0.000E+00	5.574	No limits specified
ZN65	< 9.150E+00	0.000E+00	9.150	No limits specified
NB95	< 5.711E+00	0.000E+00	5.711	No limits specified
ZR95	< 8.268E+00	0.000E+00	8.268	No limits specified
I131	< 5.511E+00	0.000E+00	5.511	No limits specified
CS134	< 4.798E+00	0.000E+00	4.798	No limits specified
CS137	< 4.847E+00	0.000E+00	4.847	No limits specified
BALA140	< 7.316E+00	0.000E+00	7.316	No limits specified
BE7	< 3.544E+01	0.000E+00	35.44	No limits specified
K40	< 8.858E+01	0.000E+00	88.58	No limits specified

H3GW TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	1.590E+02	4.920E+01	153	No limits specified

Field Parameters

Elevation (ft (msl)) 790.71
pH (field) SU 6.14
Temp Celcius (degrees C) 19.28
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 62
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 3.9

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Station: OCONEE | **Sample #: 28002058**
Location: A-18 | **Collection Date: 4/8/2008 13:45:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / A-18**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 5.978E+00	0.000E+00	5.978	No limits specified
CO58	< 5.457E+00	0.000E+00	5.457	No limits specified
FE59	< 1.207E+01	0.000E+00	12.07	No limits specified
CO60	< 4.528E+00	0.000E+00	4.528	No limits specified
ZN65	< 9.819E+00	0.000E+00	9.819	No limits specified
NB95	< 6.343E+00	0.000E+00	6.343	No limits specified
ZR95	< 9.841E+00	0.000E+00	9.841	No limits specified
I131	< 8.106E+00	0.000E+00	8.106	No limits specified
CS134	< 5.765E+00	0.000E+00	5.765	No limits specified
CS137	< 5.667E+00	0.000E+00	5.667	No limits specified
BALA140	< 8.554E+00	0.000E+00	8.554	No limits specified
BE7	< 4.586E+01	0.000E+00	45.86	No limits specified
K40	2.132E+02	4.454E+01	64.89	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< 3.26E+01		153	No limits specified

Field Parameters

Elevation (ft (msl)) 793.71
pH (field) SU 6.09
Temp Celcius (degrees C) 19.11
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 65
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 1.81

Station: OCONEE | **Sample #: 28002059**
Location: BG-4 | **Collection Date: 4/8/2008 13:15:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / BG-4**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.449E+00	0.000E+00	4.449	No limits specified
CO58	< 4.153E+00	0.000E+00	4.153	No limits specified
FE59	< 9.151E+00	0.000E+00	9.151	No limits specified
CO60	< 4.503E+00	0.000E+00	4.503	No limits specified
ZN65	< 9.834E+00	0.000E+00	9.834	No limits specified
NB95	< 5.415E+00	0.000E+00	5.415	No limits specified
ZR95	< 8.085E+00	0.000E+00	8.085	No limits specified
I131	< 6.341E+00	0.000E+00	6.341	No limits specified
CS134	< 3.908E+00	0.000E+00	3.908	No limits specified
CS137	< 4.440E+00	0.000E+00	4.440	No limits specified
BALA140	< 6.954E+00	0.000E+00	6.954	No limits specified
BE7	< 3.943E+01	0.000E+00	39.43	No limits specified
K40	< 6.621E+01	0.000E+00	66.21	No limits specified

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Station: OCONEE | **Sample #: 28002059**
Location: BG-4 | **Collection Date: 4/8/2008 13:15:00**
Type: CTP GWATER | **ONS GROUND WATER PROTECTION PROGRAM / BG-4**

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.07E+02	151	No limits specified

Field Parameters

Elevation (ft (msl)) 811.56
pH (field) SU 5.68
Temp Celcius (degrees C) 15.84
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 52.7
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU 3.46

Station: OCONEE | **Sample #: 28002060**
Location: MW-RP01 | **Collection Date: 4/9/2008 10:25:00**
Type: BURIAL WELL | **ONS TUBE BURIAL / MW-RP01**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
MN54	< 4.086E+00	0.000E+00	4.086	No limits specified
CO58	< 4.477E+00	0.000E+00	4.477	No limits specified
FE59	< 9.985E+00	0.000E+00	9.985	No limits specified
CO60	< 4.903E+00	0.000E+00	4.903	No limits specified
ZN65	< 9.678E+00	0.000E+00	9.678	No limits specified
NB95	< 4.569E+00	0.000E+00	4.569	No limits specified
ZR95	< 8.154E+00	0.000E+00	8.154	No limits specified
I131	< 6.230E+00	0.000E+00	6.230	No limits specified
CS134	< 3.935E+00	0.000E+00	3.935	No limits specified
CS137	< 4.663E+00	0.000E+00	4.663	No limits specified
BALA140	< 6.878E+00	0.000E+00	6.878	No limits specified
BE7	< 4.171E+01	0.000E+00	41.71	No limits specified
K40	4.115E+01	2.591E+01	53.01	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 4.18E+01	150	No limits specified

Field Parameters

Elevation (ft (msl)) 760.77
pH (field) SU 5.49
Temp Celcius (degrees C) 21.03
Dissolved Oxygen (mg/L) 1.33
Spec. Cond. (field) micromhos/cm 22.6
Oxidation Reduction Potential (ORP)(mV) 443
Turbidity (field) NTU 2.53

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13339 Hagers Ferry Road
Huntersville, NC 28078-7929

Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE | **Sample #: 28002061**
Location: MW-RP02 | **Collection Date: 4/9/2008 08:55:00**
Type: BURIAL WELL | **ONS TUBE BURIAL / MW-RP02**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.255E+00	0.000E+00	4.255	No limits specified
CO58	< 3.250E+00	0.000E+00	3.250	No limits specified
FE59	< 9.645E+00	0.000E+00	9.645	No limits specified
CO60	< 4.793E+00	0.000E+00	4.793	No limits specified
ZN65	< 9.600E+00	0.000E+00	9.600	No limits specified
NB95	< 5.391E+00	0.000E+00	5.391	No limits specified
ZR95	< 6.186E+00	0.000E+00	6.186	No limits specified
I131	< 6.048E+00	0.000E+00	6.048	No limits specified
CS134	< 4.077E+00	0.000E+00	4.077	No limits specified
CS137	< 4.153E+00	0.000E+00	4.153	No limits specified
BALA140	< 6.638E+00	0.000E+00	6.638	No limits specified
BE7	< 3.851E+01	0.000E+00	38.51	No limits specified
K40	2.040E+02	2.923E+01	44.79	No limits specified

H3GW — TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
H3	< -2.16E+01		147	No limits specified

Field Parameters

Elevation (ft (msl)) 741.62
pH (field) SU 5.46
Temp Celcius (degrees C) 19.44
Dissolved Oxygen (mg/L) .22
Spec. Cond. (field) micromhos/cm 28.9
Oxidation Reduction Potential (ORP)(mV) 247
Turbidity (field) NTU 194

Station: OCONEE | **Sample #: 28002062**
Location: MW-RP03 | **Collection Date: 4/9/2008 09:45:00**
Type: BURIAL WELL | **ONS TUBE BURIAL / MW-RP03**

GAMMAGW — GAMMA GROUND WATER ANALYSIS

Units: pCi/liter

	Activity	Error	Calculated MDA	Reporting Level
MN54	< 4.108E+00	0.000E+00	4.108	No limits specified
CO58	< 4.120E+00	0.000E+00	4.120	No limits specified
FE59	< 9.520E+00	0.000E+00	9.520	No limits specified
CO60	< 4.312E+00	0.000E+00	4.312	No limits specified
ZN65	< 9.341E+00	0.000E+00	9.341	No limits specified
NB95	< 5.428E+00	0.000E+00	5.428	No limits specified
ZR95	< 7.456E+00	0.000E+00	7.456	No limits specified
I131	< 5.158E+00	0.000E+00	5.158	No limits specified
CS134	< 4.046E+00	0.000E+00	4.046	No limits specified
CS137	< 4.251E+00	0.000E+00	4.251	No limits specified
BALA140	< 6.927E+00	0.000E+00	6.927	No limits specified
BE7	< 3.720E+01	0.000E+00	37.20	No limits specified
K40	6.768E+01	2.981E+01	60.09	No limits specified

EnRad Laboratories @ Duke Energy
13339 Hagers Ferry Road
Huntersville, NC 28078-7929

Radiological Data for Job: 08-APR-0002

Report Generated: 4/24/2008 16:31:40

Station: OCONEE
Location: MW-RP03
Type: BURIAL WELL

Sample #: 28002062
Collection Date: 4/9/2008 09:45:00
ONS TUBE BURIAL / MW-RP03

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< -3.22E+01	151	No limits specified

Field Parameters

Elevation (ft (msl)) 737.01
pH (field) SU 5.03
Temp Celcius (degrees C) 18.83
Dissolved Oxygen (mg/L) 1.92
Spec. Cond. (field) micromhos/cm 28.8
Oxidation Reduction Potential (ORP)(mV) 402
Turbidity (field) NTU 55.4

EnRad Laboratories @ Duke Energy
13339 Hagers Ferry Road
Huntersville, NC 28078-7929

Radiological Data for Job: 08-APR-0013

Report Generated: 4/14/2008 11:47:40

Station: OCONEE | **Sample #: 28002245**
Location: NA | **Collection Date: 4/9/2008 08:30:00**
Type: H3INVESTIGATION | **ONS GROUND WATER PROTECTION PROJECT / CB-135**

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.37E+02	156	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 5.93
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 91.2
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE | **Sample #: 28002246**
Location: NA | **Collection Date: 4/9/2008 08:40:00**
Type: H3INVESTIGATION | **ONS GROUND WATER PROTECTION PROJECT / CB-147**

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	2.820E+03 8.370E+01	155	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 6.48
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 193.9
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE | **Sample #: 28002247**
Location: NA | **Collection Date: 4/9/2008 08:50:00**
Type: H3INVESTIGATION | **ONS GROUND WATER PROTECTION PROJECT / CB-97**

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
H3	< 1.20E+02	155	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 7.17
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 55.8
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

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Huntersville, NC 28078-7929

Radiological Data for Job: 08-APR-0013

Report Generated: 4/14/2008 11:47:40

Station: OCONEE | **Sample #: 28002248**
Location: NA | **Collection Date: 4/9/2008 09:10:00**
Type: H3INVESTIGATION | **ONS GROUND WATER PROTECTION PROJECT / CB-131**

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	4.560E+03	9.850E+01	152	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 7.28
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 63.4
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE | **Sample #: 28002249**
Location: NA | **Collection Date: 4/9/2008 09:20:00**
Type: H3INVESTIGATION | **ONS GROUND WATER PROTECTION PROJECT / CB-146**

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	1.910E+02	5.050E+01	155	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 6.05
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 110.9
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

Station: OCONEE | **Sample #: 28002250**
Location: NA | **Collection Date: 4/9/2008 09:30:00**
Type: H3INVESTIGATION | **ONS GROUND WATER PROTECTION PROJECT / 48" CULVERT**

H3GW | TRITIUM ANALYSIS OF GROUND WATER

Units: pCi/liter

	Activity	- Error	Calculated MDA	Reporting Level
H3	9.480E+02	6.020E+01	150	No limits specified

Field Parameters

Elevation (ft (msl)) NA
pH (field) SU 7.89
Temp Celcius (degrees C) NA
Dissolved Oxygen (mg/L) NA
Spec. Cond. (field) micromhos/cm 118.6
Oxidation Reduction Potential (ORP)(mV) NA
Turbidity (field) NTU NA

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Huntersville, NC 28078-7929

Radiological Data for Job: 08-APR-0013

Report Generated: 4/14/2008 11:47:40

Station: OCONEE **Sample #: 28002285**

Location: NA

Type: H3INVESTIGATION **ONS GROUND WATER PROTECTION PROGRAM / CB-100**

UNAVAIL	UNAVAILABLE SAMPLE (NO TESTS PERFORMED)

Units: pCi/liter

	Activity - Error	Calculated MDA	Reporting Level
	NO SAMPLE		

Field Parameters

Elevation (ft (msl)) NA

pH (field) SU 6.91

Temp Celcius (degrees C) NA

Dissolved Oxygen (mg/L) NA

Spec. Cond. (field) micromhos/cm 56.6

Oxidation Reduction Potential (ORP)(mV) NA

Turbidity (field) NTU NA

EnRad Laboratories @ Duke Energy
13339 Hagers Ferry Road
Huntersville, NC 28078-7929

Duke Energy

08-MAY-0001, 08-MAY-0009, 08-MAY-0012

Report Generated: 5/13/2008 07:16:35

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002642

04/29/08 14:40:00 to 04/29/08 14:40:00

ONS GEOPROBE WELL - GP-9

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.195E+00	0.000E+00	pCi/l
CO58	< 5.095E+00	0.000E+00	pCi/l
FE59	< 8.290E+00	0.000E+00	pCi/l
CO60	< 5.300E+00	0.000E+00	pCi/l
ZN65	< 9.671E+00	0.000E+00	pCi/l
NB95	< 4.743E+00	0.000E+00	pCi/l
ZR95	< 1.013E+01	0.000E+00	pCi/l
I131	< 8.889E+00	0.000E+00	pCi/l
CS134	< 4.436E+00	0.000E+00	pCi/l
CS137	< 6.072E+00	0.000E+00	pCi/l
BALA140	< 6.892E+00	0.000E+00	pCi/l
BE7	< 4.818E+01	0.000E+00	pCi/l
K40	2.375E+02	3.469E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	7.980E+03	1.340E+02	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002643

04/29/08 16:25:00 to 04/29/08 16:25:00

ONS GEOPROBE WELL - GP-10

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.566E+00	0.000E+00	pCi/l
CO58	< 3.765E+00	0.000E+00	pCi/l
FE59	< 8.153E+00	0.000E+00	pCi/l
CO60	< 4.114E+00	0.000E+00	pCi/l
ZN65	< 9.509E+00	0.000E+00	pCi/l
NB95	< 4.968E+00	0.000E+00	pCi/l
ZR95	< 6.432E+00	0.000E+00	pCi/l
I131	< 5.996E+00	0.000E+00	pCi/l
CS134	< 3.603E+00	0.000E+00	pCi/l
CS137	< 3.685E+00	0.000E+00	pCi/l
BALA140	< 5.885E+00	0.000E+00	pCi/l
BE7	< 3.258E+01	0.000E+00	pCi/l
K40	1.502E+02	2.938E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002643

04/29/08 16:25:00 to 04/29/08 16:25:00

ONS GEOPROBE WELL - GP-10

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	- Error	
H3	8.871E+03	1.390E+02	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002644

04/30/08 09:45:00 to 04/30/08 09:45:00

ONS GEOPROBE WELL - GP-11

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	- Error	
MN54	< 4.151E+00	0.000E+00	pCi/l
CO58	< 4.084E+00	0.000E+00	pCi/l
FE59	< 6.764E+00	0.000E+00	pCi/l
CO60	< 3.988E+00	0.000E+00	pCi/l
ZN65	< 7.930E+00	0.000E+00	pCi/l
NB95	< 4.415E+00	0.000E+00	pCi/l
ZR95	< 6.075E+00	0.000E+00	pCi/l
I131	< 5.367E+00	0.000E+00	pCi/l
CS134	< 4.139E+00	0.000E+00	pCi/l
CS137	< 3.377E+00	0.000E+00	pCi/l
BALA140	< 6.735E+00	0.000E+00	pCi/l
BE7	< 3.305E+01	0.000E+00	pCi/l
K40	< 6.517E+01	0.000E+00	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	- Error	
H3	< 1.03E+02		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002645

04/30/08 11:20:00 to 04/30/08 11:20:00

ONS GEOPROBE WELL - GP-12

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	- Error	
MN54	< 4.133E+00	0.000E+00	pCi/l
CO58	< 3.979E+00	0.000E+00	pCi/l
FE59	< 6.296E+00	0.000E+00	pCi/l
CO60	< 3.733E+00	0.000E+00	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002645

04/30/08 11:20:00 to 04/30/08 11:20:00

ONS GEOPROBE WELL - GP-12

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
ZN65	< 7.848E+00	0.000E+00	pCi/l
NB95	< 4.965E+00	0.000E+00	pCi/l
ZR95	< 7.557E+00	0.000E+00	pCi/l
I131	< 6.115E+00	0.000E+00	pCi/l
CS134	< 4.114E+00	0.000E+00	pCi/l
CS137	< 3.868E+00	0.000E+00	pCi/l
BALA140	< 6.616E+00	0.000E+00	pCi/l
BE7	< 3.499E+01	0.000E+00	pCi/l
K40	1.567E+02	2.369E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	
H3	< 3.80E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002719

04/30/08 16:55:00 to 04/30/08 16:55:00

ONS GEOPROBE WELL - GP-13

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.003E+00	0.000E+00	pCi/l
CO58	< 4.475E+00	0.000E+00	pCi/l
FE59	< 1.077E+01	0.000E+00	pCi/l
CO60	< 5.374E+00	0.000E+00	pCi/l
ZN65	< 8.683E+00	0.000E+00	pCi/l
NB95	< 5.430E+00	0.000E+00	pCi/l
ZR95	< 8.968E+00	0.000E+00	pCi/l
I131	< 8.338E+00	0.000E+00	pCi/l
CS134	< 4.782E+00	0.000E+00	pCi/l
CS137	< 4.902E+00	0.000E+00	pCi/l
BALA140	< 8.634E+00	0.000E+00	pCi/l
BE7	< 4.032E+01	0.000E+00	pCi/l
K40	7.215E+01	2.199E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	
H3	< -2.45E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002720

05/01/08 09:55:00 to 05/01/08 09:55:00

ONS GEOPROBE WELL - GP-14

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.562E+00	0.000E+00	pCi/l
CO58	< 3.840E+00	0.000E+00	pCi/l
FE59	< 7.317E+00	0.000E+00	pCi/l
CO60	< 3.978E+00	0.000E+00	pCi/l
ZN65	< 8.080E+00	0.000E+00	pCi/l
NB95	< 4.167E+00	0.000E+00	pCi/l
ZR95	< 7.212E+00	0.000E+00	pCi/l
I131	< 6.589E+00	0.000E+00	pCi/l
CS134	< 3.214E+00	0.000E+00	pCi/l
CS137	< 3.118E+00	0.000E+00	pCi/l
BALA140	< 4.929E+00	0.000E+00	pCi/l
BE7	< 3.096E+01	0.000E+00	pCi/l
K40	1.487E+02	2.194E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 4.92E+01		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002721

05/01/08 11:20:00 to 05/01/08 11:20:00

ONS GEOPROBE WELL - GP-15

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.498E+00	0.000E+00	pCi/l
CO58	< 3.872E+00	0.000E+00	pCi/l
FE59	< 7.668E+00	0.000E+00	pCi/l
CO60	< 3.902E+00	0.000E+00	pCi/l
ZN65	< 8.413E+00	0.000E+00	pCi/l
NB95	< 4.501E+00	0.000E+00	pCi/l
ZR95	< 7.017E+00	0.000E+00	pCi/l
I131	< 5.295E+00	0.000E+00	pCi/l
CS134	< 3.405E+00	0.000E+00	pCi/l
CS137	< 3.107E+00	0.000E+00	pCi/l
BALA140	< 5.772E+00	0.000E+00	pCi/l
BE7	< 3.094E+01	0.000E+00	pCi/l
K40	7.482E+01	2.315E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002721

05/01/08 11:20:00 to 05/01/08 11:20:00

ONS GEOPROBE WELL - GP-15

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< -6.63E+00		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002722

05/01/08 15:20:00 to 05/01/08 15:20:00

ONS GEOPROBE WELL - GP-8

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.511E+00	0.000E+00	pCi/l
CO58	< 4.849E+00	0.000E+00	pCi/l
FE59	< 1.010E+01	0.000E+00	pCi/l
CO60	< 4.332E+00	0.000E+00	pCi/l
ZN65	< 9.802E+00	0.000E+00	pCi/l
NB95	< 4.789E+00	0.000E+00	pCi/l
ZR95	< 8.864E+00	0.000E+00	pCi/l
I131	< 7.020E+00	0.000E+00	pCi/l
CS134	< 3.859E+00	0.000E+00	pCi/l
CS137	< 4.754E+00	0.000E+00	pCi/l
BALA140	< 5.446E+00	0.000E+00	pCi/l
BE7	< 4.473E+01	0.000E+00	pCi/l
K40	2.647E+02	2.791E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.420E+04	1.720E+02	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002723

05/05/08 10:05:00 to 05/05/08 10:05:00

ONS GEOPROBE WELL - GP-6

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.219E+00	0.000E+00	pCi/l
CO58	< 4.237E+00	0.000E+00	pCi/l
FE59	< 8.330E+00	0.000E+00	pCi/l
CO60	< 4.741E+00	0.000E+00	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002723

05/05/08 10:05:00 to 05/05/08 10:05:00

ONS GEOPROBE WELL - GP-6

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
ZN65	< 9.647E+00	0.000E+00	pCi/l
NB95	< 5.992E+00	0.000E+00	pCi/l
ZR95	< 7.662E+00	0.000E+00	pCi/l
I131	< 5.576E+00	0.000E+00	pCi/l
CS134	< 4.349E+00	0.000E+00	pCi/l
CS137	< 4.282E+00	0.000E+00	pCi/l
BALA140	< 6.595E+00	0.000E+00	pCi/l
BE7	< 3.757E+01	0.000E+00	pCi/l
K40	1.806E+02	2.847E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	8.580E+02	6.700E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002763

05/05/08 15:10:00 to 05/05/08 15:10:00

ONS GEOPROBE WELL - GP-1

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 2.833E+00	0.000E+00	pCi/l
CO58	< 3.088E+00	0.000E+00	pCi/l
FE59	< 6.257E+00	0.000E+00	pCi/l
CO60	< 3.479E+00	0.000E+00	pCi/l
ZN65	< 7.976E+00	0.000E+00	pCi/l
NB95	< 4.053E+00	0.000E+00	pCi/l
ZR95	< 5.171E+00	0.000E+00	pCi/l
I131	< 4.929E+00	0.000E+00	pCi/l
CS134	< 3.211E+00	0.000E+00	pCi/l
CS137	< 4.164E+00	0.000E+00	pCi/l
BALA140	< 4.430E+00	0.000E+00	pCi/l
BE7	< 3.079E+01	0.000E+00	pCi/l
K40	9.060E+01	1.987E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 8.90E+01		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002764

05/05/08 16:50:00 to 05/05/08 16:50:00

ONS GEOPROBE WELL - GP-2

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.234E+00	0.000E+00	pCi/l
CO58	< 3.560E+00	0.000E+00	pCi/l
FE59	< 6.467E+00	0.000E+00	pCi/l
CO60	< 4.402E+00	0.000E+00	pCi/l
ZN65	< 9.874E+00	0.000E+00	pCi/l
NB95	< 3.721E+00	0.000E+00	pCi/l
ZR95	< 6.730E+00	0.000E+00	pCi/l
I131	< 5.514E+00	0.000E+00	pCi/l
CS134	< 3.572E+00	0.000E+00	pCi/l
CS137	< 3.823E+00	0.000E+00	pCi/l
BALA140	< 5.691E+00	0.000E+00	pCi/l
BE7	< 3.297E+01	0.000E+00	pCi/l
K40	1.393E+02	2.631E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	2.810E+02	5.750E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002765

05/06/08 11:30:00 to 05/06/08 11:30:00

ONS GEOPROBE WELL - GP-3

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.525E+00	0.000E+00	pCi/l
CO58	< 3.982E+00	0.000E+00	pCi/l
FE59	< 8.597E+00	0.000E+00	pCi/l
CO60	< 5.436E+00	0.000E+00	pCi/l
ZN65	< 9.892E+00	0.000E+00	pCi/l
NB95	< 4.755E+00	0.000E+00	pCi/l
ZR95	< 9.242E+00	0.000E+00	pCi/l
I131	< 6.331E+00	0.000E+00	pCi/l
CS134	< 4.118E+00	0.000E+00	pCi/l
CS137	< 4.953E+00	0.000E+00	pCi/l
BALA140	< 6.876E+00	0.000E+00	pCi/l
BE7	< 4.233E+01	0.000E+00	pCi/l
K40	4.405E+02	3.915E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002765

05/06/08 11:30:00 to 05/06/08 11:30:00

ONS GEOPROBE WELL - GP-3

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.270E+03	7.080E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002766

05/05/08 13:40:00 to 05/05/08 13:40:00

ONS GEOPROBE WELL - GP-4

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.975E+00	0.000E+00	pCi/l
CO58	< 4.790E+00	0.000E+00	pCi/l
FE59	< 1.047E+01	0.000E+00	pCi/l
CO60	< 5.859E+00	0.000E+00	pCi/l
ZN65	< 9.667E+00	0.000E+00	pCi/l
NB95	< 4.892E+00	0.000E+00	pCi/l
ZR95	< 8.153E+00	0.000E+00	pCi/l
I131	< 6.889E+00	0.000E+00	pCi/l
CS134	< 4.985E+00	0.000E+00	pCi/l
CS137	< 4.182E+00	0.000E+00	pCi/l
BALA140	< 6.317E+00	0.000E+00	pCi/l
BE7	< 4.582E+01	0.000E+00	pCi/l
K40	2.341E+02	3.219E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 1.41E+02		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002767

05/06/08 15:10:00 to 05/06/08 15:10:00

ONS GEOPROBE WELL - GP-5

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.914E+00	0.000E+00	pCi/l
CO58	< 4.783E+00	0.000E+00	pCi/l
FE59	< 8.962E+00	0.000E+00	pCi/l
CO60	< 4.519E+00	0.000E+00	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002767

05/06/08 15:10:00 to 05/06/08 15:10:00

ONS GEOPROBE WELL - GP-5

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
ZN65	< 9.709E+00	0.000E+00	pCi/l
NB95	< 4.536E+00	0.000E+00	pCi/l
ZR95	< 6.849E+00	0.000E+00	pCi/l
I131	< 6.368E+00	0.000E+00	pCi/l
CS134	< 5.511E+00	0.000E+00	pCi/l
CS137	< 4.156E+00	0.000E+00	pCi/l
BALA140	< 5.254E+00	0.000E+00	pCi/l
BE7	< 4.185E+01	0.000E+00	pCi/l
K40	2.650E+02	3.673E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.300E+03	7.120E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002768

05/06/08 16:35:00 to 05/06/08 16:35:00

ONS GEOPROBE WELL - GP-7

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.434E+00	0.000E+00	pCi/l
CO58	< 4.416E+00	0.000E+00	pCi/l
FE59	< 8.795E+00	0.000E+00	pCi/l
CO60	< 4.359E+00	0.000E+00	pCi/l
ZN65	< 8.831E+00	0.000E+00	pCi/l
NB95	< 6.130E+00	0.000E+00	pCi/l
ZR95	< 7.674E+00	0.000E+00	pCi/l
I131	< 6.497E+00	0.000E+00	pCi/l
CS134	< 4.580E+00	0.000E+00	pCi/l
CS137	< 4.630E+00	0.000E+00	pCi/l
BALA140	< 7.229E+00	0.000E+00	pCi/l
BE7	< 4.074E+01	0.000E+00	pCi/l
K40	7.843E+01	3.081E+01	pCi/l

Duke Energy

08-MAY-0001, 08-MAY-0009, 08-MAY-0012

Report Generated: 5/13/2008 07:16:35

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28002768

05/06/08 16:35:00 to 05/06/08 16:35:00

ONS GEOPROBE WELL - GP-7

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	8.940E+03	1.370E+02	pCi/l

APPENDIX I

Radiological Data for Job: 08-MAY-0056

Report Generated: 6/3/2008 06:09:03

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003148

05/21/08 13:38:00 to 05/21/08 13:38:00

ONS GROUND WATER PROJECT - CATCH BASIN - CB 130

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.599E+00	0.000E+00	pCi/l
CO58	< 3.601E+00	0.000E+00	pCi/l
FE59	< 6.941E+00	0.000E+00	pCi/l
CO60	< 4.741E+00	0.000E+00	pCi/l
ZN65	< 7.613E+00	0.000E+00	pCi/l
NB95	< 3.835E+00	0.000E+00	pCi/l
ZR95	< 5.090E+00	0.000E+00	pCi/l
I131	< 4.541E+00	0.000E+00	pCi/l
CS134	< 3.748E+00	0.000E+00	pCi/l
CS137	< 3.593E+00	0.000E+00	pCi/l
BALA140	< 3.361E+00	0.000E+00	pCi/l
BE7	< 3.198E+01	0.000E+00	pCi/l
K40	< 6.386E+01	0.000E+00	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 1.53E+02		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003149

05/21/08 14:35:00 to 05/21/08 14:35:00

ONS GROUND WATER PROJECT - CATCH BASIN - CB 131

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.338E+00	0.000E+00	pCi/l
CO58	< 2.652E+00	0.000E+00	pCi/l
FE59	< 5.656E+00	0.000E+00	pCi/l
CO60	< 2.851E+00	0.000E+00	pCi/l
ZN65	< 6.664E+00	0.000E+00	pCi/l
NB95	< 3.385E+00	0.000E+00	pCi/l
ZR95	< 5.528E+00	0.000E+00	pCi/l
I131	< 3.284E+00	0.000E+00	pCi/l
CS134	< 2.732E+00	0.000E+00	pCi/l
CS137	< 3.377E+00	0.000E+00	pCi/l
BALA140	< 3.024E+00	0.000E+00	pCi/l
BE7	< 2.347E+01	0.000E+00	pCi/l
K40	1.156E+02	1.645E+01	pCi/l

Radiological Data for Job: 08-MAY-0056

Report Generated: 6/3/2008 06:09:03

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003149

05/21/08 14:35:00 to 05/21/08 14:35:00

ONS GROUND WATER PROJECT - CATCH BASIN - CB 131

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity - Error	
H3	< -4.02E+01	pCi/l

Radiological Data for Job: 08-MAY-0062

Report Generated: 6/3/2008 06:17:12

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003181

05/22/08 10:36:00 to 05/22/08 10:36:00

ONS GROUND WATER PROJECT | CATCH BASIN - CB 135

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 5.166E+00	0.000E+00	pCi/l
CO58	< 5.487E+00	0.000E+00	pCi/l
FE59	< 1.078E+01	0.000E+00	pCi/l
CO60	< 4.411E+00	0.000E+00	pCi/l
ZN65	< 9.348E+00	0.000E+00	pCi/l
NB95	< 5.750E+00	0.000E+00	pCi/l
ZR95	< 8.973E+00	0.000E+00	pCi/l
I131	< 8.771E+00	0.000E+00	pCi/l
CS134	< 4.729E+00	0.000E+00	pCi/l
CS137	< 4.642E+00	0.000E+00	pCi/l
BALA140	< 6.683E+00	0.000E+00	pCi/l
BE7	< 5.088E+01	0.000E+00	pCi/l
K40	2.727E+02	3.191E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 4.43E+01		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003182

05/22/08 10:46:00 to 05/22/08 10:46:00

ONS GROUND WATER PROJECT | CATCH BASIN - CB 146

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.934E+00	0.000E+00	pCi/l
CO58	< 5.058E+00	0.000E+00	pCi/l
FE59	< 1.060E+01	0.000E+00	pCi/l
CO60	< 5.511E+00	0.000E+00	pCi/l
ZN65	< 9.250E+00	0.000E+00	pCi/l
NB95	< 4.274E+00	0.000E+00	pCi/l
ZR95	< 8.437E+00	0.000E+00	pCi/l
I131	< 6.525E+00	0.000E+00	pCi/l
CS134	< 4.442E+00	0.000E+00	pCi/l
CS137	< 5.194E+00	0.000E+00	pCi/l
BALA140	< 8.450E+00	0.000E+00	pCi/l
BE7	< 2.817E+01	0.000E+00	pCi/l
K40	< 6.395E+01	0.000E+00	pCi/l

Radiological Data for Job: 08-MAY-0062

Report Generated: 6/3/2008 06:17:12

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003182

05/22/08 10:46:00 to 05/22/08 10:46:00

ONS GROUND WATER PROJECT | CATCH BASIN - CB 146

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	8.910E+02	6.200E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003183

05/22/08 11:00:00 to 05/22/08 11:00:00

ONS GROUND WATER PROJECT | CATCH BASIN - CB 147

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.021E+00	0.000E+00	pCi/l
CO58	< 3.011E+00	0.000E+00	pCi/l
FE59	< 6.754E+00	0.000E+00	pCi/l
CO60	< 3.797E+00	0.000E+00	pCi/l
ZN65	< 8.094E+00	0.000E+00	pCi/l
NB95	< 3.421E+00	0.000E+00	pCi/l
ZR95	< 5.750E+00	0.000E+00	pCi/l
I131	< 5.163E+00	0.000E+00	pCi/l
CS134	< 3.524E+00	0.000E+00	pCi/l
CS137	< 3.266E+00	0.000E+00	pCi/l
BALA140	< 4.100E+00	0.000E+00	pCi/l
BE7	< 2.872E+01	0.000E+00	pCi/l
K40	8.115E+01	1.686E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.280E+03	6.850E+01	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003150

05/21/08 08:40:00 to 05/21/08 08:40:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-1

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.460E+00	0.000E+00	pCi/l
CO58	< 3.371E+00	0.000E+00	pCi/l
FE59	< 7.629E+00	0.000E+00	pCi/l
CO60	< 3.803E+00	0.000E+00	pCi/l
ZN65	< 7.774E+00	0.000E+00	pCi/l
NB95	< 5.330E+00	0.000E+00	pCi/l
ZR95	< 6.541E+00	0.000E+00	pCi/l
I131	< 4.834E+00	0.000E+00	pCi/l
CS134	< 3.727E+00	0.000E+00	pCi/l
CS137	< 3.798E+00	0.000E+00	pCi/l
BALA140	< 4.008E+00	0.000E+00	pCi/l
BE7	< 3.273E+01	0.000E+00	pCi/l
K40	5.251E+01	2.990E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 1.26E+02		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003151

05/21/08 09:30:00 to 05/21/08 09:30:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-2

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.685E+00	0.000E+00	pCi/l
CO58	< 3.693E+00	0.000E+00	pCi/l
FE59	< 7.120E+00	0.000E+00	pCi/l
CO60	< 4.307E+00	0.000E+00	pCi/l
ZN65	< 9.113E+00	0.000E+00	pCi/l
NB95	< 4.299E+00	0.000E+00	pCi/l
ZR95	< 6.822E+00	0.000E+00	pCi/l
I131	< 4.537E+00	0.000E+00	pCi/l
CS134	< 3.717E+00	0.000E+00	pCi/l
CS137	< 3.447E+00	0.000E+00	pCi/l
BALA140	< 5.526E+00	0.000E+00	pCi/l
BE7	< 3.179E+01	0.000E+00	pCi/l
K40	8.902E+01	2.706E+01	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003151

05/21/08 09:30:00 to 05/21/08 09:30:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-2

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	3.160E+02	5.890E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003152

05/21/08 10:30:00 to 05/21/08 10:30:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-3

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.517E+00	0.000E+00	pCi/l
CO58	< 3.433E+00	0.000E+00	pCi/l
FE59	< 6.679E+00	0.000E+00	pCi/l
CO60	< 3.960E+00	0.000E+00	pCi/l
ZN65	< 8.693E+00	0.000E+00	pCi/l
NB95	< 3.741E+00	0.000E+00	pCi/l
ZR95	< 6.259E+00	0.000E+00	pCi/l
I131	< 3.760E+00	0.000E+00	pCi/l
CS134	< 3.350E+00	0.000E+00	pCi/l
CS137	< 2.897E+00	0.000E+00	pCi/l
BALA140	< 4.299E+00	0.000E+00	pCi/l
BE7	< 2.685E+01	0.000E+00	pCi/l
K40	3.744E+01	1.848E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.310E+03	7.310E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003153

05/21/08 10:59:00 to 05/21/08 10:59:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-4

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.668E+00	0.000E+00	pCi/l
CO58	< 4.189E+00	0.000E+00	pCi/l
FE59	< 9.301E+00	0.000E+00	pCi/l
CO60	< 4.275E+00	0.000E+00	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003153

05/21/08 10:59:00 to 05/21/08 10:59:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-4

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
ZN65	< 8.751E+00	0.000E+00	pCi/l
NB95	< 4.069E+00	0.000E+00	pCi/l
ZR95	< 5.662E+00	0.000E+00	pCi/l
I131	< 4.348E+00	0.000E+00	pCi/l
CS134	< 3.911E+00	0.000E+00	pCi/l
CS137	< 3.659E+00	0.000E+00	pCi/l
BALA140	< 5.581E+00	0.000E+00	pCi/l
BE7	< 2.798E+01	0.000E+00	pCi/l
K40	< 6.943E+01	0.000E+00	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.770E+02	5.650E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003154

05/21/08 11:35:00 to 05/21/08 11:35:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-5

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.925E+00	0.000E+00	pCi/l
CO58	< 3.697E+00	0.000E+00	pCi/l
FE59	< 6.682E+00	0.000E+00	pCi/l
CO60	< 4.157E+00	0.000E+00	pCi/l
ZN65	< 7.800E+00	0.000E+00	pCi/l
NB95	< 4.927E+00	0.000E+00	pCi/l
ZR95	< 6.594E+00	0.000E+00	pCi/l
I131	< 4.866E+00	0.000E+00	pCi/l
CS134	< 3.817E+00	0.000E+00	pCi/l
CS137	< 3.670E+00	0.000E+00	pCi/l
BALA140	< 5.304E+00	0.000E+00	pCi/l
BE7	< 3.437E+01	0.000E+00	pCi/l
K40	< 6.660E+01	0.000E+00	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.910E+03	8.060E+01	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003155

05/21/08 13:23:00 to 05/21/08 13:23:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-6

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 5.043E+00	0.000E+00	pCi/l
CO58	< 4.812E+00	0.000E+00	pCi/l
FE59	< 9.594E+00	0.000E+00	pCi/l
CO60	< 4.984E+00	0.000E+00	pCi/l
ZN65	< 9.747E+00	0.000E+00	pCi/l
NB95	< 5.333E+00	0.000E+00	pCi/l
ZR95	< 8.134E+00	0.000E+00	pCi/l
I131	< 6.453E+00	0.000E+00	pCi/l
CS134	< 4.647E+00	0.000E+00	pCi/l
CS137	< 4.724E+00	0.000E+00	pCi/l
BALA140	< 6.757E+00	0.000E+00	pCi/l
BE7	< 4.051E+01	0.000E+00	pCi/l
K40	2.454E+02	3.614E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	9.090E+02	6.740E+01	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003156

05/21/08 14:00:00 to 05/21/08 14:00:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-7

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.237E+00	0.000E+00	pCi/l
CO58	< 4.681E+00	0.000E+00	pCi/l
FE59	< 9.072E+00	0.000E+00	pCi/l
CO60	< 5.629E+00	0.000E+00	pCi/l
ZN65	< 9.588E+00	0.000E+00	pCi/l
NB95	< 5.959E+00	0.000E+00	pCi/l
ZR95	< 8.677E+00	0.000E+00	pCi/l
I131	< 6.021E+00	0.000E+00	pCi/l
CS134	< 4.242E+00	0.000E+00	pCi/l
CS137	< 4.879E+00	0.000E+00	pCi/l
BALA140	< 5.868E+00	0.000E+00	pCi/l
BE7	< 4.286E+01	0.000E+00	pCi/l
K40	1.666E+02	2.897E+01	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003156

05/21/08 14:00:00 to 05/21/08 14:00:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-7

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	9.390E+03	1.390E+02	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003157

05/21/08 14:26:00 to 05/21/08 14:26:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-8

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.473E+00	0.000E+00	pCi/l
CO58	< 4.699E+00	0.000E+00	pCi/l
FE59	< 9.500E+00	0.000E+00	pCi/l
CO60	< 5.571E+00	0.000E+00	pCi/l
ZN65	< 9.511E+00	0.000E+00	pCi/l
NB95	< 4.428E+00	0.000E+00	pCi/l
ZR95	< 7.669E+00	0.000E+00	pCi/l
I131	< 4.908E+00	0.000E+00	pCi/l
CS134	< 3.804E+00	0.000E+00	pCi/l
CS137	< 4.086E+00	0.000E+00	pCi/l
BALA140	< 6.739E+00	0.000E+00	pCi/l
BE7	< 3.446E+01	0.000E+00	pCi/l
K40	9.176E+01	1.900E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	8.700E+03	1.360E+02	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003158

05/21/08 15:10:00 to 05/21/08 15:10:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-9

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.920E+00	0.000E+00	pCi/l
CO58	< 4.761E+00	0.000E+00	pCi/l
FE59	< 1.084E+01	0.000E+00	pCi/l
CO60	< 4.855E+00	0.000E+00	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003158

05/21/08 15:10:00 to 05/21/08 15:10:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-9

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
ZN65	< 9.978E+00	0.000E+00	pCi/l
NB95	< 6.419E+00	0.000E+00	pCi/l
ZR95	< 7.923E+00	0.000E+00	pCi/l
I131	< 5.811E+00	0.000E+00	pCi/l
CS134	< 4.891E+00	0.000E+00	pCi/l
CS137	< 4.874E+00	0.000E+00	pCi/l
BALA140	< 6.484E+00	0.000E+00	pCi/l
BE7	< 4.159E+01	0.000E+00	pCi/l
K40	1.454E+02	2.834E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.090E+04	1.490E+02	pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003159

05/21/08 15:38:00 to 05/21/08 15:38:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-10

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.207E+00	0.000E+00	pCi/l
CO58	< 3.603E+00	0.000E+00	pCi/l
FE59	< 8.388E+00	0.000E+00	pCi/l
CO60	< 3.992E+00	0.000E+00	pCi/l
ZN65	< 8.734E+00	0.000E+00	pCi/l
NB95	< 5.243E+00	0.000E+00	pCi/l
ZR95	< 5.862E+00	0.000E+00	pCi/l
I131	< 6.021E+00	0.000E+00	pCi/l
CS134	< 3.520E+00	0.000E+00	pCi/l
CS137	< 4.093E+00	0.000E+00	pCi/l
BALA140	< 6.486E+00	0.000E+00	pCi/l
BE7	< 3.296E+01	0.000E+00	pCi/l
K40	1.932E+02	2.674E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.400E+04	1.670E+02	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003160

05/21/08 16:00:00 to 05/21/08 16:00:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-11

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 3.752E+00	0.000E+00	pCi/l
CO58	< 3.762E+00	0.000E+00	pCi/l
FE59	< 7.397E+00	0.000E+00	pCi/l
CO60	< 4.324E+00	0.000E+00	pCi/l
ZN65	< 8.663E+00	0.000E+00	pCi/l
NB95	< 4.052E+00	0.000E+00	pCi/l
ZR95	< 6.300E+00	0.000E+00	pCi/l
I131	< 4.449E+00	0.000E+00	pCi/l
CS134	< 3.401E+00	0.000E+00	pCi/l
CS137	< 3.232E+00	0.000E+00	pCi/l
BALA140	< 4.356E+00	0.000E+00	pCi/l
BE7	< 2.808E+01	0.000E+00	pCi/l
K40	1.247E+02	1.862E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 2.92E+01		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003161

05/21/08 16:23:00 to 05/21/08 16:23:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-12

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.231E+00	0.000E+00	pCi/l
CO58	< 4.680E+00	0.000E+00	pCi/l
FE59	< 8.140E+00	0.000E+00	pCi/l
CO60	< 4.728E+00	0.000E+00	pCi/l
ZN65	< 9.252E+00	0.000E+00	pCi/l
NB95	< 4.987E+00	0.000E+00	pCi/l
ZR95	< 7.446E+00	0.000E+00	pCi/l
I131	< 5.685E+00	0.000E+00	pCi/l
CS134	< 3.781E+00	0.000E+00	pCi/l
CS137	< 4.201E+00	0.000E+00	pCi/l
BALA140	< 6.184E+00	0.000E+00	pCi/l
BE7	< 3.771E+01	0.000E+00	pCi/l
K40	6.603E+01	2.033E+01	pCi/l

Radiological Data for Job: 08-MAY-0057

Report Generated: 6/3/2008 06:51:25

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003161

05/21/08 16:23:00 to 05/21/08 16:23:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-12

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity - Error	
H3	< -2.95E+01	pCi/l

Radiological Data for Job: 08-MAY-0063

Report Generated: 6/3/2008 08:29:54

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003184

05/22/08 08:10:00 to 05/22/08 08:10:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-15

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.060E+00	0.000E+00	pCi/l
CO58	< 3.710E+00	0.000E+00	pCi/l
FE59	< 8.646E+00	0.000E+00	pCi/l
CO60	< 5.139E+00	0.000E+00	pCi/l
ZN65	< 9.477E+00	0.000E+00	pCi/l
NB95	< 4.833E+00	0.000E+00	pCi/l
ZR95	< 5.698E+00	0.000E+00	pCi/l
I131	< 5.572E+00	0.000E+00	pCi/l
CS134	< 3.412E+00	0.000E+00	pCi/l
CS137	< 2.791E+00	0.000E+00	pCi/l
BALA140	< 7.033E+00	0.000E+00	pCi/l
BE7	< 2.821E+01	0.000E+00	pCi/l
K40	4.216E+01	2.384E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	< 8.76E+01		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003185

05/22/08 08:55:00 to 05/22/08 08:55:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-14

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.441E+00	0.000E+00	pCi/l
CO58	< 4.251E+00	0.000E+00	pCi/l
FE59	< 8.486E+00	0.000E+00	pCi/l
CO60	< 4.906E+00	0.000E+00	pCi/l
ZN65	< 9.836E+00	0.000E+00	pCi/l
NB95	< 5.852E+00	0.000E+00	pCi/l
ZR95	< 6.322E+00	0.000E+00	pCi/l
I131	< 6.810E+00	0.000E+00	pCi/l
CS134	< 3.931E+00	0.000E+00	pCi/l
CS137	< 4.339E+00	0.000E+00	pCi/l
BALA140	< 4.617E+00	0.000E+00	pCi/l
BE7	< 3.687E+01	0.000E+00	pCi/l
K40	1.318E+02	3.346E+01	pCi/l

Radiological Data for Job: 08-MAY-0063

Report Generated: 6/3/2008 08:29:54

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003185

05/22/08 08:55:00 to 05/22/08 08:55:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-14

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	- Error	
H3	< 4.85E+01		pCi/l

STATION: OCONEE
LOCATION: NA
TYPE: H3INVESTIGATION

Sample #: 28003186

05/22/08 10:23:00 to 05/22/08 10:23:00

ONS GROUND WATER PROJECT - GEOPROBE - GP-13

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	- Error	
MN54	< 5.907E+00	0.000E+00	pCi/l
CO58	< 5.820E+00	0.000E+00	pCi/l
FE59	< 8.306E+00	0.000E+00	pCi/l
CO60	< 5.629E+00	0.000E+00	pCi/l
ZN65	< 9.353E+00	0.000E+00	pCi/l
NB95	< 6.132E+00	0.000E+00	pCi/l
ZR95	< 8.821E+00	0.000E+00	pCi/l
I131	< 8.784E+00	0.000E+00	pCi/l
CS134	< 5.722E+00	0.000E+00	pCi/l
CS137	< 5.724E+00	0.000E+00	pCi/l
BALA140	< 7.986E+00	0.000E+00	pCi/l
BE7	< 4.399E+01	0.000E+00	pCi/l
K40	7.312E+01	3.656E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	- Error	
H3	< 2.69E+01		pCi/l

STATION: OCONEE
LOCATION: GM-7
TYPE: GROUND WATER

Sample #: 28003394

05/22/08 13:10:00 to 05/22/08 13:10:00

ONS GROUND WATER PROJECT - GM-7

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	- Error	
MN54	< 3.913E+00	0.000E+00	pCi/l
CO58	< 3.471E+00	0.000E+00	pCi/l
FE59	< 7.036E+00	0.000E+00	pCi/l
CO60	< 5.696E+00	0.000E+00	pCi/l

Radiological Data for Job: 08-MAY-0063

Report Generated: 6/3/2008 08:29:54

STATION: OCONEE
LOCATION: GM-7
TYPE: GROUND WATER

Sample #: 28003394

05/22/08 13:10:00 to 05/22/08 13:10:00

ONS GROUND WATER PROJECT - GM-7

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
ZN65	< 9.653E+00	0.000E+00	pCi/l
NB95	< 5.151E+00	0.000E+00	pCi/l
ZR95	< 7.259E+00	0.000E+00	pCi/l
I131	< 6.278E+00	0.000E+00	pCi/l
CS134	< 3.907E+00	0.000E+00	pCi/l
CS137	< 4.222E+00	0.000E+00	pCi/l
BALA140	< 6.809E+00	0.000E+00	pCi/l
BE7	< 3.728E+01	0.000E+00	pCi/l
K40	1.726E+01	1.541E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	1.060E+04	1.440E+02	pCi/l

STATION: OCONEE
LOCATION: GM-7R
TYPE: GROUND WATER

Sample #: 28003395

05/22/08 13:40:00 to 05/22/08 13:40:00

ONS GROUND WATER PROJECT - GM-7R

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.911E+00	0.000E+00	pCi/l
CO58	< 4.839E+00	0.000E+00	pCi/l
FE59	< 7.397E+00	0.000E+00	pCi/l
CO60	< 5.189E+00	0.000E+00	pCi/l
ZN65	< 9.096E+00	0.000E+00	pCi/l
NB95	< 6.049E+00	0.000E+00	pCi/l
ZR95	< 8.145E+00	0.000E+00	pCi/l
I131	< 8.216E+00	0.000E+00	pCi/l
CS134	< 4.852E+00	0.000E+00	pCi/l
CS137	< 4.156E+00	0.000E+00	pCi/l
BALA140	< 8.282E+00	0.000E+00	pCi/l
BE7	< 4.379E+01	0.000E+00	pCi/l
K40	1.995E+02	3.833E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	Error	
H3	3.951E+03	9.680E+01	pCi/l

Radiological Data for Job: 08-MAY-0063

Report Generated: 6/3/2008 08:29:54

STATION: OCONEE
LOCATION: GM-6
TYPE: GROUND WATER

Sample #: 28003396

05/22/08 14:14:00 to 05/22/08 14:14:00

ONS GROUND WATER PROJECT - GM-6

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.521E+00	0.000E+00	pCi/l
CO58	< 4.470E+00	0.000E+00	pCi/l
FE59	< 7.302E+00	0.000E+00	pCi/l
CO60	< 4.791E+00	0.000E+00	pCi/l
ZN65	< 8.828E+00	0.000E+00	pCi/l
NB95	< 5.285E+00	0.000E+00	pCi/l
ZR95	< 7.393E+00	0.000E+00	pCi/l
I131	< 7.105E+00	0.000E+00	pCi/l
CS134	< 3.844E+00	0.000E+00	pCi/l
CS137	< 3.743E+00	0.000E+00	pCi/l
BALA140	< 5.961E+00	0.000E+00	pCi/l
BE7	< 3.587E+01	0.000E+00	pCi/l
K40	1.992E+02	2.996E+01	pCi/l

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity	
H3	< 6.78E+01	pCi/l

STATION: OCONEE
LOCATION: GM-6R
TYPE: GROUND WATER

Sample #: 28003397

05/22/08 14:39:00 to 05/22/08 14:39:00

ONS GROUND WATER PROJECT - GM-6R

GAMMAGW GAMMA GROUND WATER ANALYSIS

	Activity	Error	
MN54	< 4.816E+00	0.000E+00	pCi/l
CO58	< 4.768E+00	0.000E+00	pCi/l
FE59	< 8.594E+00	0.000E+00	pCi/l
CO60	< 4.699E+00	0.000E+00	pCi/l
ZN65	< 9.476E+00	0.000E+00	pCi/l
NB95	< 6.535E+00	0.000E+00	pCi/l
ZR95	< 8.438E+00	0.000E+00	pCi/l
I131	< 7.133E+00	0.000E+00	pCi/l
CS134	< 4.584E+00	0.000E+00	pCi/l
CS137	< 4.351E+00	0.000E+00	pCi/l
BALA140	< 6.993E+00	0.000E+00	pCi/l
BE7	< 3.808E+01	0.000E+00	pCi/l
K40	1.408E+02	3.886E+01	pCi/l

Radiological Data for Job: 08-MAY-0063

Report Generated: 6/3/2008 08:29:54

STATION: OCONEE
LOCATION: GM-6R
TYPE: GROUND WATER

Sample #: 28003397

05/22/08 14:39:00 to 05/22/08 14:39:00

ONS GROUND WATER PROJECT - GM-6R

H3GW TRITIUM ANALYSIS OF GROUND WATER

	Activity - Error	
H3	< 1.71E+01	pCi/l

APPENDIX J

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-2R/GM-2DR

	GM-2R	GM-2DR	
Top of Casing Elevation =	795.84	795.96	
Water Level Measurement =	27.23	36.63	*7-Jan-08*
Top of Screen Elevation =	770.82		
Groundwater Elevation =	768.61		
Mid-Point of Saturated Screen Elevation =	767.22		
Bottom of Screen Elevation =	765.82		
Groundwater Elevation =		759.33	
Top of Screen Elevation =		746.20	
Mid-Point of Saturated Screen Elevation =		743.70	
Bottom of Screen Elevation =		741.20	
WATER LEVEL DELTA =	9.28	FT.	
SCREEN DELTA =	23.52	FT.	
VERTICAL GRADIENT =	**0.3946**	**FT./FT.**	

DOWNWARD

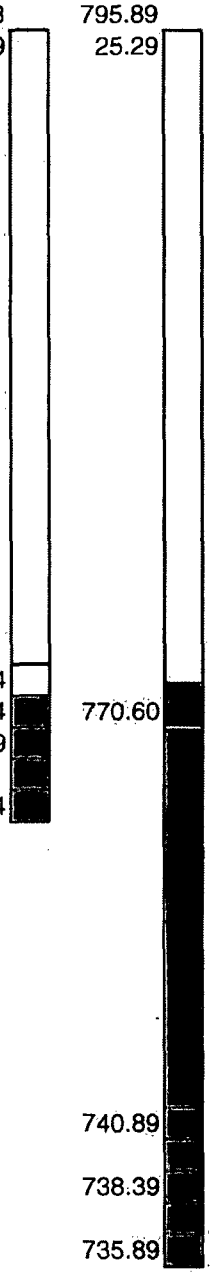
Oconee Nuclear Station Groundwater Protection Project

Seneca, South Carolina

S&ME Job No: 1264-07-234

Vertical Gradient Calculation for GM-3R/GM-3DR

	GM-3R	GM-3DR	
Top of Casing Elevation =	795.83	795.89	
Water Level Measurement =	25.69	25.29	***30-Jan-08***
Top of Screen Elevation =	772.04		
Groundwater Elevation =	770.14	770.60	
Mid-Point of Saturated Screen Elevation =	766.09		
Bottom of Screen Elevation =	762.04		
Top of Screen Elevation =		740.89	
Mid-Point of Saturated Screen Elevation =		738.39	
Bottom of Screen Elevation =		735.89	



WATER LEVEL DELTA = -0.46 FT.

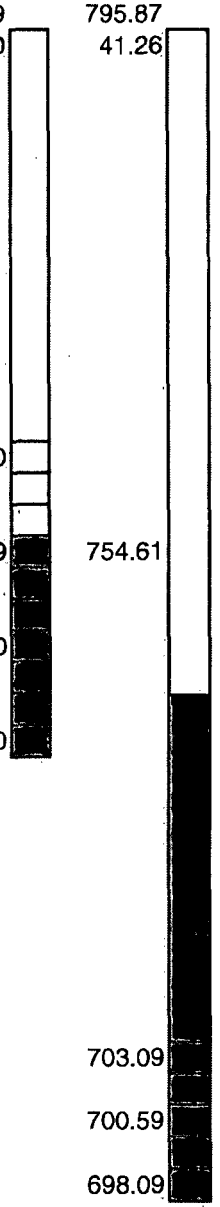
SCREEN DELTA = 27.70 FT.

VERTICAL GRADIENT = -0.0166 FT./FT.

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-5/GM-5R

	GM-5	GM-5R	
Top of Casing Elevation =	795.79	795.87	
Water Level Measurement =	33.70	41.26	***7-Jan-08***
Top of Screen Elevation =	768.30		
Groundwater Elevation =	762.09	754.61	
lid-Point of Saturated Screen Elevation =	757.70		
Bottom of Screen Elevation =	753.30		
Top of Screen Elevation =		703.09	
lid-Point of Saturated Screen Elevation =		700.59	
Bottom of Screen Elevation =		698.09	



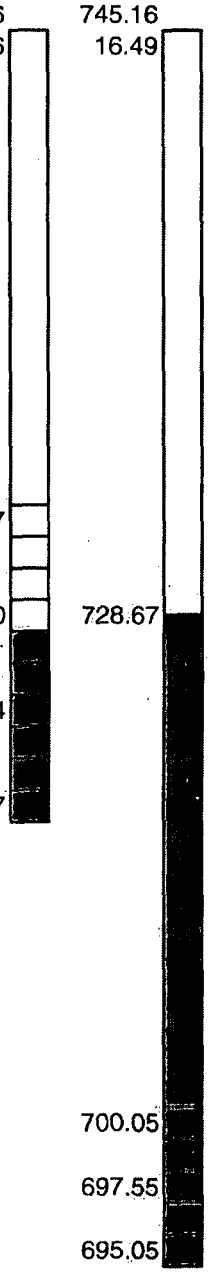
WATER LEVEL DELTA =	7.48	FT.
SCREEN DELTA =	57.10	FT.
VERTICAL GRADIENT =	**0.13099**	**FT./FT.**

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-6/GM-6R

	GM-6	GM-6R
Top of Casing Elevation =	745.46	745.16
Water Level Measurement =	17.26	16.49
Top of Screen Elevation =	734.27	
Groundwater Elevation =	728.20	728.67
Mid-Point of Saturated Screen Elevation =	723.74	
Bottom of Screen Elevation =	719.27	
Top of Screen Elevation =		700.05
Mid-Point of Saturated Screen Elevation =		697.55
Bottom of Screen Elevation =		695.05

8-Jan-08



WATER LEVEL DELTA = -0.47 FT.

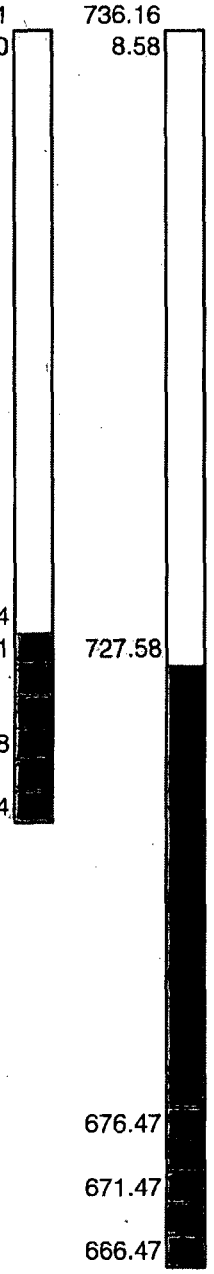
SCREEN DELTA = 26.19 FT.

VERTICAL GRADIENT = -0.0179 FT./FT.

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-7/GM-7R

	GM-7	GM-7R	
Top of Casing Elevation =	736.21	736.16	
Water Level Measurement =	8.10	8.58	***8-Jan-08***
Top of Screen Elevation =	728.44		
Groundwater Elevation =	728.11	727.58	
Mid-Point of Saturated Screen Elevation =	720.78		
Bottom of Screen Elevation =	713.44		
Top of Screen Elevation =		676.47	
Mid-Point of Saturated Screen Elevation =		671.47	
Bottom of Screen Elevation =		666.47	

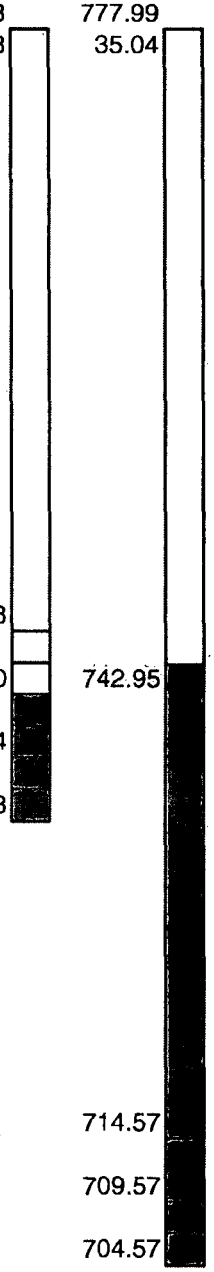


WATER LEVEL DELTA =	0.53	FT.
SCREEN DELTA =	49.31	FT.
VERTICAL GRADIENT =	**0.0107**	**FT./FT.**

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-8/GM-8R

	GM-8	GM-8R	
Top of Casing Elevation =	777.73	777.99	
Water Level Measurement =	35.13	35.04	*7-Jan-08*
Top of Screen Elevation =	749.88		
Groundwater Elevation =	742.60	742.95	
Mid-Point of Saturated Screen Elevation =	738.74		
Bottom of Screen Elevation =	734.88		
Top of Screen Elevation =		714.57	
Mid-Point of Saturated Screen Elevation =		709.57	
Bottom of Screen Elevation =		704.57	

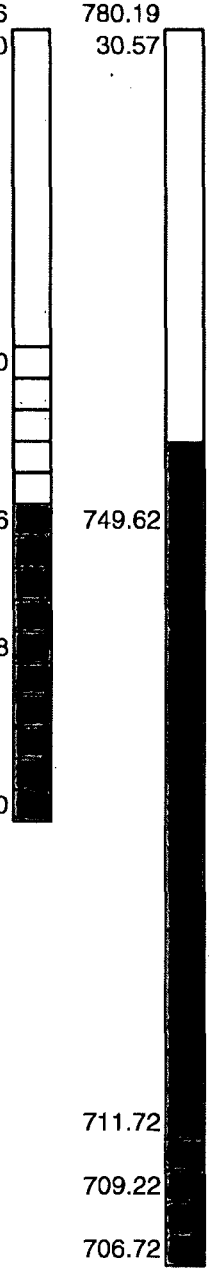


WATER LEVEL DELTA =	-0.35	FT.
SCREEN DELTA =	29.17	FT.
VERTICAL GRADIENT =	**-0.0120**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-9/GM-9R

	GM-9	GM-9R	
Top of Casing Elevation =	780.36	780.19	
Water Level Measurement =	33.60	30.57	*7-Jan-08*
Top of Screen Elevation =	752.60		
Groundwater Elevation =	746.76	749.62	
Mid-Point of Saturated Screen Elevation =	742.18		
Bottom of Screen Elevation =	737.60		
Top of Screen Elevation =		711.72	
Mid-Point of Saturated Screen Elevation =		709.22	
Bottom of Screen Elevation =		706.72	

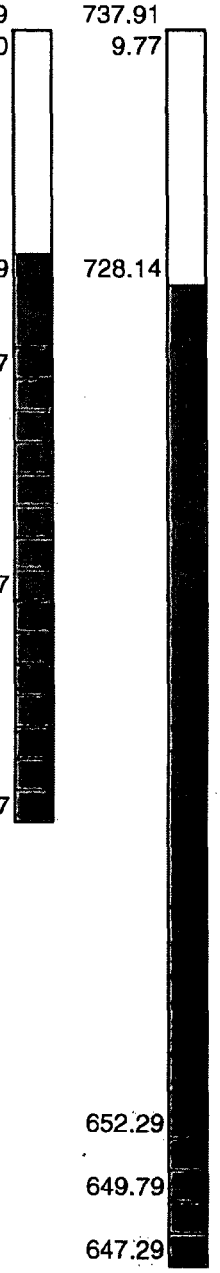


WATER LEVEL DELTA =	-2.86	FT.
SCREEN DELTA =	32.96	FT.
VERTICAL GRADIENT =	**-0.0868**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-10/GM-10R

	GM-10	GM-10R	
Top of Casing Elevation =	737.89	737.91	
Water Level Measurement =	8.20	9.77	*8-Jan-08*
Groundwater Elevation =	729.69	728.14	
Top of Screen Elevation =	721.47		
Mid-Point of Saturated Screen Elevation =	713.97		
Bottom of Screen Elevation =	706.47		
Top of Screen Elevation =		652.29	
Mid-Point of Saturated Screen Elevation =		649.79	
Bottom of Screen Elevation =		647.29	

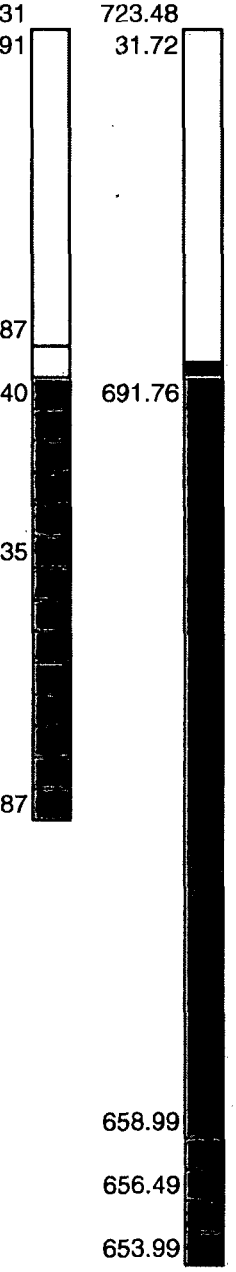


WATER LEVEL DELTA =	1.55	FT.
SCREEN DELTA =	64.18	FT.
VERTICAL GRADIENT =	**0.0242**	**FT./FT.**

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-11/GM-11R

	GM-11	GM-11R	
Top of Casing Elevation =	723.31	723.48	
Water Level Measurement =	32.91	31.72	*9-Jan-08*
Top of Screen Elevation =	691.87		
Groundwater Elevation =	690.40	691.76	
Mid-Point of Saturated Screen Elevation =	686.135		
Bottom of Screen Elevation =	681.87		
Top of Screen Elevation =		658.99	
Mid-Point of Saturated Screen Elevation =		656.49	
Bottom of Screen Elevation =		653.99	

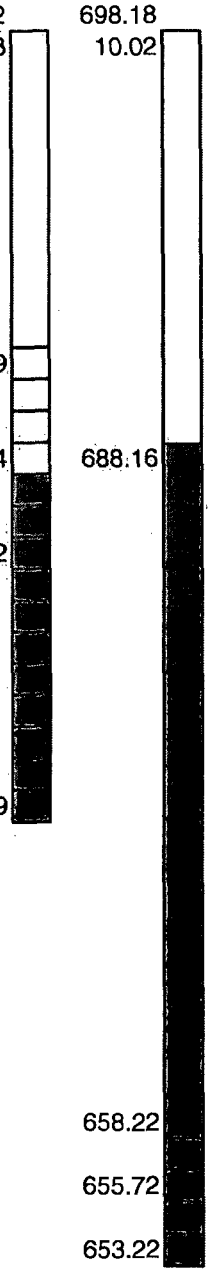


WATER LEVEL DELTA =	-1.36	FT.
SCREEN DELTA =	29.65	FT.
VERTICAL GRADIENT =	**-0.0459**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-12/GM-12R

	GM-12	GM-12R	
Top of Casing Elevation =	698.02	698.18	
Water Level Measurement =	10.48	10.02	***8-Jan-08***
Top of Screen Elevation =	690.09		
Groundwater Elevation =	687.54	688.16	
Mid-Point of Saturated Screen Elevation =	681.32		
Bottom of Screen Elevation =	675.09		
Top of Screen Elevation =		658.22	
Mid-Point of Saturated Screen Elevation =		655.72	
Bottom of Screen Elevation =		653.22	

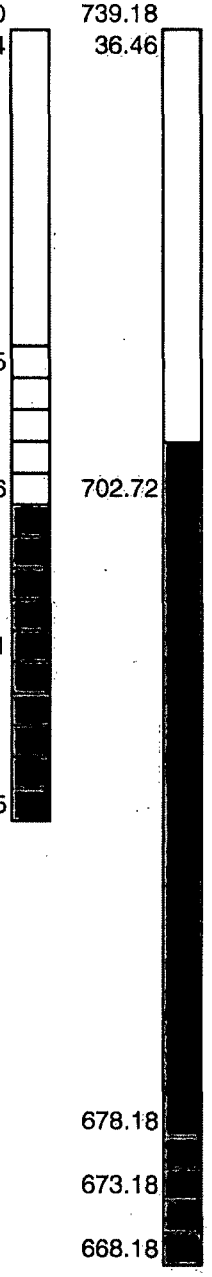


WATER LEVEL DELTA =	-0.62	FT.
SCREEN DELTA =	25.60	FT.
VERTICAL GRADIENT =	**-0.0242**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-13/GM-13R

	GM-13	GM-13R	
Top of Casing Elevation =	739.10	739.18	
Water Level Measurement =	39.94	36.46	*8-Jan-08*
Top of Screen Elevation =	705.45		
Groundwater Elevation =	699.16	702.72	
Mid-Point of Saturated Screen Elevation =	694.81		
Bottom of Screen Elevation =	690.45		
Top of Screen Elevation =		678.18	
Mid-Point of Saturated Screen Elevation =		673.18	
Bottom of Screen Elevation =		668.18	

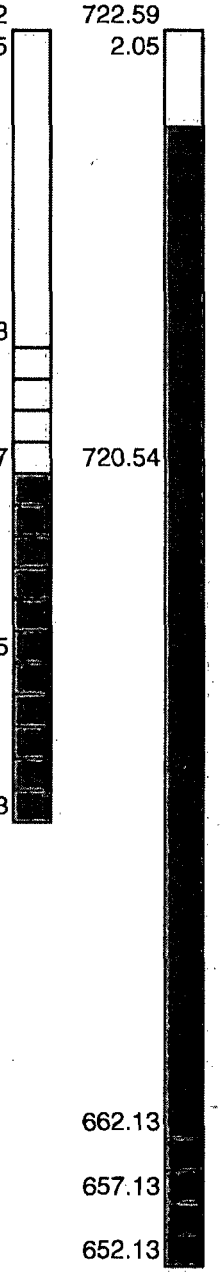


WATER LEVEL DELTA =	-3.56	FT.
SCREEN DELTA =	21.63	FT.
VERTICAL GRADIENT =	**-0.1646**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-14/GM-14R

	GM-14	GM-14R	
Top of Casing Elevation =	722.62	722.59	
Water Level Measurement =	21.65	2.05	***8-Jan-08***
Top of Screen Elevation =	706.13		
Groundwater Elevation =	700.97	720.54	
Mid-Point of Saturated Screen Elevation =	696.05		
Bottom of Screen Elevation =	691.13		
Top of Screen Elevation =		662.13	
Mid-Point of Saturated Screen Elevation =		657.13	
Bottom of Screen Elevation =		652.13	



WATER LEVEL DELTA =	-19.57	FT.
SCREEN DELTA =	38.92	FT.
VERTICAL GRADIENT =	**-0.5028**	**FT./FT.**

UPWARD

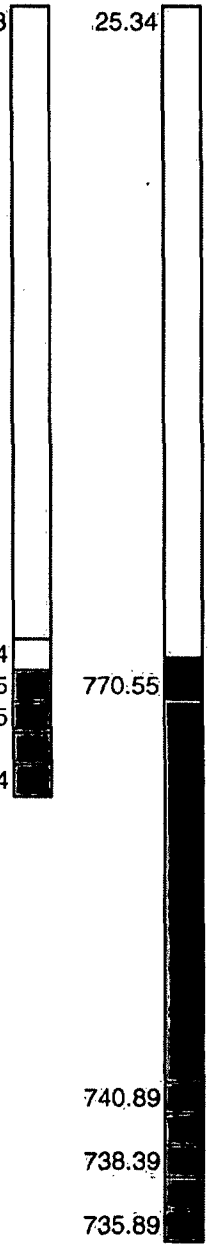
Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-2R/GM-2DR

	GM-2R	GM-2DR	
Top of Casing Elevation =	795.84	795.96	
Water Level Measurement =	27.38	36.73	*7-Apr-08*
Top of Screen Elevation =	770.82		
Groundwater Elevation =	768.46		
Mid-Point of Saturated Screen Elevation =	767.14		
Bottom of Screen Elevation =	765.82		
Groundwater Elevation =		759.23	
Top of Screen Elevation =		746.20	
Mid-Point of Saturated Screen Elevation =		743.70	
Bottom of Screen Elevation =		741.20	
WATER LEVEL DELTA =	9.23	FT.	
SCREEN DELTA =	23.44	FT.	
VERTICAL GRADIENT =	**0.3938**	**FT./FT.**	

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-3R/GM-3DR

	GM-3R	GM-3DR	
Top of Casing Elevation =	795.83	795.89	
Water Level Measurement =	25.58	25.34	*7-Apr-08*
Top of Screen Elevation =	772.04		
Groundwater Elevation =	770.25	770.55	
Mid-Point of Saturated Screen Elevation =	766.15		
Bottom of Screen Elevation =	762.04		
Top of Screen Elevation =		740.89	
Mid-Point of Saturated Screen Elevation =		738.39	
Bottom of Screen Elevation =		735.89	



WATER LEVEL DELTA = -0.30 FT.

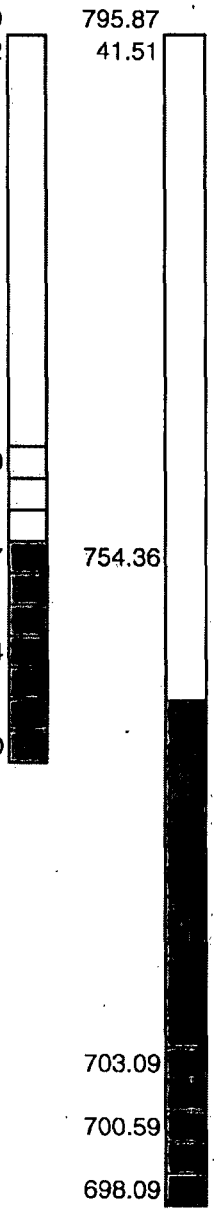
SCREEN DELTA = 27.76 FT.

VERTICAL GRADIENT = -0.0108 FT./FT.

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-5/GM-5R

	GM-5	GM-5R	
Top of Casing Elevation =	795.79	795.87	
Water Level Measurement =	34.02	41.51	***7-Apr-08***
Top of Screen Elevation =	768.30		
Groundwater Elevation =	761.77	754.36	
lid-Point of Saturated Screen Elevation =	757.54		
Bottom of Screen Elevation =	753.30		
Top of Screen Elevation =		703.09	
lid-Point of Saturated Screen Elevation =		700.59	
Bottom of Screen Elevation =		698.09	



WATER LEVEL DELTA =	7.41	FT.
SCREEN DELTA =	56.94	FT.

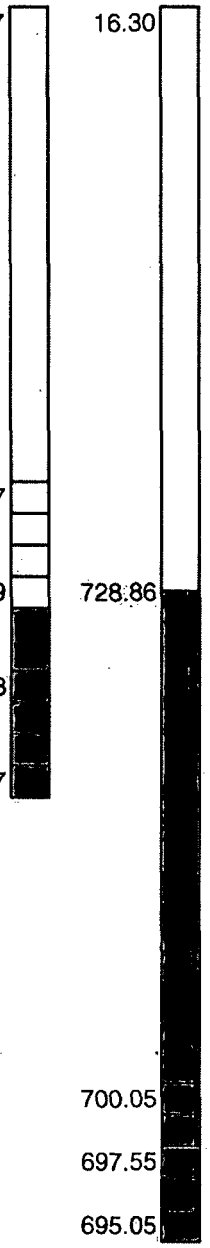
VERTICAL GRADIENT = 0.13013 FT./FT.

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-6/GM-6R

	GM-6	GM-6R
Top of Casing Elevation =	745.46	745.16
Water Level Measurement =	17.07	16.30
Top of Screen Elevation =	734.27	
Groundwater Elevation =	728.39	728.86
Mid-Point of Saturated Screen Elevation =	723.83	
Bottom of Screen Elevation =	719.27	
Top of Screen Elevation =		700.05
Mid-Point of Saturated Screen Elevation =		697.55
Bottom of Screen Elevation =		695.05

8-Apr-08



WATER LEVEL DELTA = -0.47 FT.

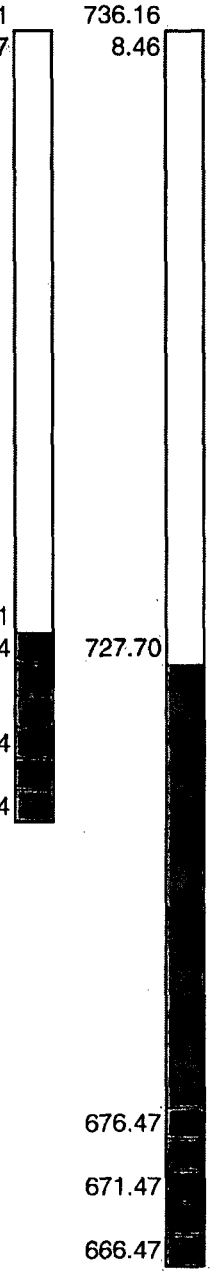
SCREEN DELTA = 26.28 FT.

VERTICAL GRADIENT = -0.0179 FT./FT.

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-7/GM-7R

	GM-7	GM-7R	
Top of Casing Elevation =	736.21	736.16	
Water Level Measurement =	7.77	8.46	***8-Apr-08***
Top of Screen Elevation =	728.41		
Groundwater Elevation =	728.44	727.70	
Mid-Point of Saturated Screen Elevation =	720.94		
Bottom of Screen Elevation =	713.44		
Top of Screen Elevation =		676.47	
Mid-Point of Saturated Screen Elevation =		671.47	
Bottom of Screen Elevation =		666.47	

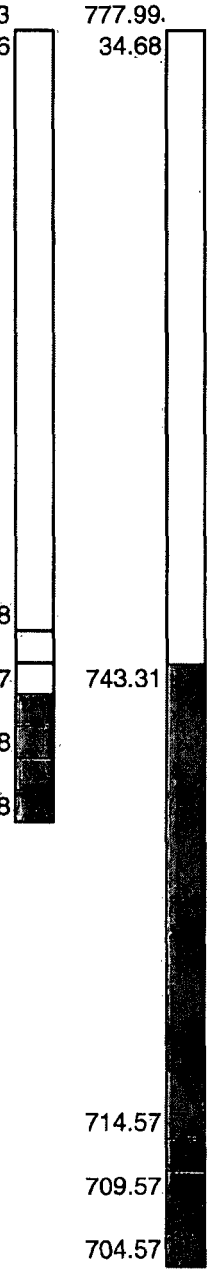


WATER LEVEL DELTA =	0.74	FT.
SCREEN DELTA =	49.47	FT.
VERTICAL GRADIENT =	**0.0150**	**FT./FT.**

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-8/GM-8R

	GM-8	GM-8R	
Top of Casing Elevation =	777.73	777.99	
Water Level Measurement =	34.86	34.68	***7-Apr-08***
Top of Screen Elevation =	749.88		
Groundwater Elevation =	742.87	743.31	
Mid-Point of Saturated Screen Elevation =	738.88		
Bottom of Screen Elevation =	734.88		
Top of Screen Elevation =		714.57	
Mid-Point of Saturated Screen Elevation =		709.57	
Bottom of Screen Elevation =		704.57	

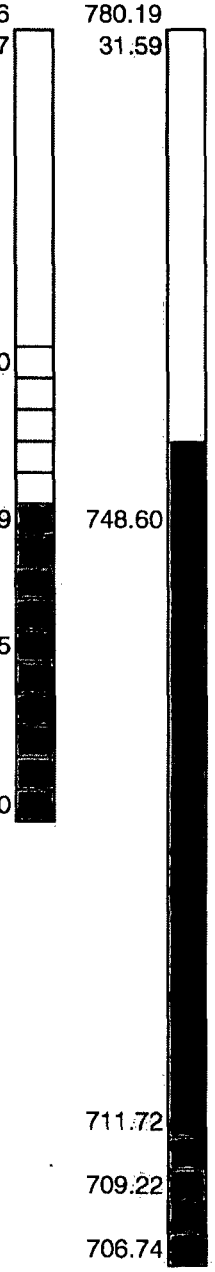


WATER LEVEL DELTA =	-0.44	FT.
SCREEN DELTA =	29.30	FT.
VERTICAL GRADIENT =	**-0.0150**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-9/GM-9R

	GM-9	GM-9R	
Top of Casing Elevation =	780.36	780.19	
Water Level Measurement =	33.27	31.59	*7-Apr-08*
Top of Screen Elevation =	752.60		
Groundwater Elevation =	747.09	748.60	
Mid-Point of Saturated Screen Elevation =	742.35		
Bottom of Screen Elevation =	737.60		
Top of Screen Elevation =		711.72	
Mid-Point of Saturated Screen Elevation =		709.22	
Bottom of Screen Elevation =		706.74	

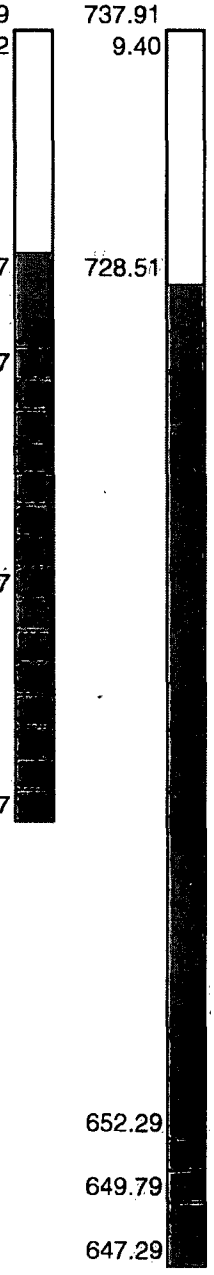


WATER LEVEL DELTA =	-1.51	FT.
SCREEN DELTA =	33.13	FT.
VERTICAL GRADIENT =	**-0.0456**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-10/GM-10R

	GM-10	GM-10R	
Top of Casing Elevation =	737.89	737.91	
Water Level Measurement =	7.72	9.40	***8-Apr-08***
Groundwater Elevation =	730.17	728.51	
Top of Screen Elevation =	721.47		
Mid-Point of Saturated Screen Elevation =	713.97		
Bottom of Screen Elevation =	706.47		
Top of Screen Elevation =		652.29	
Mid-Point of Saturated Screen Elevation =		649.79	
Bottom of Screen Elevation =		647.29	

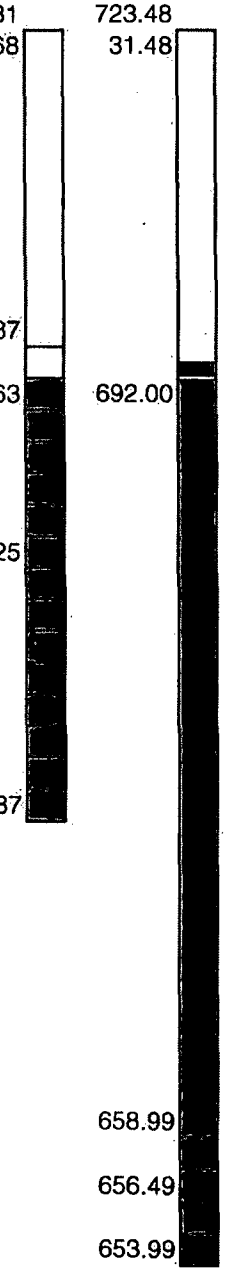


WATER LEVEL DELTA =	1.66	FT.
SCREEN DELTA =	64.18	FT.
VERTICAL GRADIENT =	**0.0259**	**FT./FT.**

DOWNWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-11/GM-11R

	GM-11	GM-11R	
Top of Casing Elevation =	723.31	723.48	
Water Level Measurement =	32.68	31.48	***8-Apr-08***
Top of Screen Elevation =	691.87		
Groundwater Elevation =	690.63	692.00	
Mid-Point of Saturated Screen Elevation =	686.25		
Bottom of Screen Elevation =	681.87		
Top of Screen Elevation =		658.99	
Mid-Point of Saturated Screen Elevation =		656.49	
Bottom of Screen Elevation =		653.99	

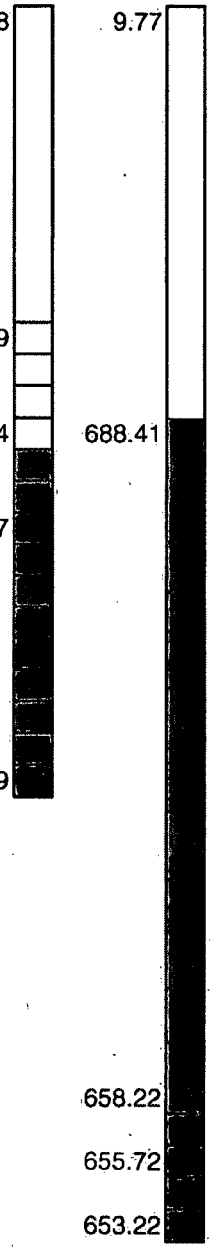


WATER LEVEL DELTA =	-1.37	FT.
SCREEN DELTA =	29.76	FT.
VERTICAL GRADIENT =	**-0.0460**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-12/GM-12R

	GM-12	GM-12R	
Top of Casing Elevation =	698.02	698.18	
Water Level Measurement =	10.18	9.77	*8-Apr-08*
Top of Screen Elevation =	690.09		
Groundwater Elevation =	687.84	688.41	
Mid-Point of Saturated Screen Elevation =	681.47		
Bottom of Screen Elevation =	675.09		
Top of Screen Elevation =		658.22	
Mid-Point of Saturated Screen Elevation =		655.72	
Bottom of Screen Elevation =		653.22	

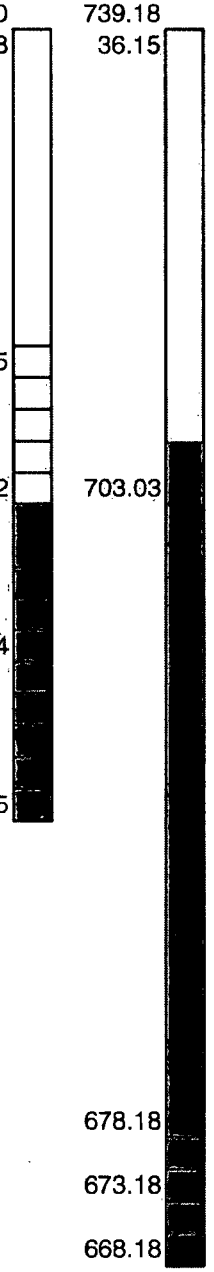


WATER LEVEL DELTA =	-0.57	FT.
SCREEN DELTA =	25.75	FT.
VERTICAL GRADIENT =	**-0.0221**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-13/GM-13R

	GM-13	GM-13R	
Top of Casing Elevation =	739.10	739.18	
Water Level Measurement =	39.48	36.15	*8-Apr-08*
Top of Screen Elevation =	705.45		
Groundwater Elevation =	699.62	703.03	
Mid-Point of Saturated Screen Elevation =	695.04		
Bottom of Screen Elevation =	690.45		
Top of Screen Elevation =		678.18	
Mid-Point of Saturated Screen Elevation =		673.18	
Bottom of Screen Elevation =		668.18	

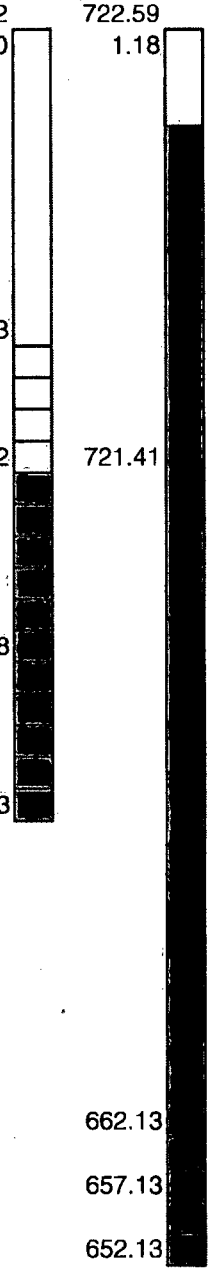


WATER LEVEL DELTA =	-3.41	FT.
SCREEN DELTA =	21.86	FT.
VERTICAL GRADIENT =	**-0.1560**	**FT./FT.**

UPWARD

Oconee Nuclear Station Groundwater Protection Project
Seneca, South Carolina
S&ME Job No: 1264-07-234
Vertical Gradient Calculation for GM-14/GM-14R

	GM-14	GM-14R	
Top of Casing Elevation =	722.62	722.59	
Water Level Measurement =	20.80	1.18	***8-Apr-08***
Top of Screen Elevation =	706.13		
Groundwater Elevation =	701.82	721.41	
Mid-Point of Saturated Screen Elevation =	696.48		
Bottom of Screen Elevation =	691.13		
Top of Screen Elevation =		662.13	
Mid-Point of Saturated Screen Elevation =		657.13	
Bottom of Screen Elevation =		652.13	



WATER LEVEL DELTA =	-19.59	FT.
SCREEN DELTA =	39.35	FT.
VERTICAL GRADIENT =	**-0.4979**	**FT./FT.**

UPWARD

APPENDIX K

25630 (5-23-80)

FORM M-27A	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:30
GROUND SURFACE ELEV. N/A
JOB NO. N/A
JOB NAME Administration Annex Bldg. HRS. DRILLING 2 1/2 HRS. MOVING 45 min
DATE 5-29-86 WEATHER Cloudy - Hot INSPECTOR C.A. Mullins BORING NO. B-1

	SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		Location: [illegible]
1	1.0'						
	2.5'	6	11	12			[illegible] Sand
					5		4.5' Refusal UD # 1 2.5' Rec = 2.4
2	7.0'	3	3	42			7.0' [illegible] Coarse Sand
	8.5'						8.5' UD Refused to Push Auger all
3	8.5'	100/4"			10		[illegible] Sand
	8.5'						Carbide Refusal @ 11.3'
							Set Casing down to 10.0'
							Rock
	[illegible]	[illegible]	[illegible]	[illegible]	15		[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
	[illegible]	[illegible]					
							[illegible]
							[illegible]
					20		
							[illegible]
							[illegible]
					25		
					30		
					35		
					40		

		METHOD OF ADVANCING BORING	DEPTH
BORING TERMINATED	21.3'	POWER AUGER	TO
BORING REFUSAL	11.3'	HAND CHOP: W/MUD: W/WATER	TO
WATER TOB DEPTH	6.92'	ROTARY DRILL: W/MUD: W/WATER	20 TO 11.3
WATER 24 HR: DEPTH	8.15'	DIAMOND CORE	11.3 TO 21.3
WATER LOSSES	[illegible]		
CASING SIZE	NW LENGTH 10.0'		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT OCONEE

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV. N/A
JOB NO.
JOB NAME ADMINISTRATIVE ANNEX
HRS. DRILLING N/A HRS. MOVING N/A
DATE 5-27-86 WEATHER RAIN INSPECTOR H. JONES BORING NO. STA 8+36 6' LOW

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS B-2
1	1.0				0		GRAY/DRK BROWN MICACEOUS SILTY FINE TO
	2.5	8	10	6			COARSE SAND
							UD" 3.5-4.7 PUSHED 1.2' 0.5' REC.
2	4.7				5		SAMPLE DISTURBED PUT IN JAR
	6.0						JAR SAMPLE CONTAINS GRAVEL AND WEATHERED
	7.5	15	12	10			ROCK. SAMPLE GRAVEL JAMMED IN SPOON. SAMPLE
							NOT INDICATIVE OF SOIL ACTUALLY PENETRATED.
							UD" 8.5-9.1 PUSHED 0.6' 0.0' REC.
3	9.2				10		UD" 9.1'-9.2 PUSHED 0.1' 0.0' REC.
	10.7	28	17	8			BLACK/GRAY MICACEOUS SILTY GRAVELLY FINE TO
4	11.0						COARSE SAND. SET 10.4' NW CASING
	11.9	9	50: 4½"				DARK OLIVE/STRONG BROWN MICACEOUS SILTY
	13.5						FINE/MEDIUM SAND
	19.9	50= 4½"			15		NO SPLITSPOON RECOVERY
	3.0	RUN					17.7' CARBIDE MISHTAIL REFUSAL
	1.9	REC					HARD SEVERE TO SLIGHT WEATHERING
	0.9	RQD			20		CLOSE JOINTS WATER LOSS AT 19.6
							20.7 END 3.0' RUN
							MOD. HARD/HARD
	9.7	RUN					MODERATE/VERY SLIGHT WEATHERING
	9.6	REC					CLOSE/MOD. CLOSE JOINTS
	8.8	RQD			25		
					30		30.4 END 9.7 RUN
							HOLE TERMINATED
					35		
					40		

BORING TERMINATED 30.4
BORING REFUSAL 17.7
WATER TOB DEPTH
WATER 24 HR: DEPTH 10.9'
WATER LOSSES 19'
CASING SIZE NW LENGTH 10.4

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	N/A TO
HAND CHOP: W/MUD: W/WATER	N/A TO
ROTARY DRILL: W/MUD: W/WATER	0.0 TO 17.7
DIAMOND CORE	17.7 TO 30.4

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 8:15
JOB NO. N/A
GROUND SURFACE ELEV. N/A
JOB NAME Administrative Annex Bldg. HRS. DRILLING 4 1/2 HRS. MOVING 30 min
DATE 5-28-86 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. B-3

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		Location = 7483 Y, 14767 Lw
X	1.0' 2.5	6	7	8			NO Recovery in SS.
						X	3.5' Pushed UD #1 2.5' Rec = 2.4'
1	6.0' 7.5'	3	3	10	5	X	6.0' yellowish Brn / Strong Gray mica, Silty Fine / Coarse Sand
2	8.5' 8.8'	50=4"					8.5' UD Refused to Push any @ all yellowish Gray mica, Silty Fine / Coarse Sand
					10		Gray mica, Silty Fine / Coarse Sand Set Casing down to 10.0'
						X	13.5' Pushed UD #2 2.5' Rec = 2.2'
					15	X	16.0' → Rusty yellow mica, Silty Fine / Coarse Sand
4	16.0' 16.3'	50=4"					→ Carbide Refusal @ 16.3'
							** Note: Loss approx 50% of water @ 19.9' And then Loss all water @ 24.7'
	RQD = 4.7 = 55 %				20		Hard / Med. Hard
	Rec = 7.8 = 92 %						Very Slight / Moderately Some weathering
	Run = 8.5						Joints are Spaced Close
							19.0' Rock is Soft and weathered end of Run.
					25		End of a 8.5' Run @ 24.8'
							going to more weathered
	RQD = 8.0 = 80 %						Very Hard / Hard
	Rec = 9.7 = 97 %						
	Run = 10.0'						Fresh / Slight weathering
					30		Joints are Spaced Med / Close / Close
					35		End of a 10.0' Run @ 34.8'
							Hole terminated @ 34.8'
					40		

BORING TERMINATED 34.8'
BORING REFUSAL 16.3'
WATER TOB DEPTH 8.6'
WATER 24 HR: DEPTH 8.77'
WATER LOSSES 19.9' 24.7' See note above
CASING SIZE NW' LENGTH 10.0'

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	TO
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	0.0 TO 16.3
DIAMOND CORE	16.3 TO 34.8

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 8:30
GROUND SURFACE ELEV. N/A
JOB NO. N/A
JOB NAME Administrative Annex Bldg. HRS. DRILLING 5 HRS. MOVING 45 min
DATE 5-28-86 WEATHER Cloudy 110° INSPECTOR C.A. Mellen BORING NO. B-4

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		Location: 7+30'Y" 15+16 W"
1	1.0'	7	8	10			Gray / Brn Very Micaceous, Silty Fine
	2.5'						Coarse Sand
						X	3.5' Pushed UD #1 1.8' Rec = 1.0'
							Bent end of UD tube
2	5.3'	6	8	9	5	X	5.3'
	6.8'						
						X	8.5' Pushed UD #2 2.5' Rec = 1.0'
3	11.0'	1	1	2	10	X	11.0'
	12.5'						
						X	13.5' Pushed UD #3 1.2' Rec = 0.8'
4	14.7'	50=5"			15	X	14.7' UD Refused to Push any more
	15.1'						Yellowish Gray Mica, Silty Fine Coarse
							Sand looks like weathered rock
	RQD=1.4'=34			%			→ Carbide Refusal @ 15.5"
	Rec=2.7'=66			%			Medium; Severely weathered Joints are close
	RUN=4.1'				20		19.6' End of A 4.1' Run @ 19.6'
							Loss Water completely @ 21.4'
	RQD=0.5=10			%			Mod. Hard
	Rec=4.9'=98			%			Severely weathered
	Run=5.0'						Joints are spaced very close/close
					25		End of A 5.0' Run @ 24.6'
	RQD=4.9=47			%			Hard / Medium
	Rec=7.3=73			%			Fresh / Complete weathering
	Run=10.0'						Joints are spaced close
					30		
					35		End of A 10.0' Run @ 34.6'
	RQD=3.9=39			%			Medium / Hard
	Rec=6.5=65			%			~~Complete weathering~~
	Run=10.0'						Complete / Fresh weathered
					40		Joints are spaced close

BORING TERMINATED 52.9'
BORING REFUSAL 15.5'
WATER TOB DEPTH 8.55'
WATER 24 HR: DEPTH 8.72'
WATER LOSSES Complete loss @ 21.4'
CASING SIZE NW LENGTH 10.0'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0 TO 15.5
DIAMOND CORE	15.5 TO 52.9

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV. N/A
JOB NO. N/A
JOB NAME Administration Annex Bldg.
HRS. DRILLING 5 min HRS. MOVING 45 min
DATE 5-28-86 WEATHER Cloudy Hot INSPECTOR C.A. Mullen BORING NO. B-4

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			40		Location = 7+30.0"Y", 15+16"W"
			45		End of A 10.0' Run @ 44.6'
RQD = 82'-99 %					Very Hard
Rec = 82'-99 %					Fresh weathering
Run = 8.3'					Joints Not Spaced wide
			50		
					End of A 8.3' Run @ 52.9'
			55		Hole Terminated @ 52.9'
			60		
			65		
			70		
			75		
			80		

BORING TERMINATED 52.9'
BORING REFUSAL 15.5'
WATER TOB DEPTH 8.55'
WATER 24 HR: DEPTH 8.72'
WATER LOSSES Complete loss @ 21.4'
CASING SIZE NW LENGTH 10.0'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 15.5'
DIAMOND CORE	~~0.0~~ 15.5' TO 52.9'

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:00
JOB NO. N/A
GROUND SURFACE ELEV. N/A
JOB NAME Administrative Annex Bldg.
HRS. DRILLING 4 1/2 HRS. MOVING 1/2
DATE 5-28-86 WEATHER Cloudy Hot INSPECTOR C.A. Mullis BORING NO. B-5

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
							LOCATION = 7+30 X", 14+90 W"
1	1.0'	5	5	6	0		Reddish BRN MICA, Silty Fine/COARSE
	2.5'						SAND
					5		4.4' Pushed UD #1 2.5' REC = 1.7'
2	6.9'	5	7	8			6.9' Reddish ORANGE MICA, Silty Fine/
	8.4'						COARSE SAND
							8.5' Pushed UD #2 2.5' REC = 1.9'
					10		11.0'
3	11.0'	1	3	3			BRN/GRAY MICA, Silty Fine/COARSE
	12.5'						SAND
							13.5' Pushed UD #3 2.2' REC = 2.0'
					15		
4	15.7'	50=4"					15.7' GRAY MICA, Silty Fine/COARSE SAND
	16.0'						
							17.7' U.D. Refused to Push Any or All
	17.7'	50=0"					NO Penetration on S.S.
							→ Carbide Refusal @ 18.2'
					20		
	RQD=	75	75				
	REC	8.2'	82				Very Hard
	RUN	10.0'					Fresh / Slight Weathering
							Joints are Tight and Close
					25		
							Note: A small soft seam @
							End of run from 16.5' to 17.2'
							— End of a 10.0' Run @ 28.2' —
					30		Hole Terminated @ 28.2'
					35		
					40		

BORING TERMINATED 28.2'
BORING REFUSAL 18.2'
WATER TOB DEPTH 9.2
WATER 24 HR: DEPTH 9.17'
WATER LOSSES ~~Drilling~~ NONE
CASING SIZE NW LENGTH 17.0'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0 to 18.2'
DIAMOND CORE	18.2 to 28.2'

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 11:15
JOB NO. N/A
GROUND SURFACE ELEV. 871.447
JOB NAME Oconee Groundwater Observation well
HRS. DRILLING 30 min HRS. MOVING 30 min
DATE 10-14-85 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. BG-1

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"	0		
						NO soil samples Required
					1	Note: Hit Rock @ 2.6' in BG-1 moved Back toward Highway 6.0' And Hit Rock Again @ 2.5'.
				5	2	Note: moved down hill toward Waste Pond Approx. 60.0' Hit Rock @ 10.2'
				10		
						Moving to BG-2 and try it.
				15		
				20		
				25		
				30		
				35		
				40		

BORING TERMINATED 2.6'
BORING REFUSAL 2.6', 2.5', 10.2'
WATER TOB DEPTH Dry hole
WATER 24 HR: DEPTH " "
WATER LOSSES NONE
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 2.6'
~~HAND CHOP~~: W/~~MUD~~: W/~~WATER~~	TO
~~ROTARY DRILL~~: W/~~MUD~~: W/~~WATER~~	TO
DI~~AMOND CORE~~	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 12:45
GROUND SURFACE ELEV. 850.043
JOB NO. N/A
JOB NAME Oconee Groundwater observation well HRS. DRILLING 80 min HRS. MOVING 45 min
DATE 10-14-85 WEATHER Clear/Hot INSPECTOR C.A. Mullin BORING NO. BG-2

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		No soil samples Required
			5		
			10		
			15		
			20		
			25		Auger Refusal @ 25.0'
					Dry hole @ 25.0'
			30		Note: there was no Pump
			35		
			40		

BORING TERMINATED 25.0'
BORING REFUSAL 25.0' w/ Auger
WATER TOB DEPTH Dry hole
WATER 24 HR: DEPTH " "
WATER LOSSES None used
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 25.0'
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:45
JOB NO. N/A
GROUND SURFACE ELEV. N/A 865.±
JOB NAME Oconee Groundwater Observation well HRS. DRILLING 1½ HRS. MOVING 1
DATE 10-14-85 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. BG-3

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		NO Soil Samples Required
			5		
			10	Backfill	
			15		
		Bentonite Seal	20		Set 20.0' of NW CASING
					CARbide Refusal @ 22.3'
RQD=0.5'=6 %					
Rec=4.9'=61 %			25		Hard / Mod. Hard
Run=8.0'					Moderate / Moderate Severe weathering
					Joints Are spaced Very close/Close
					note: Complete water Loss @ 28.0'
			30	Sand	End of A 8.0' Run @ 30.3'
RQD=3.5'=33 %					
Rec=4.8'=45 %					Mod. Hard / Medium
Run=10.6'					Mod. Severe weathering
			35		Joints Are spaced V. close/close
			40		End of A 10.6' Run @ 40.9'

BORING TERMINATED 72.7'
BORING REFUSAL 22.3' w/ CARbide
WATER TOB DEPTH 32.2'
WATER 24 HR: DEPTH 51.0' 10-16-85
WATER LOSSES Complete Loss @ 28.0'
CASING SIZE NW LENGTH

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 22.3'
DIAMOND CORE	22.3 TO 72.7

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 8:30
GROUND SURFACE ELEV. N/A 865.±
HRS. DRILLING 16 AM 45 PM HRS. MOVING 1 M

JOB NO. N/A
JOB NAME Observation Well
DATE 10-15-85 WEATHER Clear / warm INSPECTOR C.A. Medlin BORING NO. BG-3

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			40		End of A 10.6' Run @ 40.9'
RQD=0=0 %					Medium
Rec=1.6'=13 %					Very severe weathering
Run=12.0'			45	Sand	Joints are spaced very close
			50		Note: were setting more casing after this run down to 50.4'
					End of 12.0' Run @ 52.9'
RQD=12'=12.5 %					Tried carbide once again
Rec=2.7'=28 %			55	Sand	2nd carbide refusal @ 54.7'
Run=9.6'					1st 5.0' of run was soft
					Mod. Hard
					Moderate weathering
			60		Joints are spaced close
			65		End of A 9.6' Run @ 64.3'
					Very Hard
RQD=4.4'=94 %					Fresh / very slight weathering
Rec=4.7'=100 %					Joints are spaced mod. close
Run=4.7'				60 Sec Run	
			70		End of A 4.7' Run @ 69.0'
				45	Very Hard, fresh weathering
RQD=2.1'=57 %				A	Joints are spaced mod. close
Rec=2.6'=70 %				B	End of A 3.7' Run @ 72.7'
Run=3.7'					Note: overnite water table @ 51.0'
			75		
					Water table check on 10-17-85 = 53.3
			80		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 72.7'
BORING REFUSAL 22.3' w/ carbide, 2nd 54.7'
WATER TOB DEPTH 32.2'
WATER 24 HR: DEPTH 51.0'
WATER LOSSES Complete loss @ 28.0'
CASING SIZE NW LENGTH 50.4'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
~~ROTARY DRILL: W/MUD:~~ W/WATER	0.0' TO 22.3'
DIAMOND CORE	22.3 TO 72.7

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 11:00
GROUND SURFACE ELEV. N/A
JOB NO. N/A
JOB NAME Oconee Ground water observation well HRS. DRILLING 7½ HRS. MOVING 1
DATE 10-17-85 WEATHER Clear/warm INSPECTOR C.A. Medlin BORING NO. B6-4

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		No Soil Samples Required
			5		
			10		
					Bentonite Seal
			15		
			20		
			25		
					Overnite watertable 29.6'
			30		Sand
			35		Sand
			40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

			METHOD OF ADVANCING BORING	DEPTH
BORING TERMINATED	68.2'		~~POWER AUGER~~	TO
BORING REFUSAL	68.2'	W/ Carbide	~~HAND CHOP~~: ~~W/MUD~~: ~~W/WATER~~	TO
WATER TOB DEPTH	30.3'	10-17-85	ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 68.2
WATER 24 HR: DEPTH	29.6'	10-18-85	~~DIAMOND CORE~~	TO
WATER LOSSES	None			
CASING SIZE NW	LENGTH	53.0'		

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
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SOIL TEST BORING FIELD REPORT

STARTING TIME 12:20
GROUND SURFACE ELEV. ~~N/A~~ 860 ±
JOB NO. N/A
JOB NAME Ground water Observation well HRS. DRILLING 7 1/2 HRS. MOVING 1
DATE 10-17-85 WEATHER Clear/Nice INSPECTOR C.A. Medlin BORING NO. BG-4

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			40		10.0' Screen
			45		note: we used a 10.0' screen thinking that it may be easier to pump if it had a large place for water to come in to the pipe
			50		Bottom of Pipe (screen) @ 50.0'
					weathered Rock started @ 53.5'
			55		
					SAND
			60		
			65		
					Carbide Refusal @ 68.2'
			70		note: we set Pump down to 65.0', and it was very hard to pump, so we pulled it up to 60.0' and it was a little easier but still hard so we pulled it up to 50.0' and it worked real good and water table was @ 30.0' and we pumped and we pumped and couldn't pump water down to but 33.0' and it would rise up to 30.0' in just a few sec.
			75		
			80		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 68.2'
BORING REFUSAL 68.2'
WATER TOB DEPTH 30.3' 10-17-85
WATER 24 HR: DEPTH 29.6' 10-18-85
WATER LOSSES NONE
CASING SIZE NW LENGTH 53.0'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND SHOT: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	20' TO 68.2'
~~DIAMOND CORE~~	TO

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME 9:03
GROUND SURFACE ELEV. 595.52
JOB NO.
JOB NAME Radwaste Bldg. Manhole settlement HRS. DRILLING 6 1/2 HRS. MOVING 1.15 mm
DATE 11-30-89 WEATHER Clear cold INSPECTOR C.A. Medlin BORING NO. #1

	SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		Loss water @ 2.6'
1	3.2' 4.7'	5	1	1			No soil, Gravel Particles
					5		
2	6.2' 7.7'	1	1	1			Pale BRN very mica, silty fine sand
3	9.2' 10.7'	3	2	3	10		Pale BRN very mica, silty fine sand w/ some Gravel Particles in sample
4	12.2' 13.7'	5	2	2			No soil Gravel Particles and a small Piece of steel wool
5	15.2' 16.7'	2	2	2	15		Strong BRN., very mica, silty fine sand
6	18.2' 19.7'	5	4	3	20		Pale BRN / Gray very mica, silty fine sand
7	21.2' 22.7'	4	5	5			Lt Reddish BRN. mica, silty fine sand
8	24.2' 25.7'	4	4	5	25		BRN. very mica, silty fine/medium sand
9	27.2' 28.7'	3	4	3			Reddish BRN. Mica, silty fine/med sand
10	30.2' 31.7'	2	2	2	30		BRN. mica, fine sandy silt
* 11	31.7' 33.8'	3=1.1'	2	2			BRN. mica, silty fine/medium sand
12	33.8' 35.3'	1	2	2	35		BRN very mica, silty fine sand.
13	35.3' 36.8'	5	3	2			BRN. very mica, silty fine/medium sand
14	36.8' 38.3'	1	2	2			BRN. very mica, silty fine/medium sand
15	38.3'	3	2	2	40		

BORING TERMINATED 45.8'
BORING REFUSAL N/A
WATER TOB DEPTH Dry hole @ 4:30 AM 11-30-89
WATER 24 HR: DEPTH 39.1' @ 8:10 AM 12-1-89
WATER LOSSES 2.6'
CASING SIZE NW LENGTH 44.3'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 45.8'
~~DIAMOND CORE~~	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:50 — 4:30
GROUND SURFACE ELEV. 595.52
JOB NO.
JOB NAME Radwaste Bldg. Manhole settlement HRS. DRILLING 6 1/2 HRS. MOVING 1.5
DATE 11-30-89 WEATHER Clear Warm INSPECTOR C.A. Medlin BORING NO. 1

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	39.8'				40		BRN. Mica, silty Fine sand
16	39.8' 41.3'	2	3	4			BRN Mica, Fine sandy silt
17	41.3' 42.8'	4	7	8			Lt Gray Mica, Fine sandy silt
18	42.8' 44.3'	8	9	11	45		BRN Very Mica, silty Fine sand
19	44.3' 45.8'	7	8	9			BRN Very Mica, silty Fine sand
					50		Hole terminated @ 45.8'
					55		
					60		
					65		
					70		
					75		
					80		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 45.8'
BORING REFUSAL N/A
WATER TOB DEPTH Dry hole @ 4:30 pm 11-30-89
WATER 24 HR: DEPTH 39.1' @ 8:10 AM 12-1-89
WATER LOSSES 2.6'
CASING SIZE NW LENGTH 44.3'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	— TO —
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 45.8'
DIAMOND CORE	TO

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear sta.

Note: Boring #1A is Located 6.0' south of Boring #1

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV. 595.52 ±

JOB NO.
JOB NAME Radwaste Bldg. Manhole Settlement HRS. DRILLING N/A HRS. MOVING N/A
DATE 12-1-89 WEATHER Clear cold INSPECTOR C.A. Medlin BORING NO. 1A

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	3.6' 5.1'	5	5	8	5		Reddish BRN Very Micay slightly clayey silty Fine sand
2	8.6' 10.1'	5	6	8	10		Reddish BRN Very Micay slightly clayey silty Fine sand
3	13.6' 15.1'	5	6	9	15		BRN Very Micay Fine sandy silt
4	18.6' 20.1'	4	4	7	20		BRN Very Micay Fine sandy silt
5	23.6' 25.1'	4	6	6	25	**	Reddish BRN Very Micay silty Fine sand Loss water @ 25.0'
6	28.6' 30.1'	5	8	8	30		BRN Very Micay Very Fine sandy silt
7	33.6' 35.1'	5	4	4	35		BRN Very Micay Very Fine sandy silt
8	35.1' 36.6'	4	6	8			BRN Very Micay Very Fine sandy silt
9	36.6' 38.1'	4	6	7			BRN Very Micay Very Fine sandy silt
10	38.1' 39.6'	6	5	6	40		BRN Very Micay Very silty Fine sand

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 45.6'
BORING REFUSAL N/A
WATER TOB DEPTH Dry hole
WATER 24 HR: DEPTH Dry hole
WATER LOSSES 25.0'
CASING SIZE NW LENGTH 44.1'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	— TO —
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 45.6
DIAMOND CORE	TO

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
JOB NO.
GROUND SURFACE ELEV. 595.52 ±
JOB NAME Radwaste Bldg. Manhole Settlement HRS. DRILLING N/A HRS. MOVING N/A
DATE 12-1-89 WEATHER Clear Nice INSPECTOR Charles Medlin BORING NO. ~~1~~ 1A

	SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
39.6'	11	39.6 41.1'	4	8	7	40		BRN, MICA, Very Silty Fine SAND
	12	41.1' 42.6'	8	10	12			NO Recovery IN SPOON SAND catcher BROKE
	13	42.6' 44.1'	10	10	11	45		Lt. GRAY Very MICA, Very Silty Fine SAND
	13	44.1' 45.6'	6	10	9			NO Recovery IN SPOON ANOTHER SAND catcher BROKE
						50		
						55		
						60		
						65		
						70		
						75		
						80		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 45.6'
BORING REFUSAL N/A
WATER TOB DEPTH Dry hole
WATER 24 HR: DEPTH Dry hole
WATER LOSSES 25.0
CASING SIZE NW LENGTH 44.1'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	— TO —
~~HAND CHOP~~: ~~W/MUD~~: ~~W/WATER~~	— TO —
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0 TO 45.6'
~~DIAMOND CORE~~	— TO —

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
JOB NO. N/A
GROUND SURFACE ELEV. 796.20
JOB NAME Radwaste Bldg Manhole settlement HRS. DRILLING N/A HRS. MOVING N/A
DATE 12-4-89 WEATHER Clear INSPECTOR C.A. Medlin BORING NO. # 2

	SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	3.0' 4.5'	9	9	11			BROWN MICA, silty Fine / Medium SAND
2	6.0' 7.5'	5	6	9	5		yellowish BRN. MICA, silty Fine / Medium SAND
3	9.0' 10.5'	7	9	10			yellowish BRN MICA, silty Fine / Medium SAND
4	12.0' 13.5'	7	9	10	10		yellowish BRN. MICA, silty Fine / Medium SAND
5	15.0' 16.5'	5	6	7			Reddish BRN MICA, silty Fine / Med. SAND
6	18.0' 19.5'	7	10	10	15		Reddish BRN. / olive MICA, silty Fine / Medium SAND
7	21.0' 22.5'	6	8	9			Reddish BRN. MICA, silty Fine / Medium SAND
8	24.0' 25.0'	8	9	8	20		yellowish BRN. MICA, silty Fine / COARSE SAND
9	27.0' 28.5'	6	8	9	25		yellowish BRN. MICA, silty Fine / Medium SAND
10	30.0' 31.5'	4	5	6			olive / yellowish BRN. MICA, silty Fine / COARSE SAND
					30		* Loss water @ 30.0'
11	33.0' 34.5'	4	2	3			Reddish BRN. MICA, silty Fine / Medium SAND
12	34.5' 36.0'	3	3	4	35		Lt BRN., MICA, silty Fine SAND
13	36.0' 37.5'	4	5	4			Pale Red / Lt. GRAY very MICA, silty Fine SAND
14	37.5' 39.0'	4	5	6	40		Lt BRN. MICA, silty Fine SAND

BORING TERMINATED 59.1'
BORING REFUSAL N/A
WATER TOB DEPTH 15.8' 4:30 pm 12-5-89
WATER 24 HR: DEPTH 32.0' 10:20 am 12-6-89
WATER LOSSES 30.0'
CASING SIZE NW LENGTH 57.6'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	— TO —
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 59.1'
~~DIAMOND CORE~~	— TO —

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV. 796.20
JOB NO.
JOB NAME Radwaste Bldg Manhole settlement HRS. DRILLING N/A HRS. MOVING N/A
DATE 12-05-89 WEATHER Clear Cool INSPECTOR C.A. Medlin BORING NO. #2

	SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
15	39.0' 40.5'	3	4	4	40		Lt. BRN. Mica, silty Fine SAND
16	40.5' 42.0'	4	5	6			Lt. BRN. Mica, silty Fine SAND
17	42.0' 43.5'	4	4	4	45		Lt. BRN. Mica, silty Fine SAND
18	43.5' 45.0'	2	1	2			Lt. BRN. Mica, silty Fine SAND
19	45.0' 46.5'	2	1	1			Lt BRN. Mica, silty Fine/Medium SAND
20	46.5' 48.0'	1	1	2	50		Lt BRN Mica, silty Fine/Medium SAND
21	48.0' 49.5'	2	4	1			BRN Mica, silty Fine/Medium SAND
** 22	49.5' 54.6'	1 =	5.1'		55	**	NO Recovery IN S.SPOON going to Bottom of this sample and try again
22	54.6' 56.1'	3	4	4			BRN. Mica, silty Fine/Medium SAND
23	56.1' 57.6'	4	6	8			BRN. Mica, silty Fine/Medium SAND
24	57.6' 59.1'	5	9	10	60		GRAY Mica, silty Fine SAND
					65		
					70		
					75		
					80		

BORING TERMINATED 59.1'
BORING REFUSAL N/A
WATER TOB DEPTH 15.8' 4:30 12-5-89
WATER 24 HR: DEPTH 32.0' 10:20 AM 12-6-89
WATER LOSSES ≈ 30.0'
CASING SIZE N.W. LENGTH 57.6'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	— TO —
~~HAND CHOP~~: ~~W/MUD~~: ~~W/WATER~~	— TO —
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 59.1
~~DIAMOND CORE~~	— TO —

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: DMW-1
Client: Oconee Nuclear Station		*Well Construction Data*	
Date Started: 6/21/06	Date Completed: 6/23/06	Screen: Open Borehole	From: 35 - To: 100
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: None	From: - To:
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: None	From: - To:
Method: HSA	Equipment: Gus Pech GP-1100E	Grout: Cement	From: 0 - To: 35
Boring Depth (ft.): 100.0	TOC Elevation: 795.76	Inner Casing: 6" Sch-40 PVC	
Boring Diameter (in): 12 (0-25'), 9 (25'-35'), 6 (35'-100')	GW Level: 16.42 / Time/Date: 7/18/06	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'. See log for SMW-1.		
2								2
4								4
6								6
8								8
10								10
12								12
14								14
16								16
18								18
20						Push Shelby Tube from 20' - 21.7'. See log for SMW-1.		20
22								22
24						Very hard drilling at 25' with air hammer.		24

Terracon
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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-1
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
26						**PARTIALLY WEATHERED ROCK** at 26', very little water production during drilling.		26
28						Softer drilling 28' - 30'.		28
30						Compentent rock at 30'.		30
						Increased water production.		
32						**GNEISS**, 50% quartz, soft drilling at 34'.		32
34								34
						Set 6" surface casing at 35'.		
36						**GNIESS**, gray to black, moderate quartz, some highly weathered material, moderate water production.		36
38								38
						GNIESS, as above with less weathering.		
40								40
42						**GNIESS**, black and white, 50% quartz, some weathered material, moderate water production.		42
44								44
46						**GNIESS**, black and white, 35-40% quartz, slight staining due to weathering.		46
48								48
50								50
52						Easier drilling at 51.5', hard again at 52'. **GNIESS**, black and white, 50% quartz, moderate water production during drilling.		52
54								54
56								56

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-1
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
58						**GNIESS**, as above with 40% quartz.		58
60								60
62								62
64								64
66						Softer drilling 65' - 66'		66
68						**GNIESS**, black and white, 50% quartz, hard drilling, moderate to high water production.		68
70								70
72								72
74						Easier drilling 74' - 75'.		74
76						**GNIESS**, black and white, 50% quartz, hard drilling, moderate to high water production.		76
78								78
80								80
82								82
84								84
86						**GNIESS**, as above.		86

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-1
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
88								88
90						**GNIESS**, as above with increased quartz.		90
92								92
94								94
96								96
98								98
100						Boring terminated at 100'.		100

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: DMW-2
Client: Oconee Nuclear Station		*Well Construction Data*	
Date Started: 6/20/06	Date Completed: 6/22/06	Screen: Open Borehole	From: 41 - To: 100
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: None	From: - To:
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: None	From: - To:
Method: HSA	Equipment: Gus Pech GP-1100E	Grout: Cement	From: 0 - To: 41
Boring Depth (ft.): 100.0	TOC Elevation: 795.82	Inner Casing: 6" Sch-40 PVC	
Boring Diameter (in): 12 (0-30'), 9 (30'-41'), 6 (41'-100')	GW Level: 15.45 / Time/Date: 7/18/06	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.		
2								2
4								4
6								6
8								8
10								10
12								12
14								14
16								16
18								18
20								20
22								22
24								24

LOG OF BORING WELL 73067007.GPJ GAGE_GRP.GDT 10/3/06

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GEOLOGIST LOG

Terracon

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-2
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
26								26
28								28
30						Auger refusal at 30 ft with 8.25" ID augers. Switch to air hammer.		30
32								32
34						**SAPROLITE/WEATHERED ROCK.**		34
36						**GNEISS**, abundant quartz, moderate water production during drilling.		36
38								38
40						End drilling with 8" bit at 41'. Set 6" casing at 40.5'. Very slight water production.		40
42						**GNEISS**, 50% quarrtz, homeblend, dry.		42
44								44
46						**GNIESS**, black and white, mostly quartz and homeblend (40% each), hard drilling, no water production.		46
48								48
50								50
52						**GNIESS**, black and white, quartz & homeblend predominately, hard drilling, slight water production.		52
54								54
56								56

LOG OF BORING WELL 73067007.GPJ CAGE_GRP.GDT 8/19/06

Terracon
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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-2
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
58						**GNIESS**, as above.		58
60						Softer drilling at 60'.		60
62								62
64								64
66						Softer drilling at 66'. Increased water. **GNIESS**, black and white, increased dark minerals, greater weathering.		66
68								68
70						**GNIESS**, as above.		70
72								72
74								74
76						**GNIESS**, black and white, increased homeblend and other dark minerals, drilling rate increased slightly, similar water production as before.		76
78						Harder drilling at 78'.		78
80								80
82								82
84								84
86						**GNIESS**, as above with increased quartz. Estimate water flow at		86

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-2
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
88								88
90								90
						GNIESS, as above.		
92								92
94								94
96								96
98								98
100						Boring terminated at 100'.		100

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: DMW-3
Client: Oconee Nuclear Station		*Well Construction Data*	
Date Started: 6/19/06	Date Completed: 6/19/06		
Logged By: C. Suddeth	Coordinates: N 35 E 83		
Drilling Co.: SAEDACCO	Driller: R. Miller		
Method: HSA / Air Hammer	Equipment: Gus Pech GP-1100E		
Boring Depth (ft.): 16.0	TOC Elevation:		
Boring Diameter (in): 12 (0-11'), 9.0 (11'-16')	GW Level: / Time/Date:		

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.	
2							2
4							4
6							6
8						Color change to light brown to gray cuttings, dry. Very hard drilling. Possible concrete.	8
10							10
						SANDY SILT (FILL), brown, hard, dry. End auger drilling at 10.5'.	
12							12
						CONCRETE, gray, very hard drilling, some small metal fragments (re-bar).	
14							14
16						Boring terminated at 16 ft. Boring abandoned by grouting with cement.	16

Terracon
521 Clemson Road, Columbia, South Carolina 29229
Phone: 803-741-9000, Fax: 803-741-9900

Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: DMW-3A
Client: Oconee Nuclear Station		***Well Construction Data***	
Date Started: 6/26/06	Date Completed: 6/27/06	Screen: Open Borehole	From: 40 - To: 100
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: None	From: - To:
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: None	From: - To:
Method: HSA / Air Hammer	Equipment: Gus Pech GP-1100E	Grout: Cement	From: 0 - To: 40
Boring Depth (ft.): 100.0	TOC Elevation: 796.34	Inner Casing: 6" Sch-40 PVC	
Boring Diameter (in): 12 (0-35'), 9 (35'-40'), 6 (40'-100')	GW Level: / Time/Date:	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.		
2								2
4								4
6								6
8								8
10								10
12								12
14								14
16								16
18								18
20								20
22								22
24								24

Terracon
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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-3A
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
26								26
28								28
30						Push Shelby Tube from 29' - 30.5'. Saprolite in bottom of tube. Same as in SMW-5.		30
32								32
34								34
36						Auger refusal at 35'. Begin air drilling at 35'.		36
38						**GNEISS**, black and white, 50% quartz, very hard drilling, no significant water production.		38
40								40
42								42
44						**GNIESS**, black and white, 40% quartz, moderately weathered, moderate water production, fracture at 45'.		44
46								46
48								48
50						**GNIESS**, black and white, 40% quartz, moderately weathered, fracture 50'-51'.		50
52								52
54								54
56						**GNIESS**, black and white, 30% quartz, less weathered		56

LOG OF BORING WELL 73067007.GPJ GAGE GRP.GDT 8/19/05

Terracon
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Phone: 803-741-9000, Fax: 803-741-9900

Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-3A
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
58						Fracture 58'-59'.		58
60						**GNIESS**, as above with increased quartz.		60
62								62
64						Fracture 63'-64'.		64
66								66
68						Fracture at 67'.		68
70						**GNIESS**, as above.		70
72						Fracture 72'-73".		72
74								74
76						**GNIESS**, black and white, 50% quartz, hard drilling, high water production.		76
78						Fracture 78'-78.5'.		78
80						**GNIESS**, as above with less quartz.		80
82								82
84						Fracture 83'-84".		84
86						**GNIESS**, black and white, 40% quartz, hard drilling, high water production.		86

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: DMW-3A
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
88								88
90						GNIESS, as above with increased quartz.		90
92								92
94						GNIESS, as above.		94
96								96
98								98
100						Boring terminated at 100'.		100

Terracon
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Phone: 803-741-9000, Fax: 803-741-9900

DEPTH FT.	DESCRIPTION	% & TIME SIZE MIN	ELEV.	REMARKS	RQD
0	Hard, Light Gray Granitic Gneiss, medium-grained	92	770.9	0' to 3.2', sl. weathering	NA
		89		3.3', Dark gray, hbn gn layer, mod. sev. weath.	NA
5		0	765.9	3.3' to 4.3', mod. weath.	NA
	Coring Terminated at 7.8'				
10	Drilled with 4inch concrete bit		760.9		
15			755.9		
20			750.9		
25			745.9		
30			740.9		
35			735.9		
40			730.9		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO F-1
DATE DRILLED 10/10/79
JOB NO Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	% & SIZE	TIME MIN	ELEV	REMARKS	R.Q.D.
0	Hard, Light Gray Granitic Gneiss, Medium-Grained	100		770.9	0' to 3.4', sl. weath.	NA
		76			1.3', open joint, steep dip, clay coated	NA
5		NX 15		765.9	3.4' to 8.1', mod. sev. weath. 3.4', dark gray hbn gn layer, sev. weath.	0
	Coring Terminated at 8.1'					
10				760.9		
	Drilled with 4 inch concrete bit to 3.4'					
15				755.9		
20				750.9		
25				745.9		
30				740.9		
35				735.9		
40				730.9		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. F-2
DATE DRILLED 10/11/79
JOB NO Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	% & TIME SIZE MIN	ELEV	REMARKS	R.Q.D.
0			773'		
	Non-coring bit to 3.8'			3.8' to 8.6', mod. sev. to sev. weath.	3
5	Medium Hard, Light Gray Granitic Gneiss, medium-grained	NX 40			0
	8.6'			8.6' to 28.4', sl. weath.	7
10	Hard, Light Gray Granitic Gneiss, medium-grained	NX 24		9.4' to 9.7' Dgray, mod hd to hd, hbn gneiss layers, mod. weath. 19.0' to 19.2' 18.8' to 19.0' 25.2' to 25.4' 25.8' to 26.0'	14
15					
				17.6', healed joint, steep dip. 17.3' to 17.8', SAMPLE:F-4-1	17
20		NX 100			
25					78
	28.4'			28.4' to 29.8', mod. weath. 29.8' to 35.4', sl. weath.	27
30	Med.to Mod. Hd; d gray,hbn gneiss 29.8'	NX 93			60
	Hard, Light Gray Granitic Gneiss, medium-grained			32.9' to 33.1', hbngn layer	31
				35.4' to 38.8', mod to sl.weath.	74
35	35.4'	NX 88			
	Moderately Hard, Dark Gray Hornblende Gneiss, medium-grained 38.8'			38.8- to 44.0', sl. weath.	38
40					

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0-20°
M = MED DIP 20°-60°
S = STEEP DIP 60°-90°

TEST BORING RECORD

BORING NO F-4
DATE DRILLED 11-9-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	% & TIME SIZE MIN.	ELEV.	REMARKS	RQD
40	Hard, Light Gray Granitic Gneiss, medium-grained 44.0'	NX 92		40.1' to 40.2', dgray hbn gn layer 41.2' to 41.8', dgray biotite gn w/feldspar porphyroblasts 43.1' to 43.2' biotite-hbn gn 44.0' to 47.3' layers, mod. sev. weath.	64
45	Med. Hd., Dgray Hornblende Gneiss, medium-grained 47.3'				
	Hd, L gray Granitic Gneiss 48.3'			42.3' to 73.0', vsl. weath.	
50	Mod Hd. to Hd., Dgray Hornblende Gneiss, feldspar porphyroblasts 51.7'	NX 100			
	Hard, light Gray Granitic Gneiss, medium-grained 56.1'			51.0' to 51.5', small folds in hbn gn layer 51.0' to 51.5', SAMPLE: F-4-2	89
55	Hd, D Gray, Hornblende Gneiss 58.0'				
60	Hd to Vhd, L gray Granitic Gneiss 61.0'	NX 99			96
	Hd, D Gray Hornblende Gneiss 63.4'				
65	Hd to Vhd, L gray Granitic Gneiss 69.7'				
70	Hd, Med.-gray Biotite Gneiss, folded w/feldspar, porphyroblasts 72.0'	NX 87		68.3' to 69.5', biotite rich layer, mod. sev. weath.	73
	VHd, Lgrey Granitic Gneiss				
	Coring Terminated at 73.0'			72.9' to 73.0', biotite rich layer	
75				Subhorizontal joints are spaced moderately close	
80					

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINTS
L = LOW DIP 0-30°
M = MED DIP 30°-60°
S = STEEP DIP 60°-90°

TEST BORING RECORD

BORING NO. F-4
DATE DRILLED 11-9-79
JOB NO. Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	% & TIME BIZE MIN	ELEV.	REMARKS	N.O.D.
0	Non-coring bit to 1.0'				
	Moderately Hard to Hard, Light Gray Granitic Gneiss, medium-grained	NX 57		1.0' to 16.2', mod. sev. weath. 4.5' to 4.6' 5.2' to 5.7' Dgrey hbn gneiss layers, sev. weath.	43
5					
10		NX 29		16.2' to 38.9', sl. to usl.weath. 16.0' to 16.1' 19.1' to 19.4' 19.9 to 20.1' 24.7' to 24.9' 25.1' to 25.7' 26.0' to 26.2' Dgray hbn gneiss layers, mod. to sl. wreath.	25
15				16.9' 26.4' open joints, med. dip, mica and Mn-coated	
	19.4'				
20	Hard, Light Gray Granitic Gneiss, Medium-grained	NX 95			87
25				29.5' to 29.6' 31.3' to 31.4' 31.8' 32.0' to 32.1' 32.8' to 33.0' 33.2' 33.3' 33.5' 34.7' to 34.8' biotite-rich and hb gneiss layers, mod. sev. weath.	
30		NX 97			69
35					
	38.9'			38.9' to 40.8', mod.sev.weath 38.9' to 40.8', feldspar porphyroblasts	
40	Mod. Hd. DGray Hornblende Gneiss				

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
36 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT
L = LOW DIP 0-30°
M = MED DIP 30°-60°
S = STEEP DIP 60°-90°

TEST BORING RECORD

BORING NO. F-5
DATE DRILLED 11-12-79
JOB NO. Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	% & TIME SIZE MIN.	ELEV.	REMARKS	RQD
40	40.8'				
	Hd, L gray Granitic Gneiss	NX 86		40.8' to 48.0', sl. weath.	70
	42.5'				
45	Mod. Hd. to Hd, D gray Hornblende Gneiss, some feldspar porphyroblasts				46
	48.0'			48.0' to 89.4', vsl. weath.	
50	Hard, Light Gray Granitic Gneiss, medium-grained	NX 96			84
	52.6'				
	Hd, Dgray Hornblende Gneiss				
55	53.7'				
	Hd to Vhd, Lgray Granitic Gneiss			56.3' to 56.7', biotite-rich layer	56
	57.3'				
	Hd, Dgray Hornblende Gneiss	NX 97			
60	59.4'				
	Hard to Very Hard, Light Gray Granitic Gneiss, medium-grained				93
					63
75		NX 98		68.0' to 68.4', biotite-rich layer, sev. weath.	91
				69.5'	
70				69.6' to 69.7' DGray, hbn	69
				72.7'	
				76.8' to 76.9' Gneiss layers	
75		NX 98			97
80					79

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. F-5
DATE DRILLED 11-12-79
JOB NO. Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	SIZE	ELEV	REMARKS	RQD
80	80.3' Vhd, Dgray Hornblende Gneiss, feldspar porphyoblasts			80.9' to 81.3', SAMPLE: F-5-1	
	81.4' Very Hard, Light Gray Granitic Gneiss, medium-grained	NX 79		83.2' 83.8' to 84.0' hbn gneiss layer	79
85					
90	Coring Terminated at 89.4'			NOTE: 87.0' to 89.4' probably left in hole	8
95					
100					
105					
110					
115					
120					

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. F-5
DATE DRILLED 11-12-79
JOB NO. Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE SIZE MM	ELEV.	REMARKS	RQD
0	Hard, Light Gray Granitic Gneiss, medium-grained	100	760.2	0' to 8.9', sl to vsl. weath.	NA
		75			NA
5		NX	755.2		
		87		5.6', fault plane, medium-dip, coated with mica and epidote, slickensides present at oblique angle to core axis	84
10	Coring Terminated at 8.9'		750.2	5.9', 3/8" hbn gneiss layer	
	Drilled with 4 inch concrete bit to 4.5'				
15			745.2		
20			740.2		
25			735.2		
30			730.2		
35			725.2		
40			720.2		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. F-6
DATE DRILLED 11-13-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	% & TIME SIZE MIN	ELEV	REMARKS	R.Q.D.
0	Hard, Light Gray Granitic Gneiss, medium-grained	100	759.9	0' to 8.6', sl. to vsl. weath.	NA
		61			NA
5		NY 97	754.9	6.6' to 6.9', Mod Hd, Dgray Hornblende Gneiss layer, feldspar porphyrablasts	66
10	Coring Terminated at 8.6'		749.7		
	Drilled with 4 inch concrete bit to 4.4'				
15			744.9		
20			739.9		
25			734.9		
30			729.9		
35			724.9		
40					

719.9

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0-30°
M = MED DIP 30°-60°
S = STEEP DIP 60°-90°

Page 1 of 1

TEST BORING RECORD

BORING NO. F-7
DATE DRILLED 11-14-79
JOB NO. Oconee

Standby Shutdown Facility

25630 (5-23-80)

FORM M-27A	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:45
JOB NO. N/A
GROUND SURFACE ELEV. 800
JOB NAME Oconee Groundwater Observation well HRS. DRILLING 2 HRS. MOVING 30 min
DATE 10-9-85 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-1

SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
				0		NO soil Samples Required
Concrete						Drilled down to ~~200~~ 22.6'
				5		Back Filled w/ sand down to
Bentonite						20.3' set Tri-Loc Pipe down
						to 20.3' Back Filled w/ sand
				10		up to 8.0' then Put 5.0' of
						Bentonite for a good seal.
				15		10.0' screen
Sand						
				20		20.3'
						22.6' Hole terminated @ 22.6'
				25		
						Note: 3.9' Stickup Above Ground
				30		
						Note: After setting Tri/Loc Pump in Boring you cannot check water table for 24 hr Reading
				35		
				40		

BORING TERMINATED 22.6'
BORING REFUSAL N/A
WATER TOB DEPTH 1.5'
WATER 24 HR: DEPTH N/A
WATER LOSSES NONE
CASING SIZE NW LENGTH 20.4'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
~~ROTARY DRILL: W/MUD: W/WATER~~	0.0 TO 22.6
~~DIAMOND CORE~~	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

25630 (5-23-80)

FORM M-27A	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 9:00
JOB NO. N/A
GROUND SURFACE ELEV. 804.107
JOB NAME Oconee Groundwater Observation Well HRS. DRILLING 3 1/2 HRS. MOVING 45 min
DATE 10-10-85 WEATHER Clear/80° INSPECTOR C.A. Medlin BORING NO. A-2

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	3.9' 5.4'	4	4	5	5	SAND	yellowish Brn. mica, silty Fine/ Medium SAND
							set CASING down to 5.4'
2	8.6' 10.1'	4	4	5	10		yellowish Gray V. mica, silty Fine/ medium SAND
							set CASING down to 10.4'
3	13.6' 15.1'	5	6	11	15	Bentonite	yellowish Gray V. mica, very silty Fine SAND
							set CASING down to 15.4'
4	18.6' 20.1'	13	30	45	20	SAND	1st 12" of sample was strong Brn very mica, very Fine sandy silt
							Last 6" of sample was yellowish Gray mica silty Fine/medium SAND
							5.0' screen
5	23.6' 25.1'	11	19	50=6"	25	SAND	Olive Gray mica, very Fine sandy silt
						SAND	SAND
							CARbide Refusal @ 27.2'
					30		
							Note: had 3.4' stickup on 2" Pipe Above Ground
					35		Note! After setting tri-Loc Pump in Boring you cannot Check 24 hr Water table
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 27.2'
BORING REFUSAL 27.2' w/ CARbide 10-10-85
WATER TOB DEPTH 4.8'
WATER 24 HR: DEPTH N/A
WATER LOSSES None
CASING SIZE NW LENGTH 15.4'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 27.2'
~~DIAMOND CORE~~	TO

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FORM M-27A	REVISION 2
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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:00
GROUND SURFACE ELEV. 825.43
JOB NO. N/A
JOB NAME Oconee Groundwater Observation well HRS. DRILLING _____ HRS. MOVING 4.5 min
DATE 10-10-85 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-4

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		4.0' stickup above ground surface
1	4.3' 5.8'	2	4	6	5		Red Micay Fine/Coarse Sandy Clayey silt Set 5.4' of NW Casing
2	9.0' 10.5'	4	6	7	10	BRN	yellowish Red micay Fine/Medium Sandy silty Clay Set casing down to 10.4'
3	14.0' 15.5'	3	4	6	15		yellowish BRN Very Mica, Very Fine Sandy Silt Set casing down to 15.4'
4	19.0' 20.5'	3	2	3	20		yellowish Orange Very mica, very Fine Sandy silt Set casing down to 20.4'
5	24.0' 25.5'	3	4	5	25		yellowish Gray Very mica, Very Fine Sandy silt Set casing down to 25.4'
6	29.0' 30.5'	4	7	11	30		yellowish Gray Very mica, Very silty Fine sand Set casing down to 30.4' Bentonite seal
7	34.0' 35.5'	6	10	22	35	BRN	36.1' yellowish Gray Very mica, Very silty Fine sand Set casing down to 35.4' 5.0' screen
8	39.0' 40.1'	16	14	50=2"	40	sand	40.1' Lt olive Gray V. mica, silty Fine/Medium sand

BORING TERMINATED 42.1'
BORING REFUSAL 42.1' w/ carbide
WATER TOB DEPTH 21.0
WATER 24 HR: DEPTH N/A
WATER LOSSES NONE
CASING SIZE NW LENGTH 35.4'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0 TO 42.1
~~DIAMOND CORE~~	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

25630 (5-23-80)

FORM M-27A	REVISION 2
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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 8:00
GROUND SURFACE ELEV. 826.033
JOB NO. N/A
JOB NAME Oconee Groundwater observation well HRS. DRILLING 1 1/2 HRS. MOVING 30 min
DATE 10-11-85 WEATHER Clear/Nice INSPECTOR C.A. Mellen BORING NO. A-5

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		No soil samples Required
							3.4' stickup Above Ground
					5		
					10		Back filled
					15		
					20		
					25		Bentonite Seal
							Sand
					30		5.0' screen w/sand back fill
					35		Sand
							38.5'
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 38.5'
BORING REFUSAL N/A
WATER TOB DEPTH 17.3'
WATER 24 HR: DEPTH N/A
WATER LOSSES None
CASING SIZE NW LENGTH 35.4'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0' TO 35.4
~~DIAMOND CORE~~	TO

25630 (5-23-80)

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 9:50
JOB NO. N/A
GROUND SURFACE ELEV. 828.78
JOB NAME Oconee Groundwater Observation Well HRS. DRILLING 1 hr HRS. MOVING 45 min
DATE 10-11-85 WEATHER Clear/warm INSPECTOR C.A. Medlin BORING NO. A-6

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"			
					0		NO soil samples Required
							3.0' stickup above Ground surface
					5		
					10		BACK FILL
					15		
					20		
					25		4.0' Bentonite seal
					30	SAND	
							SAND
					35		5.0' SCREEN W/ SAND AROUND IT
					40		SAND

BORING TERMINATED 43.6'
BORING REFUSAL N/A
WATER TOB DEPTH 17.5'
WATER 24 HR: DEPTH N/A
WATER LOSSES None
CASING SIZE NW LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP: W/MUD: W/WATER~~	TO
ROTARY DRILL: ~~W/MUD:~~ W/WATER	0.0' TO 43.6
~~DIAMOND CORE~~	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 1:00
JOB NO. N/A
GROUND SURFACE ELEV. 832.38
JOB NAME Oconee Groundwater observation well
HRS. DRILLING 1 hr HRS. MOVING 45 min
DATE 10-11-85 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-7

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
					5		
							6.5'
					10		4.5' Bentonite seal
					15		Sand
					20		
					25		5.0' Screen w/sand around
					30		Sand
					35		35.9'
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 35.9'
BORING REFUSAL N/A
WATER TOB DEPTH 21.4' 10-11-85
WATER 24 HR: DEPTH N/A
WATER LOSSES NONE
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP~~: ~~W/MUD~~: ~~W/WATER~~	TO
~~ROTARY DRILL~~: ~~W/MUD~~: W/WATER	20' TO 35.9'
~~DIAMOND CORE~~	TO

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DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME 2:10
JOB NO. N/A
GROUND SURFACE ELEV. 826.58
JOB NAME Oconee Ground water observation well
HRS. DRILLING 8 hrs HRS. MOVING 45 min
DATE 10-8-85 WEATHER Clear/warm INSPECTOR C.A. Medlin BORING NO. A-8

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	4.1' 5.6'	5	6	8	5		yellowish Red Very Mica, Fine/Medium sandy silty clay
							set casing down to 5.4'
2	9.1' 10.6'	4	6	6	10		yellowish Red Mica, Clayey Fine/coarse sandy silt
							set casing down to 10.4'
3	14.1' 15.6'	4	3	5	15		yellowish Red Mica, slightly Clayey Fine/coarse sandy silt
							set casing down to 15.4'
4	19.1' 20.6'	4	4	6	20		Lt. Olive Gray Mica, silty Fine sand
							set casing down to 20.4'
5	24.1' 25.6'	5	6	8	25		Lt Olive Gray v. Mica, silty Fine/Medium sand
							set casing down to 25.4'
							2.0' Bentonite Seal
6	29.1' 30.6'	4	5	6	30		29.9' Strong Brn. Very Mica, Very Fine sandy silt
							31.9' 5' screen
7	34.1' 35.6'	8	23	22	35		Lt. Olive Gray Very Mica, silty Fine/coarse sand
							36.9'
							set casing down to 35.4'
							38.6' Boring terminated
					40		

UD: SAND

BORING TERMINATED 38.6'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH 24.75' overnite 10-9-85
WATER LOSSES none
CASING SIZE NW LENGTH 35.4'

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	TO
~~HAND CHOP~~: ~~W/MUD~~: W/WATER	TO
ROTARY DRILL: ~~W/MUD~~: W/WATER	0.0 TO 38.6'
~~DIAMOND CORE~~	TO

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division **2600 Bull Street** **Columbia, S.C. 29201** **(803) 734-5331** **Water Well Record**

1. LOCATION OF WELL

County: Oconee System Name: Oconee Nuclear Site
Chattooga River Road #2
Latitude: N 3254 2 37.7 Longitude: W 8254 2 37.7

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back)
N/A

2. CUTTING SAMPLES [x] Yes [ ] No

Geophysical Logs [ ] Yes (Please enclose) [x] No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
See Attached soil		
Test Boring Field		
Report For Boring		
NO A-9		

* Indicate water bearing zones

(use a 2nd sheet if needed)

REMARKS: Contained seal from 40 to 40.0

4. OWNER OF WELL: Duke Power Co.
Address: 422 South Church St
Charlotte, N.C. 28242
Telephone No.:

Engineer: D.E.M. Sullivan, Inc.
Address: 13339 Waters Edge Rd
Huntersville, N.C. 28078
Telephone No.: 704-875-3942

5. WELL DEPTH (Completed) 59.0' ft. Date Started: 9-8-93 Date Completed: 9-13-93

6. [ ] Mud Rotary [ ] Jetted [ ] Bored [ ] Dug
[ ] Air Rotary [ ] Driven [ ] Cable tool [x] Other Augered

7. USE:
[ ] Domestic [ ] Public Supply-Permit No. ____ [ ] Industry
[ ] Irrigation [ ] Air Conditioning [ ] Commercial
[ ] Test Well [x] Monitoring

8. CASING: [x] Threaded [ ] Welded
Diam. 2"
Type [x] PVC [ ] Galvanized [ ] Steel [ ] Other
0.0' in. to 48.0' ft. depth
____ in. to ____ ft. depth
Height: Above/~~Below~~
Surface 2.5' ft.
Weight ____ lbs./ft.
Drive Shoe? [ ] Yes [x] No

9. SCREEN:
Type: PVC Diam 2"
Slot/Gauze .010 Length 10.0'
Set Between 48.0' ft. and 58.0' ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis [x] Yes (Please enclose) [ ] No

10. STATIC WATER LEVEL
50.6' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface
N/A ft. after N/A hrs. pumping N/A G.P.M.
Pumping Test: [ ] Yes (Please enclose) [x] No
Yield N/A

12. WATER QUALITY
Chemical Analysis [ ] Yes [x] No Bacterial Analysis [ ] Yes [x] No
Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) [x] Yes [ ] No
Installed from 46.0' ft. to 59.0' ft.
Effective size 3.62 uniformity coefficient .013

14. WELL GROUTED? [ ] Yes [ ] No
Neat Cement [x] Sand Cement [ ] Concrete [ ] Other [ ] ____
Depth From ____ ft. to ____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction
N/A Type Well disinfected [ ] Yes Type N/A
upon completion [x] No Amount N/A

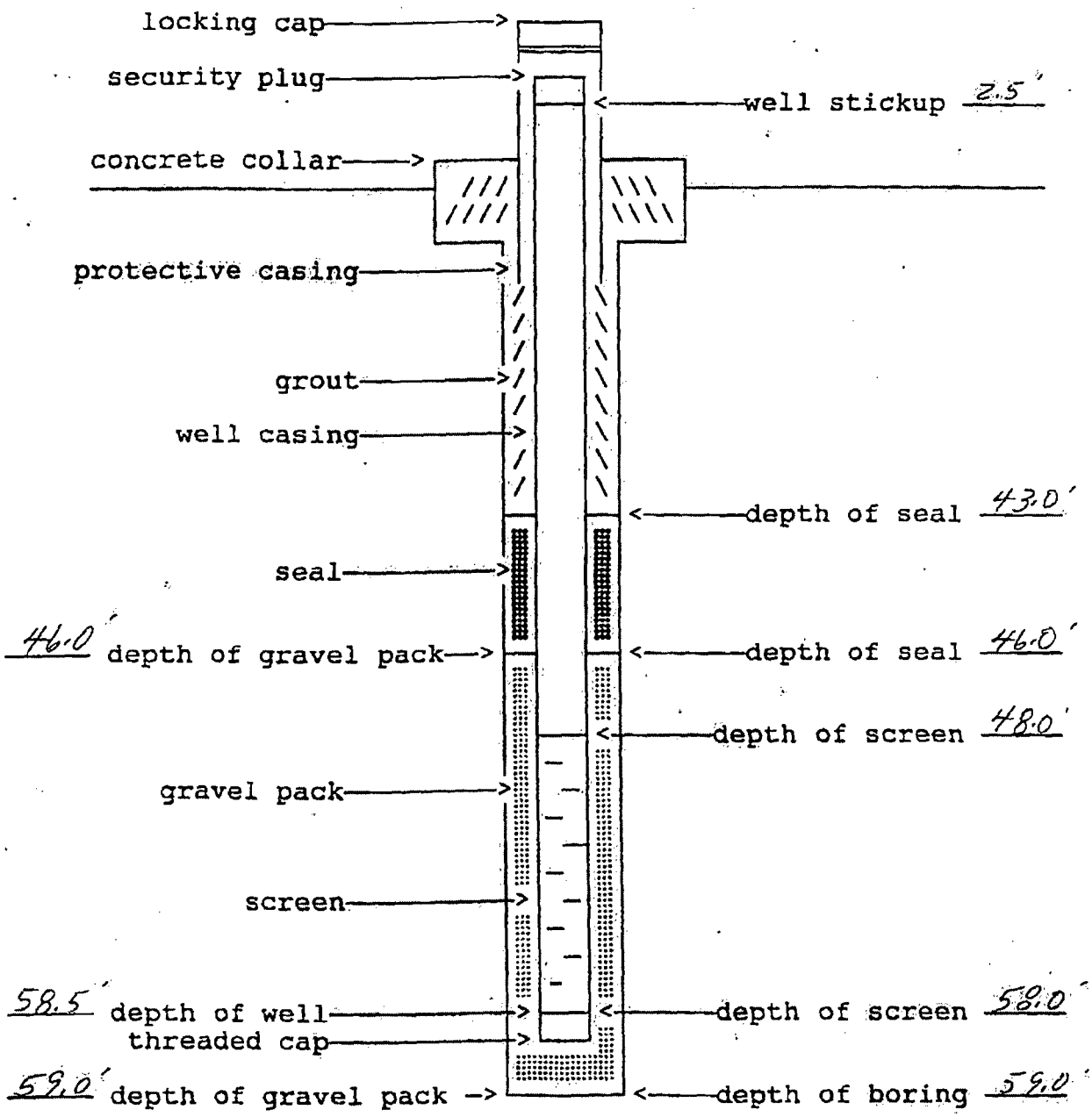
16. PUMP: Date Installed N/A not installed [x]
Mfr. name N/A model no. ____
H.P. N/A volts N/A length of drop pipe N/A ft. capacity N/A gpm
TYPE: [ ] Submersible [ ] Jet (shallow) [ ] Turbine
[ ] Jet (deep) [ ] Reciprocating [ ] Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: I hereby certify that the above information and this report is true to the best of my knowledge and belief.
REGISTERED BUSINESS NAME Duke Power Co. ADDRESS 422 South Church St. Charlotte, N.C. 28242
Signed [signature] CERT. NO. ____ Date 7-15-94
AUTHORIZED REPRESENTATIVE

DHEC # 1903 (10/86) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

MONITORING WELL INSTALLATION RECORD

JOB NAME: Oconee Nuclear Sta.



DATE INSTALLED: 9-13-93 CAM	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: C A Medlin	GEOTECHNICAL CENTER	NUMBER: A-9

Form 25630 (R3-87)

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Drill No. 6659 (Track R3)
Driller: James Barker

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV.
JOB NO. 7310 Chmenu
JOB NAME Monitoring wells
HRS. DRILLING N/A HRS. MOVING N/A
DATE 9-8-93 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-9

	SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	4.8' 6.3'	5	14	10	5		Red Mica, Silty Fine SAND w/ A' seam of lt Gray weathered Rock Running through Sample
2	9.8' 11.3'	3	3	3	10		BRNish Red Mica, Silty Fine SAND
3	14.8' 16.3'	4	4	4	15		Gray Mica, Silty Fine SAND
4	19.8' 21.3'	3	4	4	20		BRNish Gray Mica, Silty Fine SAND
5	24.8' 26.3'	2	5	5	25		BRNish Gray Mica, Silty Fine SAND
6	29.8' 31.3'	3	3	4	30		Reddish BRN. Very Mica, Fine Sandy Silt
7	34.8' 36.3'	4	6	10	35		BRN. Very Mica, Fine Sandy Silt
8	39.8' 41.3'	5	9	11	40		BRN. Very Mica, Fine Sandy Silt

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 59.0'
BORING REFUSAL N/A
WATER TOB DEPTH 51.2' 9-8-93
WATER 24 HR: DEPTH 50.6' 9-9-93
WATER LOSSES None used
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 59.0'
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
~~ROTARY DRILL: W/MUD: W/WATER~~	— TO —
~~DIAMOND CORE~~	— TO —

Form 25630 (R3-87)

FORM M-26C	REVISION 2
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Drill NO. 6659
Drillers: James Barker
C.A. Medlin

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear Sta.

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV.
JOB NO. 7310 Chmcw
JOB NAME Monitoring Well
HRS. DRILLING N/A HRS. MOVING N/A
DATE 9-8-93 WEATHER Clear Hot INSPECTOR C.A. Medlin BORING NO. A-9

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					40		
9	44.8' 46.3	9	12	9	45		BRN & Very Mica, Very Silty Fine Sand
10	49.8' 51.3'	8	13	9	50		BRNish Gray Very Mica, Very Silty Fine Sand
11	54.8' 56.3'	13	21	26	55		Lt Gray Very Micay Very Silty Fine Sand, This sample was Damp
							Checked water Right after taking SS#11 H2O @ 51.2'
					60		Hole terminated @ 59.0'
					65		
					70		
					75		
					80		

BORING TERMINATED 59.0'
BORING REFUSAL N/A
WATER TOB DEPTH 51.2' 9-8-93
WATER 24 HR: DEPTH 50.6' 9-9-93
WATER LOSSES NONE used
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 59.0'
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
~~ROTARY DRILL: W/MUD: W/WATER~~	— TO —
~~DIAMOND CORE~~	— TO —

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division | 2600 Bull Street | Columbia, S.C. 29201 | (803) 734-5331 | Water Well Record

1. LOCATION OF WELL

County: McCormick | System Name: Duke Power Sta. Cheraw Hydro Plant #3

Latitude: N 34° 22' 37.2" | Longitude: W 80° 53' 56.010"

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back) N/A

2. CUTTING SAMPLES [✓] Yes [ ] No

Geophysical Logs [ ] Yes (Please enclose) [✓] No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
See Attached soil		
test Boring Field		
Report For Boring		
No. A-10		

* Indicate water bearing zones

(use a 2nd sheet if needed)

REMARKS: Bentonite Seal 0' to 2.0'

4. OWNER OF WELL Duke Power Co.

Address: 422 South Church St. Charlotte, N.C. 28242

Telephone No.:

Engineer: D.E.M. Sullivan MG03-C1

Address: 13339 Waters Sch. Rd. Huntersville, N.C. 28078-7929

Telephone No.: 704-875-5942

5. WELL DEPTH (Completed) 15.4' ft. Date Started: 9-1-93 Date Completed: 9-13-93

6. [ ] Mud Rotary [ ] Jetted [ ] Bored [ ] Dug [ ] Air Rotary [ ] Driven [ ] Cable tool [X] Other Augered

7. USE: [ ] Domestic [ ] Public Supply Permit No. ____ [ ] Industry [ ] Irrigation [ ] Air Conditioning [ ] Commercial [ ] Test Well [X] Monitoring

8. CASING: [✓] Threaded [ ] Welded

Diam. 2"

Type [✓] PVC [ ] Galvanized [ ] Steel [ ] Other

0.0' in. to 7.0' ft. depth

____ in. to ____ ft. depth

Height: Above/~~Below~~

Surface 2.5' ft.

Weight ____ lbs./ft.

Drive Shoe? [ ] Yes [✓] No

9. SCREEN:

Type: PVC Diam. 2"

Slot/Gauze 010 Length 5.0'

Set Between 7.0' ft. and 12.0' ft.

____ ft. and ____ ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis [✓] Yes (Please enclose) [ ] No

10. STATIC WATER LEVEL 5.0' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface

N/A ft. after N/A hrs. pumping N/A G.P.M.

Pumping Test: [ ] Yes (Please enclose) [X] No

Yield N/A

12. WATER QUALITY

Chemical Analysis [ ] Yes [X] No Bacterial Analysis [ ] Yes [X] No

Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) [✓] Yes [ ] No

Installed from 5.0' ft. to 15.4' ft.

Effective size 3.62 uniformity coefficient .013

14. WELL GROUTED? [✓] Yes [ ] No

Neat Cement [✓] Sand Cement [ ] Concrete [ ] Other [ ]

Depth From 0.0' ft. to 2.0' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction

N/A Type

Well disinfected upon completion [ ] Yes Type N/A [X] No Amount N/A

16. PUMP: Date Installed N/A not installed [X]

Mfr. name N/A model no. N/A

H.P. N/A volts N/A length of drop pipe ____ ft. capacity N/A gpm

TYPE: [ ] Submersible [ ] Jet (shallow) [ ] Turbine [ ] Jet (deep) [ ] Reciprocating [ ] Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

REGISTERED BUSINESS NAME: Duke Power Co. ADDRESS: [illegible]

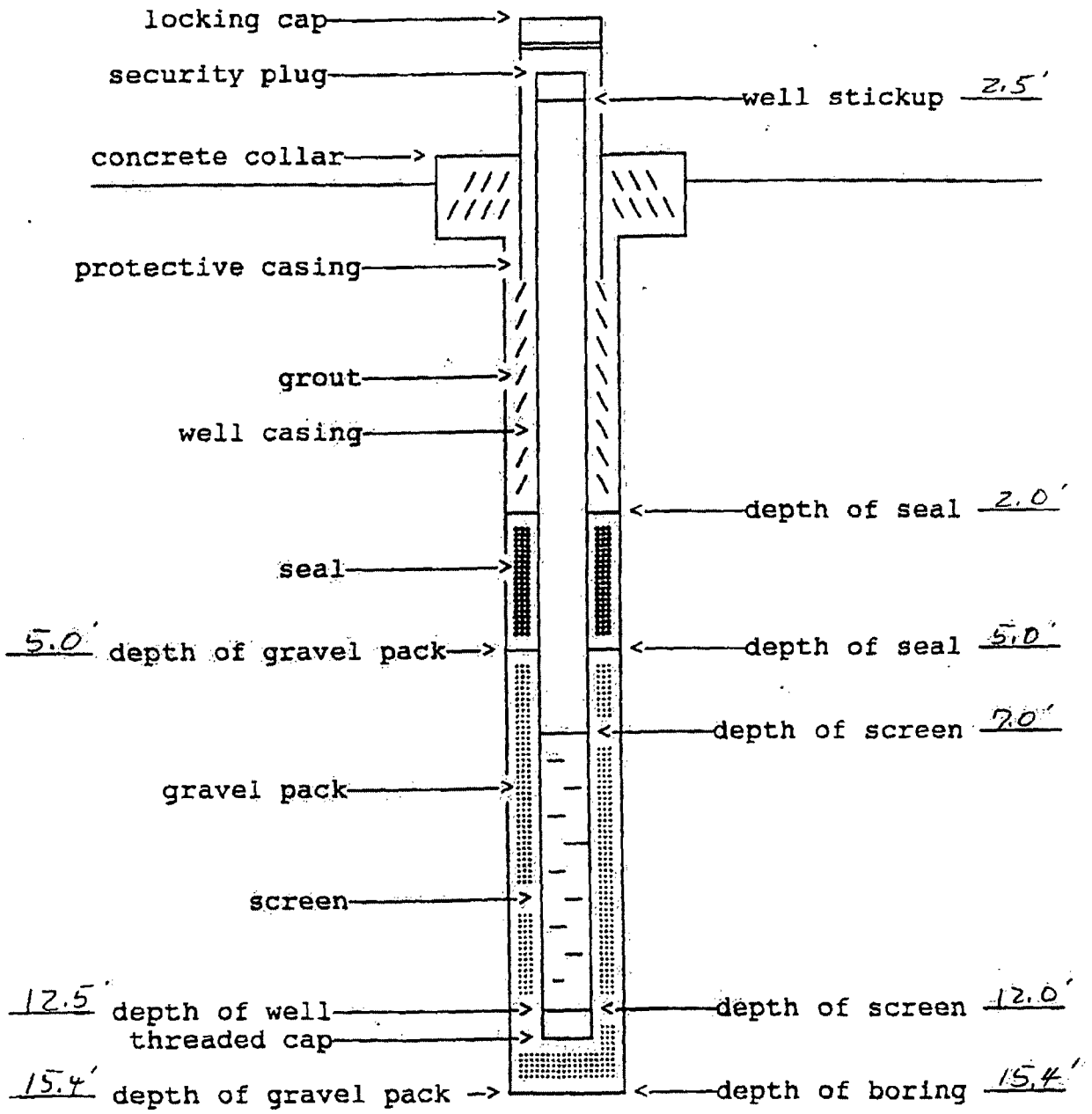
Signed: [illegible] Date: 9-20-93 REGISTRATION NO.: [illegible]

AUTHORIZED REPRESENTATIVE

DHEC # 1903 (10/86) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

MONITORING WELL INSTALLATION RECORD

JOB NAME: Oconee Nuclear Sta.



DATE INSTALLED: 9-8-93	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: C A Medlin	GEOTECHNICAL CENTER	NUMBER: P-10

Form 25630 (R3-87)

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Drill No. 5252
Driller: James Barker
Allen Boggs

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME
GROUND SURFACE ELEV.
JOB NO.
JOB NAME Monitoring Well
HRS. DRILLING HRS. MOVING
DATE 8-31-93 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-10

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	3.9' 5.4'	2	1	3			BRN. MICA, silty Fine/Med. SAND
					5		
2	8.9' 10.4'	1	1	1			BRNish Gray very Mica, silty Fine SAND
					10		
3	13.9' 15.4'	2	8	11			BRN. very Mica, silty Fine/Med. SAND
					15		
					20		
					25		
					30		
					35		
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 15.4'
BORING REFUSAL N/A
WATER TOB DEPTH 5.1'
WATER 24 HR: DEPTH 5.0'
WATER LOSSES None used
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER 7¼"	0.0 TO 15.4'
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
~~ROTARY DRILL: W/MUD: W/WATER~~	— TO —
~~DIAMOND CORE~~	— TO —

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division **2600 Bull Street** **Columbia, S.C. 29201** **(803) 734-5331** **Water Well Record**

1. LOCATION OF WELL

County: Cherokee System Name: Duke Power Nuclear Site Charlotte Plant #3

Latitude: 35.0 Longitude: 82.0 36.055

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back)

N/A

2. CUTTING SAMPLES [✓] Yes [ ] No

Geophysical Logs [ ] Yes (Please enclose) [✓] No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
See Attached soil		
Test Boring Field		
Report For Boring		
NO. A-11		

* Indicate water bearing zones

(use a 2nd sheet if needed)

REMARKS: See attached Report A-11

4. OWNER OF WELL: Duke Power Co
Address: 422 South Church St
Charlotte, N.C. 28242
Telephone No.

3. Engineer: D.E.M. Sullivan, MAG63-C
Address: 13339 Hagers Ferry Rd
Huntersville, N.C. 28078 7822
Telephone No. 704-875-5242

5. WELL DEPTH (Completed): 16.4' ft. Date Started: 8-31-93 Date Completed: 9-13-93

6. [ ] Mud Rotary [ ] Jetted [✓] Bored [ ] Dug [ ] Air Rotary [ ] Driven [ ] Cable tool [X] Other: Augered

7. USE: [ ] Domestic [ ] Public Supply-Permit No. [ ] Industry [ ] Irrigation [ ] Air Conditioning [ ] Commercial [ ] Test Well [X] Monitoring

8. CASING: [✓] Threaded [ ] Welded
Diam. 2"
Type [✓] PVC [ ] Galvanized [ ] Steel [ ] Other
0.0' in. to 20' ft. depth
in. to ft. depth
Height: Above/~~Below~~ Surface 2.5' ft.
Weight lbs./ft.
Drive Shoe? [ ] Yes [X] No

9. SCREEN:
Type: PVC Diam. 2"
Slot/Gauze 010 Length 5.0'
Set Between 7.0' ft. and 12.0' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis [✓] Yes (Please enclose) [ ] No

10. STATIC WATER LEVEL
2.2 ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface
N/A ft. after N/A hrs. pumping N/A G.P.M.
Pumping Test: [ ] Yes (Please enclose) [X] No
Yield N/A

12. WATER QUALITY
Chemical Analysis [ ] Yes [X] No Bacterial Analysis [ ] Yes [X] No
Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) [✓] Yes [ ] No
Installed from 5.0' ft. to 16.4' ft.
Effective size 3.62 uniformity coefficient .013

14. WELL GROUTED? [✓] Yes [ ] No
Neat Cement [✓] Sand Cement [ ] Concrete [ ] Other [ ]
Depth From 0.0' ft. to 2.0' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction
N/A Type Well disinfected upon completion [ ] Yes [X] No Type N/A Amount N/A

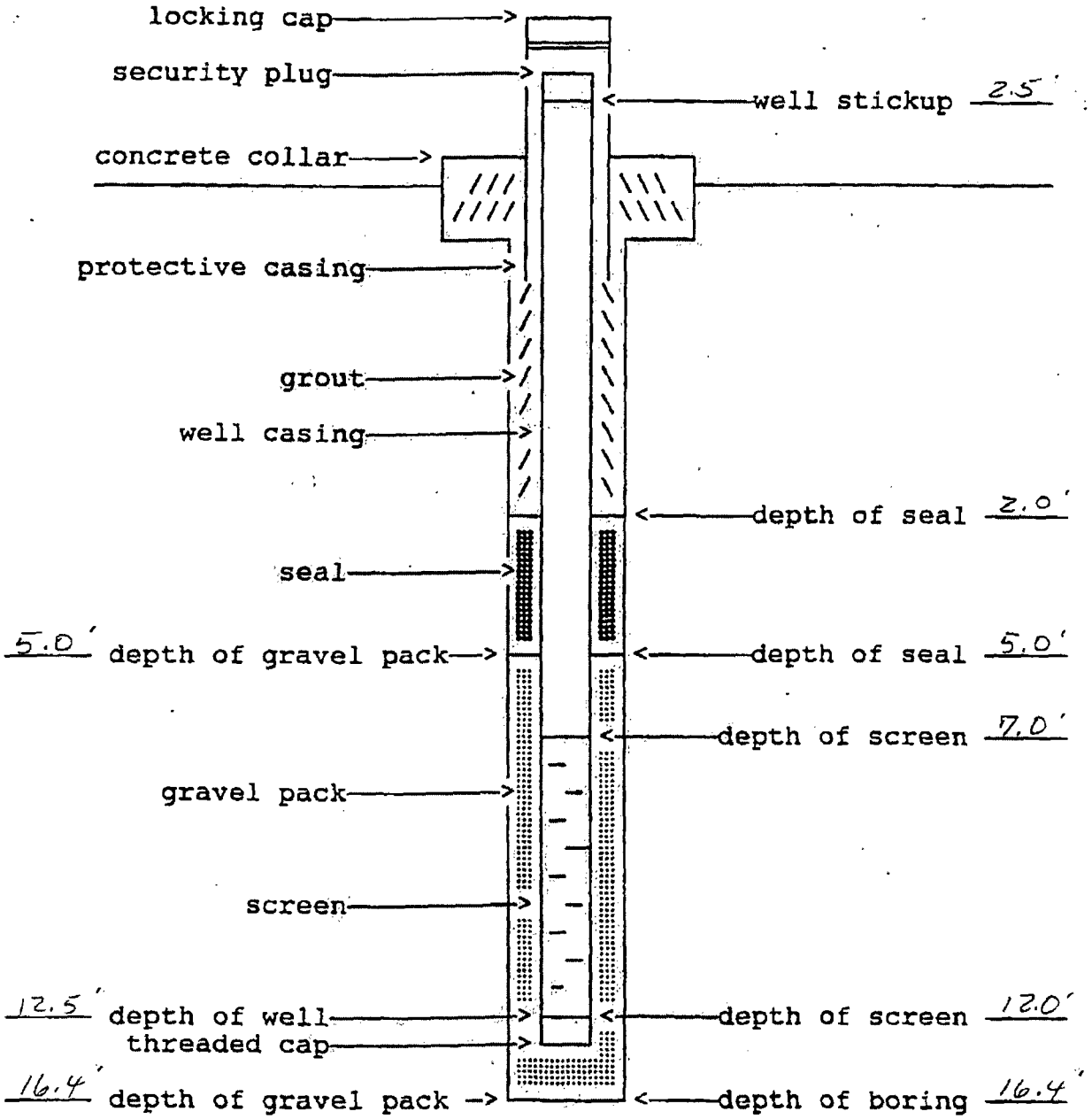
16. PUMP: Date Installed N/A not installed [X]
Mfr. name N/A model no. N/A
H.P. N/A volts N/A length of drop pipe N/A ft. capacity N/A gpm
TYPE: [ ] Submersible [ ] Jet (shallow) [ ] Turbine [ ] Jet (deep) [ ] Reciprocating [ ] Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was installed in accordance with SC Well Standards and this report is true to the best of my knowledge and belief.
REGISTERED BUSINESS NAME: Duke Power Co. Date
Signed: [illegible] Date
AUTHORIZED REPRESENTATIVE

DHEC # 1903 (10/86) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

MONITORING WELL INSTALLATION RECORD

JOB NAME: Oconee Nuclear Sta.



DATE INSTALLED: 9-8-93	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: C A Medlin	GEOTECHNICAL CENTER	NUMBER: A-11

Form 25630 (R3-87)

FORM M-26C	REVISION 2
	PAGE 1 OF 1

Drill NO. 6659 track Rig
Drillers: James Barker
Allen Boggs

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee Nuclear

SOIL TEST BORING FIELD REPORT

STARTING TIME N/A
GROUND SURFACE ELEV.
JOB NO.
JOB NAME Monitoring Well
HRS. DRILLING N/A HRS. MOVING N/A
DATE 8-31-93 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-11

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	4.9' 6.4'	3	2	2	5		BRNish Gray, Very Mica, Silty Fine SAND
2	9.9' 11.4'	6	7	5	10		BRNish Gray, Very Mica, Silty Fine SAND
3	14.9' 16.4'	3	3	6	15		BRNish Gray Very Mica, Silty Fine SAND
					20		
					25		
					30		
					35		
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 16.4'
BORING REFUSAL N/A
WATER TOB DEPTH 3.65' [redacted]
WATER 24 HR: DEPTH [redacted] 4.1'
WATER LOSSES None used
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 16.4'
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
~~ROTARY DRILL: W/MUD: W/WATER~~	— TO —
~~DIAMOND CORE~~	— TO —

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division **2600 Bull Street** **Columbia, S.C. 29201** **(803) 734-5331** **Water Well Record**

1. LOCATION OF WELL

County: Oconee System Name: Oconee Nuclear Sta. Chemical Treatment Pond #3

Latitude: N 34 47 7.2 Longitude: W 82 53 44.974

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location:

Sketch Map: (See example on back) N/A

2. CUTTING SAMPLES [x] Yes [ ] No

Geophysical Logs [ ] Yes (Please enclose) [x] No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
See Attached soil test Boring field Report For Boring No. A-12		

* Indicate water bearing zones

(use a 2nd sheet if needed)

REMARKS: Bentonite seal from 0 to 5.0 ft.

4. OWNER OF WELL: Duke Power Co.

Address: 422 South Church St. Charlotte, NC 28242

Telephone No.:

Engineer Address: D.E.M. Sullivan, MG03-01, 13339 Hagers Ferry Rd, Huntersville NC 28078-8929

Telephone No.: 704-875-5942

5. WELL DEPTH (Completed) 13.0' ft. Date Started: 9-1-93 Date Completed: 9-13-93

6. [ ] Mud Rotary [ ] Jetted [ ] Bored [ ] Dug [ ] Air Rotary [ ] Driven [ ] Cable tool [x] Other: Augered

7. USE: [ ] Domestic [ ] Public Supply Permit No. ____ [ ] Industry [ ] Irrigation [ ] Air Conditioning [ ] Commercial [ ] Test Well [x] Monitoring

8. CASING: [x] Threaded [ ] Welded

Diam: 2" Height: Above/~~Below~~

Type [x] PVC [ ] Galvanized [ ] Steel [ ] Other Surface 2.5' ft.

Weight ____ lbs./ft.

0.0' in. to 20' ft. depth Drive Shoe? [ ] Yes [x] No

____ in. to ____ ft. depth

9. SCREEN:

Type: PVC Diam: 2"

Slot/Gauze 010 Length 5.0'

Set Between 20' ft. and 12.0' ft. **NOTE: MULTIPLE SCREENS USE SECOND SHEET**

____ ft. and ____ ft.

Sieve Analysis [x] Yes (Please enclose) [ ] No

10. STATIC WATER LEVEL

3.98' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface

N/A ft. after N/A hrs. pumping N/A G.P.M.

Pumping Test: [ ] Yes (Please enclose) [x] No

Yield N/A

12. WATER QUALITY

Chemical Analysis [ ] Yes [x] No Bacterial Analysis [ ] Yes [x] No

Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) [x] Yes [ ] No

Installed from 5.0' ft. to 13.0' ft.

Effective size 3.62 uniformity coefficient .013

14. WELL GROUTED? [x] Yes [ ] No

Neat Cement [x] Sand Cement [ ] Concrete [ ] Other [ ]

Depth From 0.0' ft. to 2.0' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction N/A Type

Well disinfected upon completion [ ] Yes [x] No Type N/A Amount N/A

16. PUMP: Date Installed N/A not installed [x]

Mfr. name N/A model no. N/A

H.P. N/A volts N/A length of drop pipe N/A ft. capacity N/A gpm

TYPE: [ ] Submersible [ ] Jet (shallow) [ ] Turbine [ ] Jet (deep) [ ] Reciprocating [ ] Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

REGISTERED BUSINESS NAME: Duke Power Co. ADDRESS: 422 South Church St. Charlotte, NC 28242

CERT. NO.

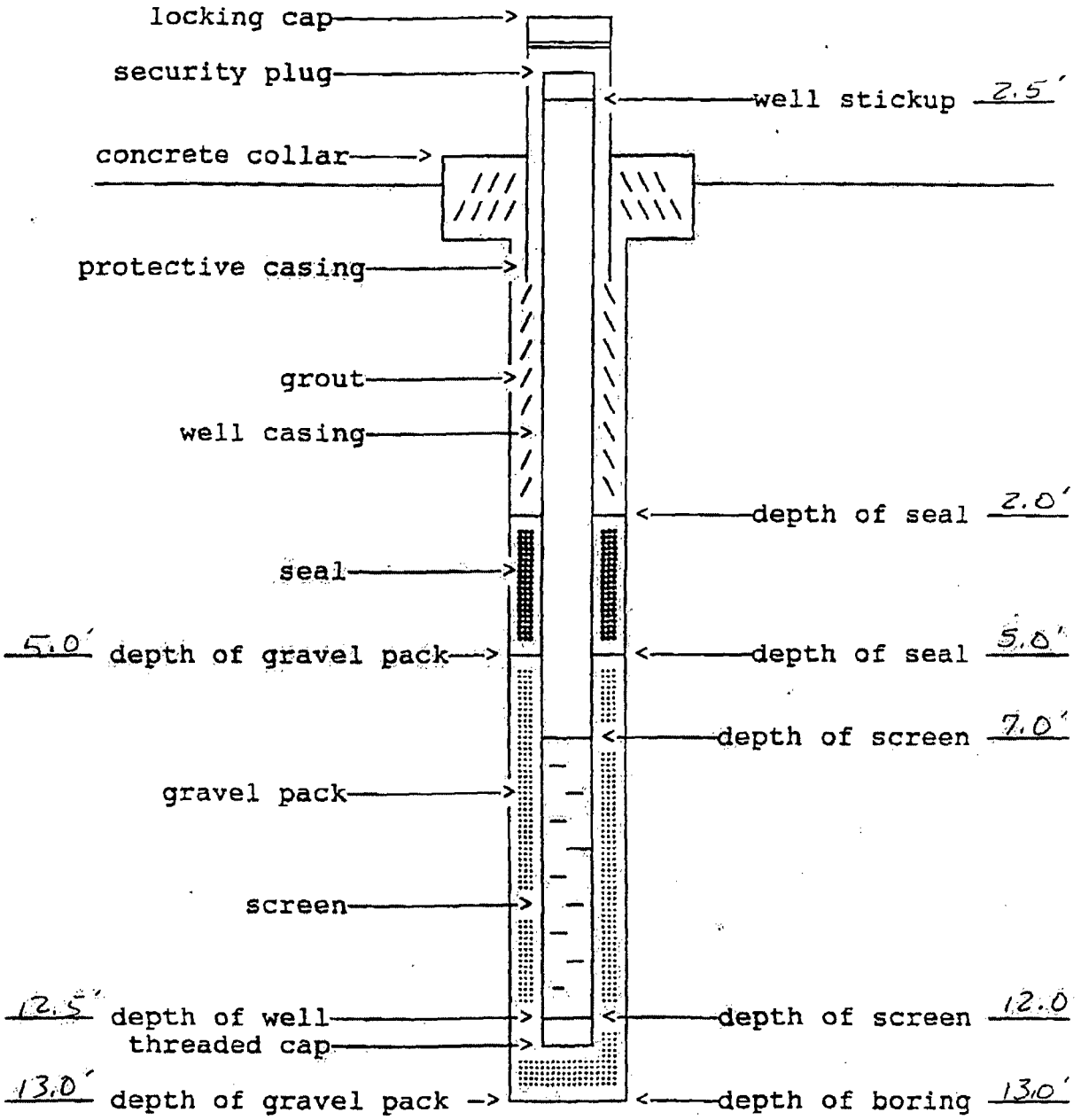
Signed: Charles H. Mellen Date: 9-20-93

AUTHORIZED REPRESENTATIVE

DHEC # 1903 (10/86) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

MONITORING WELL INSTALLATION RECORD

JOB NAME: Oconee Nuclear Sta.



DATE INSTALLED: 9-9-93	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: C A Medlin	GEOTECHNICAL CENTER	NUMBER: A-12

Form 25630 (R3-87)

FORM M-26C	REVISION 2
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Drill No: 5252
Drillers: James Barker

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT Oconee

SOIL TEST BORING FIELD REPORT

STARTING TIME 1:15
GROUND SURFACE ELEV.
JOB NO.
JOB NAME Monitoring well
HRS. DRILLING HRS. MOVING
DATE ~~CAM~~ 9-1-93 WEATHER Clear/Hot INSPECTOR C.A. Medlin BORING NO. A-12

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	4.8' 6.3'	2	2	3	5		BRN, MICA, Silty, Clayey, FINE SAND
2	9.8' 11.3'	4	2	2	10		Pale BRN, MICA, Silty FINE SAND
							Hole terminated @ 13.0'
					15		
					20		
					25		
					30		
					35		
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 13.0'
BORING REFUSAL N/A
WATER TOB DEPTH 3.9'
WATER 24 HR: DEPTH ~~[illegible]~~ 3.98' 9-7-93
WATER LOSSES None used
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	00' TO 13.0'
~~HAND CHOP: W/MUD: W/WATER~~	— TO —
~~ROTARY DRILL: W/MUD: W/WATER~~	— TO —
~~DIAMOND CORE~~	— TO —

Form 25630 (R11-92)

FORM M-26C	REVISION 3
	PAGE ___ OF ___

DUKE POWER COMPANY

PROJECT GCONEE

SOIL TEST BORING FIELD REPORT

BORING NO. A-13 STARTING TIME N/A

JOB NO. N/A GROUND SURFACE ELEV. ___

JOB NAME MONITORING WELL HRS. DRILLING N/A HRS. MOVING N/A

DATE 8-13-94 WEATHER ___ INSPECTOR/DRILLER J. W. Meaders / J. H. BOLLER

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
							NO SOIL SAMPLING REQUIRED
					5		
					10		
					15		
					20		
					25		BORING TERMINATED @ 24.5'
					30		
					35		
					40		

		METHOD OF ADVANCING BORING	DEPTH
BORING TERMINATED	24.5	POWER AUGER	0 TO 24.5
BORING REFUSAL	—	HAND CHOP:W/MUD:W/WATER	TO
WATER TOB DEPTH	—	ROTARY DRILL:W/MUD:W/WATER	TO
WATER 24 HR:DEPTH	8.0'	DIAMOND CORE	TO
WATER LOSSES	N/A		
CASING SIZE: N/A	LENGTH N/A		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division 2600 Bull Street Columbia, S.C. 29201 (803) 734-5331 **Water Well Record**

1. LOCATION OF WELL

County: OCONEE System Name: OCONEE NUCLEAR STATION

Distance And Direction from Road Intersections

N/A

Street address & City of Well Location

Sketch Map: (See example on back)

N/A

2. CUTTING SAMPLES ☐ Yes ☒ No

Geophysical Logs ☐ Yes (Please enclose) ☐ No

FORMATION DESCRIPTION	THICKNESS	DEPTH TO BOTTOM OF STRATUM
SEE ATTACHED		
FIELD TEST BORING		
REPORT		
A-13		

* Indicate water bearing zones

(use a 2nd sheet if needed)

REMARKS:

4. OWNER OF WELL: DUKE POWER COMPANY

Address: P.O. BOX #33189 CHARLOTTE NC 28242

Telephone No.:

Engineer: BRANT ELROD

Address: OCONEE NUCLEAR STATION SENECA SC 29678

Telephone No.: 803-885-1400

5. WELL DEPTH (Completed) 23.7 ft. Date Started: 8-13-94 Date Completed: 8-13-94

6. ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☒ Other AUGER

7. USE: ☐ Domestic ☐ Public Supply-Permit No. ____ ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ MONITORING

8. CASING: ☒ Threaded ☐ Welded

Diam. 2"

Type ☒ PVC ☐ Galvanized ☐ Steel ☐ Other

2" in. to 13.1 ft. depth

— in. to — ft. depth

Height: Above/Below

Surface .5 ft.

Weight ____ lbs./ft.

Drive Shoe? ☐ Yes ☒ No

9. SCREEN:

Type: TRILOC PVC Diam 2"

Slot/Gauze .010 Length

Set Between 13.1' ft. and 23.7' ft.

— ft. and — ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis ☐ Yes (Please enclose) ☒ No

10. STATIC WATER LEVEL

8.0' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface

— ft. after — hrs. pumping — G.P.M.

Pumping Test: ☐ Yes (Please enclose) ☐ No

Yield —

12. WATER QUALITY

Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No

Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) ☒ Yes ☐ No

Installed from 11.1' ft. to 24.5' ft.

Effective size .016 uniformity coefficient 1.75

14. WELL GROUTED? ☒ Yes ☐ No

Neat Cement ☒ Sand Cement ☐ Concrete ☐ Other ☐ ____

Depth From -.5 ft. to 8.1 ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: — Feet — Direction — Type

Well disinfected upon completion ☐ Yes Type — ☐ No Amount —

16. PUMP: Date Installed — not installed ☐

Mfr. name — model no. —

H.P. — volts — length of drop pipe — ft. capacity — gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

WATER WELL CONTRACTOR'S CERTIFICATION: I certify that the information contained herein is true and correct to the best of my knowledge.

REGISTERED BUSINESS NAME: DUKE POWER CO.

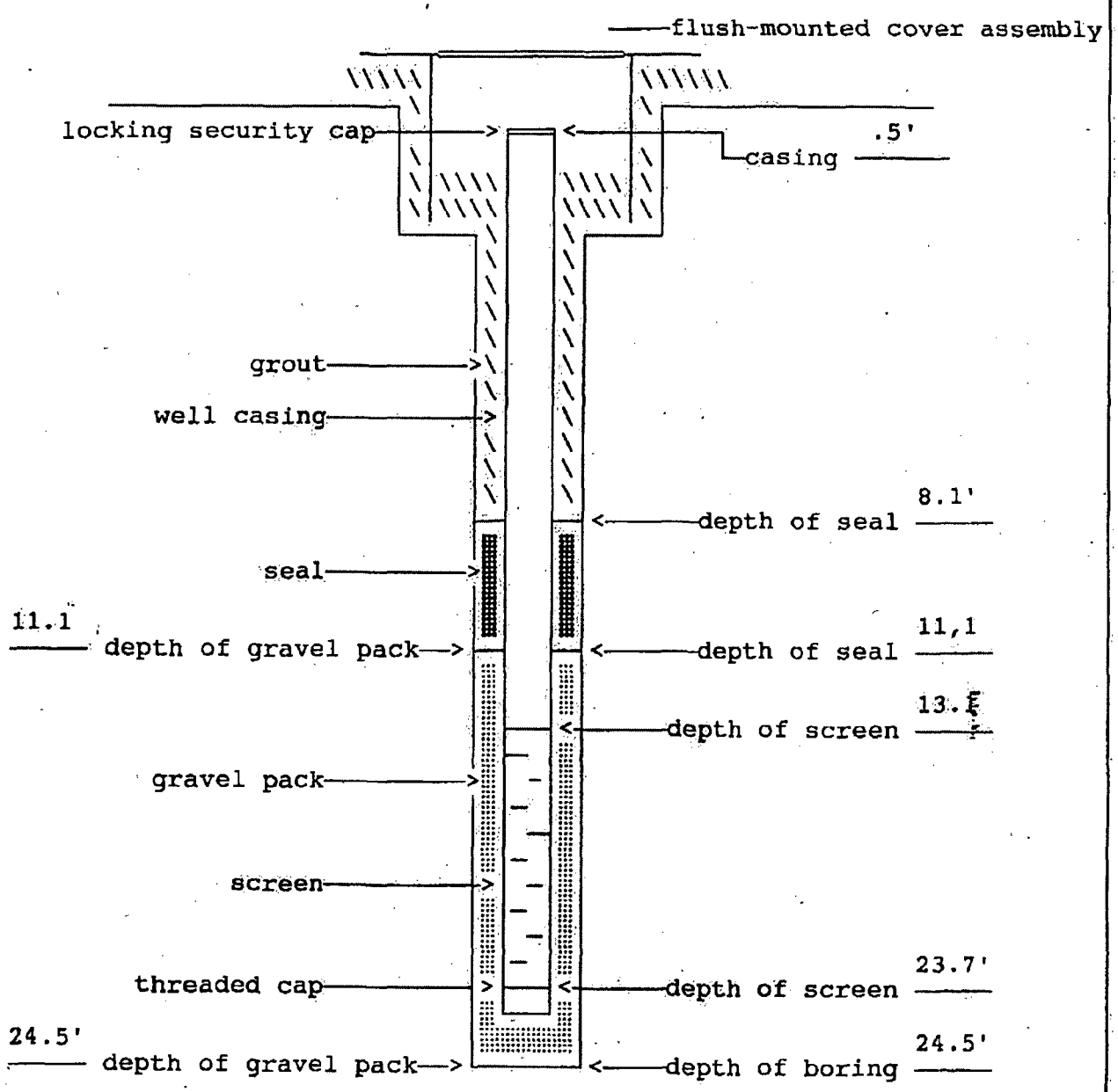
REG. NO.

Signed: Jeff Meadows Date: 8-[illegible]-94

AUTHORIZED REPRESENTATIVE

RECOVERY WELL INSTALLATION RECORD

JOB NAME: OCONEE NUCLEAR STATION



DATE INSTALLED: 8-13-94	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: J.W. MEADERS	GEOTECHNICAL CENTER	NUMBER: A-13

Engineer Topographic Laboratories
Star Chamber Expedition 8/15/1994

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION			INPUT (transformed to) OUTPUT	
A-13	Lid 796.69	Pipe 796.45	658562.002 N	34 47 42.06427 N
			1429523.170 E	82 54 0.53315 W
	Convergence		-1 4 21.46	
	Scale Factor		0.99997319	

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FORM M-26C	REVISION 3
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DUKE POWER COMPANY

PROJECT OCONEE

SOIL TEST BORING FIELD REPORT

BORING NO. A-14 STARTING TIME N/A

JOB NO. N/A GROUND SURFACE ELEV.

JOB NAME MONITOR WELL HRS. DRILLING N/A HRS. MOVING N/A

DATE 8-13-94 WEATHER P.C-HOT INSPECTOR/DRILLER J.W. Meadors / G.H. BARKER

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					NO SOIL SAMPLING REQUIRED
			5		
			0		
			5		
			0		BORING TERMINATED @ 23.0'
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 23.0

BORING REFUSAL N/A

WATER TOB DEPTH —

WATER 24 HR:DEPTH 10.6

WATER LOSSES —

CASING SIZE — LENGTH —

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 23.0
HAND CHOP:W/MUD:W/WATER	TO
ROTARY DRILL:W/MUD:W/WATER	TO
DIAMOND CORE	TO

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division **2600 Bull Street** **Columbia, S.C. 29201** **(803) 734-5331** **Water Well Record**

1. LOCATION OF WELL

County: OCONEE System Name: OCONEE NUCLEAR STATION

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back): N/A

2. CUTTING SAMPLES ☐ Yes ☒ No

Geophysical Logs ☐ Yes (Please enclose) ☐ No

FORMATION DESCRIPTION	THICKNESS	DEPTH TO BOTTOM OF STRATUM
A-14		
SEE ATTACHMENTS		

* Indicate water bearing zones

(use a 2nd sheet if needed)

3. REMARKS

4. OWNER OF WELL: DUKE POWER COMPANY

Address: P.O. BOX #33189 CHARLOTTE NC 28242

Telephone No.

Engineer: BRANT ELROD

Address: OCONEE NUCLEAR STATION SENECA SC 29678

Telephone No: 803-885-4400

5. WELL DEPTH (Completed) 22.4 ft. Date Started: 8-13-94 Date Completed: 8-13-94

6. ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☒ Other AUGER

7. USE: ☐ Domestic ☐ Public Supply Permit No. ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ MONITORING

8. CASING: ☒ Threaded ☐ Welded

Diam: 2"

Type ☒ PVC ☐ Galvanized ☐ Steel ☐ Other

2 in. to 9.8 ft. depth

in. to ft. depth

Height: Above/Below Surface .5' ft.

Weight lbs./ft.

Drive Shoe? ☐ Yes ☒ No

9. SCREEN:

Type: TRILOC PVC Diam 2"

Slot/Gauze .010 Length 10'

Set Between 11.8 ft. and 22.4 ft.

ft. and ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis ☐ Yes (Please enclose) ☒ No

10. STATIC WATER LEVEL

10.6 ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface

— ft. after — hrs. pumping — G.P.M.

Pumping Test: ☐ Yes (Please enclose) ☐ No

Yield N/A

12. WATER QUALITY

Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No

Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) ☒ Yes ☐ No

Installed from 9.8 ft. to 23.0 ft.

Effective size .016 uniformity coefficient 1.75

14. WELL GROUTED? ☒ Yes ☐ No

Neat Cement ☒ Sand Cement ☐ Concrete ☐ Other ☐

Depth From .5 ft. to 6.8 ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: — Feet — Direction

— Type Well disinfected upon completion ☐ Yes Type — ☐ No Amount —

16. PUMP: Date Installed — not installed ☐

Mfr. name — model no. —

H.P. — volts — length of drop pipe — ft. capacity — gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☒ Centrifugal

17. WATER WELL CONTRACTOR CERTIFICATION I hereby certify that the information contained in this report is true to the best of my knowledge and belief.

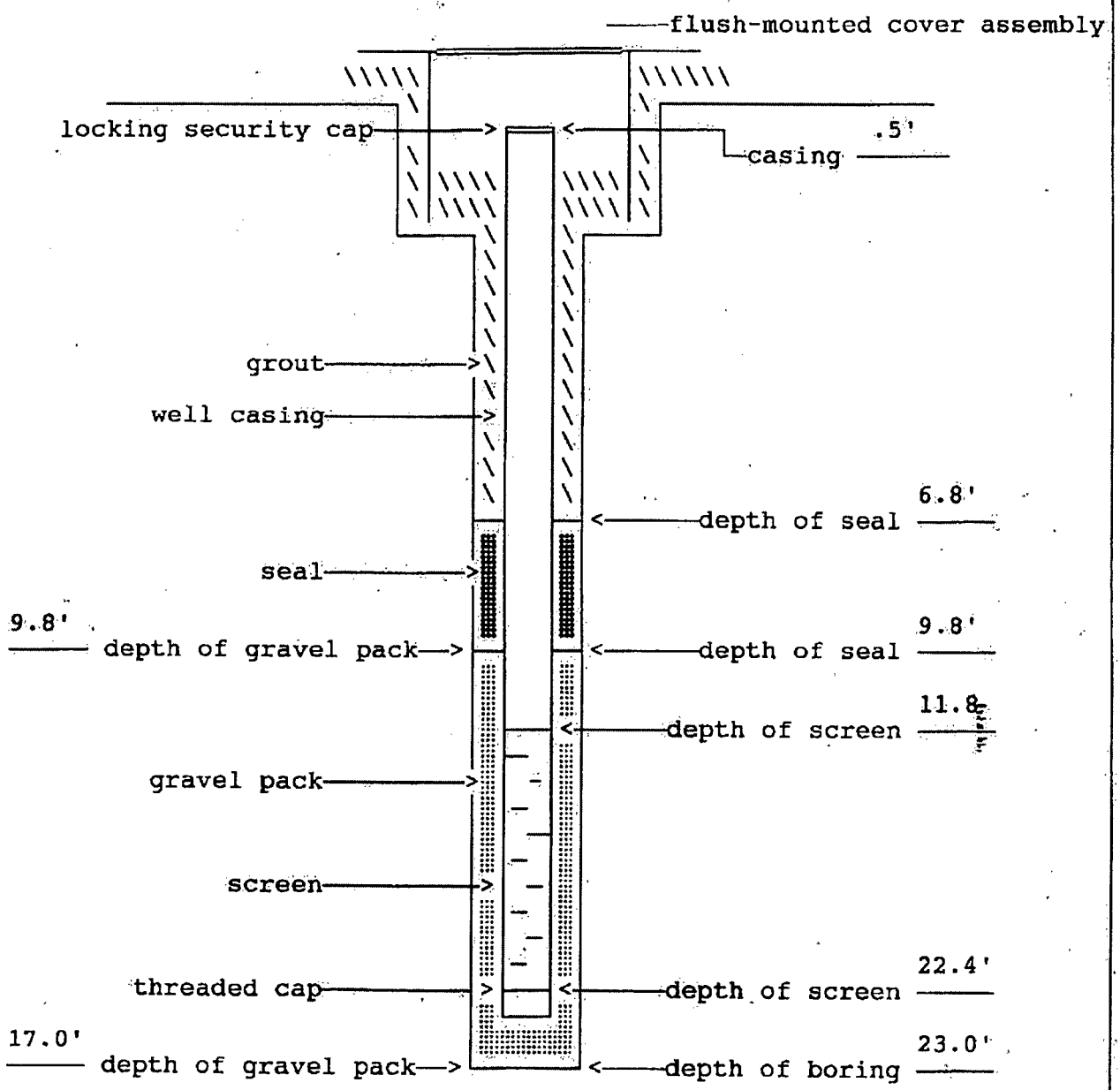
REGISTERED BUSINESS NAME: DUKE POWER

Signed [signature] Date 8-13-94

AUTHORIZED REPRESENTATIVE

RECOVERY WELL INSTALLATION RECORD

JOB NAME: OCONEE NUCLEAR STATION



DATE INSTALLED: 8-13-94	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: J.W. MEADERS	GEOTECHNICAL CENTER	NUMBER: A-14

Engineer Topographic Laboratories
Star Chamber Expedition 8/15/1994

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION			INPUT (transformed to)	OUTPUT
A-14	Lid 797.09	Pipe 796.76	658585.482 N	34 47 42.30718 N
			1429580.944 E	82 53 59.84582 W
	Convergence		-1 4 21.08	
	Scale Factor		0.99997320	

Form 25630 (R11-92)

FORM M-26C	REVISION 3
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DUKE POWER COMPANY

PROJECT OCONEE

SOIL TEST BORING FIELD REPORT

BORING NO. A-17 STARTING TIME N/A

JOB NO. N/A GROUND SURFACE ELEV.

JOB NAME MONITORING WELL HRS. DRILLING N/A HRS. MOVING N/A

DATE 8-11-94 WEATHER P.C. HOT INSPECTOR/DRILLER J.W. Meadors / J.H. BARKER

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
							NO SOIL SAMPLING REQUIRED
					5		
					10		
					15		
							AUGER REFUSAL @ 17.0'
							BORING TERMINATED @ 17.0'
					20		
					25		
					30		
					35		
					40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 17.0

BORING REFUSAL 17.0

WATER TOB DEPTH —

WATER 24 HR:DEPTH 4.4'

WATER LOSSES N/A

CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 17.0
HAND CHOP:W/MUD:W/WATER	— TO —
ROTARY DRILL:W/MUD:W/WATER	— TO —
DIAMOND CORE	— TO —

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division 2600 Bull Street Columbia, S.C. 29201 (803) 734-5331 Water Well Record

1. LOCATION OF WELL

County: OCONEE System Name: OCONEE NUCLEAR STATION

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back) N/A

2. CUTTING SAMPLES ☐ Yes ☒ No

Geophysical Logs ☐ Yes (Please enclose) ☐ No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
SEE ATTACHED FIELD TEST BORING REPORT A-17		

* Indicate water bearing zones

(use a 2nd sheet if needed)

3. REMARKS

4. OWNER OF WELL: DUKE POWER COMPANY

Address: P.O. BOX # 33189 CHARLOTTE NC 28242

Telephone No.

Engineer: BRANT ELBOD

Address: OCONEE NUCLEAR STATION SENECA SC 29672

Telephone No. 803-885-4400

5. WELL DEPTH (Completed) 17.0 ft. Date Started: 8-11-94 Date Completed: 8-11-94

6. ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☒ Other AUGER

7. USE: ☐ Domestic ☐ Public Supply-Permit No. ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ MONITORING

8. CASING: ☒ Threaded ☐ Welded

Diam. 2

Type ☒ PVC ☐ Galvanized ☐ Steel ☐ Other

2 in. to 6.3 ft. depth

in. to ft. depth

Height: ~~Above~~/Below Surface .5 ft.

Weight — lbs./ft.

Drive Shoe? ☐ Yes ☒ No

9. SCREEN:

Type: TRILOC. PVC Diam. 2"

Slot/Gauze .010 Length 10'

Set Between 6.3 ft. and 17.0 ft.

— ft. and — ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis ☐ Yes (Please enclose) ☒ No

10. STATIC WATER LEVEL 4.4' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface

— ft. after — hrs. pumping — G.P.M.

Pumping Test: ☐ Yes (Please enclose) ☐ No

Yield —

12. WATER QUALITY

Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No

Please Enclose Lab Results. —

13. ARTIFICIAL FILTER (Gravel Pack) ☒ Yes ☐ No

Installed from 5.0 ft. to 17.0 ft.

Effective size .016 uniformity coefficient 1.75

14. WELL GROUTED? ☒ Yes ☐ No

Neat Cement ☒ Sand Cement ☐ Concrete ☐ Other ☐

Depth From .5 ft. to 2.0 ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: — Feet — Direction — Type

Well disinfected upon completion ☐ Yes Type — ☐ No Amount —

16. PUMP: Date Installed — not installed ☐

Mfr. name — model no. —

H.P. — volts — length of drop pipe — ft. capacity — gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

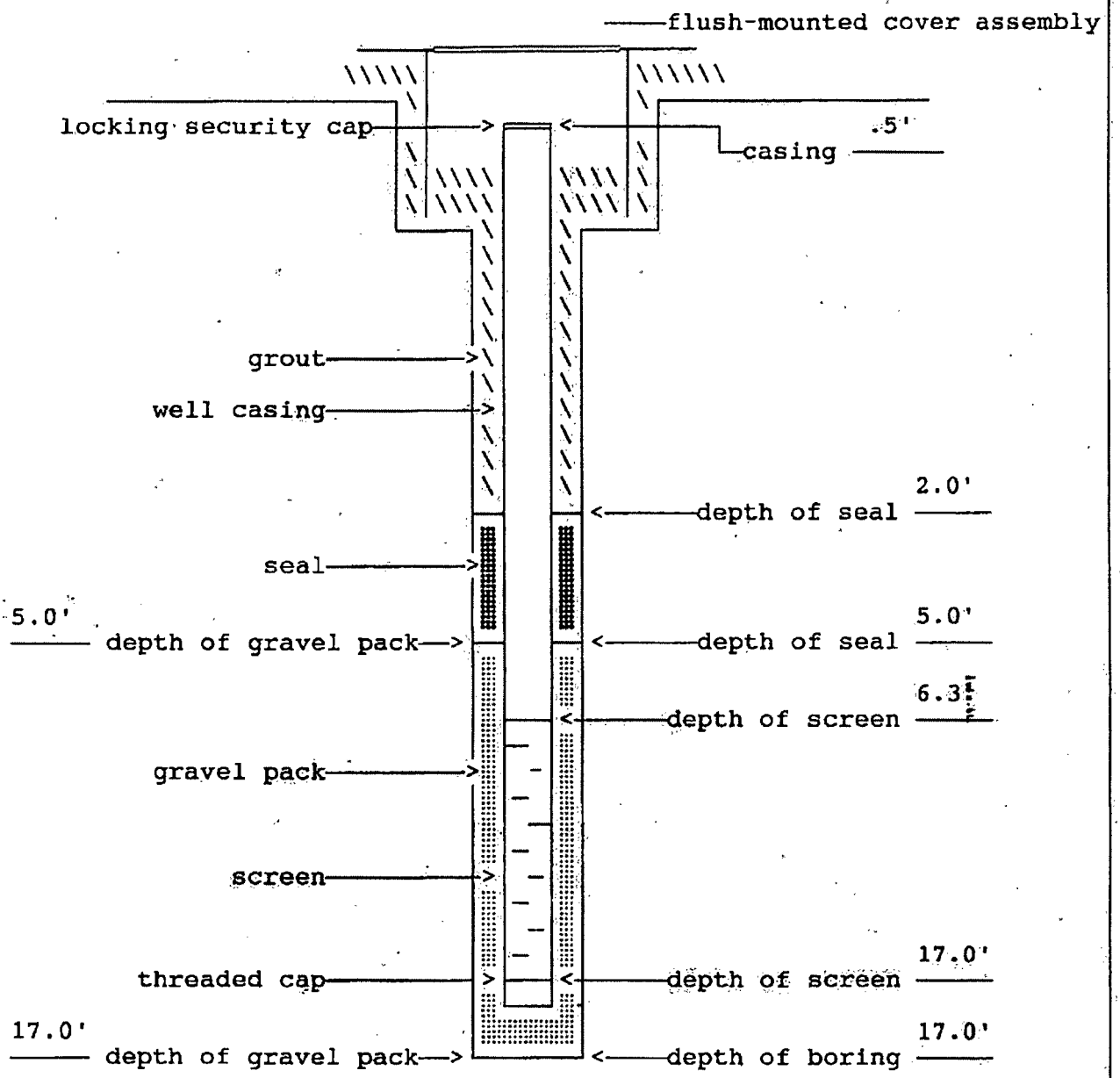
17. WATER WELL CONTRACTOR'S CERTIFICATION: I certify that the information contained in this report is true and correct to the best of my knowledge and belief.

REGISTERED BUSINESS NAME: DUKE POWER

Signed: Jeff Meade Date: 8-15-94

RECOVERY WELL INSTALLATION RECORD

JOB NAME: OCONEE NUCLEAR STATION



DATE INSTALLED:8-11-94	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: J.W. MEADERS	GEOTECHNICAL CENTER	NUMBER: A-17

Engineer Topographic Laboratories
Star Chamber Expedition 8/15/1994

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION		INPUT (transformed to) OUTPUT	
A-47 Lid 801.31	Pipe 801.09	658816.602 N	34 47 44.59090 N
		1429570.025 E	82 54 0.02859 W
Convergence		-1 4 21.18	
Scale Factor		0.99997328	

Form 25630 (R11-92)

FORM M-26C	REVISION 3
	PAGE 1 OF 1

DUKE POWER COMPANY

PROJECT OCONEE

SOIL TEST BORING FIELD REPORT

BORING NO. ~~MW~~ A-18 STARTING TIME N/A

JOB NO. N/A GROUND SURFACE ELEV.

JOB NAME MONITOR WELL HRS. DRILLING N/A HRS. MOVING N/A

DATE 8-11-94 WEATHER P.C. HOT INSPECTOR/DRILLER J.W. Meuders / J.H. BAKKER

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
							NO SOIL SAMPLING REQUIRED
					5		
					10		
					15		
					20		BORING TERMINATED @ 19.7'
					25		
					30		
					35		
					40		

BORING TERMINATED 19.7

BORING REFUSAL N/A

WATER TOB DEPTH —

WATER 24 HR:DEPTH 6.0'

WATER LOSSES N/A

CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 19.7
HAND CHOP:W/MUD:W/WATER	— TO —
ROTARY DRILL:W/MUD:W/WATER	— TO —
DIAMOND CORE	— TO —

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division 2600 Bull Street Columbia, S.C. 29201 (803) 734-5331 **Water Well Record**

1. LOCATION OF WELL

County: OCONEE System Name: OCONEE NUCLEAR STATION

Latitude: [illegible] N Longitude: [illegible] W

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back)

N/A

2. CUTTING SAMPLES ☐ Yes ☒ No

Geophysical Logs ☐ Yes (Please enclose) ☐ No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
SEE ATTACHED FIELD TEST BORING REPORT		
M.W.A-18		
* Indicate water bearing zones (use a 2nd sheet if needed)		

23. REMARKS

4. OWNER OF WELL: DUKE POWER COMPANY
Address: P.O. BOX # 33189 CHARLOTTE N.C. 28242
Telephone No.

Engineer: BRANT ELROD
Address: OCONEE NUCLEAR STATION SENECA SC 29678
Telephone No. 803-885-4400

5. WELL DEPTH (Completed) 18.9 ft. Date Started: 8-11-94 Date Completed: 8-11-94

6. ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☒ Other AUGER

7. USE: ☐ Domestic ☐ Public Supply-Permit No. ____ ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ MONITORING

8. CASING: ☒ Threaded ☐ Welded
Diam: 2"
Type ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
2" in. to 8.2 ft. depth
— in. to — ft. depth
Height: ~~Above~~/Below Surface .5' ft.
Weight ____ lbs./ft.
Drive Shoe? ☐ Yes ☒ No

9. SCREEN:
Type: TRILOC. PVC Diam. 2"
Slot/Gauze .010 Length 10'
Set Between 18.9' ft. and 8.2' ft.
— ft. and — ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (Please enclose) ☐ No

10. STATIC WATER LEVEL
6.0 ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface
— ft. after — hrs. pumping — G.P.M.
Pumping Test: ☐ Yes (Please enclose) ☐ No
Yield ____

12. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) ☒ Yes ☐ No
Installed from 6.2 ft. to 19.7 ft.
Effective size .016 uniformity coefficient 1.75

14. WELL GROUTED? ☒ Yes ☐ No
Neat Cement ☒ Sand Cement ☐ Concrete ☐ Other ☐ ____
Depth From .5' ft. to 3.2 ft.

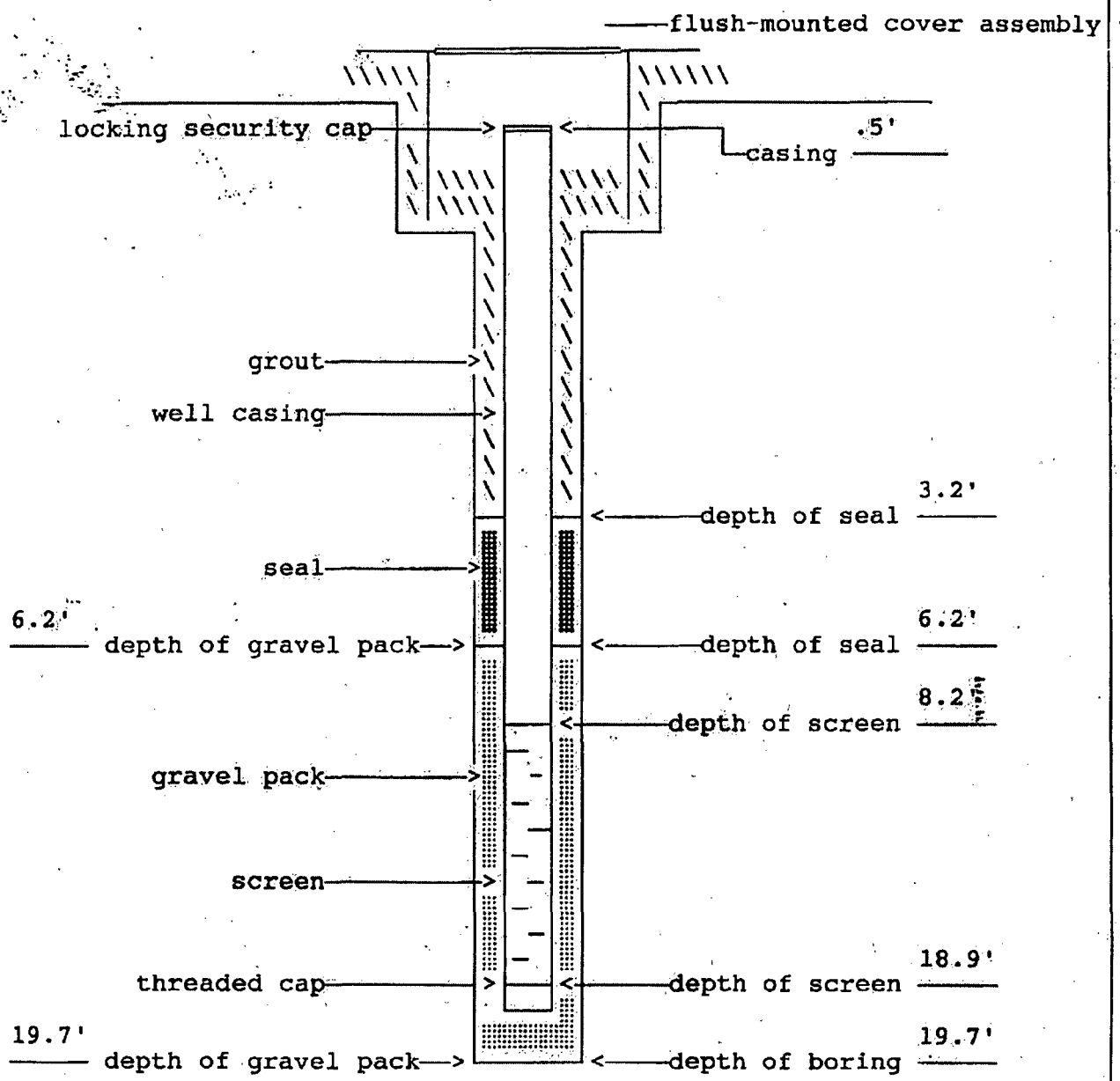
15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: — Feet — Direction — Type
Well disinfected upon completion ☐ Yes Type ____ ☐ No Amount —

16. PUMP: Date Installed — not installed ☐
Mfr. name — model no. —
H.P. — volts — length of drop pipe — ft. capacity — gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: I certify that this report is true to the best of my knowledge.
REGISTERED BUSINESS NAME: DUKE ENGINEERING & SERVICES
CERT. NO. N/A
Signed [illegible] Date 8-16-94

RECOVERY WELL INSTALLATION RECORD

JOB NAME:OCONEE NUCLEAR STATION



DATE INSTALLED:8-11-94	DUKE POWER COMPANY	MONITORING WELL
INSPECTOR: J.W. MEADERS	GEOTECHNICAL CENTER	NUMBER: A-18

Engineer Topographic Laboratories
Star Chamber Expedition 8/15/1994

All input values are NAD-27, state plane zone 3901 (FEET).
All output values are NAD-27, geographic coordinates.

STATION		INPUT (transformed to)	OUTPUT
A-18 Lid 804.34	Pipe 804.14	658871.211 N	34 47 45.12575 N
		1429541.782 E	82 54 0.37943 W
Convergence		-1 4 21.38	
Scale Factor		0.99997330	

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division 2600 Bull Street Columbia, S.C. 29201 (803) 734-5331 **Water Well Record**

4. OWNER OF WELL: Address: Duke Power Co. 422 South Church St. Charlotte, N.C. 28242
Telephone No.
Engineer Address: D.E.M. Sullivan, MG03-C1 13339 Waters Serry Rd. Huntersville, N.C. 28078-7929
Telephone No. 704-875-5942

1. LOCATION OF WELL
County: Oconee System Name: Oconee Nuclear Sta.
Latitude: N 659149.010 Longitude: E 1431301.790
Distance And Direction from Road Intersections
Street address & City of Well Location
Sketch Map: (See example on back)

5. WELL DEPTH (Completed) 30.7' ft. Date Started: 12-01-93 Date Completed: 12-02-93

6. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. USE: ☐ Domestic ☐ Public Supply-Permit No. ____ ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ Monitoring

8. CASING: ☒ Threaded ☐ Welded
Diam. 2"
Type ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0.0' in. to 16.5' ft. depth
____ in. to ____ ft. depth
Height: Above/Below
Surface 2.5' ft.
Weight ____ lbs./ft.
Drive Shoe? ☐ Yes ☒ No

2. CUTTING SAMPLES ☒ Yes ☐ No
Geophysical Logs ☐ Yes (Please enclose) ☒ No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
See Attached soil		
Test Boring Field		
Report For MW-RP01,		
Back Ground well.		
* Indicate water bearing zones		
(use a 2nd sheet if needed)		

9. SCREEN:
Type: P.V.C. Diam 2"
Slot/Gauze .010 Length 10.0'
Set Between 16.5' ft. and 26.5' ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (Please enclose) ☒ No

10. STATIC WATER LEVEL
19.3' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface
N/A ft. after N/A hrs. pumping N/A G.P.M.
Pumping Test: ☐ Yes (Please enclose) ☒ No
Yield N/A

12. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) ☒ Yes ☐ No
Installed from 14.5' ft. to 30.7' ft.
Effective size .011 uniformity coefficient 2.6

14. WELL GROUTED? ☒ Yes ☐ No
Neat Cement ☒ Sand Cement ☐ Concrete ☐ Other ☐ ____
Depth From 0.0' ft. to 11.5' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction
N/A Type Well disinfected upon completion ☐ Yes ☒ No Type N/A Amount N/A

16. PUMP: Date Installed N/A not installed ☒
Mfr. name N/A model no. N/A
H.P. N/A volts N/A length of drop pipe N/A ft. capacity N/A gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This water well was installed in accordance and this report is true to the best of my knowledge and belief.
REGISTERED BUSINESS NAME: Duke Power Co. ADDRESS: [illegible] 29678
CERT. NO. 775
Signed Charles A. Medlin Date 12-02-93
AUTHORIZED REPRESENTATIVE

4. REMARKS: MW-RP01, Bentonite Seal @ 11.5'-14.5'

DHEC # 1903 (10/86) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DUKE POWER COMPANY

PROJECT Oconee Nuclear Station

SOIL TEST BORING FIELD REPORT

BORING NO.	MW-RP01	STARTING TIME	n/a
JOB NO.	7320LANDFILL	GROUND SURFACE ELEV.	783.96
JOB NAME	MW Installation MSR Tube Bundle	HRS. DRILLING	n/a HRS. MOVING
DATE	12-03-93 WEATHER sunny/mild	INSPECTOR/DRILLER	C A Medlin, J H Barker

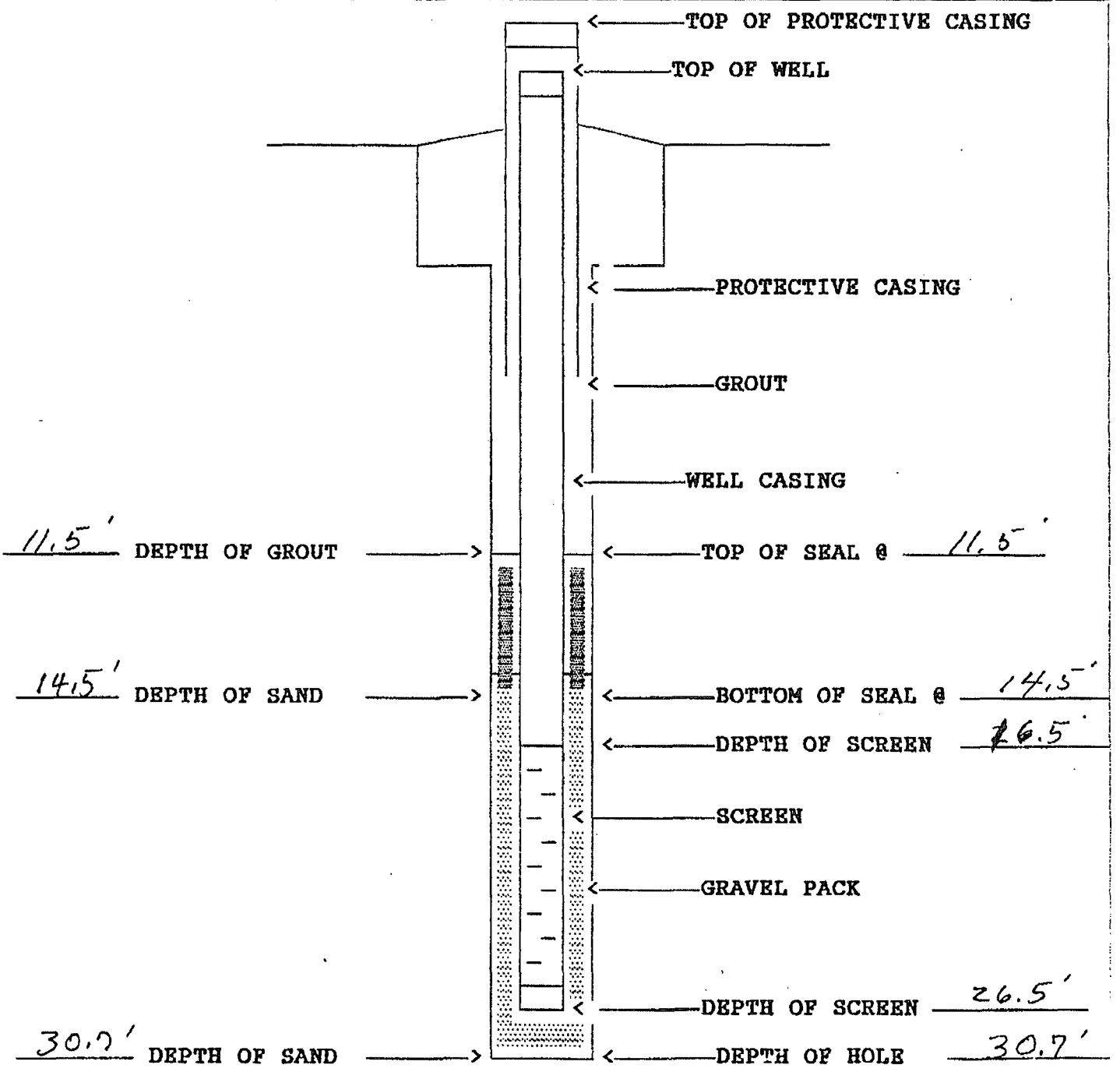
SAMPLING		1ST 6"	2ND 6"	3RD 6"	0	UD	SOIL CLASSIFICATION AND REMARKS
1	1.2'	5	9	11	5		Strong brown micaceous silty fine to medium sand
	5.7'						
2	9.2'	5	7	10	10		Reddish brown micaceous silty fine sand
	10.7'						
3	14.2'	3	4	4	15		Light brown very micaceous fine sandy silt
	15.7'						
4	19.2'	3	2	7			Rusty brown very micaceous fine sandy silt
	20.7				20		
5	24.2'	2	3	4	25		Strong brown very micaceous silty fine sand
	25.7'						
6	29.2'	8	13	14	30		Light gray micaceous silty fine sand
	30.7'						
							Boring terminated @ 29.2'
					35		
					40		

BORING TERMINATED	29.2'
BORING REFUSAL	n/a
WATER TOB	19.6' 12-01-93
WATER 24 HR: DEPTH	19.3' 12-02-93
WATER LOSS	n/a
CASING SIZE	n/a

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 29.2'
HAND CHOP: W/MUD: W:/WATER	TO
ROTARY DRILL: W/MUD	TO
DIAMOND CORE	TO

MONITORING WELL INSTALLATION RECORD

JOB NAME: OCONEE NUCLEAR STATION



DATE INSTALLED 12-02-93

WELL NUMBER MW-RP01

INSPECTOR: C. A. MEDLIN

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP01 ELEV. 783.96	659149.010 N	34 47 48.19853 N
	1431301.790 E	82 53 39.34220 W
Convergence	-1 4 9.50	
Scale Factor	0.99997341	

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP02 ELEV. 771.51	658806.450 N	34 47 44.86904 N
	1431618.140 E	82 53 35.47307 W
Convergence	-1 4 7.32	
Scale Factor	0.99997329	

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP03 ELEV. 770.90	658610.260 N	34 47 44.92231 N
	1431702.680 E	82 53 34.46044 W
Convergence	-1 4 6.75	
Scale Factor	0.99997330	

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division **2600 Bull Street** **Columbia, S.C. 29201** **(803) 734-5331** **Water Well Record**

1. LOCATION OF WELL

County: Oconee System Name: Oconee Nuclear Sta.

Latitude: N 658806.450 Longitude: E 1431618.140

Distance And Direction from Road Intersections

Street address & City of Well Location

Sketch Map: (See example on back)

2. CUTTING SAMPLES [X] Yes [ ] No

Geophysical Logs [ ] Yes (Please enclose) [X] No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
See Attached soil		
Test Boring Field		
Report For MW-RP02		

* Indicate water bearing zones

(use a 2nd sheet if needed)

3. REMARKS MW-RP02 Bentonite seal @ 19.4-22.4'

4. OWNER OF WELL: Duke Power Co.
Address: 422 South Church St. Charlotte, N.C. 28242
Telephone No.

Engineer: D.E.M. Sullivan MG03-01
Address: 13339 Waters Serg Rd. Huntersville, N.C. 28078-9129
Telephone No. 704-875-5942

5. WELL DEPTH (Completed) 37.1' ft. Date Started: 11-22-93 Date Completed: 11-23-93

6. [ ] Mud Rotary [ ] Jetted [X] Bored [ ] Dug [ ] Air Rotary [ ] Driven [ ] Cable tool [ ] Other

7. USE: [ ] Domestic [ ] Public Supply Permit No. ____ [ ] Industry [ ] Irrigation [ ] Air Conditioning [ ] Commercial [ ] Test Well [X] Monitoring

8. CASING: [X] Threaded [ ] Welded
Diam. 2"
Type [X] PVC [ ] Galvanized [ ] Steel [ ] Other
0.0' in. to 24.4' ft. depth
____ in. to ____ ft. depth
Height: Above/~~Below~~
Surface 2.5' ft.
Weight N/A lbs./ft.
Drive Shoe? [ ] Yes [X] No

9. SCREEN:
Type: PVC. Diam 2"
Slot/Gauze .010 Length 10.0'
Set Between 24.4' ft. and 34.4' ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis [ ] Yes (Please enclose) [X] No

10. STATIC WATER LEVEL
27.4' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface
N/A ft. after N/A hrs. pumping N/A G.P.M.
Pumping Test: [ ] Yes (Please enclose) [X] No
Yield N/A

12. WATER QUALITY
Chemical Analysis [ ] Yes [X] No Bacterial Analysis [ ] Yes [X] No
Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) [X] Yes [ ] No
Installed from 22.4' ft. to 37.1' ft.
Effective size .011 uniformity coefficient 2.6

14. WELL GROUTED? [X] Yes [ ] No
Neat Cement [X] Sand Cement [ ] Concrete [ ] Other [ ]
Depth From 0.0' ft. to 19.4' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction N/A Type
Well disinfected upon completion [ ] Yes [X] No Type N/A Amount N/A

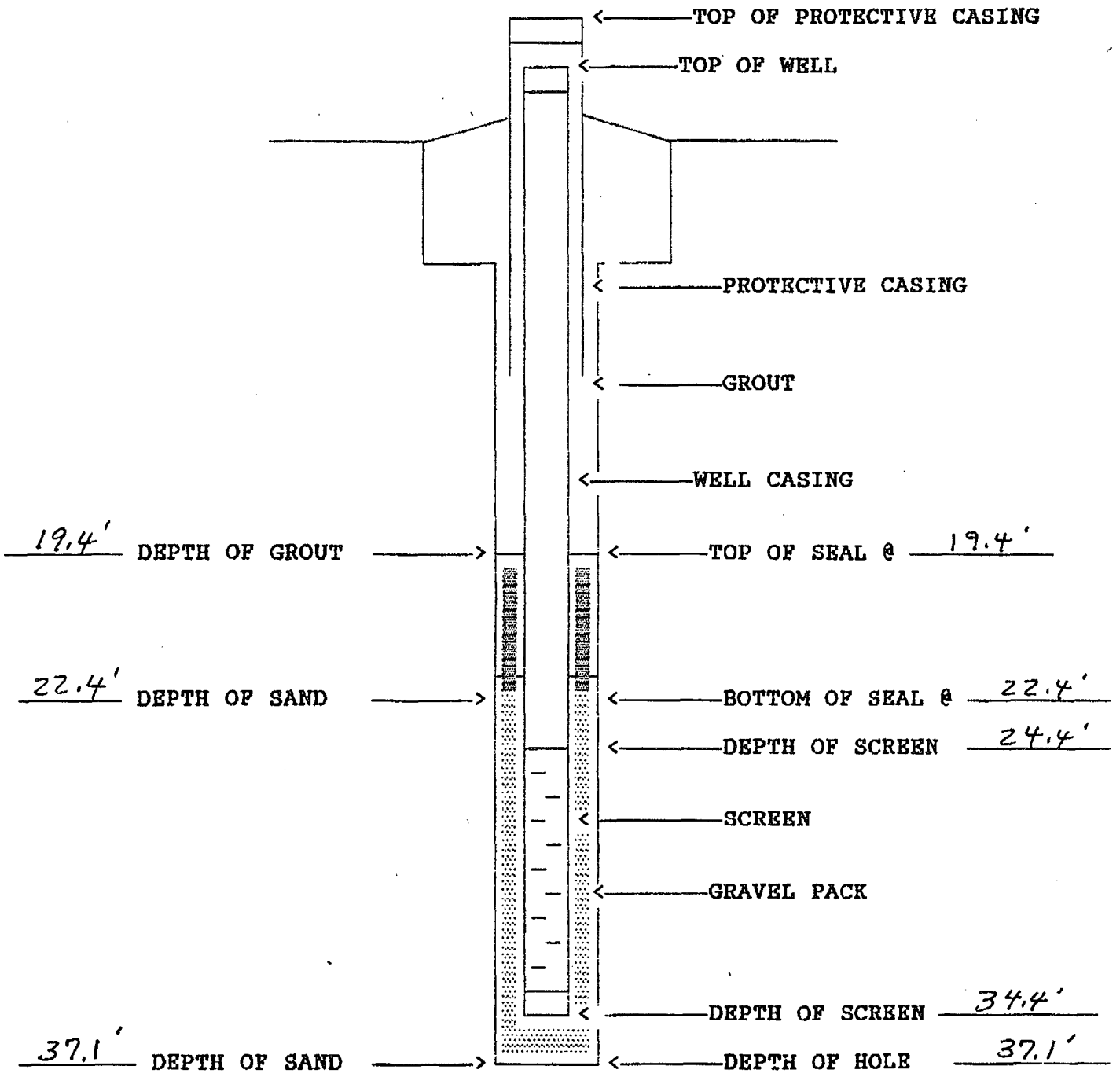
16. PUMP: Date Installed N/A not installed [X]
Mfr. name N/A model no. N/A
H.P. N/A volts N/A length of drop pipe N/A ft. capacity N/A gpm
TYPE: [ ] Submersible [ ] Jet (shallow) [ ] Turbine [ ] Jet (deep) [ ] Reciprocating [ ] Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was installed in accordance with SC Regulation 61-71 and this report is true to the best of my knowledge and belief.
REGISTERED BUSINESS NAME Duke Power Co. ADDRESS
CERT. NO. 778
Signed Charles R. Medlin Date 12-02-93
AUTHORIZED REPRESENTATIVE

DHEC # 1903 (10/85) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

MONITORING WELL INSTALLATION RECORD

JOB NAME: OCONEE NUCLEAR STATION



DATE INSTALLED 11-23-93

WELL NUMBER MW-RP02

INSPECTOR: C. A. MEDLIN

DUKE POWER COMPANY

PROJECT Oconee Nuclear Station

SOIL TEST BORING FIELD REPORT

BORING NO.	MW-RP02	STARTING TIME	n/a
JOB NO.	7320LANDFILL	GROUND SURFACE ELEV.	771.51
JOB NAME	MW Installation MSR Tube Bundle	HRS. DRILLING	n/a HRS. MOVING n/a
DATE	11-22-93 WEATHER sunny/mild	INSPECTOR/DRILLER	C A Medlin, J H Barker

SAMPLING		1ST 6"	2ND 6"	3RD 6"	0	UD	SOIL CLASSIFICATION AND REMARKS
1	4.8'	3	4	8	5		Reddish orange micaceous silty fine sand
	6.3'						
2	9.8'	4	9	5	10		Pinkish brown micaceous silty fine sand
	11.3'						
3	14.8'	4	7	4	15		Light brown micaceous silty fine to medium sand
	16.3'						
4	19.8'	3	2	7			Orangish brown micaceous fine sandy silt
	21.3'						
5	24.8'	4	3	5	25		Brown micaceous silty fine to medium sand
	26.3'						
6	29.8'	2	2	3	30		Brown micaceous silty fine to medium sand – sample damp
	31.3'						static water level 27.4'
7	34.8'	4	6	11	35		Grayish brown very micaceous silty fine medium sand
	36.3'						
							Boring terminated @ 37.1'
					40		

BORING TERMINATED	37.1'
BORING REFUSAL	n/a
WATER TOB	27.4' 11-22-93
WATER 24 HR: DEPTH	27.4' 11-23-93
WATER LOSS	n/a
CASING SIZE	n/a

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 37.1'
HAND CHOP: W/MUD: W:/WATER	TO
ROTARY DRILL: W/MUD	TO
DIAMOND CORE	TO

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP01 ELEV. 783.96	659149.010 N	34 47 48.19853 N
	1431301.790 E	82 53 39.34220 W
Convergence	-1 4 9.50	
Scale Factor	0.99997341	

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP02 ELEV. 771.51	658806.450 N	34 47 44.86904 N
	1431618.140 E	82 53 35.47307 W
Convergence	-1 4 7.32	
Scale Factor	0.99997329	

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP03 ELEV. 770.90	658610.260 N	34 47 44.92231 N
	1431702.680 E	82 53 34.46044 W
Convergence	-1 4 6.75	
Scale Factor	0.99997330	

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ground Water Protection Division **2600 Bull Street** **Columbia, S.C. 29201** **(803) 734-5331** **Water Well Record**

1. LOCATION OF WELL

County: Oconee System Name: Oconee Nuclear Sta.

Latitude: N 6 58 10.26 Longitude: E 1431702.680 E 1431619

Distance And Direction from Road Intersections: N/A

Street address & City of Well Location

Sketch Map: (See example on back)

N/A

2. CUTTING SAMPLES [X] Yes [ ] No

Geophysical Logs [ ] Yes (Please enclose) [X] No

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
see Attached soil		
test Boring Field		
Report for MW-RP03		

* Indicate water bearing zones

(use a 2nd sheet if needed)

3. REMARKS MW-RP03 Bentonite Seal @ 21.0'-24.0'

4. OWNER OF WELL: Duke Power Co.
Address: 422 South Church St. Charlotte, N.C. 28242
Telephone No.

Engineer: D.E.M. Sullivan, MG03-C1
Address: 13339 Waters Serry Rd. Huntersville, N.C. 28078-7929
Telephone No. 704-875-5942

5. WELL DEPTH (Completed) 37.1' ft. Date Started: 11-29-93 Date Completed: 11-30-93

6. [ ] Mud Rotary [ ] Jetted [X] Bored [ ] Dug [ ] Air Rotary [ ] Driven [ ] Cable tool [ ] Other

7. USE: [ ] Domestic [ ] Public Supply-Permit No. ____ [ ] Industry [ ] Irrigation [ ] Air Conditioning [ ] Commercial [ ] Test Well [X] Monitoring

8. CASING: [X] Threaded [ ] Welded
Diam. 2"
Type [X] PVC [ ] Galvanized [ ] Steel [ ] Other
0.0' in. to 27.0' ft. depth
____ in. to ____ ft. depth
Height: Above/Below
Surface 2.5' ft.
Weight ____ lbs./ft.
Drive Shoe? [ ] Yes [X] No

9. SCREEN:
Type: P.V.C. Diam. 2"
Slot/Gauze .010 Length 10.0'
Set Between 27.0' ft. and 37.0' ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis [ ] Yes (Please enclose) [X] No

10. STATIC WATER LEVEL 31.0' ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface
N/A ft. after N/A hrs. pumping N/A G.P.M.
Pumping Test: [ ] Yes (Please enclose) [X] No
Yield N/A

12. WATER QUALITY
Chemical Analysis [ ] Yes [X] No Bacterial Analysis [ ] Yes [X] No
Please Enclose Lab Results.

13. ARTIFICIAL FILTER (Gravel Pack) [X] Yes [ ] No
Installed from 24.0' ft. to 37.1' ft.
Effective size .011 uniformity coefficient 2.6

14. WELL GROUTED? [X] Yes [ ] No
Neat Cement [X] Sand Cement [ ] Concrete [ ] Other [ ] ____
Depth From 0.0' ft. to 21.0' ft.

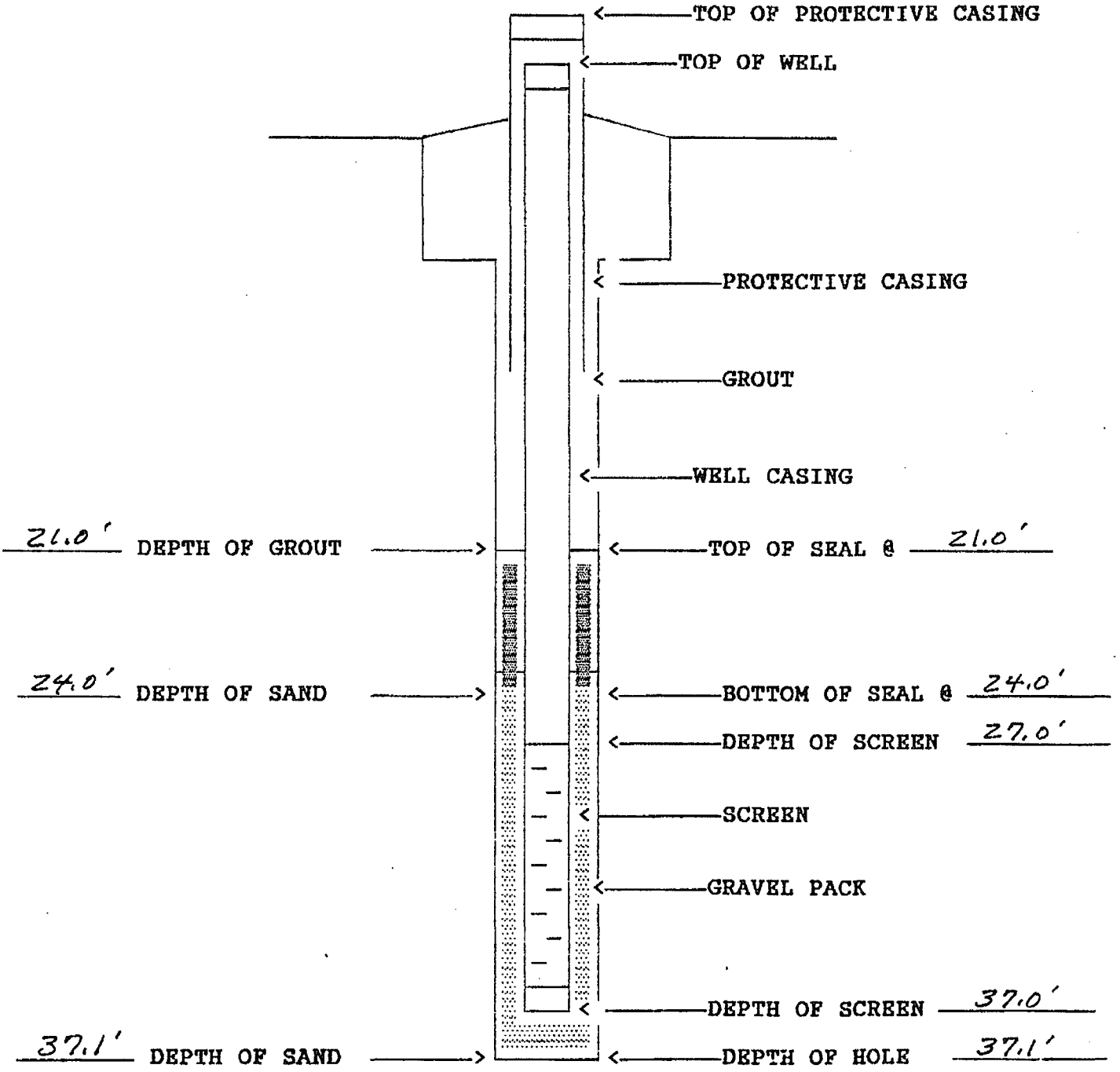
15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: N/A Feet N/A Direction N/A Type
Well disinfected upon completion [ ] Yes [X] No Type N/A Amount ____

16. PUMP: Date Installed N/A not installed [X]
Mfr. name N/A model no. N/A
H.P. N/A volts N/A length of drop pipe N/A ft. capacity N/A gpm
TYPE: [ ] Submersible [ ] Jet (shallow) [ ] Turbine [ ] Jet (deep) [ ] Reciprocating [ ] Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was constructed in accordance with SCDHEC standards and this report is true to the best of my knowledge and belief.
REGISTERED BUSINESS NAME: Duke Power Co. ADDRESS: 422 South Church
CERT. NO. 773
Signed Charles D. Mellon Date 12-02-93
AUTHORIZED REPRESENTATIVE

MONITORING WELL INSTALLATION RECORD

JOB NAME: OCONEE NUCLEAR STATION



DATE INSTALLED 11-30-93

WELL NUMBER MW-RP03

INSPECTOR: C. A. MEDLIN

DUKE POWER COMPANY

PROJECT Oconee Nuclear Station

SOIL TEST BORING FIELD REPORT

BORING NO.	MW-RP03	STARTING TIME	n/a
JOB NO.	7320LANDFILL	GROUND SURFACE ELEV.	770.90
JOB NAME	MW Installation MSR Tube Bundle	HRS. DRILLING	n/a HRS. MOVING n/a
DATE	11-29-93 WEATHER sunny/mild	INSPECTOR/DRILLER	C A Medlin, J H Barker

SAMPLING		1ST 6"	2ND 6"	3RD 6"	0	UD	SOIL CLASSIFICATION AND REMARKS
1	4.0'	5	6	9	5		Brown micaceous silty fine to medium sand
	5.5'						
2	9.0'	5	6	6	10		Brown very micaceous fine sandy silt
	10.5'						
3	14.0'	17	17	14	15		White gray micaceous silty fine to medium sand
	15.5'						
4	19.0'	6	4	5	20		Brownish gray micaceous silty fine to medium sand
	20.5'						
5	24.0'	6	7	8	25		Brown gray micaceous silty fine to medium sand
	25.5'						
6	29.0'	3	4	7	30		Brownish gray micaceous silty fine sand
	30.5'						
7	34.0'	2	4	7	35		Brownish gray micaceous silty fine to medium sand
	35.5'						
							Auger refusal @ 37.1'
					40		

BORING TERMINATED	37.1'		
BORING REFUSAL	37.1'		
WATER TOB	31.3'	11-29-93	
WATER 24 HR: DEPTH	27.4'	11-30-93	
WATER LOSS	n/a		
CASING SIZE	n/a		

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 37.1'
HAND CHOP: W/MUD: W:/WATER	TO
ROTARY DRILL: W/MUD	TO
DIAMOND CORE	TO

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP01 ELEV. 783.96	659149.010 N	34 47 48.19853 N
	1431301.790 E	82 53 39.34220 W
Convergence	-1 4 9.50	
Scale Factor	0.99997341	

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP02 ELEV. 771.51	658808.450 N	34 47 44.86904 N
	1431618.140 E	82 53 35.47307 W
Convergence	-1 4 7.32	
Scale Factor	0.99997329	

Engineer Topographic Laboratories
Star Chamber Expedition 12/9/1993

All input values are NAD 27, state plane zone 3901 (FEET).
All output values are NAD 27, geographic coordinates.

STATION	INPUT (transformed to)	OUTPUT
MW-RP03 ELEV. 770.90	658610.260 N	34 47 44.92231 N
	1431702.680 E	82 53 34.46044 W
Convergence	-1 4 6.75	
Scale Factor	0.99997330	

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				794.1	
	RED MICACEOUS SANDY CLAYEY SILT				
3.6	STIFF TO VERY STIFF RED YELLOW BROWN MICACEOUS FINE TO MEDIUM SANDY SILT			789.1	N = 11
					Undisturbed Sample 4.0 to 5.0 feet
				784.1	N = 20
				779.1	N = 26
18.0	VERY STIFF TO HARD GRAY BROWN MICACEOUS FINE TO MEDIUM SANDY SILT			774.1	N = 28
				769.1	N = 38
28.0	VERY DENSE GRAY BROWN BLACK MICACEOUS SILTY FINE TO COARSE SAND			764.1	N = 50
32.0	VERY DENSE YELLOW BROWN MICACEOUS SILTY FINE TO COARSE SAND			759.1	N = 65
40.0				754.1	

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

End of Boring

WATER TABLE

bjs

CORE BORING RECORD

BORING NO. NA -1
JOB NO. CH 1065 N

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV. 754.1	REMARKS
40.0	SOFT GRAY AND BROWN GRANITE GNEISS	75%			
44.9				749.1	
45.6	MOD HD LI GY GN	93%			
45.8	SOFT DK GY BROWN BI HO GN				28° Foliation Plane at 45.1 Feet
46.0	MOD LI GY GRAN GN		NX		
47.3	MOD HD DK GY BROWN BI HO GN				
48.2	SOFT LI GY BROWN GRAN GN				
48.5	SOFT DK GY BROWN BI HO GN				
52.7	SOFT AND MOD HD ALTERNATING LAYERS LI GY BROWN GRAN GN			744.1	
53.6	HARD LI GY QUARTZ SEAM				
	HD LI GY GRAN GN			739.1	Vertical Joint at 50 Feet
		100%			
58.5					
58.8	HD DK GY BI HO GN				
60.9	HD LI GY GRAN GN			734.1	
61.1	HD DK GY BI HO GN				
	HD LI GY GRAN GN		BX		
63.4					
64.1	HD DK GY BI HO GN				
	HD LI GY GRAN GN WITH INCLUSIONS OF HORNBLENDE CONCENTRATIONS			729.1	
66.2		100%			
67.4	MOD HD DK GY BK BI HO GN				
67.9	HD LI GY GRAN GN				
68.2	HD DK GY BI HO GN				
70.1	HD LI GY GRAN GN			724.1	
70.3	HD DK GY BI HO GN				
73.8	HD LI GY GRAN GN WITH THIN HO GN SEAMS				
	CORING TERMINATED			719.1	

Not to Scale

CORE BORING RECORD

BORING NO NA - 1
JOB NO CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				812.5	
	BROWN MICACEOUS SANDY SILT				
3.8					
4.9	MOD HD LI GY BROWN GRAN GN			807.5	
	VERY SOFT GRAN GN AND BROWN SANDY SILT	36%			
				802.5	
10.5					
	MOD HD LI GY BROWN GRAN GN WITH SOIL SEAMS	86%		797.5	
18.8					
	VERY SOFT LI GY GRAN GN WITH THIN LAYERS OF MOD HD GRAN GN			792.5	
		50%	NX	787.5	
				782.5	
		28%			
				777.5	
38.8					
40.0	HD LI GY GRAN GN	65%		772.5	

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA- 2
JOB NO. CH 1065 N

LAW ENGINEERING TESTING CO.

bjs

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				704.7	
	HD LI GY GRAN GN	100%	BX		
42.0					
	CORING TERMINATED			699.7	

CORE BORING RECORD

BORING NO. NA-3
JOB NO. CH-1065 N

WATER TABLE

LAW ENGINEERING TESTING CO.

bjs

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				810.42	
	VERY STIFF YELLOW BROWN MICACEOUS FINE TO MEDIUM SANDY SILT				N = 32
				805.42	
7.8					
	MOD HD LI GY GRAN GN	96%		800.42	Lost Water 9.9 Feet 82° Joint at 11.8 Feet 82° Joint at 12.2 Feet 81° Joint at 13.2 Feet 54° Joint at 14.0 Feet
			NX	795.42	
15.6		60%			
	SOFT LI GY GRAN GN				
17.9					
	MOD HD LI GY GRAN GN			790.42	
21.1		90%			
21.7	SOFT DK GY BK BI HO GN				
	HD LI GY GRAN GN			785.42	
26.5		100 %			
26.7	HD DK GY BI HO GN				
	HD LI GY GRAN GN	100 %		780.42	
30.8					
	HD DK GY BK BI HO GN	100 %	BX		
34.1					
34.4	HD LI GY GRAN GN			775.42	
36.6	HD DK GY BK BI HO GN				23° Foliation Plane at 36 Feet
	HD LI GY GRAN GN	100 %			
39.3					
40.0	HD LI GY QUARTZ PEGMATITE			770.43	

31.0 Feet of 2" Plastic Pipe left in hole

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA 4
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				770.42	
	HD LI GY QUARTZ PEGMATITE	100%			
43.0					
	HD LI GY GRAN GN	100 %		765.42	
47.6					
48.1	HD DK GY BI HO GN				
	HD DK GY GRAN GN	100 %		760.42	
50.9					
51.1	HD DK GY BI HO GN		BX		
	HD LI GY GRAN GN	100 %		755.42	
56.8					
57.3	HD DK GY BK BI HO GN				
58.0	HD LI GY GRAN GN				
58.2	HD DK GY BK BI HO GN				
58.7	HD LI GY GRAN GN	100 %		750.42	
58.9	HD DK GY BK BI HO GN				
59.3	HD LI GY GRAN GN				
59.7	HD BK BI HO GN				
	HD LI GY GRAN GN	100 %		745.42	
		95%		740.42	
70.4	CORING TERMINATED			735.42	

Not to scale

CORE BORING RECORD

BORING NO. NA - 4

JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV. 802	REMARKS
0	DENSE RED BROWN MICACEOUS SILTY FINE TO MEDIUM SAND			797	N = 42
9.0	SOFT AND SOME MOD HD LI GY GRAN GN	33%	NX	792	75° Joint at 10 Feet
				787	
		39%		782	
				777	
28.0		86%			
29.7	MOD HD LI GY GRAN GN				
30.1	MOD HD LI GY AND DK GY BK	*1		772	
31.2	MOD HD LI GY GRAN GN				
31.5	MOD HD DK GY GN				
	MOD HD LI GY GRAN GN				
34.2	HD LI GY GRAN GN			767	
38.8		100%			
39.0	MOD HD DK GY BI HO GN				
39.5	HD LI GY GRAN GN				
40.0	MOD HD DK GY BL BI HO GN			762	

*1 ALTERNATING THIN LAYERS OF GRAN GN AND BI HO GN

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA -5
JOB NO. CH1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				762	
40.7	MOD HD DK GY BK BI HO GN				
	HD LI GY GRAN GN	92%			
44.5					
44.8	MOD HD DK GY BK BI HO GN			757	
45.8	HD LI GY GRAN GN	86%			
	MOD HD DK GY BK BI HO GN				
47.8					
	HD LI GY GRAN GN			752	
51.8					
52.5	MOD HD DK GY BK BI HO GN	98%	NX		
	HD LI GY GRAN GN			747	
57.3					
58.2	HD DK GY BI HO GN				
58.8	HD LI GY GRAN GN				
58.9	HD DK GY BI HO GN			742	
61.5	HD LI GY GRAN GN				
	HD DK GY BK BI HO GN				
63.2		100%			
64.2	HD LI GY GRAN GN				
64.4	HD DK GY BK BI HO GN			737	
	HD LI GY GRAN GN	99%			
67.1					
68.1	HD DK GY BI HO GN				
68.9	HD LI GY GRAN GN				
69.3	HD DK GY BI HO GN		BX	732	
	HD LI GY GRAN GN				
71.9					
	CORING TERMINATED				
				727	

CORE BORING RECORD

BORING NO. NA-5
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				772.5	
	HD LI GY GRAN GN	65%	NX		
		78%		767.5	
					80° Joint at 46.0 - 47.5 Feet
48.7					
	SOFT DK GY BROWN BI HO GN			762.5	
50.9					
	HD LI GY GRAN GN	85%			
			BX	757.5	
58.3					
59.3	MOD HD DK GY BI HO GN				
	HD LI GY GRAN GN	100%		752.5	
63.2					
63.5	HD DK GY BK BI HO GN				
65.1	HD LI GY GRAN GN			747.5	
	HD DK GY BK BI HO GN				
68.2					
	HD LI GY GRAN GN	100%		742.5	
72.8					
	CORING TERMINATED			737.5	

CORE BORING RECORD

BORING NO. NA-2
JOB NO. CH 1065 N

LAW ENGINEERING TESTING CO.

bjs

End of Boring
WATER TABLE

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				744.7	
	BROWN MICACEOUS SANDY SILT				
				739.7	N = 25
					Undisturbed Sample 5.5 - 6.5 Feet
				734.7	N = 99
				729.7	Refusal
				724.7	Refusal
22.0					
22.9	MOD HD DK GY BK BI HO GN				
	HD LI GY GRAN GN			719.7	
26.2					
26.3	MOD HD DK GY BK BI HO GN				
26.7	HD LI GY GRAN GN	85 %			
26.8	MOD HD DK GY BK BI HO GN				
	HD LI GY GRAN GN		NX	714.7	
		100 %			
33.5					
34.2	MOD HD DK GY BI HO GN			709.7	
	HD LI GY GRAN GN				
		100 %	BX		
37.7					
38.0	MOD HD DK GY BK BI HO GN				
40.0	HD LI GY GRAN GN			704.7	

LI - Light
DK - Dark
GY - Gray
BK - Black
MOD - Moderately
I - Medium
H - Hard

BI - Biotite
HO - Hornblende
GRAN - Granite
GN - Gneiss

CORE BORING RECORD

BORING NO. NA-3
JOB NO. CH-1065- N

WATER TABLE

LAW ENGINEERING TESTING CO.

bjs

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				775.0	
	RED MICACEOUS CLAYEY SILTY SAND				Bag Sample 0 - 6 Feet
				770.0	Undisturbed Sample 5.0 - 5.5 Feet
7.5	MOD HD LI - MED GY GRAN GN				
				765.0	
		98 %			67° Joint at 15.0 Feet
				760.0	Lost water - 15.6 Feet
				755.0	
20.9					
21.2	MOD HD DK GY BK BI HO GN				
	MOD HD LI GY GRAN GN		NX		
		98%		750.0	76° Joint at 24.5 Feet
27.1					
28.1	SOFT DK GY BK BI HO GN				
29.7	HD LI GY GRAN GN				
30.0	MOD HD DK GY BK BI HO GN			745.0	
	HD LI GY GRAN GN				
		65%			
33.0	HD MED - DK GY BI HO GN				
34.6	HD LI GY GRAN GN			740.0	
35.5	HD WHITE QUARTZ PEGMATITE				
36.1	HD LI GR GRAN GN				
38.4					
38.5	HD MED GY BI HO GN	100 %			
40.0	HD LI GY GRAN GN			735.0	

LI - Light
DK - Dark
GY - Gray
BK - Black
MOD - Moderately
MED - Medium

HD - Hard
BI - Biotite
HO - Hornblende
GRAN - Granite
GN - Gneiss

Not to scale

CORE BORING RECORD

BORING NO. NA-6
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				735.0	
40.7	HD LI GY GRAN GN				
40.8	HD MED GY BI HO GN				
	HD LI GY GRAN GY				
43.7					
44.7	HD LI-DK GY ALTERNATING LAYERS*1	100 %		730.0	
45.6	HD LI GY GRAN GN				
45.9	HD MED GY BI HO GN		NX		
46.6	HD LI GY GRAN GN				
46.7	HD MED GY BI HO GN				
47.0	HD LI GY GRAN GN				
47.1	HD DK GY BK BI HO GN				
50.3	HD LI GY GRAN GN	100 %		725.0	
50.9	HD MED-DK GY BI HO GN				
51.6	HD LI GY GRAN GN				
51.8	HD MED DK GY BI HO GN			723.2	
	CORING TERMINATED				

*1 OF BI HO GN AND GRAN GN

Not to scale

CORE BORING RECORD

BORING NO. NA-6
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				784.5	
	VERY DENSE RED MICACEOUS CLAYEY SILTY SAND WITH SOME QUARTZ FRAGMENTS				
5.0	VERY DENSE GRAY TO WHITE MICACEOUS SILTY SAND			779.5	N=50 Undisturbed sample 4.5 to 5.5 feet
				774.5	N=79
				769.5	N=80
				764.5	N=44
				759.5	
25.0	SOFT MED GY GRAN GN				
29.8	MOD HD LI-MED GY GRAN GN	80%	NX	754.5	
				749.5	
		100%	BX		
40.0				744.5	

LI - Light
DK - Dark
GY - Gray
BK - Black
MOD - Moderately
MED- Medium

HD - Hard
BI - Boitite
HO - Hornblende
GRAN - Granite
GN - Gneiss

36.0 Feet of 2" Plastic Pipe left in hole

CORE BORING RECORD

BORING NO. NA-7
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				744.5	
40.1	MOD HD LI-MED GY GRAN GN				
	MOD HD DK GY BK BI HO GN	100%			50° Joint at 42.7 Feet 50° Joint at 43.5 Feet
44.8				739.5	
	MOD HD LI GY GRAN GN				
46.5					
46.6	MOD HD DK GY BK BI HO GN	100%			
47.7	MOD HD LI GY GRAN GN				
47.8	MOD HD DK GY BK BI HO GN				
49.2	MOD HD LI GY GRAN GN				
49.3	MOD HD DK GY BI HO GN				
49.6	MOD HD LI GY GRAN GN				
49.8	MOD HD DK GY BI HO GN			734.5	
50.5	MOD HD LI GY GRAN GN	98%	BX		
53.0	HD WHITE QUARTZ PEGMATITE				
54.0	HD LI GY GRAN GN				
55.2	HD WHITE QUARTZ PEGMATITE			729.5	
58.0	HD LI GY GRAN GN				
58.1	MOD HD DK GY BI HO GN				
59.5	HD LI GY GRAN GN	100%			
60.7	HD WHITE QUARTZ PEGMATITE			724.5	
63.7	HD LI GY GRAN GN				
64.7	SOFT LI-MED GY GRAN GN			719.5	
65.3	HD LI GY QUARTZ PEGMATITE				
66.0	HD LI GY GRAN GN				
66.7	HD WHITE QUARTZ PEGMATITE	100%			
69.3	HD LI GY GRAN GN			713.5	
70.4	MOD HD LI-MED GY GRAN GN				
70.9	MOD HD DK GY GK BI HO GN				
71.3	MOD HD LI-MED GY GRAN GN				
	CORING TERMINATED			709.5	

Not to scale

CORE BORING RECORD

BORING NO. NA-7

JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				800.9	
	VERY DENSE BROWN GRAY WHITE MICACEOUS SILTY SAND				
				795.9	N = 42
				790.9	N = 42
				785.9	N= 41
				780.9	N= 50/3"
22.0					
	HD LI GY GRAN GN			775.9	
25.7					
27.0	MOD HD MED GY GRAN GN				
	HD LI GY GRAN GN	92%			
29.5				770.9	
30.0	MOD HD DK GY BK BI HO GN				
30.3	MOD HD LI GY GRAN GN				
32.0	MOD HD DK GY BK BI HO GN		NX		
32.5	SOFT DK GY BK BI HO GN				
	HD LI GY GRAN GN				
34.7				765.9	
35.4	MOD HD DK GY BK BI HO GN				
	HD LI GY GRAN GN	100 %			
37.0					
38.3	SOFT DK GY BK BI HO GN				
	HD LI GY GRAN GN				
40.0				760.9	

LI - Light
DK - Dark
GY - Gray
BK - Black
MOD - Moderately
MED - Medium

HD - Hard
BI - Biotite
HO - Hornblende
GRAN - Granite
GN - Gneiss

CORE BORING RECORD

BORING NO. NA-8
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				760.9	
40.9	HD LI GY GRAN GN	100 %	NX		42° Joint at 40.8 Feet
41.7	MOD HD DK GY BK BI HO GN				
	MOD HD LI-MED GY GRAN GN			755.9	
46.7		100 %			
46.8	MOD HD DK GY BK BI HO GN				
47.1	MOD HD LI GY GRAN GN				
47.2	MOD HD DK GY BK BI HO GN				
50.0	HD LI GY GRAN GN		BX	750.9	
50.2	HD DK GY BK BI HO GN				
	HD LI GY GRAN GN				
53.4					
54.4	HD DK GY BK BI HO GN			745.9	
	HD LI GY GRAN GN	100 %			
56.0					
	HD DK GY BK BI HO GN				
57.7					
58.2	HD LI GY GRAN GN				
58.7	HD DK GY BK BI HO GN			740.9	
	HD LI GY GRAN GN				
61.1					
61.5	HD DK GY BK BI HO GN				
61.6	HD LI GY GRAN GN				
	HD DK GY BK BI HO GN	100 %			
62.1					
64.5	HD LI GY GRAN GN			735.9	
	CORING TERMINATED				

Not to scale

CORE BORING RECORD

BORING NO. NA-8
JOB NO. CH- 1065 N

LAW ENGINEERING TESTING CO.

bjs

WATER TABLE

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				822.7	
	STIFF RED BROWN MICACEOUS FINE TO COARSE SANDY CLAYEY SILT WITH SOME QUARTZ FRAGMENTS				N = 27 N = 13
				817.7	N= 25/4"
7.5	MOD HD LI GY TO WHITE QUARTZ PEGMATITE				N= 20/0"
		54%	NX	812.7	
12.5	HAWTHORNE BIT - VERY DENSE GY SILTY SAND			807.7	- Refusal
20.0				802.7	
20.4	SOFT LI GY GRAN GN				
	MOD HD LI TO MED GY GRAN GN	48 %	NX	797.7	
		93%		792.7	60° Joint at 30.7 Feet Lost water at 30.8 Feet
		94		787.7	
		100%	BX		
38.4					
39.3	VERY SOFT MED GY GRAN GN				
40.0	MOD HD LI TO MED GY GRAN GN	100	%	782.7	

LI - Light
DK - Dark
GY - Gray
BK - Black
MOD - Moderately
MED - Medium

HD - Hard
BI - Biotite
HO - Hornblende
GRAN - Granite
GN - Gneiss

31.0 Feet of 2" Plastic Pipe left in hole

bjs

WATER TABLE

CORE BORING RECORD

BORING NO. NA-9
JOB NO. CH-1065-N

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				782.7	
	MOD HD LI TO MED GY GRAN GN				
				777.7	
46.5		100 %	BX		
46.6	SOFT MED GY GRAN GN				
47.4	MOD HD MED GY GRAN GN				
48.4	SOFT MED GY GRAN GN				
	MOD HD LI GY GRAN GN			772.7	
52.4					
52.9	MOD HD DK CY BI HO GN				
53 5	HD LI GY GRAN GN				
54.0	MOD HD DK GY BI HO GN	92 %			
	HD LI TO MED GY GRAN GN			767.7	
				762.7	
		100 %		757.7	
67.3			BX		
67.4	HD MED GY BI HO GN				
67.7	HD LI GY GRAN GN				
68.2	HD MED GY BI HO GN			752.7	
71.0	HD LI GY GRAN GN				
71.7	HD MED GY BI HO GN				
72.2	HD LI GY GRAN GN				
72.7	HD MED GY BI HO GN				
	HD LI GY GRAN GN	100 %		747.7	
79.7					
80.0	HD MED GY BI HO GN	100 %		742.7	

Not to scale

CORE BORING RECORD

BORING NO. NA-9

JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
80.0				742.7	
80.2	HD MED GY BI HO GN				
81.0	HD LI GY GRAN GN				
81.3	MOD HD DK GY BI HO GN				
82.0	HD LI GY GRAN GN				
83.0	HD MED GY BI HO GN				
83.7	HD LI GY GRAN GN				
83.9	HD DK GY BI HO GN	100			
84.3	HD LI GY GRAN GN				
84.7	HD MED TO DK GY BI HO GN				
87.2	HD LI GY GRAN GN		BX	737.7	
87.5	HD MED GY BI HO GN				
88.1	HD WHITE QUARTZ PEGMATITE				
92.8	HD LI GY GRAN GN			732.7	
93.4	HD DK GY BI HO GN				
94.0	HD LI GY GRAN GN				
94.4	HD MED TO DARK GY BI HO GN				
95.7	HD LI GY GRAN GN	98		727.7	
96.5	HD MED GY BI HO GN				
96.8	HD LI GY GRAN GN				
97.3	HD MED GY BI HO GN				
99.2	HD LI GY GRAN GN			722.7	
	CORING TERMINATED				

Not to scale

CORE BORING RECORD

BORING NO. NA-9
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				826.4	
0.4	TOPSOIL AND GRASS				
	STIFF BROWN MICACEOUS CLAYEY SANDY SILT				N = 10
				821.4	
6.0	FIRM TO VERY DENSE BROWN GRAY WHITE MICACEOUS SILTY FINE TO COARSE SAND WITH ROCK FRAGMENTS				N = 9
				816.4	
				811.4	N = 20/0" (Refusal)
					N = 52
				806.4	
22.0	VERY STIFF BROWN MICACEOUS FINE SANDY SILT				N = 16
				801.4	
26.0	VERY STIFF YELLOW BROWN MICACEOUS FINE SANDY SILT				N = 16
				796.4	
30.0	FIRM WHITE GRAY SILTY FINE TO COARSE SAND				N = 28
				791.4	
37.7	MOD HD LI TO MED GY GRAN GN				
40.0		90%	NX	786.4	

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

bjs

WATER TABLE

CORE BORING RECORD

BORING NO. NA-10
JOB NO. CH-1065 N

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				786.4	
40.1	MOD HD LI TO MED GY GRAN GN	90%			74° Joint at 40.0 Feet
41.6	SOFT MED GY BROWN GRAN GN				
42.8	MOD HD LI TO MED GY GRAN GN				
	HD LI GY GRAN GN	94 %	NX	781.4	
46.0	MOD HD LI TO MED GY GRAN GN				
46.8	MOD HD DK GY BK BI HO GN				
48.5	HD LI GY GRAN GN				
48.9	MOD HD DK GY BK BI HO GN	100%		776.4	
49.5	HD LI GY GRAN GN				
		100%		771.4	
59.4	HD DK GY BK BI HO GN			766.4	
62.5	HD LI GY GRAN GN				
63.2	HD DK GY BI HO GN				
63.8	HD LI GY GRAN GN				
64.7	HD DK GY BI HO GN	100	BX %		
64.9	HD LI TO DK GY ALTERNATING THIN	*1		761.4	
65.5	HD DK GY BI HO GN				
65.7	HD LI GY GRAN GN				
65.9	HD DK GY BI HO GN				
66.1	HD LI TO DK GY ALTERNATING	*1			
66.7	HD DK GY BI HO GN				
66.9	HD LI GY GRAN GN			756.4	
		100%		751.4	
78.7	HD DK GY BI HO GN				
78.9	HD LI GY GRAN GN			746.4	
80.0					

*1 LAYERS OF BI HO GN AND GRAN GN

CORE BORING RECORD

BORING NO. NA-10
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
80.0				746.4	
	HD LI GY GRAN GN	100			
		100			
85.0				741.4	
	HD WHITE QUARTZ PEGMATITE		BX		
88.0					
88.6	HD DK GY BI HO GN				
	HD LI GY GRAN GN			736.4	
92.4		96%			
92.5	HD DK GY BI HO GN				
93.0	HD LI GY GRAN GN				
94.2	HD DK GY BI HO GN				
	HD LI GY GRAN GN			731.4	
96.7					
	CORING TERMINATED				
				726.4	

Not to scale

CORE BORING RECORD

BORING NO. NA-10
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				763.85	
	LOOSE RED BROWN SILTY MICACEOUS FINE TO MEDIUM SAND			758.85	N = 9
8.0	STIFF TO VERY STIFF GRAY BROWN MICACEOUS FINE TO MEDIUM SANDY SILT			753.85	N = 12
				748.85	N = 14
				743.85	N = 26
23.0	DENSE BROWN MICACEOUS SILTY FINE SAND			738.85	N = 31
				733.85	N = 30
32.0	WEATHERED ROCK FRAGMENTS				
35.0	VERY SOFT DK BROWN GRAN GN AND BI HO GN			728.85	77° Joint at 35.5 Feet 47° Joint at 36.6 Feet
		49%	NX		
40.0				723.85	

LI	Light	HD	Hard
DK	Dark	BI	Biot te
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

End of Boring

WATER TABLE

bjs

CORE BORING RECORD

BORING NO. NA - 11

JOB NO. CH 1065 N

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				723.85	
	VERY SOFT DK BROWN GY GRAN GN AND BI HO GN				
42.5		49%			46° Joint at 43.0 Feet (Recemented)
43.6	SOFT TO MEDIUM GY GRAN GN				
	MOD HD LI GY GRAN GN			718.85	
		80%			
				713.85	
					58° Joint at 55.3 Feet
				708.85	59° Joint at 55.9 Feet
55.0	MOD HD DK GY BK BI HO GN				
56.4	HD LI GY GRAN GN	99%	NX		64° Joint at 57.Feet
57.6	HD DK GY BK BI HO GN				
58.8	HD LI GY GRAN GN			703.85	
61.4	HD DK GY BI HO GN				
62.1	HD LI GY GRAN GN				
64.5				698.85	
	HD DK GY BI HO GN				
67.3		92%			60° Joint at 67.8 Feet
68.4	HD LI GY QUARTZ PEGMATITE				
	HD LI GY GRAN GN			693.85	
73.0					
	HD LI GY GRAN GN AND BI HO GN			688.85	
75.0	CORING TERMINATED				
80.0					

CORE BORING RECORD

BORING NO. NA-11
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				780.0	
	BROWN MICACEOUS SLIGHTLY SANDY SILT				Bag Sample 0 - 16 Feet
				775.0	
				770.0	
				765.0	
16.0					Bag Sample 16 - 35 Feet
	GRAY MICACEOUS FINE TO COARSE SANDY SILT AND GRAVEL				
				760.0	
				755.0	
				750.0	
				745.0	
35.0					
	BORING TERMINATED				
				740.0	

Drilled to be used in Field
Permeability tests. Located adjacent to State Road 45
Northeast of NA-11
No Ground Water Encountered

AUGER
BORING RECORD

BORING NO. NA-11A
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				780.0	
	RED BROWN CLAYEY MICACEOUS SLIGHTLY SANDY SILT				
4.0				775.4	
	YELLOW BROWN MICACEOUS SANDY SILT				
10.0				770.7	
	GRAY BROWN MICACEOUS SILTY SAND				
				766.1	
				761.5	
				756.9	
27.8		100%	NX		
	HD LI GY GRAN GN				
				752.2	
32.2					
32.6	HD DK GY BI BI HO GN				
	HD LI GY GRAN GN	95%	BX		
				747.6	
38.1					
39.1	HD DK GY BK BI HO GN				
39.2	HD WHITE QUARTZ PEGMATITE	94%		740.8	74° Joint at 39.4 Feet

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

Hole inclined 22° from the vertical

CORE BORING RECORD

BORING NO. NA-12
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
39.2				740.8	
39.7	HD DK GY BK BI HO GN				
39.9	SOFT DK GY BK BI HO GN				
40.3	HD DK GY BK BI HO GN			742.9	
42.5	HD LI GY GRAN GN				
43.0	HD DK GY BK BI HO GN				
46.0	HD LI GY GRAN GN	94%			
46.4	HD DK GY BK BI HO GN			738.3	
46.5	HD WHITE QUARTZ PEGMATITE				
46.8	HD DK GY BK BI HO GN				
	HD LI GY GRAN GN				
				733.7	
			BX		
		100 %		729.1	
				724.4	
		100%			
				719.8	
71.9				715.2	
72.2	HD DK GY BK BI HO GN				
72.8	HD LI GY GRAN GN				
73.2	HD DK GY BK BI HO GN	90%			
	HD LI GY GRAN GN				
				710.5	
77.7	CORING TERMINATED				
				705.9	Not to scale

CORE BORING RECORD

BORING NO. NA-12
JOB NO. CH-1065 N

LAW ENGINEERING TESTING CO.

WATER TABLE

bjb

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				793.0	
	HARD BROWN GRAY MICACEOUS SLIGHTLY CLAYEY SANDY SILT			788.0	N = 50 + (Refusal)
				783.0	N = 50 + (Refusal)
11.7	SOFT MED GY GRAN GN	75%			
13.8					
14.4	MOD DK LI TO MED GY GRAN GN			778.0	
15.6	SOFT DK GY BK BI HO GN		NX		
	MOD HD LI TO MED GY GRAN GN	78%			
				773.0	
21.8					
23.0	MOD HD DK GY BK BI HO GN				
	MOD HD LI GY GRAN GN	89%		768.0	
			BX		69° Joint at 28.0 Feet Vertical Joint at 29.5 Ft
				763.0	
31.9					
32.4	VERY SOFT BK BK BI HO GN				
34.5	HD LI GY GRAN GN				
34.7	SOFT MED GY GRAN GN			758.0	
35.0	HD LI GY GRAN GN				
36.2	HD DK GY BK BI HO GN	95%			
37.3	HD LI GY GRAN GN				
38.0	HD MED GY BI HO GN				
38.8	HD LI GY GRAN GN			754.2	

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

Not to scale

11.0 feet of 2" plastic pipe left in hole

CORE BORING RECORD

BORING NO. NA-13
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
38.8				754.2	
39.5	HD MED TO DK GY BI HO GN	95%		753.0	
	HD LI GY GRAN GN	100	%		
43.8	MOD HD DK GY BK BI HO GN				
44.0	HD LI GY GRAN GN			748.0	
47.5					
47.7	HD DK GY BK BI HO GN				
48.1	HD WHITE QUARTZ PEGMATITE		BX		
48.6	HD LI GY GRAN GN	100	%		
49.0	HD DK GY BK BI HO GN				
49.3	HD LI GY GRAN GN				
49.7	HD MOD DK GY BI HO GN			743.0	
52.3	HD LI GY GRAN GN				
53.5	HD WHITE QUARTZ PEGMATITE				
54.0	HD LI DK GY ALTERNATING LAYERS	*1			
	CORING TERMINATED			738.0	

*1 OF BI HO GN AND GRAN GN

Not to scale

CORE BORING RECORD

BORING NO. NA-13
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				793.0	Bag Sample 0.0 - 5'
	STIFF YELLOW BROWN MICACEOUS SLIGHTLY CLAYEY SANDY SILT			788.0	N = 9 Bag Sample 5 - 10' Undistrubed Sample 5.0 - 6.0 feet Undisturbed Sample 10.0-11.0 feet
9.0				783.0	N = 19 Bag Sample 10-15 feet
	FIRM LIGHT GRAY MICACEOUS SILTY SAND				
13.0				778.0	N = 9 Bag Sample 15-20'
	STIFF YELLOW BROWN MICACEOUS SLIGHTLY CLAYEY SANDY SILT				Undisturbed Sample 15.0-16.0 feet
17.5				773.0	N = 13 Bag Sample 20-25'
	FIRM VERY DENSE MICACEOUS GRAY BROWN SANDY SILT				Undisturbed Sample 20.0-21.0 Feet
				768.0	N = 47 Bag Sample 25-30' Undistrubed Sample 25.0-26.0 Feet
				763.0	N = 67 Undisturbed Sample 30.0-26.0 Feet Undisturbed Sample 33.5 - 34.5 feet
				758.0	Refusal
40.0				753.0	Refusal

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

bjs

End of Boring

WATER TABLE

CORE BORING RECORD

BORING NO. NA- 14
JOB NO. CH-1065 N

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				753.0	
41.0	FIRM-VERY DENSE GRAY BROWN SANDY	*1			
	MOD HD LI TO MED GY GRAN GN	75	NX		
44.7		87			
44.8	MOD HD DK GY BK BI HO GN				
	HD LI GY GRAN GN			748.0	
				743.0	
51.5	HD LI GY WHITE QUARTZ PEGMATITE		BX		
		100			72° Joint at 53.0 Feet
54.5	HD LI GY GRAN GN			738.0	
56.7					
57.8	HD DK GY BK BI HO GN				
58.1	HD LI GY GRAN GN				
58.4	HD DK GY BK BI HO GN				
59.0	HD LI GY GRAN GN				
59.5	HD DK GY BK BI HO GN	100		733.0	
61.9	HD LI GY GRAN GN				
62.1	HD DK GY BK BI HO GN				
63.4	HD LI GY GRAN GN				
63.8	HD DK GY BK BI HO GN				
	CORING TERMINATED			728.0	

*1 SILT

Not to scale

CORE BORING RECORD

BORING NO. NA 14
JOB NO. CH 1065 N

bjs

End of Boring
WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				766.1	
0.3	TOPSOIL				
	VERY STIFF BROWN CLAYEY MICACEOUS FINE TO MEDIUM SANDY SILT				N = 22
				761.1	
7.0					
	STIFF BROWN FINE TO MEDIUM SANDY MICACEOUS SILT				N = 9"
				756.1	
12.0					
	FIRM TO HARD BROWN GRAY MICACEOUS FINE TO MEDIUM SANDY SILT				N = 6"
				751.1	
					N = 7"
				746.1	
					N = 40/3"
				741.1	
27.0					
	VERY STIFF BROWN GRAY WHITE MICACEOUS FINE TO COARSE SANDY SILT				N = 19
				736.1	
32.0					
	VERY DENSE BROWN GRAY WHITE MICACEOUS SILTY FINE TO COARSE SAND				N = 20/0"
				731.1	
					N = 40/3"
				726.1	
40.0					

36.0 Feet of 2" plastic pipe left in hole

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA-15
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				726.1	
	VERY DENSE BROWN GRAY WHITE MICACEOUS SILTY FINE TO COARSE SAND				N = Refusal
				721.1	
49.5					
50.8	MOD HD LI GY GRAN GN			716.1	
51.0	MOD HD DK GY BI HO GN				50° Joint at 50.4 Feet
51.6	MOD HD LI GY GRAN GN				
	MOD HD DK GY BI HO GN	100			
55.6				711.1	
	HD LI GY GRAN GN				
57.2					
57.6	MOD HD DK GY BI HO GN	100	NX		
58.9	HD LI GY GRAN GN				
59.2	MOD HD DK GY BI HO GN				
59.6	HD LI GY GRAN GN				
60.0	HD DK GY BI HO GN			706.1	
61.1	HD LI GY GRAN GN				
61.4	MOD HD DK GY BI BI HO GN	100			
62.2	HD LI GY GRAN GN				
62.5	HD DK GY BI HO GN				
67.3	HD LI GY GRAN GN			701.1	
67.5	MOD HD DK GY BI HO GN				
67.6	HD LI GY GRAN GN	100			
67.8	MOD HD DK GY BI HO GN				
69.5	HD LI GY GRAN GN				
				696.1	
	CORING TERMINATED				

Not to scale

CORE BORING RECORD

BORING NO. NA 15

JOB NO. CH 1065N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				767.9	Bag Sample 0 - 25'
	STIFF RED BROWN MICACEOUS CLAYEY SANDY SILT				Undisturbed Sample 3.5-4.5 Feet
				762.9	N = 11
7.5	STIFF YELLOW BROWN MICACEOUS SANDY SILT				N = 8
				757.9	Undisturbed Sample 13.5-14.5 Feet
				752.9	N = 12
					N = 9
				747.9	Undisturbed Sample 23.5-24.5 Feet
22.0	FIRM GRAY BROWN SILTY MICACEOUS SAND WITH SOME QUARTZ FRAGMENTS			742.9	N = 16
					N = 24
				737.9	Undisturbed Sample 33.5 - 34.5 Feet.
31.5	VERY STIFF BROWN SLIGHTLY SANDY MICACEOUS SILT			732.9	N = 17
					N=23
40.0				727.9	

85.0 Feet of 2" Plastic pipe left in hole

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA-16
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				727.9	
	VERY DENSE GRAY BROWN WHITE MICACEOUS SILTY SAND WITH SOME QUARTZ FRAGMENTS				N=50/4"
				722.9	
				717.9	
				712.9	
				707.9	
				702.9	
69.0	MOD HD LIGHT TO MED GY GRAN GN	100		697.9	85° Joint at 72.7 Feet
74.9	MOD HD DK GY BK BI HO GN	100	NX	692.9	
75.4	MOD HD MED GY GRAN GN				71° Joint at 76.0 Feet
75.6	MOD HD DK GY BK BI HO GN				77° Joint at 77.0 Feet
76.5	MOD HD MED GY GRAN GN				
77.7	SOFT DK GY BK BI HO GN				
78.0	MOD HD LI GY GRAN GN				
78.2				687.9	

CORE BORING RECORD

BORING NO. NA-16
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
78.2				687.9	
79.1	MOD HD DK GY BK BI HO GN	100			
79.6	MOD HD MED GY GRAN GN				
79.7	SOFT DK GY BK BI HO GN				
80.0	MOD HD LI GY GRAN GN			682.9	
80.2	SOFT DK BY BK BI HO GN				
81.3	MOD HD LI GY GRAN GN	92			
82.1	MOD HD MED TO DK GY BI HO GN		NX		
84.0	MOD HD LI GY GRAN GN				
84.5	HD LI GY GRAN GN				
84.7	MOD HD DK GY BK BI HO GN				
86.0	HD LI GY GRAN GN			677.9	
86.3	SOFT DK GY BK BI HO GN	90			
87.3	HD LI GY GRAN GN				
89.0	MOD HD LI TO DK GY ALTERNATE *1				
	CORING TERMINATED			672.9	

*1 LAYERS OF BI HO GN AND GRAN GN

Not to scale

CORE BORING RECORD

BORING NO. NA-16
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				816.0	
	FIRM BROWN CLAYEY SILTY MICACEOUS SAND				
				811.0	N = 15 Undisturbed Sample 4.0 - 5.0 Feet
				806.0	N = 11
12.0					
	STIFF TO VERY STIFF BROWN GRAY SANDY MICACEOUS SILT			801.0	N = 12
				796.0	N = 13
				791.0	N = 18
28.0					
				786.0	N = 19
	DENSE TO VERY DENSE GRAY WHITE SILTY MICACEOUS SAND WITH SOME QUARTZ FRAGMENTS			781.0	N = 23
40.0				776.0	N=23

58.0 Feet of 2" plastic pipe left in hole

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA-17
JOB NO. CH 1065 N

bjs

End of Boring
WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				776.0	
	DENSE TO VERY DENSE GRAY WHITE MICACEOUS SILTY SAND WITH SOME QUARTZ FRAGMENTS			771.0	N = 43
				766.0	N= 106
				761.0	
55.7					
56.6	SOFT MED GY BROWN GRAN GN				
	HD LI GY GRAN GN			756.0	
		56	NX		
				751.0	
66.7					
66.8	MOD HD DK GY BK BI HO GN				
	HD LI GY GRAN GN				
		86	BX	746.0	
74.3					
74.7	MOD HD DK GY BK BI HO GN			741.0	
	HD LI GY GRAN GN				
78.1		96			
79.0	MOD HD DK GY BK BI HO GN				
79.8	MOD HD LI TO MED GY GRAN GN			736.2	

Not to scale

CORE BORING RECORD

BORING NO. NA-17
JOB NO. CH- 1065 N

bjs

WATER TABLE

AW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
79.8				736.2	
80.1	MOD HD DK GY BK BI HO GN			736.0	
	HD LI TO MED GY GRAN GN	96	BX		
83.2	CORING TERMINATED			731.0	

bjs

CORE BORING RECORD

BORING NO. NA-17

JOB NO. CH-1065 N

LAW ENGINEERING TESTING CO.

WATER TABLE

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				745.6	
0.3	TOPSOIL AND GRASS				Bag Sample 0 - 8.0 Feet
	VERY STIFF RED BROWN SILTY MICACEOUS CLAY				Undisturbed Sample 3.5 - 4.5 Feet
				740.6	N = 18
					Undisturbed Sample 8.5-9.5 Feet
8.0	STIFF TO VERY STIFF BROWN GRAY WHITE MICACEOUS SANDY SILT				Bag Sample 8.0 -25.0 Feet
				735.6	N = 9
					Undisturbed Sample 13.5-14.5 Feet
				730.6	N = 9
					Undisturbed Sample 18.5 -19.5 Feet
				725.6	N = 11
					N = 14
				720.6	
					N = 21
				715.6	
					N = 25
				710.6	
36.0	VERY STIFF TO HARD GRAY BROWN BLACK MICACEOUS SANDY SILT				
					N = 25
40.0				705.6	

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA-18
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0	VERY STIFF TO HARD GRAY BROWN BLACK MICACEOUS SANDY SILT			705.6	
					N = 36
				700.6	
					N = 31
				695.6	
					N = 26
				690.6	
					N = 25
				685.6	
					N = 34
				680.5	
67.0	HARD YELLOW BROWN VERY MICACEOUS SANDY SILT				
					N = 41
				675.6	
					N = 29
				670.6	
80.0				665.6	

CORE BORING RECORD

BORING NO. NA 18
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
80.0				665.6	
	VERY SOFT ROCK (NO RECOVERY)	0			
84.0				660.6	
	SOFT MED GY AND BR GRAN GN	60	BX		74° Joint at 86.0 Feet
90.0				655.6	
	HAWTHORNE BIT - VERY DENSE GY SILTY SAND			650.6	
				645.6	
104.0					
104.5	QUARTZ VEIN			640.6	
	VERY SOFT GY GRAN GN				
108.0					
	MOD HD MED GY AND BR GRAN GN	66		635.6	
			BX		
115.7				630.6	
115.9	MOD HD DK GY BK BI HO GN				75° Joint at 115.7 Feet
116.1	MOD HD LI TO MED GY GRAN GN				
118.0	SOFT DK GY BK BI HO GN				
	MOD HD LI TO MED GY GRAN GN	80			
120.0				625.6	

CORE BORING RECORD

BORING NO. NA - 18
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
120.0	MOD HD LI TO MED GY GRAN GN			625.6	
122.2	SOFT DK GY BK BI HO GN				
123.1	MOD HD LI TO MED GY GRAN GN	80			78° Joint at 123.0 Feet
125.3	VERY SOFT MED GY GRAN GN		BX	620.6	57° Joint at 124.0 Feet
		38			
130.0	CORING TERMINATED			615.6	

CORE BORING RECORD

BORING NO. NA 18
JOB NO. CH 1005 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				785.3	
	VERY STIFF RED BROWN MICACEOUS SLIGHTLY SANDY CLAYEY SILT				N = 15 Bag Sample 5.0 - 10.0 Feet
				780.3	N = 20
					N = 23
				775.3	N = 18
					Undisturbed Sample 8.5- 10.0 Feet
					Bag Sample 10.0 -20.0 Feet
				770.3	N = 17
18.0					
	STIFF YELLOW BROWN MICACEOUS SLIGHTLY SANDY SILTY CLAY			765.3	N = 13
22.0					
	VERY STIFF YELLOW BROWN SLIGHTLY SANDY MICACEOUS SILT			760.3	N = 23
				755.3	N =25
				750.3	N = 29
38.0					
	HARD YELLOW BROWN PINK MICACEOUS SANDY SILT			745.3	N = 35
40.0					

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	BLACK	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

bjs

WATER TABLE

CORE BORING RECORD

BORING NO. NA 19
JOB NO. CH 1065 N

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				745.3	
	HARD YELLOW BROWN PINK MICACEOUS SANDY SILT				
41.5	HARD GRAY BROWN MICACEOUS SANDY SILT				
				740.3	N= 39
				735.3	N = 45
				730.3	N = 44
				725.3	N = 42
				720.3	N = 44
67.5					
	DENSE YELLOW BROWN AND GRAY MICACEOUS SILTY SAND WITH SOME QUARTZ FRAGMENTS			715.3	N = 41
				710.3	N = 35
80.0				705.3	N = 36

bjs

CORE BORING RECORD

BORING NO. NA-19
JOB NO. CH 1065N

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
80.0				705.3	
	DENSE YELLOW BROWN AND GRAY MICACEOUS SILTY SAND WITH SOME QUARTZ FRAGMENTS			700.3	N = 40
				695.3	
				690.3	
				685.3	
101.0	DENSE SILTY SAND WITH THIN LAYERS OF QUARTZ				
				680.3	
105.3	DENSE YELLOW BROWN AND GRAY SILTY SAND WITH SOME QUARTZ FRAGMENTS				
				675.3	
110.0	HD LI GY GRAN GN				
112.3	MOD HD MED GY BK BI HO GN				50° Joint at 112.0 Feet
112.8	HD LI GY GRAN GN				
				670.3	
115.5	MOD HD DK GY BK BI HO GN	100	BX		
118.3	LD LI GY GRAN GN				
120.0				665.3	

CORE BORING RECORD

BORING NO. NA-19

JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
120.0				665.3	
	HD LI GY GRAN GN				
125.0				660.3	
	MOD HD LI GY GRAN GN	100	BX		
130.0				655.3	
	CORING TERMINATED				

CORE BORING RECORD

BORING NO. NA 19
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				742.6	
0.3	TOPSOIL AND GRASS				Bag Sample 0 - 4.0 Feet
	STIFF BROWN MICACEOUS SANDY SILT				Undisturbed Sample 3.5 -4.5 feet
				737.6	N = 8
					Bag Sample 4.0 -25.0 Feet
7.0	FIRM TO VERY STIFF BROWN GRAY WHITE MICACEOUS SANDY SILT				
				732.6	N = 6 Undisturbed Sample 8.5-9.5 Feet
				727.6	N = 12 Undisturbed Sample 13.5-14.5 Feet
					Undisturbed Sample 18.5-19.5 Feet
				722.6	N = 13
					Undisturbed Sample 23.5-24.5 Feet
				717.6	N = 15
					N = 17
				717.6	
					N = 16
				707.6	
37.0	DENSE BROWN GRAY WHITE MICACEOUS SILTY FINE TO MEDIUM SAND				N = 31
40.0				702.6	

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

36.0 Feet of 2" Plastic Pipe left in hole

CORE BORING RECORD

BORING NO. NA -20

JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				702.6	
41.0	DENSE BROWN GRAY WHITE HARD BROWN GRAY VERY MICACEOUS SANDY SILT	*1			
					N = 70
				697.6	
					N = 40/3" (refusal)
				692.6	
					N = Refusal
				687.6	
					N = Refusal
				682.6	
					N = Refusal
				677.6	
					N = Refusal
				672.6	
					N = Refusal
				667.6	
77.0	MOD HD LI TO MED GY GRAN GN				
79.6		100	NX		½ inch shear displacement
80.0	MOD HD DK GY BK BI HO GN			662.6	

*1 MICACEOUS SILTY FINE TO MEDIUM SAND

CORE BORING RECORD

BORING NO. NA -20
JOB NO. CH-1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
80.0				662.6	
	MOD HD LI TO MED GY GRAN GN	100			82° Joint at 80.0 Feet
					85° Joint at 82.3 Feet
83.7					
83.9	MOD HD DK GY BK BI HO GN				
	MOD HD LI GY AND BR GRAN GN	100		657.6	
88.6					
88.8	MOD HD DK GY BK BI HO GN				
89.4	MOD HD LI TO MED GY & BR GRAN GN	100		652.6	
90.1	MOD HD DK GY BK BI HO GN				
92.0	MOD HD LI TO MED GY GRAN GN				
92.2	SOFT DK GY BR BI HO GN				
	MOD HD LI GY GRAN GN	100		647.6	
97.0					
97.5	MOD HD DK GY BK BI HO GN				
99.8	MOD HD LI GY GRAN GN				74° Joint at 97.0 Feet
100.3	MOD HD DK GY BK BI HO GN			642.6	
	MOD HD LI GY GRAN GN	100	NX		
104.6					
105.7	MOD HD LI TO MED GY BI HO GN			637.6	
106.1	MOD HD LI GY GRAN GN				73° Joint at 104.7 feet
106.9	MOD HD DK GY BK BI HO GN	100			
	MOD HD LI TO MED GY GRAN GN				
109.6					
110.0	SOFT DK GY BK BI HO GN	100		632.6	
110.2	MOD HD LI GY GRAN GN				
110.4	MOD HD DK GY BK BI HO GN				
112.0	MOD HD LI GY GRAN GN				
	CORING TERMINATED			627.6	

CORE BORING RECORD

BORING NO. NA - 20
JOB NO. CH 1065 N

bjb

WATER TABLE

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
0				728.9	
0.4	TOPSOIL				
	VERY STIFF RED BROWN MICACEOUS FINE SANDY SILTY CLAY			723.9	N = 21 Undisturbed Sample 3.5-4.5 Feet
8.0	VERY STIFF BROWN MICACEOUS FINE SANDY SILT			718.9	N = 16 Undisturbed Sample 8.5-9.5 Feet
12.0	LOOSE BROWN GRAY MICACEOUS SILT FINE SAND			713.9	Undisturbed Sample 13.5-14.5 Feet N = 4
17.5	STIFF BROWN GRAY WHITE MICACEOUS FINE TO MEDIUM SANDY SILT			708.9	Undisturbed Sample 18.5-19.5 Feet N = 10 Undisturbed Sample 23.5-24.5 Feet
21.0	VERY STIFF TO HARD MICACEOUS BROWN GRAY WHITE SILTY FINE TO COARSE SAND			703.9	N = 17
				698.9	N = 45
				693.9	N = 60
36.0	HARD DARK GRAY BLACK AND WHITE FINE SANDY SILT			688.9	N = 30/1" (Refusal)
40.0					

LI	Light	HD	Hard
DK	Dark	BI	Biotite
GY	Gray	HO	Hornblende
BK	Black	GRAN	Granite
MOD	Moderately	GN	Gneiss
MED	Medium		

CORE BORING RECORD

BORING NO. NA-21
JOB NO. CH 1065 N

bjs

WATER TABLE

LAW ENGINEERING TESTING CO

DEPTH FT.	DESCRIPTION	CORE %	BIT SIZE	ELEV.	REMARKS
40.0				688.9	
	HARD DARK GRAY BLACK AND WHITE FINE SANDY SILT (DECOMPOSED HORNBLENDE GNEISS)				N = 20/0" (Refusal)
				683.9	
					N = Refusal
				678.9	
53.5					
	MOD HD LI TO MED GY GRAN GN				
55.1				673.9	
55.5	SOFT MED GY GRAN GN				
56.0	VERY SOFT DK GY BK BI HO GN				
	MOD HD LI TO MED GY GRAN GN				Vertical Joint at 57.5 Feet
59.9					
60.2	VERY SOFT DK GY BK BI HO GN			668.9	
61.7	MOD HD LI TO MED GY GRAN GN	100			
62.1	MOD HD DK GY BI HO GN				
62.2	VERY SOFT DK GY BI HO GN				
62.4	SOFT MED GY GRAN GN		NX		
62.7	SOFT DK GY BI HO GN				
63.0	SOFT MED GY GRAN GN				
63.5	MOD HD LI TO MED GY GRAN GN				
63.8	SOFT DK GY BI HO GN				
64.0	SOFT LI TO MED GY GRAN GN				
64.2	MOD HD DR GY BI HO GN			663.9	
68.8	MOD HD LI TO MED GY GRAN GN				61° Joint at 65.0 Feet
70.6	MOD HD DK GY BK BI HO GN				
71.4	MOD HD LI TO MED GY GRAN GN	100			
71.5	VERY SOFT MED GY GRAN GN				
73.5	MOD HD LI TO MED GY GRAN GN				
	CORING TERMINATED			658.9	

Not to scale

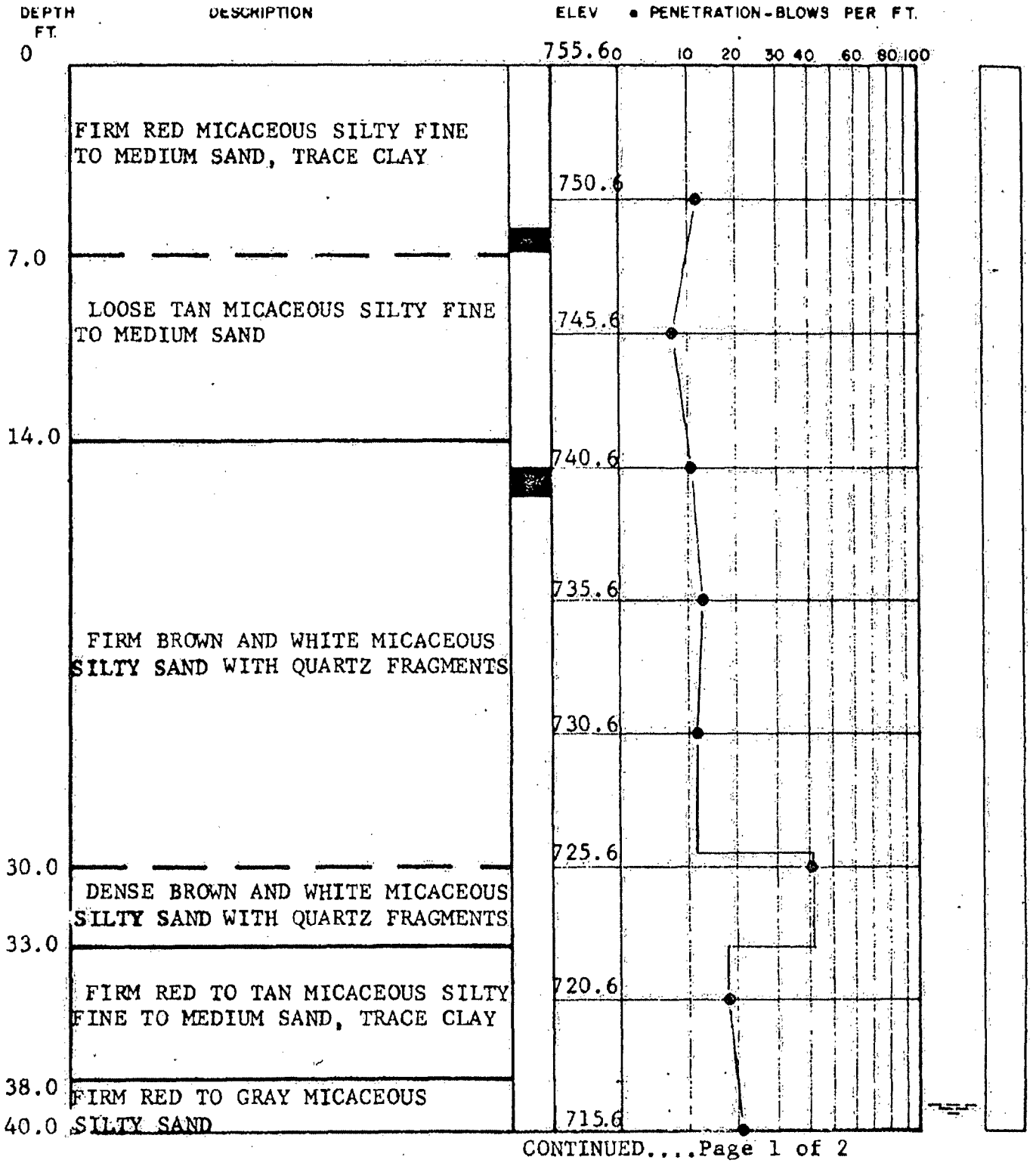
bjs

CORE BORING RECORD

BORING NO. NA-21
JOB NO. CH 1065 N

WATER TABLE

LAW ENGINEERING TESTING CO.



CONTINUED....Page 1 of 2

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-22

DATE DRILLED 10/7-8/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

jj

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. (10 20 30 40 60 80 100)
40.0			715.60	
	FIRM RED TO GRAY MICACEOUS SILTY SAND			
45.0			710.6	53/6"
	SOFT TO MODERATELY HARD LIGHT TO MEDIUM GRAY GRANITE GNEISS	NX 48%	705.6	
			700.6	
58.2			695.6	
	SOFT TO MODERATELY HARD LIGHT TO MEDIUM GRAY GRANITE GNEISS	NX 100%	690.6	
66.2	CORING TERMINATED		685.6	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

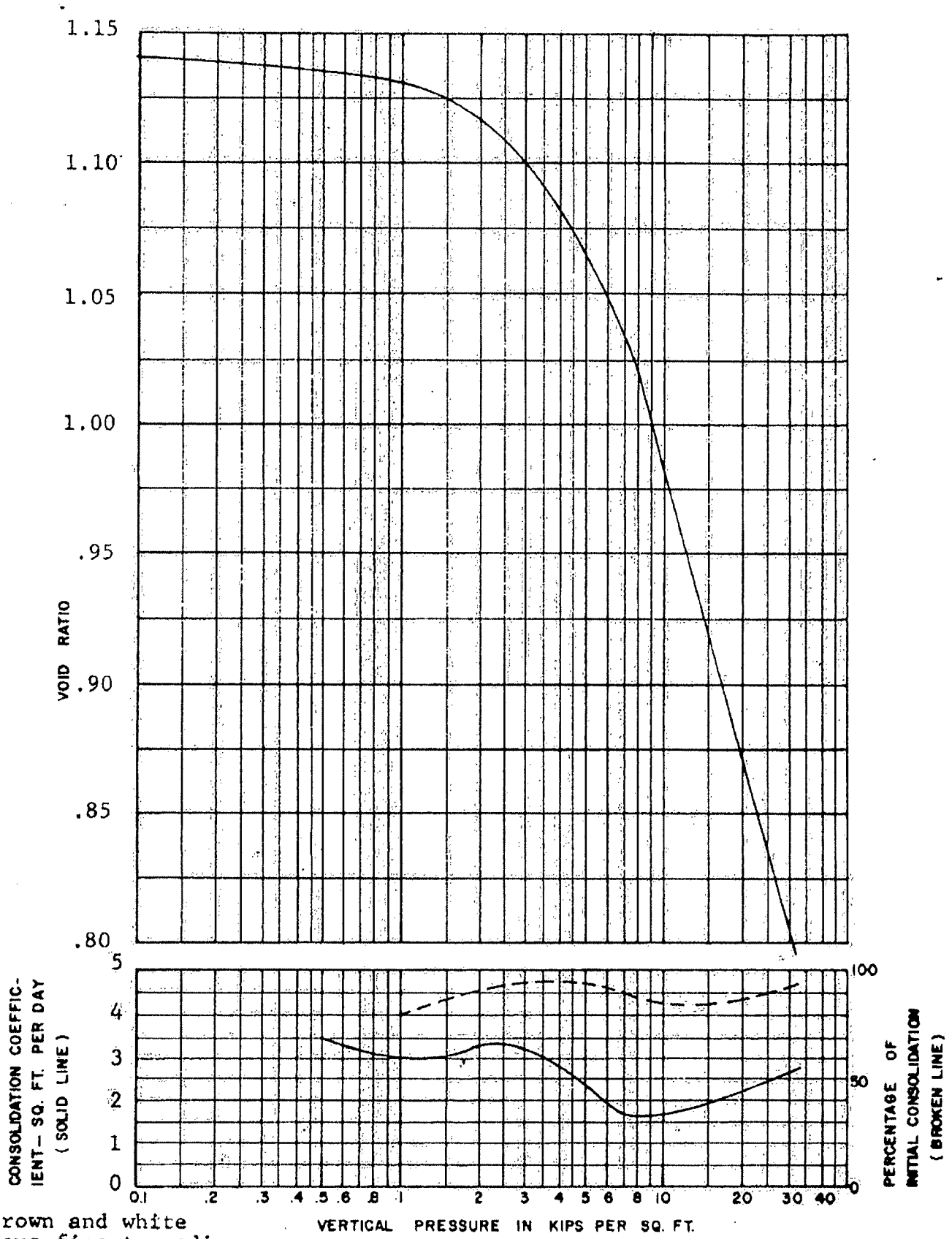
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-22
DATE DRILLED 10/7-8/66
JOB NO. 5092

LAW ENGINEERING TESTING CO.



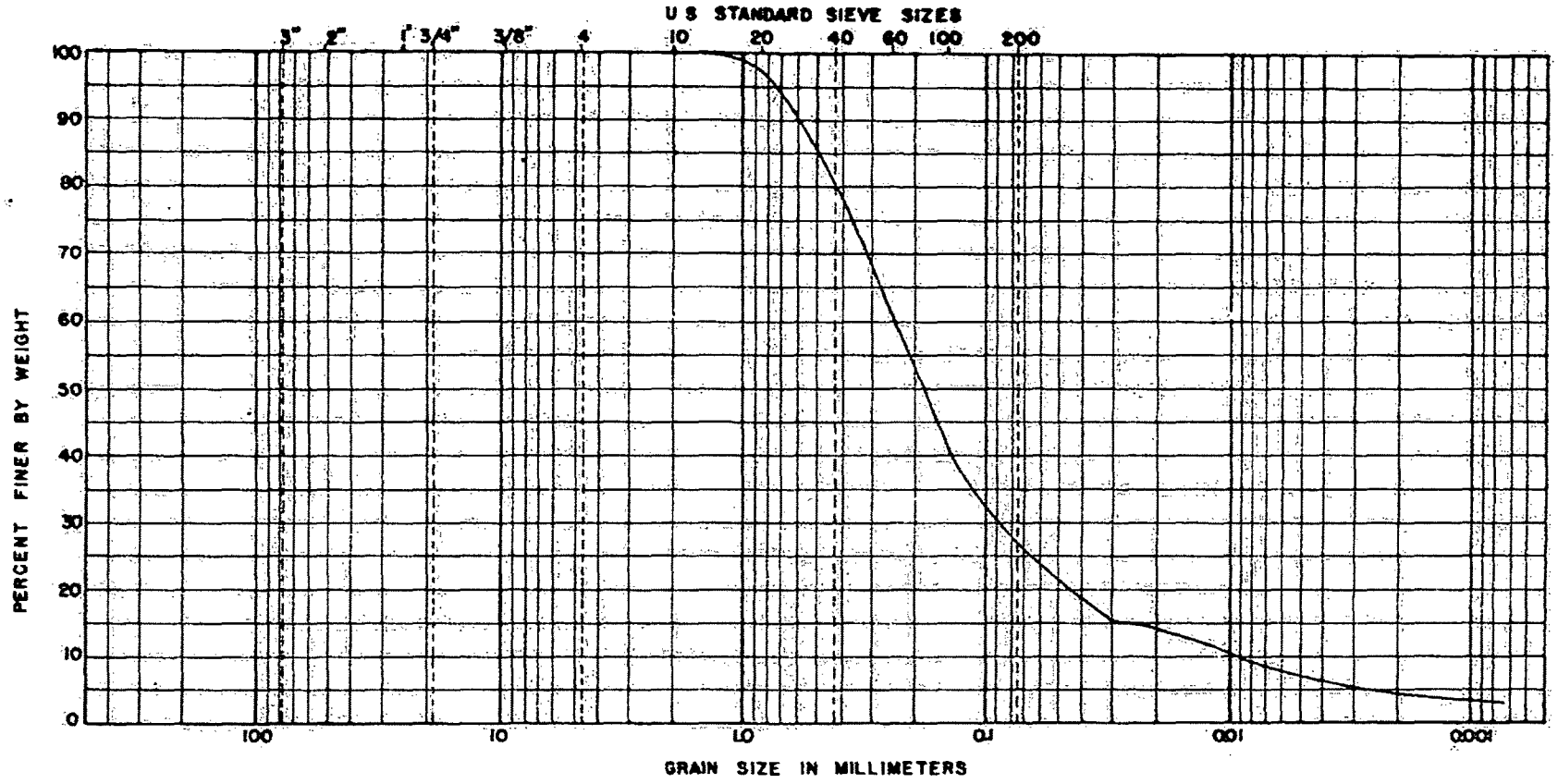
F brown and white
micaceous fine to medium
silty sand

COMPRESSION INDEX 0.38
UNIT WEIGHT 85.8 pcf
WATER CONTENT 11.1 %
SATURATION 26%
specific gravity 2.65

CONSOLIDATION TEST

BORING NO. NA22 SAMPLE NO. UD-2
ELEV. OR DEPTH 15' JOB NO. 5092
LAW ENGINEERING TESTING COMPANY

bjs



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

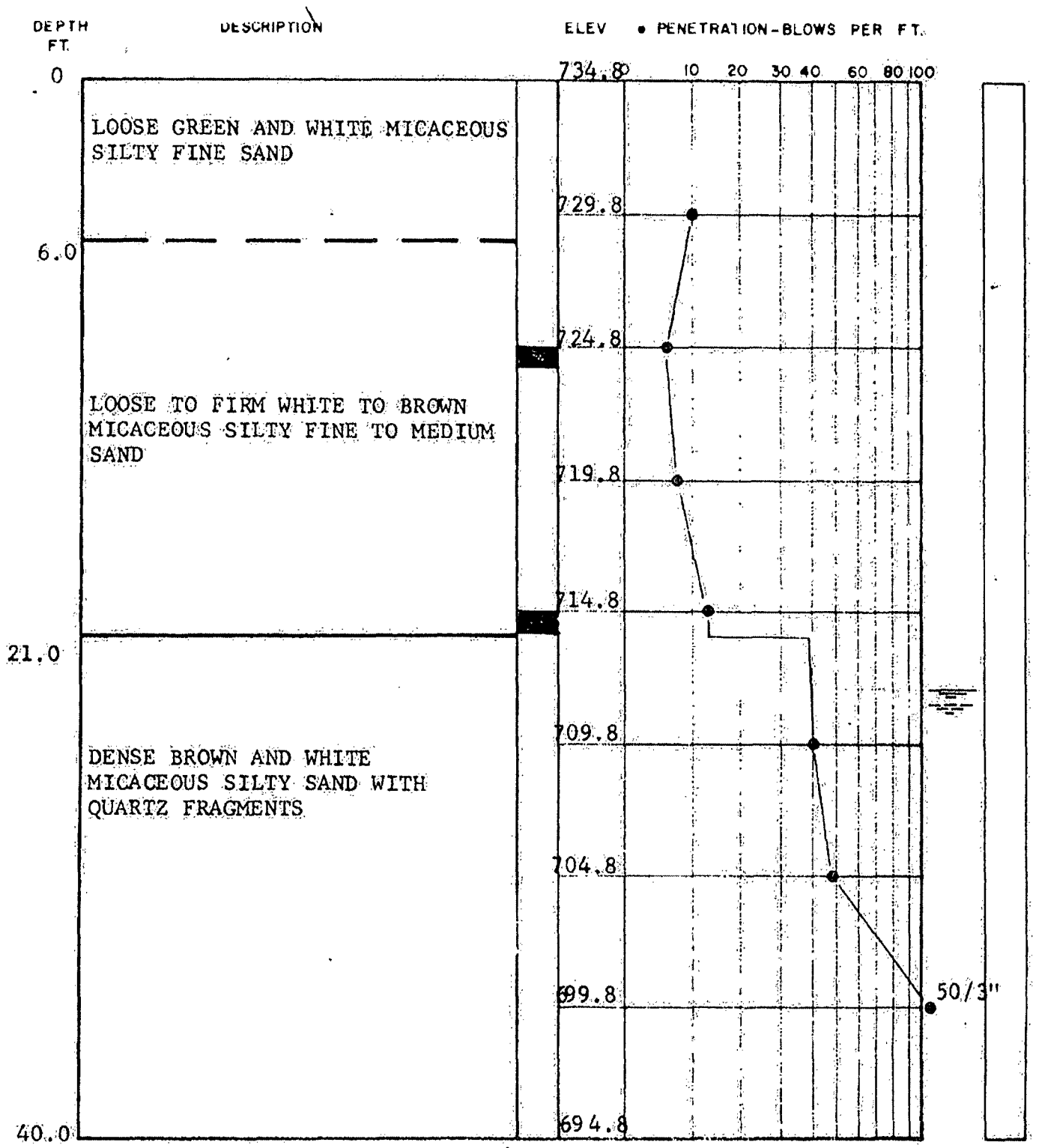
BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA-22 UD-2	15	18.2				Firm Brown and White, Micaceous Silty Medium and Fine Sand

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

bjs



CONTINUED....Page 1 of 2

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-23

DATE DRILLED 10/7/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
		694.80	
40.0	DENSE BROWN AND WHITE MICACEOUS SILTY SAND WITH QUARTZ FRAGMENTS		
43.2	REFUSAL	689.8	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

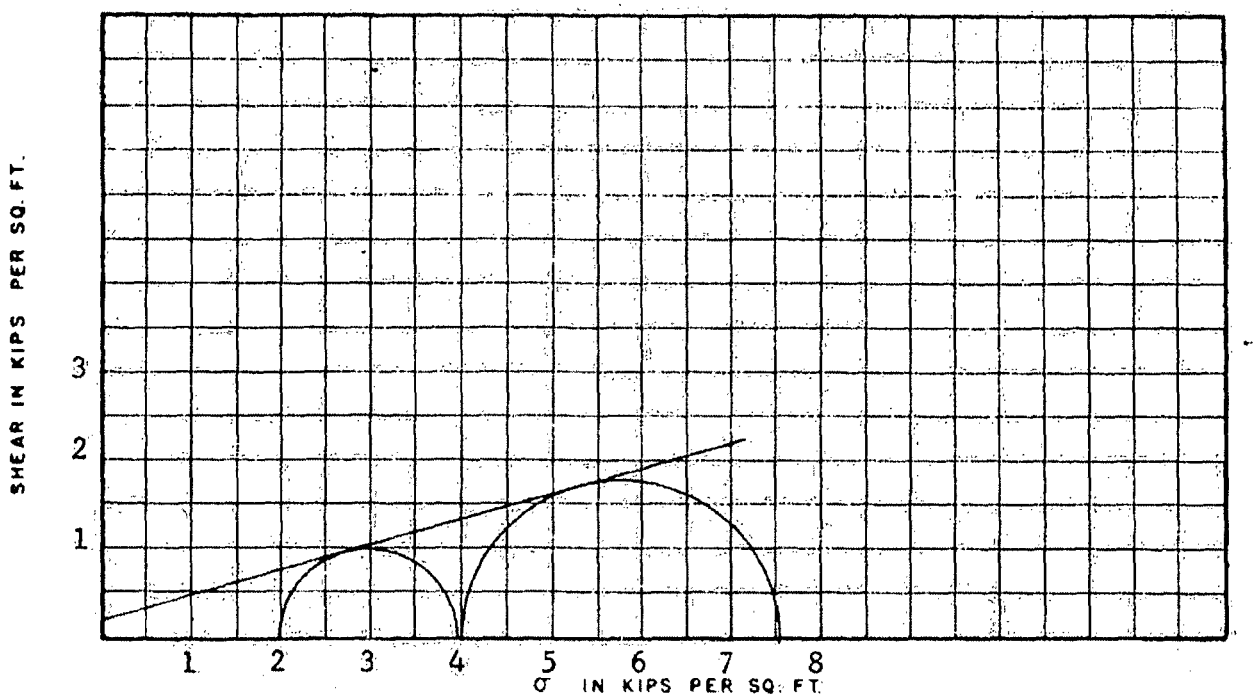
TEST BORING RECORD

BORING NO. NA-23

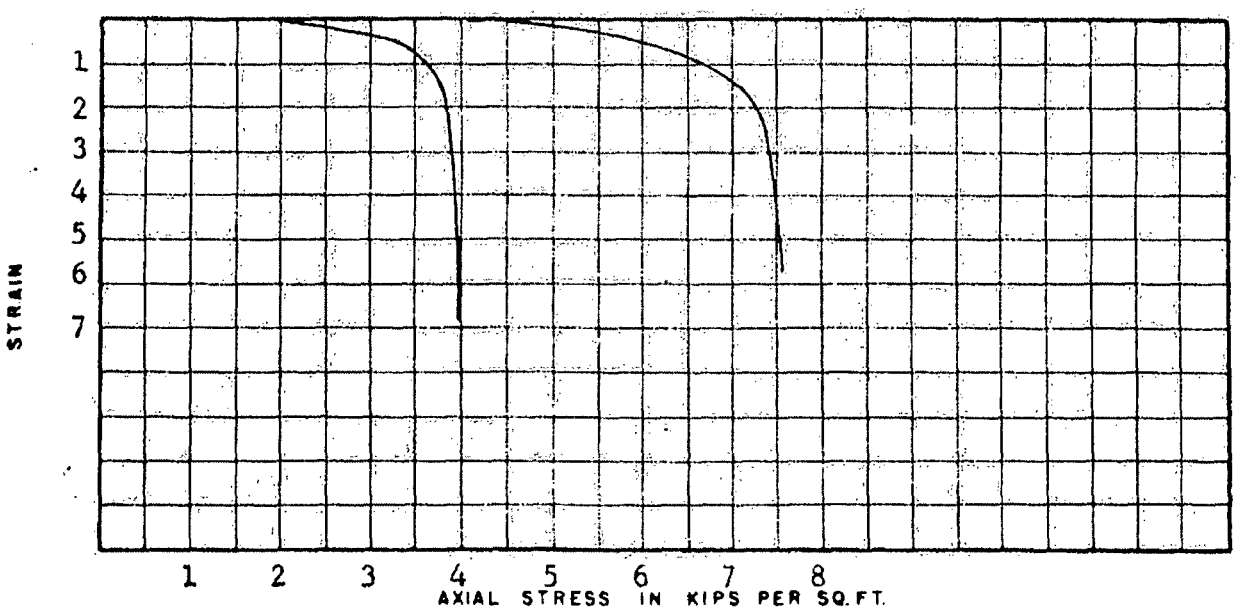
DATE DRILLED 10/7/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



STRESS-STRAIN CURVES

	Before Soak	After Soak
"COHESION", c	0.2	
ANGLE OF SHEAR RESISTANCE, ϕ	15.5°	
UNIT WEIGHT, γ	105.3	118.1
WATER CONTENT, W	14.3%	28.0%
VOID RATIO, e	0.79	0.79
Saturation:		93.8%

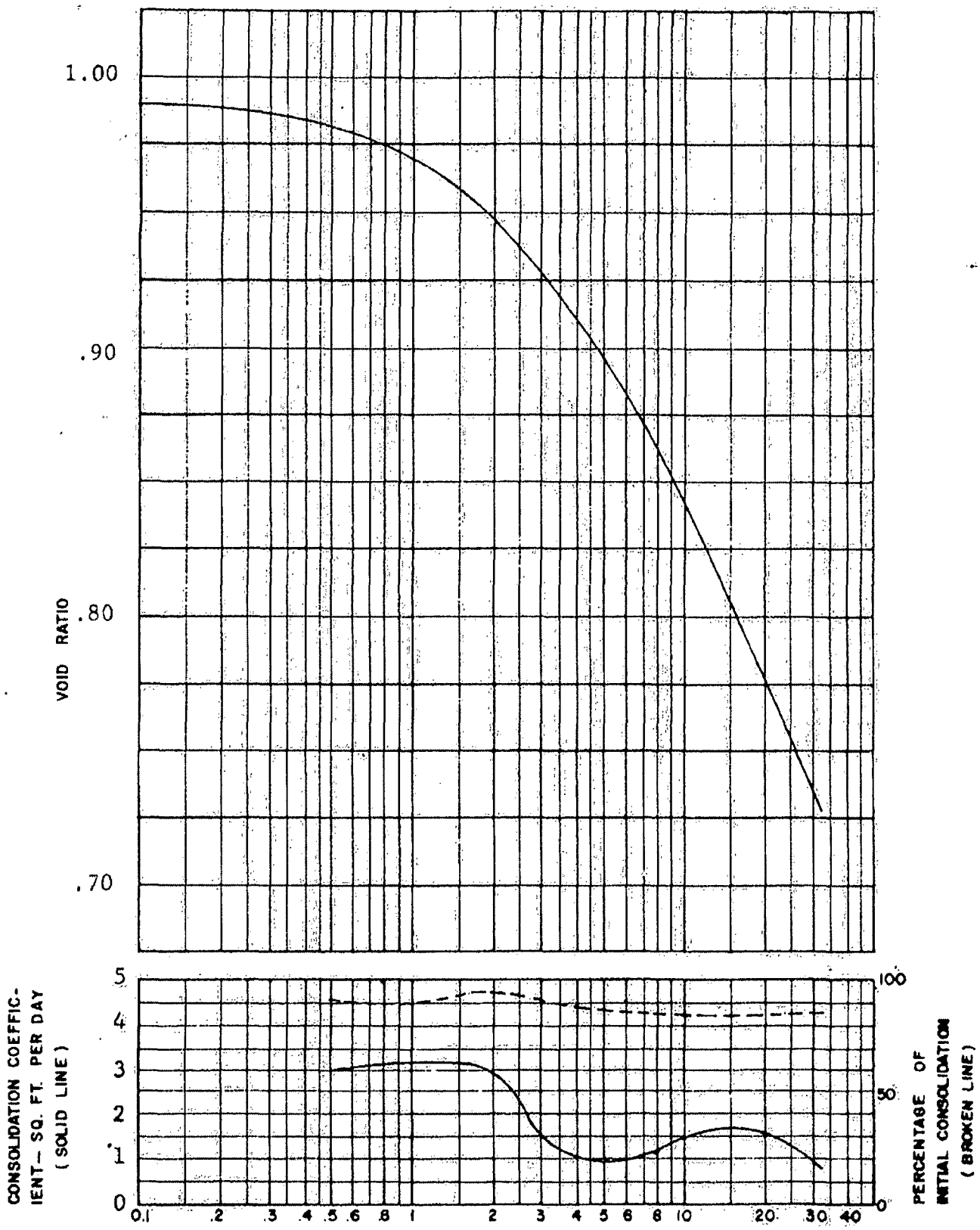
Loose white to brown micaceous silty medium and fine sand.

TRIAXIAL SHEAR TEST

BORING NO. NA-23 SAMPLE NO. UD-2

ELEV. OR DEPTH 20' JOB NO. 5092

LAW ENGINEERING TESTING CO.

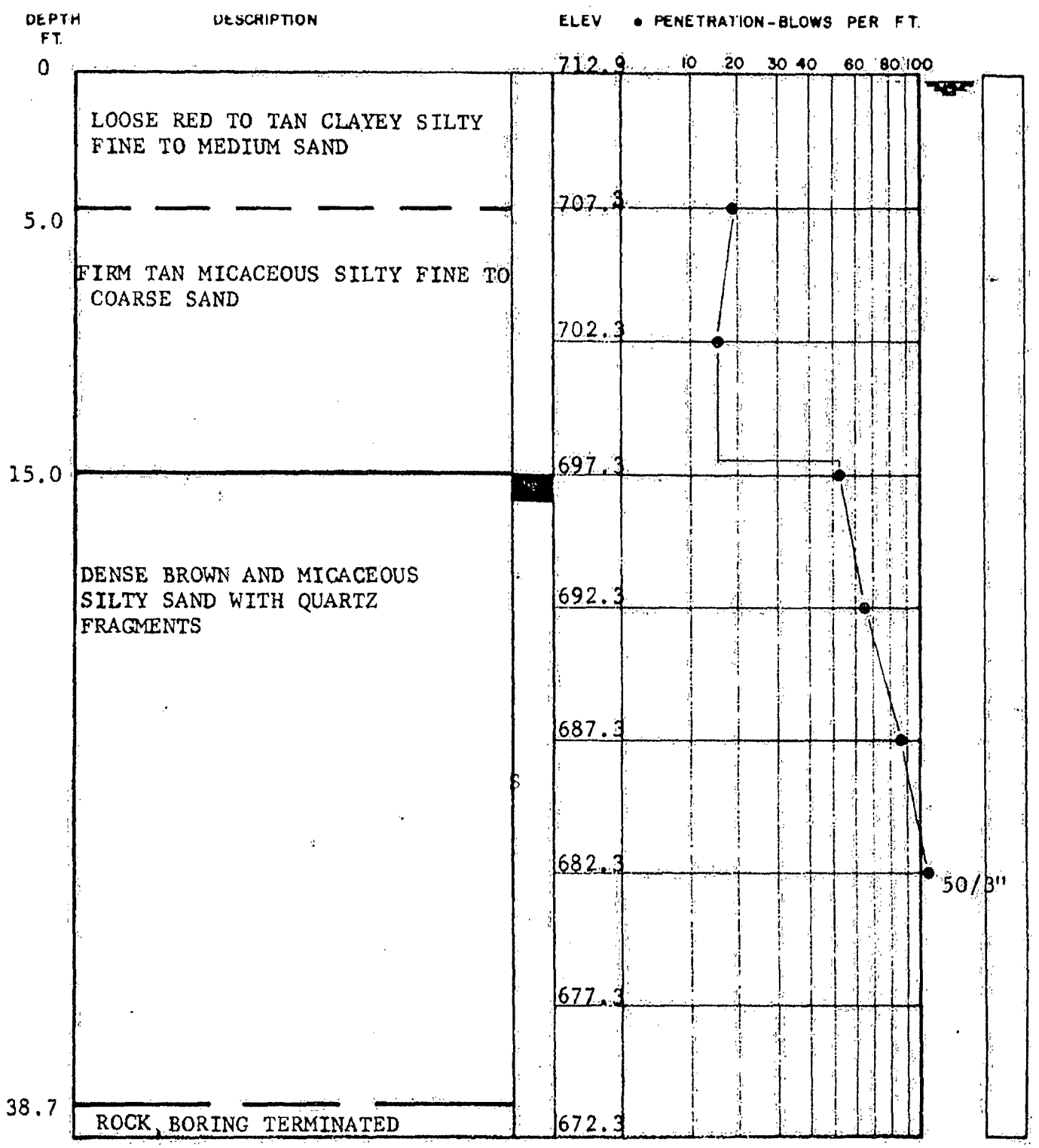


ose white to brown
micaceous silty medium and
fine sand

COMPRESSION INDEX 0.30
UNIT WEIGHT 93.1
WATER CONTENT 11.8
SATURATION 32%
bjs

CONSOLIDATION TEST

BORING NO. NA 23 SAMPLE NO. UD-1
ELEV. OR DEPTH 10' JOB NO. 5092
LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

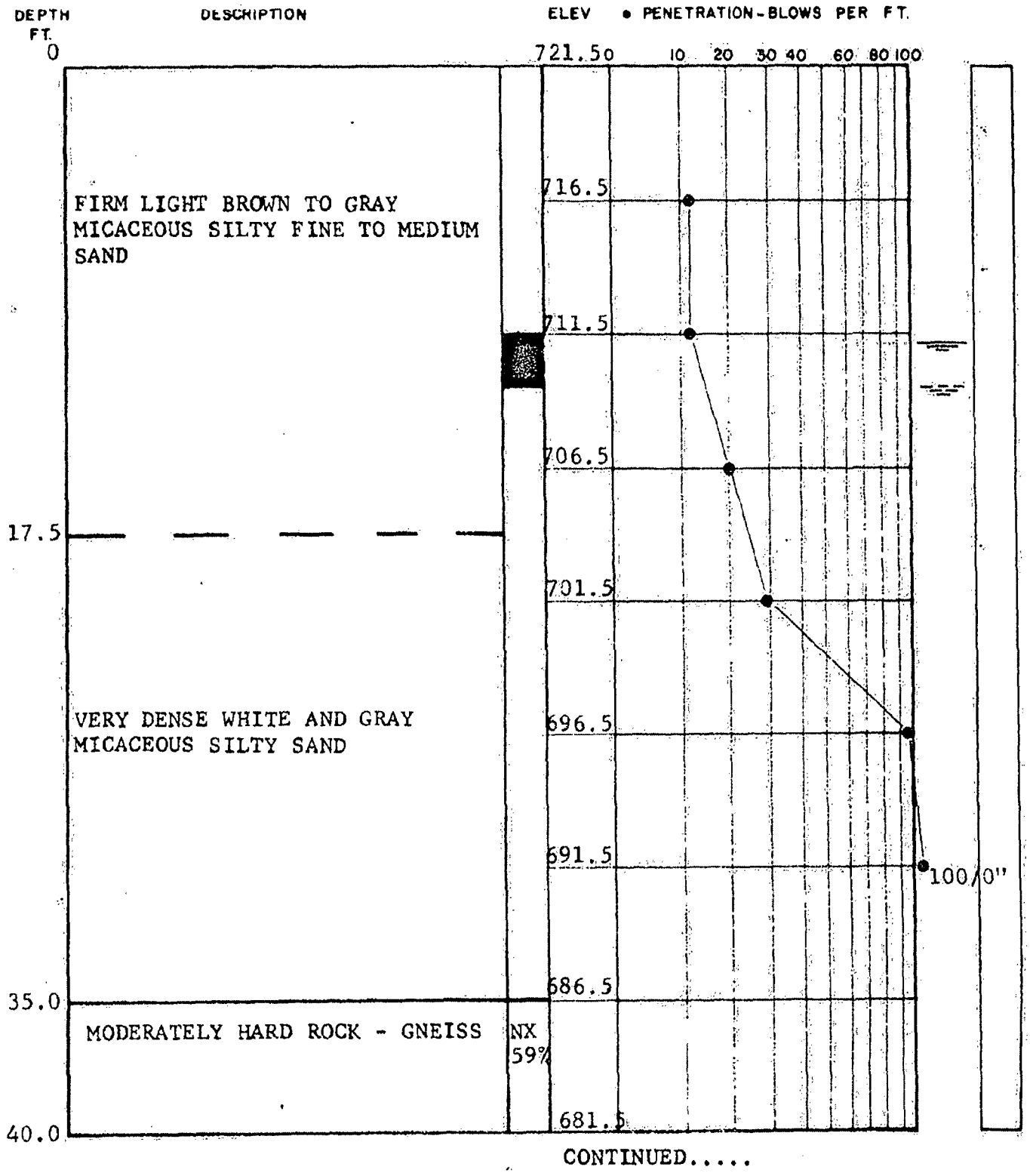
TEST BORING RECORD

BORING NO. NA-24

DATE DRILLED 10/6/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

jj UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-25

DATE DRILLED 10/12/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0			681.5	
41.3	MODERATELY HARD ROCK - GNEISS	NX	59%	
	MODERATELY HARD ROCK - GNEISS	NX 90%	676.5	
48.3	CORING TERMINATED		671.5	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS, OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

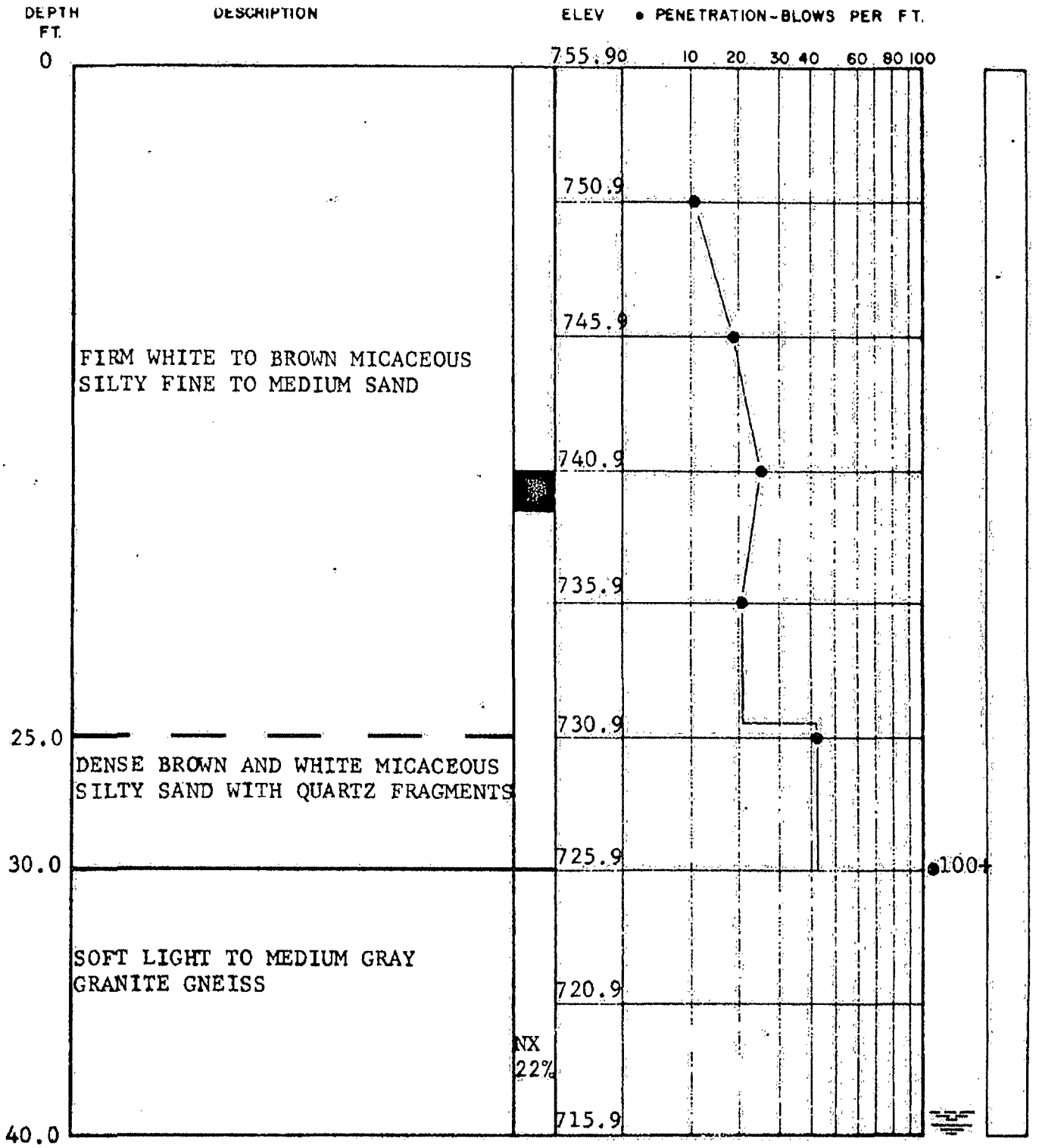
TEST BORING RECORD

BORING NO. NA-25

DATE DRILLED 10/12/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



CONTINUED...Page 1 of 2

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-26

DATE DRILLED 10/8/66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
			715.9	
40.0	SOFT LIGHT TO MEDIUM GRAY GRANITE GNEISS	NX 22%		
43.7	SOFT WEATHERED GNEISS DRILLABLE BY HAWTHORN BIT		710.9	
57.0	MODERATELY HARD LIGHT TO MEDIUM GRAY GRANITE GNEISS	NX 96%	705.9	
63.7	CORING TERMINATED		700.9	
			696.2	

ck'd w fieldnotes CSTL

Page 2 of 2

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 30 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

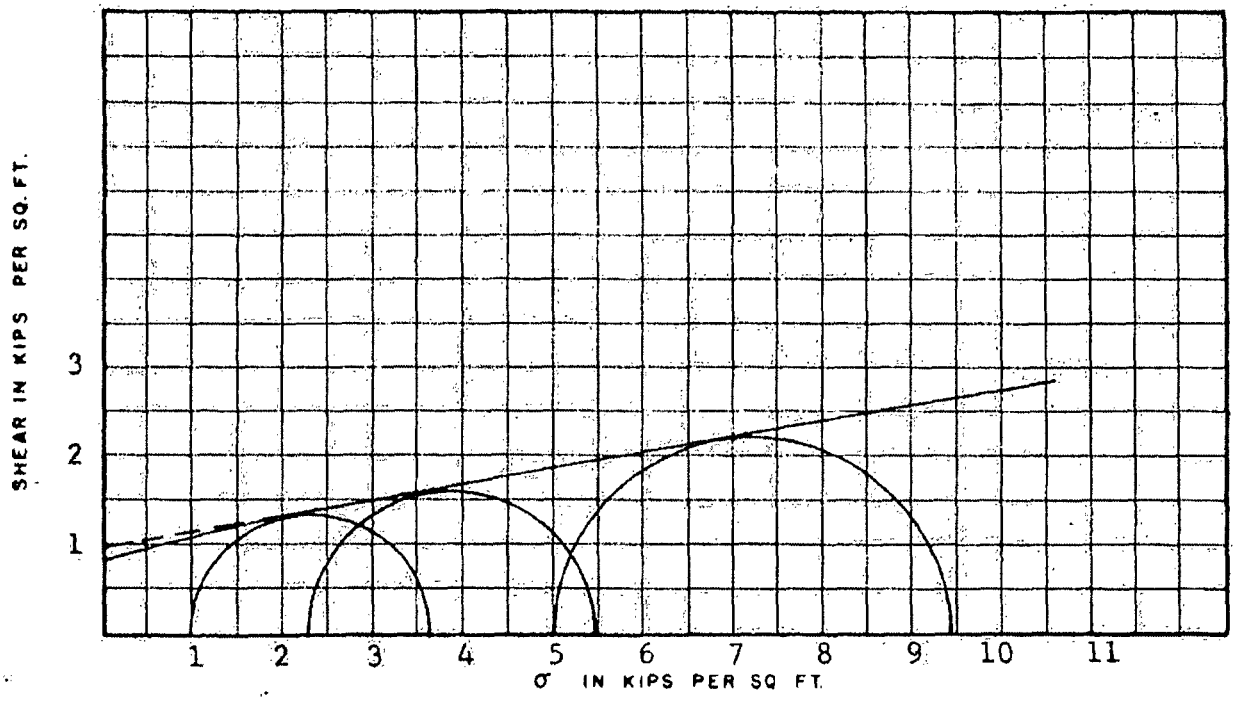
◀ LOSS OF DRILLING WATER

TEST BORING RECORD

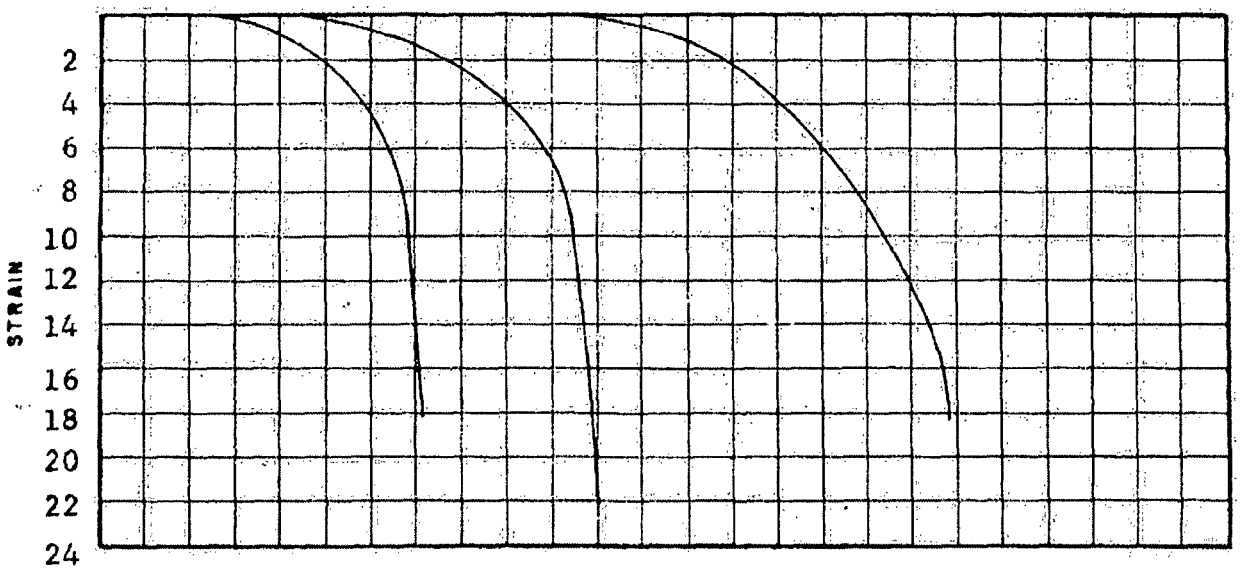
BORING NO. NA-26
DATE DRILLED 10/8/66
JOB NO. 5092

LAW ENGINEERING TESTING CO.

jj



MOHR DIAGRAMS — ϕ



Firm white to brown micaceous silty fine to medium sand

STRESS-STRAIN CURVES

"COHESION", c 1.0 ksf c= 0.85 ksf

ANGLE OF SHEAR RESISTANCE, ϕ 11.5°

UNIT WEIGHT, γ	112.3 ksf	126.0
WATER CONTENT, w	8.0%	21.2
VOID RATIO, e	0.60	0.60
saturation, s	36%	94%
	Before Soak	After Soak

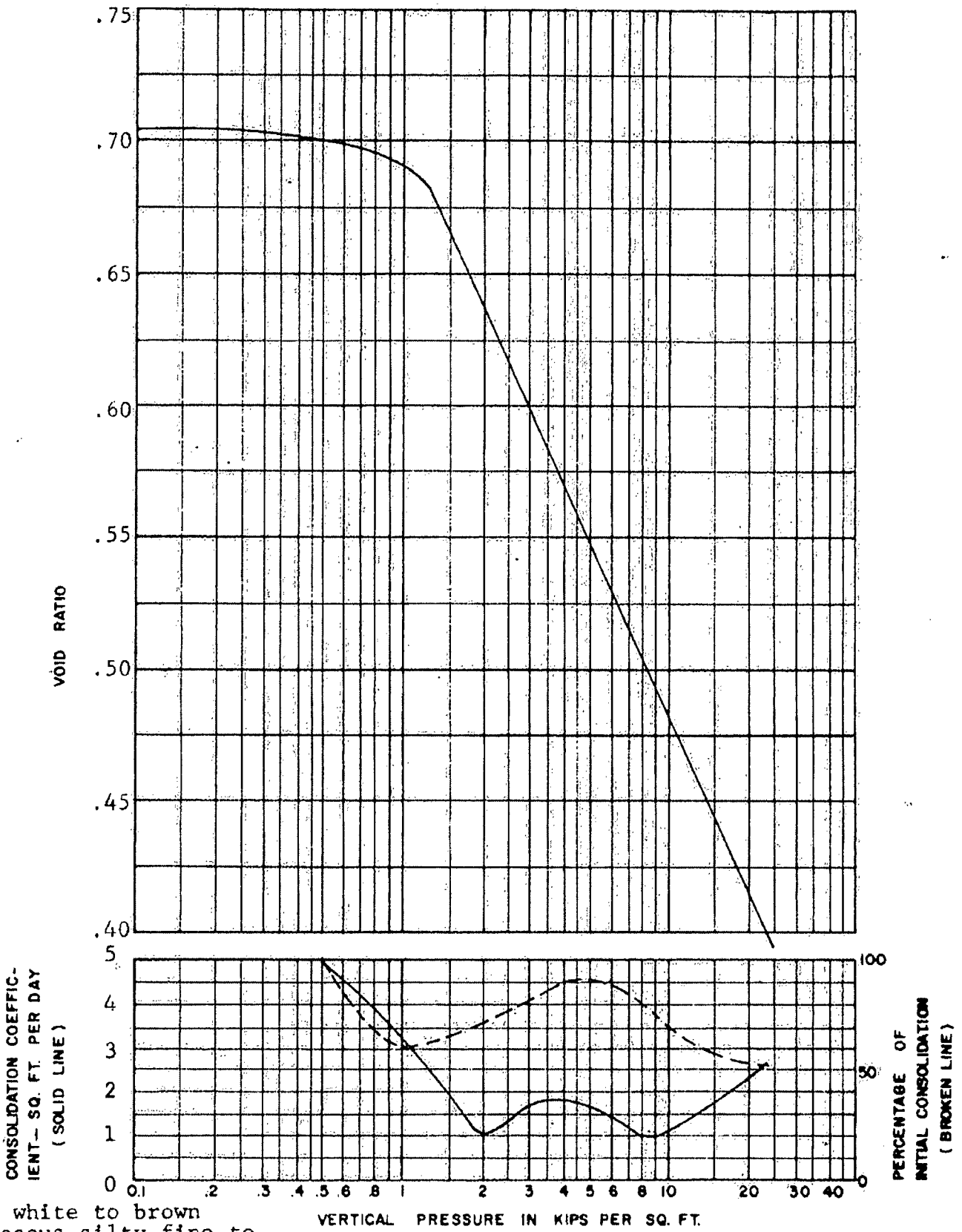
Consolidated Undrained Soaked

TRIAXIAL SHEAR TEST

BORING NO. NA 26 SAMPLE NO. UD-1

ELEV. OR DEPTH 15' JOB NO. 5092

LAW ENGINEERING TESTING CO.



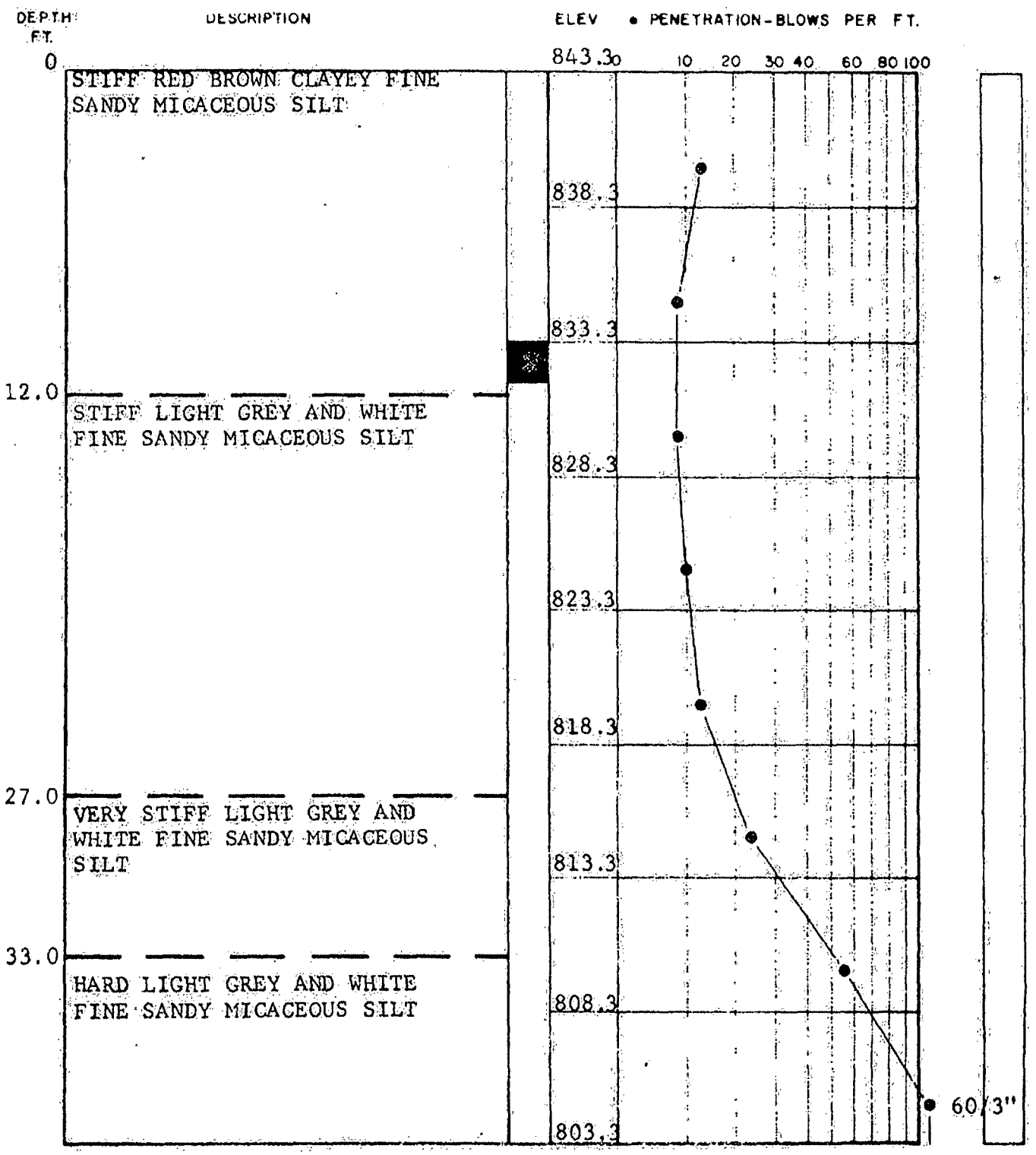
rm white to brown
...aceous silty fine to
medium sand

COMPRESSION INDEX 0.22
UNIT WEIGHT 105.7 pcf
WATER CONTENT 8.2 %
SATURATION 31 %
bjs

CONSOLIDATION TEST

BORING NO. NA 26 SAMPLE NO. UD-1
ELEV. OR DEPTH 15' JOB NO. 5092

LAW ENGINEERING TESTING COMPANY



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-27
DATE DRILLED 10-10-66
JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT.
70.0	HARD LIGHT GREY AND WHITE FINE SANDY MICACEOUS SILT	803.3	10 20 30 40 60 80 100
		798.3	100/1.5"
		793.3	
		788.3	100/1"
		783.3	100/1"
		778.3	50/0"
		773.3	50/0"
		768.3	
77.0	FISHTAIL REFUSAL BORING TERMINATED	763.3	

bjs

Page 2 of 2

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

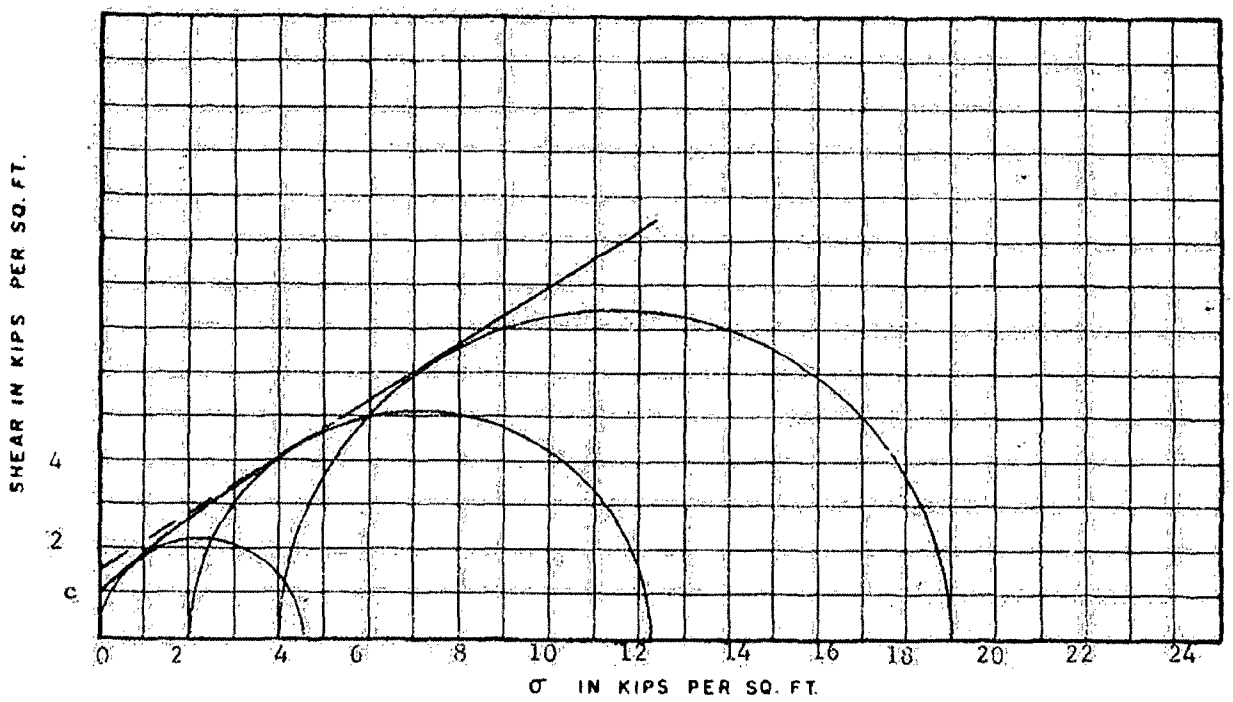
TEST BORING RECORD

BORING NO. NA-27

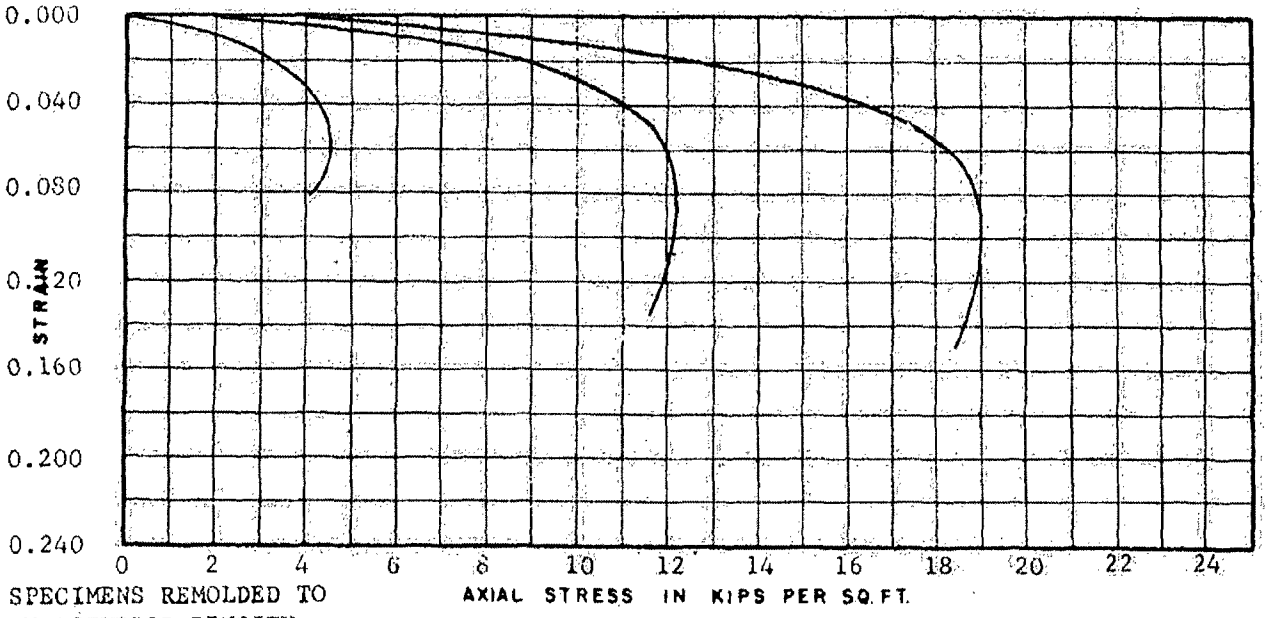
DATE DRILLED 10-10-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



SPECIMENS REMOLDED TO UNDISTURBED DENSITY

STRESS-STRAIN CURVES

SPECIFIC GRAVITY 2.67

COHESION, U 1.0 KSF

"COHESION", C 1.65 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 32.5°

UNIT WEIGHT, γ 108.1 PCF (WET)

WATER CONTENT, W 11.3%

VOID RATIO, e 0.716

TAN, MICACEOUS, FINE TO MEDIUM, SILTY SAND (SM)

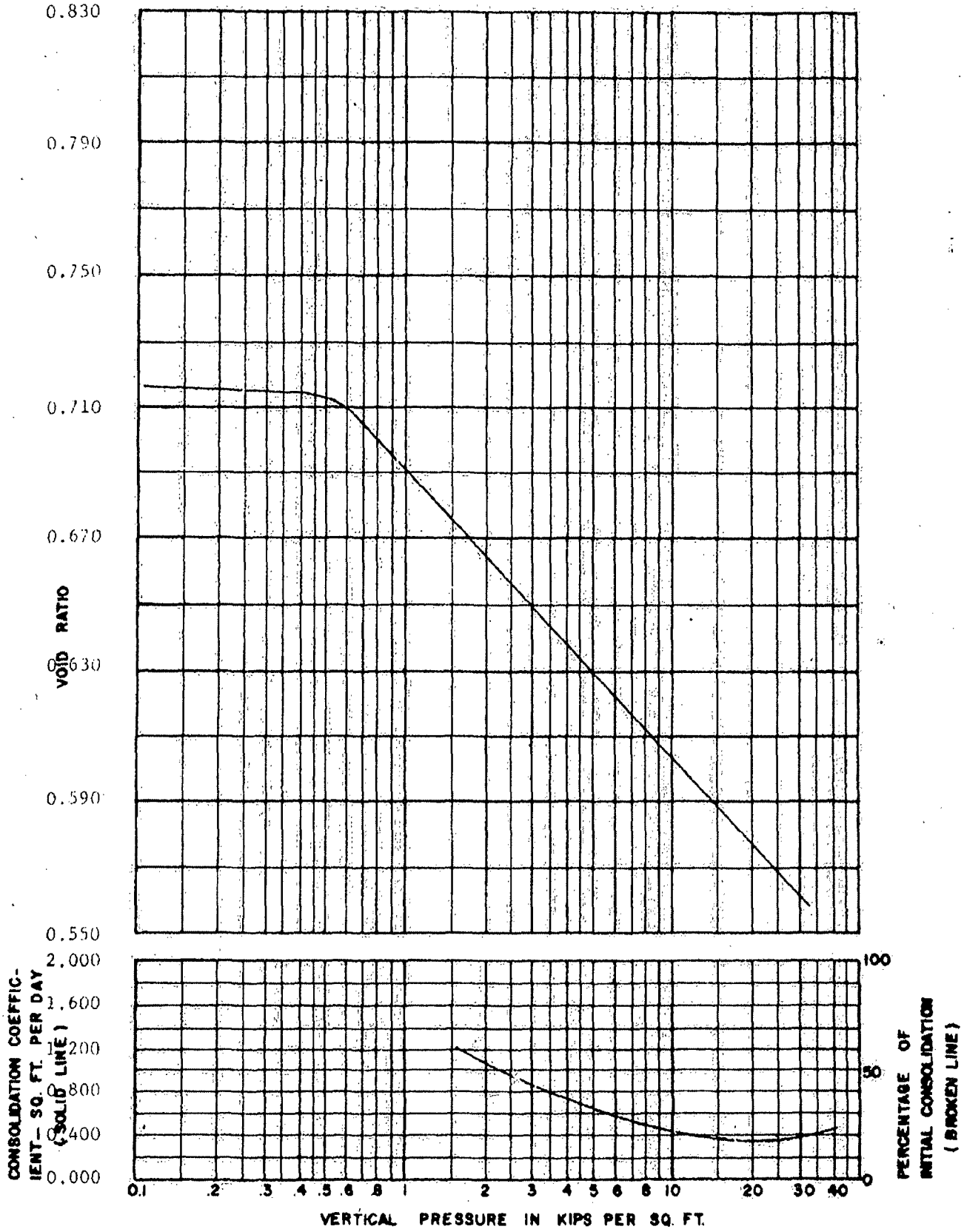
CONSOLIDATED QUICK

TRIAXIAL SHEAR TEST

BORING NO. MA-27 SAMPLE NO. UD-1

ELEV. OR DEPTH 10 FT. JOB NO. 5092

LAW ENGINEERING TESTING CO.



SPECIFIC GRAVITY 2.67

COMPRESSION INDEX 0.078

UNIT WEIGHT 108.1 PCF (WET)

WATER CONTENT 11.3%

SATURATION 42.1%

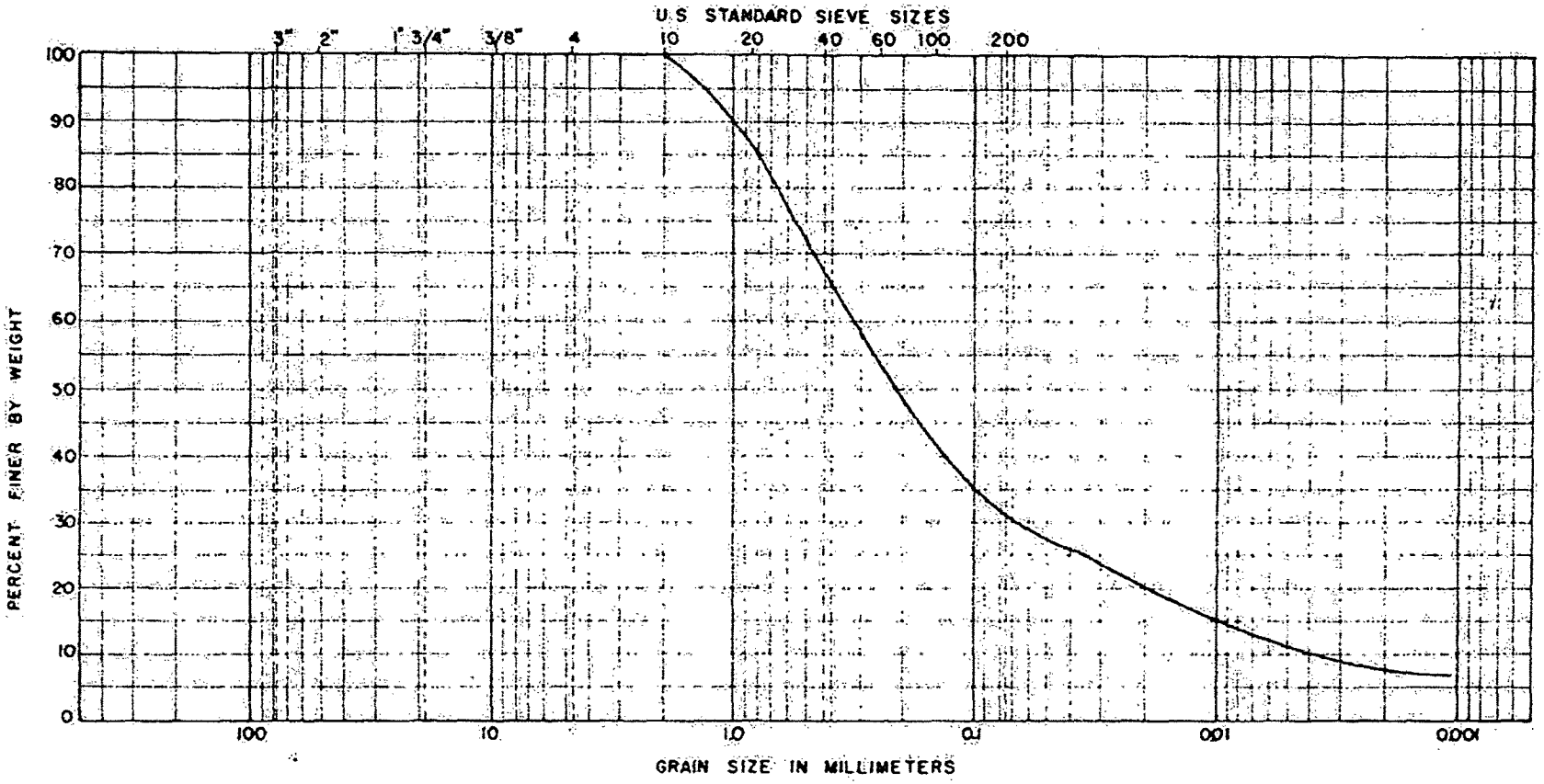
TAN, MICACEOUS, FINE TO MEDIUM, SILTY, SAND (SM)

CONSOLIDATION TEST

BORING NO. NA 27 SAMPLE NO. UD-1

ELEV. OR DEPTH 10 FT JOB NO. 5092

LAW ENGINEERING TESTING COMPANY B



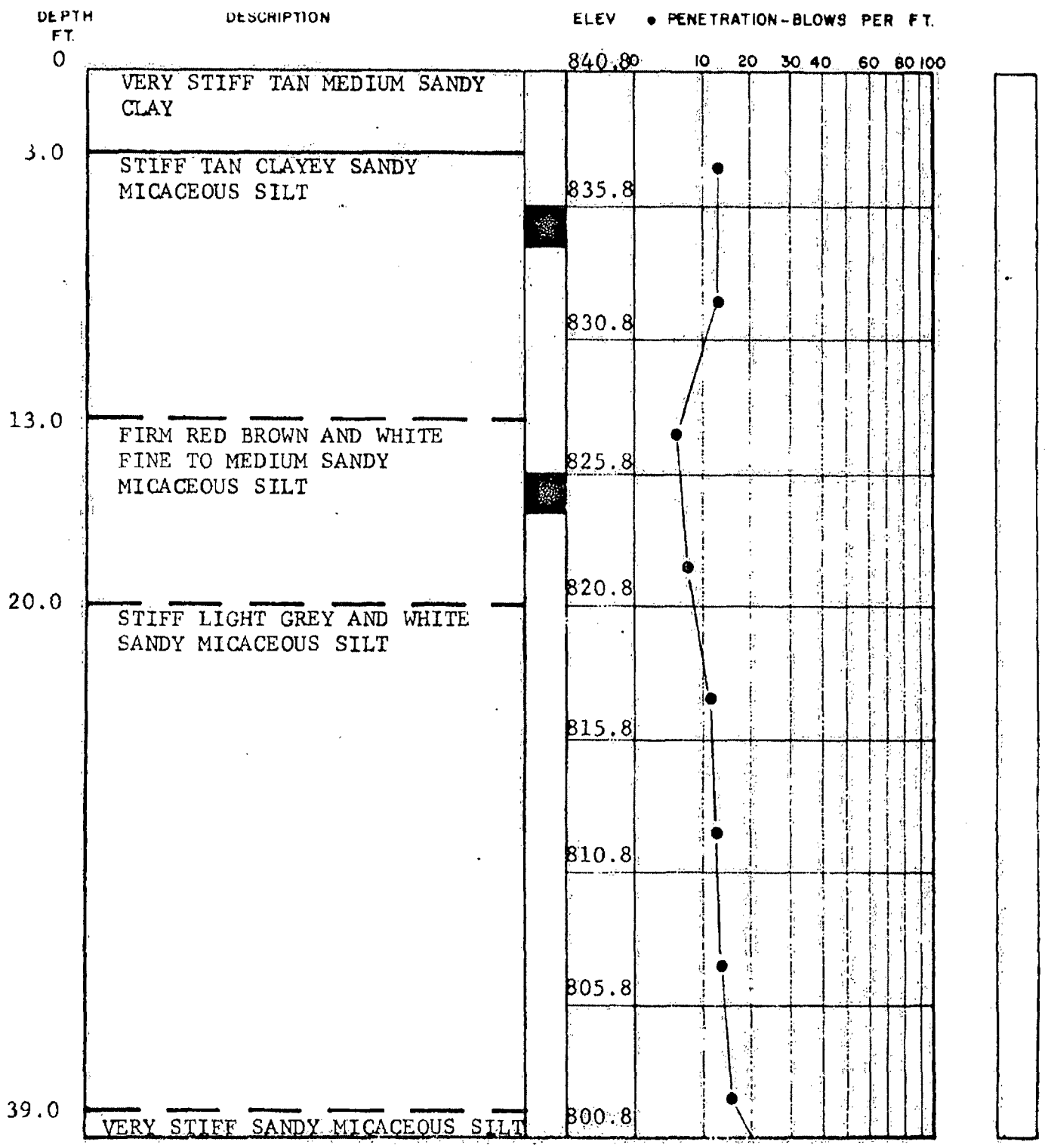
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA-27 UD-1	10 FT	11.3		NON PLASTIC		TAN, MICACEOUS, FINE TO MEDIUM, SILTY SAND (SM)

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY B



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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

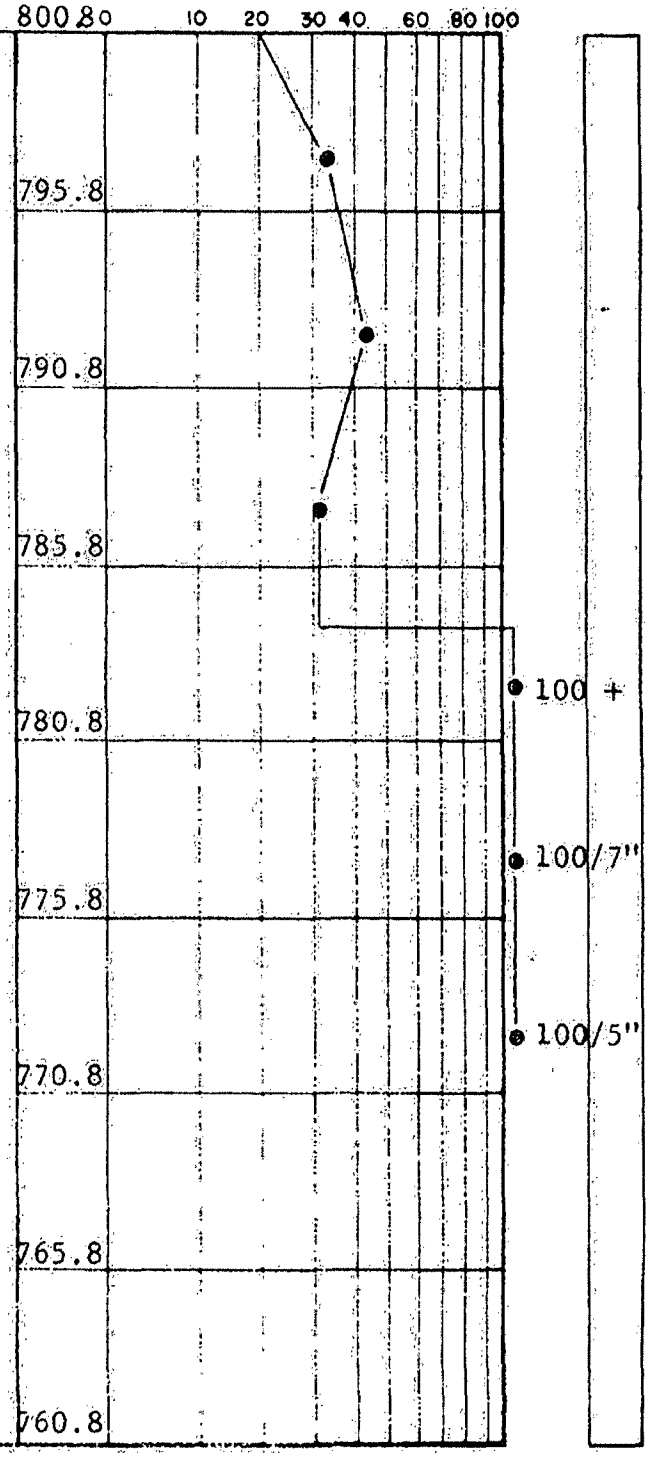
BORING NO. NA-28

DATE DRILLED 10-5-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY STIFF SANDY MICACEOUS SILT	800.8
2.5	HARD SANDY MICACEOUS SILT	



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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-28

DATE DRILLED 10-5-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
80.0	HARD SANDY MICACEOUS SILT	760.8	
		755.8	
		750.8	
		745.8	
		740.8	
		735.8	
		730.8	
112.0			
	FISHTAIL REFUSAL BORING TERMINATED	725.8	
		720.8	

bs BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

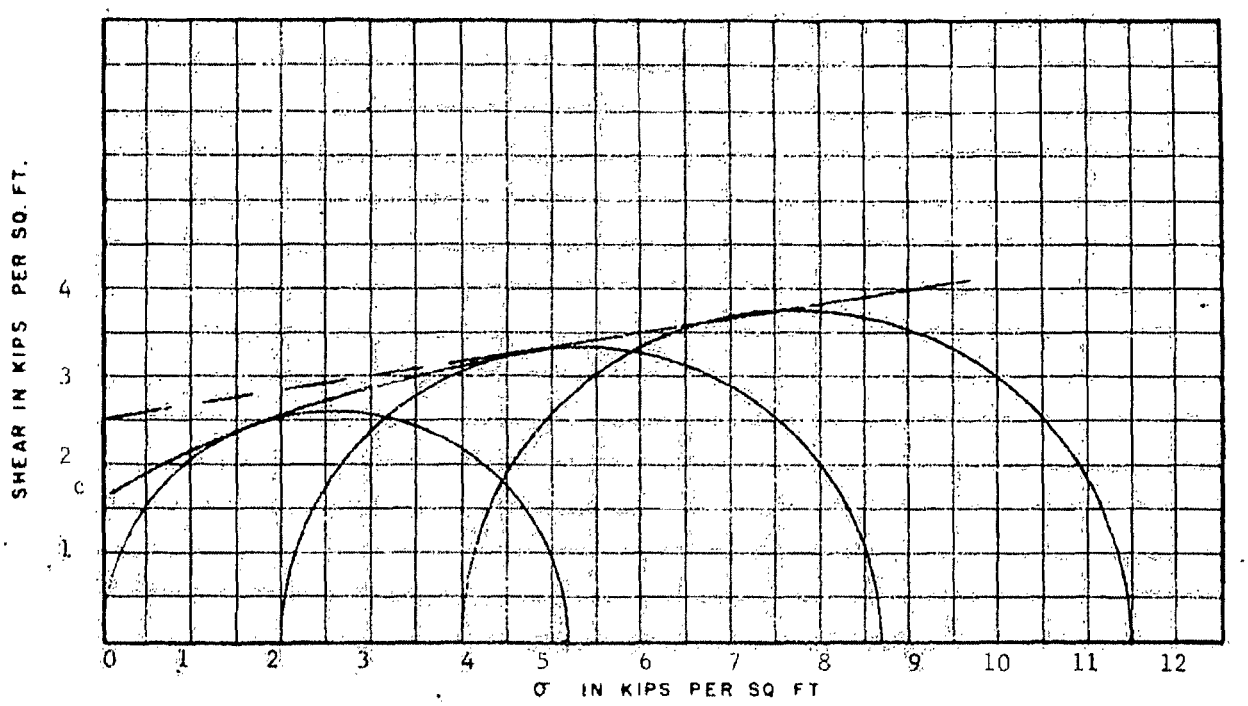
TEST BORING RECORD

BORING NO. NA-28

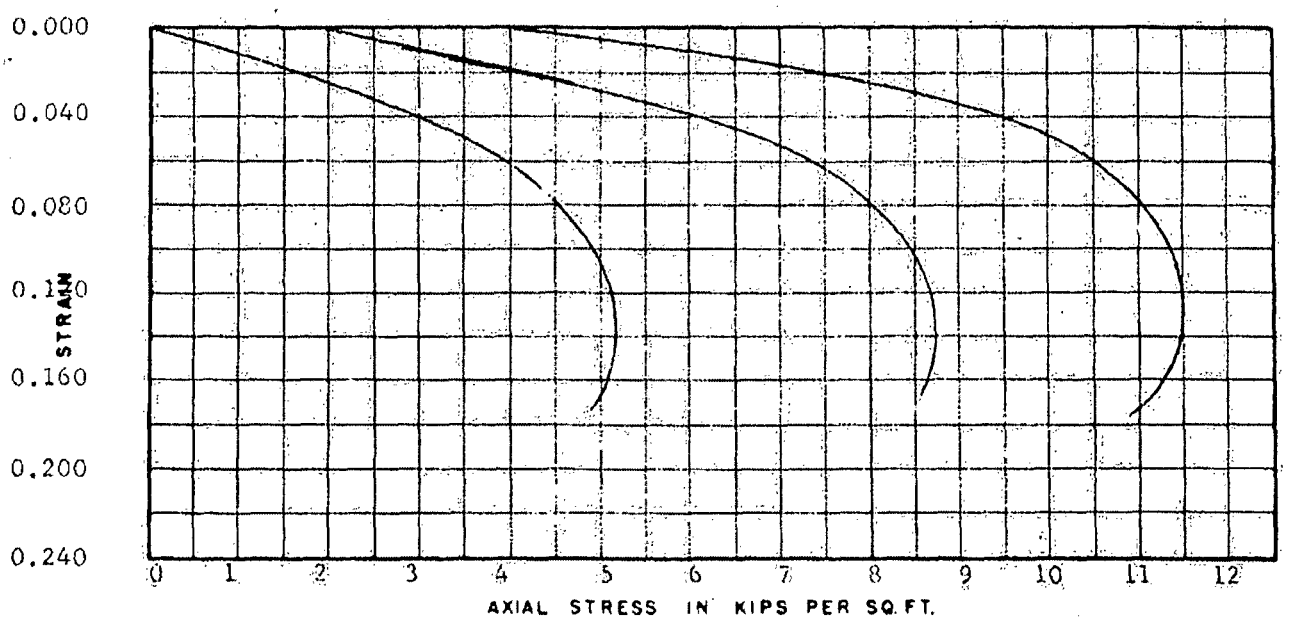
DATE DRILLED 10-5-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



STRESS-STRAIN CURVES

SPECIFIC GRAVITY 2.69

"COHESION", C 2.50 KSF c. 1.65 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 9.0°

UNIT WEIGHT, γ 102.2 PCF (WET)

WATER CONTENT, W 18.3%

VOID RATIO, e 0.943

BROWN, MICACEOUS, FINE TO MEDIUM, SANDY SILT

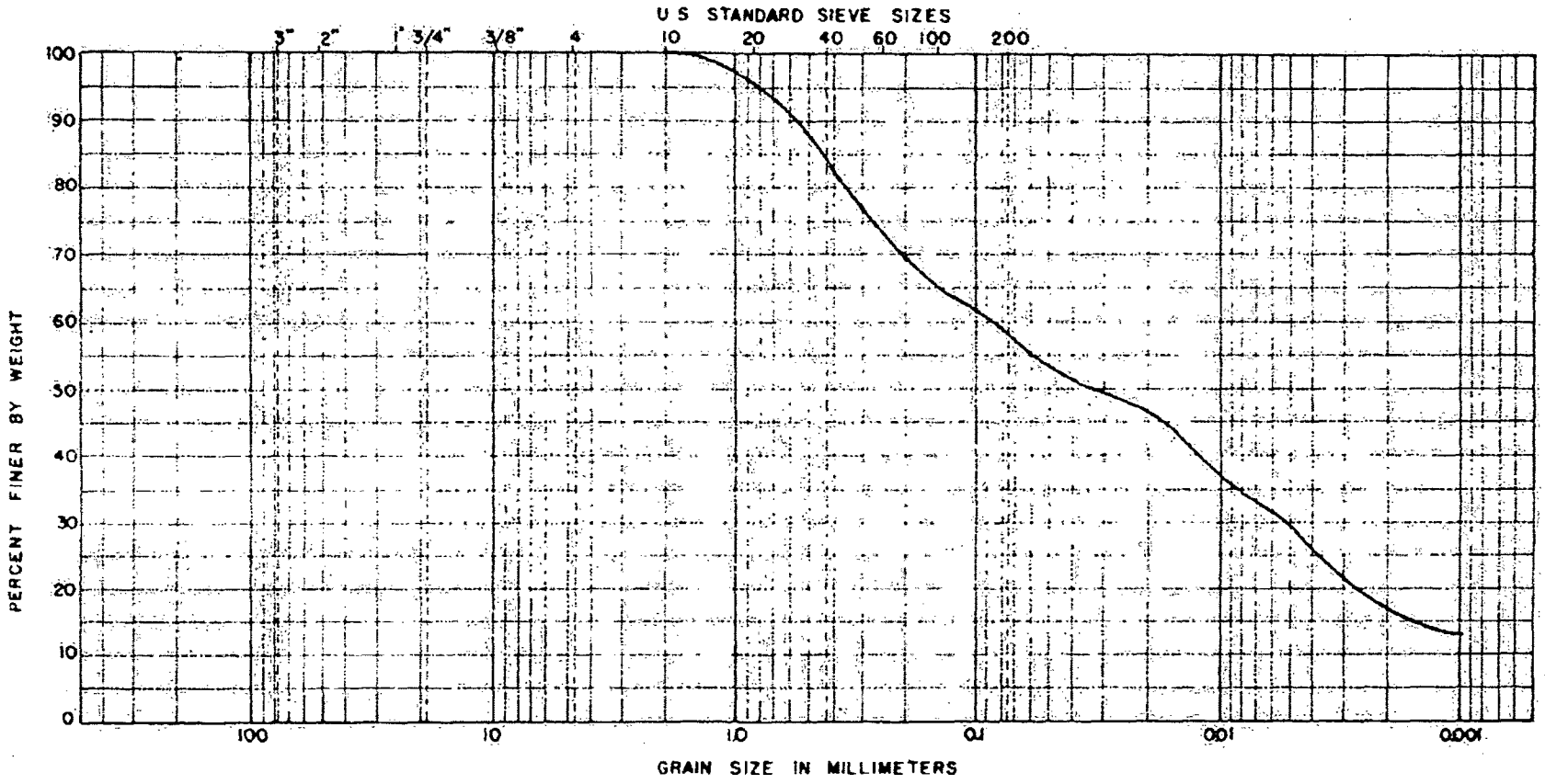
CONSOLIDATED QUICK

TRIAXIAL SHEAR TEST

BORING NO. NA-28 SAMPLE NO. UD-2

ELEV. OR DEPTH 15 FT. JOB NO. 5092

LAW ENGINEERING TESTING CO. B



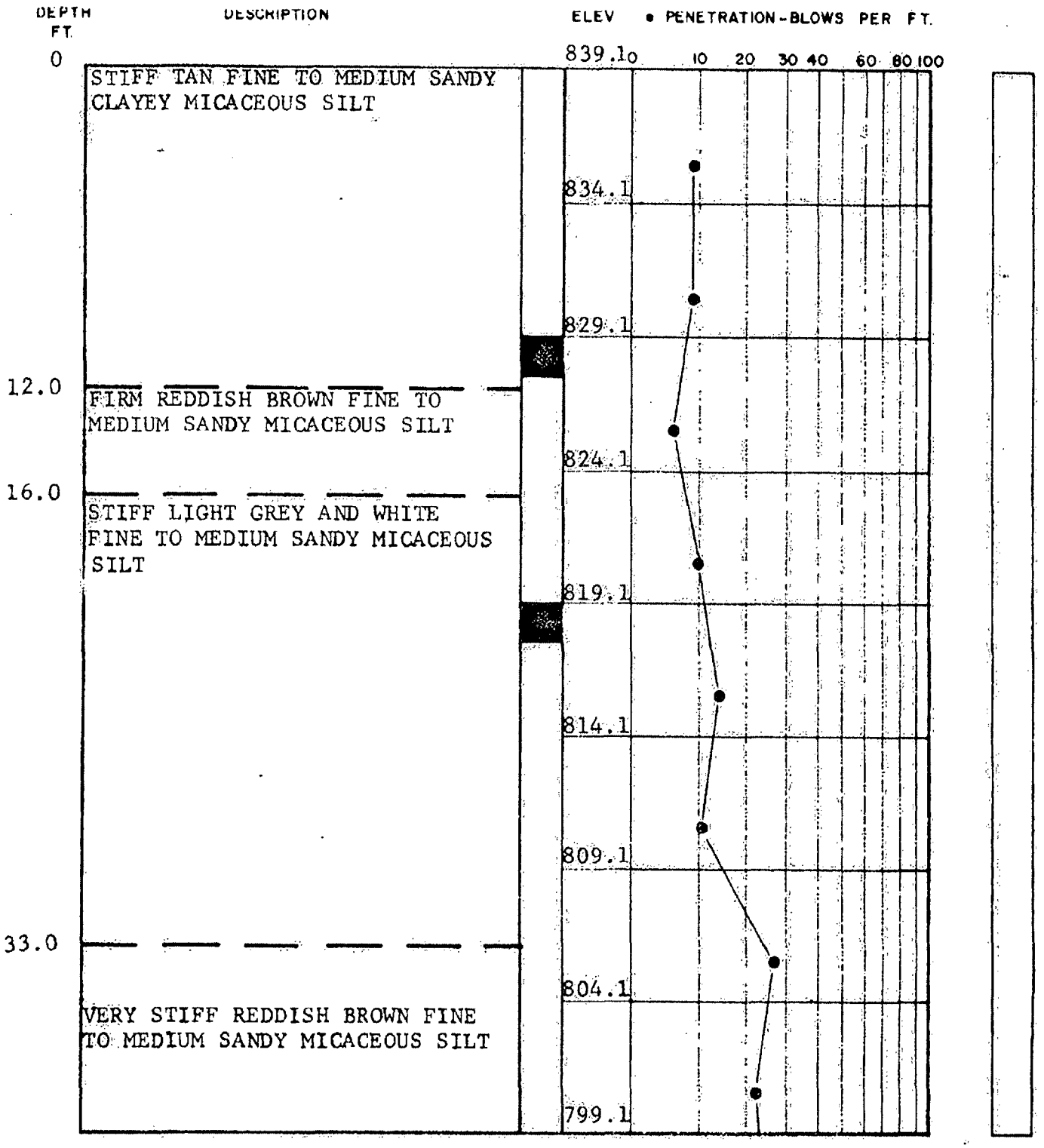
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA-28 UD-2	15 FT.	18.3				BROWN, MICACEOUS, FINE TO MEDIUM SANDY SILT

GRAIN SIZE DISTRIBUTION

JOB NO. -5092

LAW ENGINEERING TESTING COMPANY B



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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

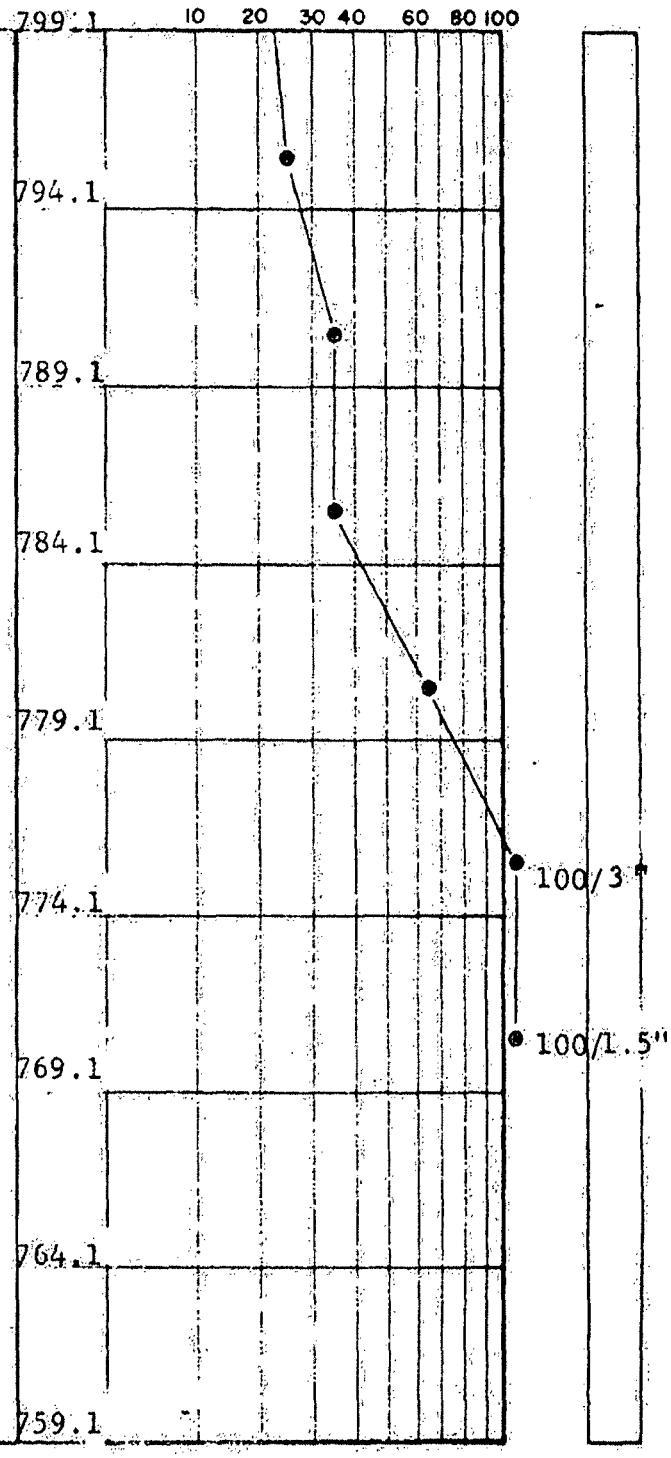
BORING NO. NA-29

DATE DRILLED 10-6-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY STIFF REDDISH BROWN FINE TO MEDIUM SANDY MICACEOUS SILT	799.1
49.5	HARD REDDISH BROWN FINE TO MEDIUM SANDY MICACEOUS SILT	794.1
		789.1
		784.1
		779.1
		774.1
		769.1
		764.1
		759.1



Page 2 of 3

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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-29

DATE DRILLED 10-6-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
80.0	HARD REDDISH BROWN FINE TO MEDIUM SANDY MICACEOUS SILT	759.1	
		754.1	
		749.1	
		744.1	
96.0	FISHTAIL REFUSAL BORING TERMINATED	739.1	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

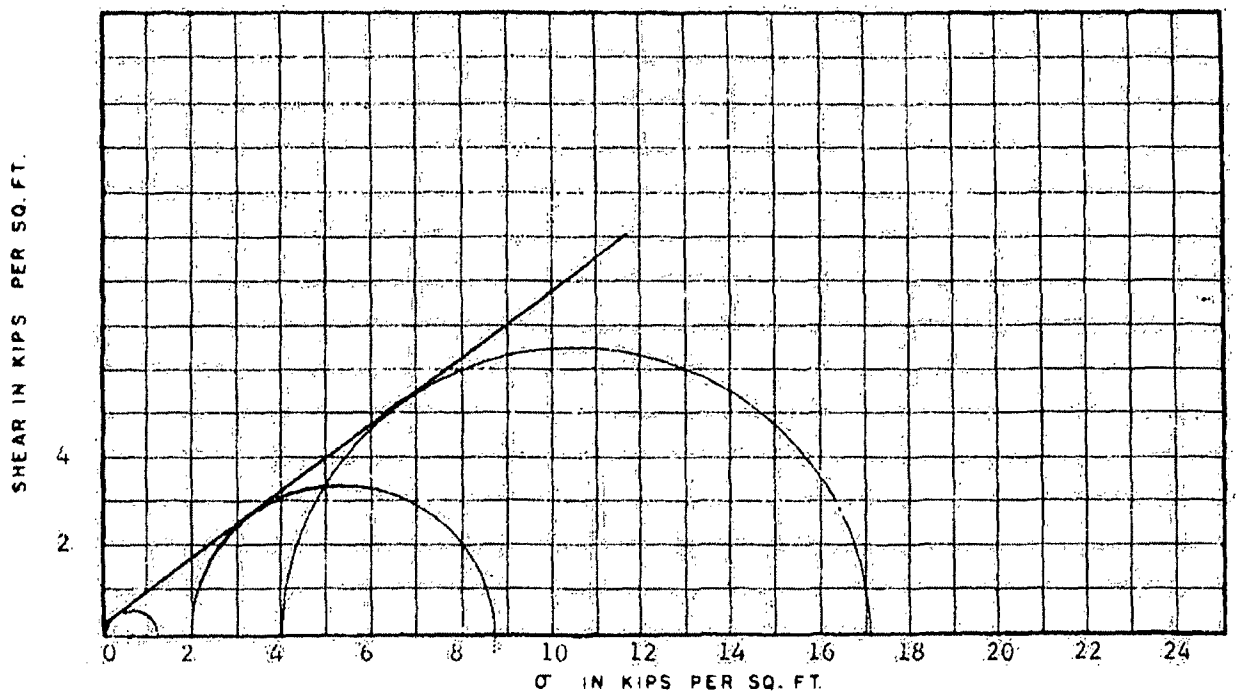
TEST BORING RECORD

BORING NO. NA-29

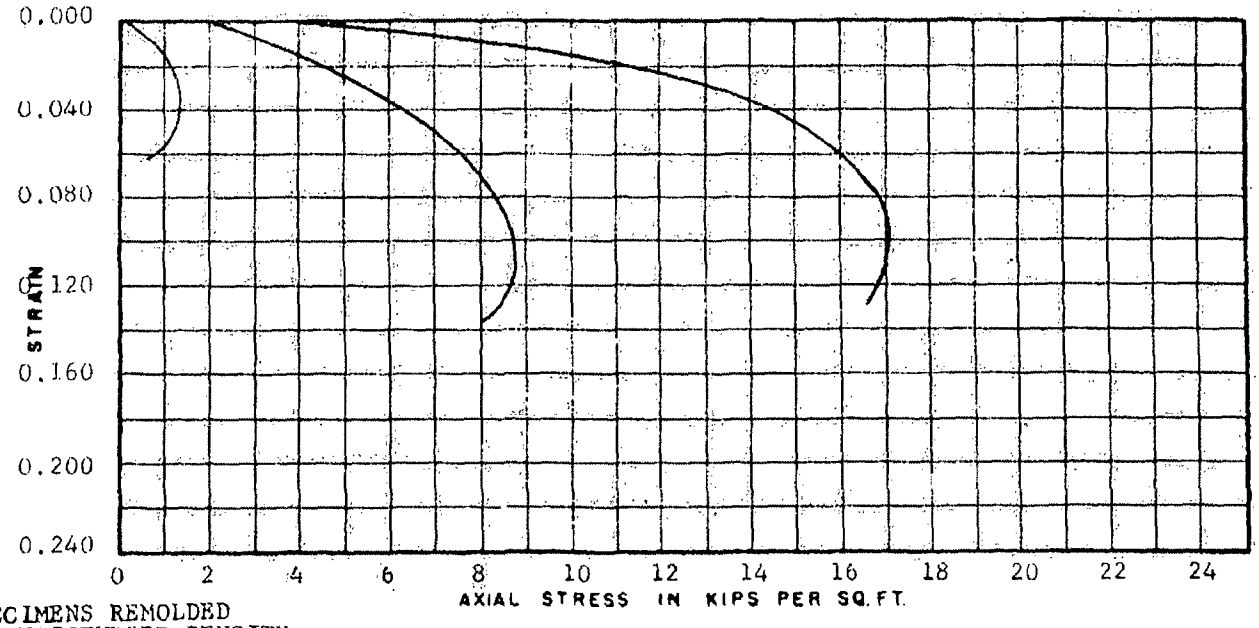
DATE DRILLED 10-6-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS – ϕ



SPECIMENS REMOLDED
TO UNDISTURBED DENSITY

STRESS-STRAIN CURVES

SPECIFIC GRAVITY 2.70

"COHESION", c 0.25 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 36.25°

UNIT WEIGHT, γ 96.9 PCF (WET)

WATER CONTENT, W 10.5%

VOID RATIO, e 0.921

GRAY AND BROWN MICACEOUS FINE TO MEDIUM SANDY SILT

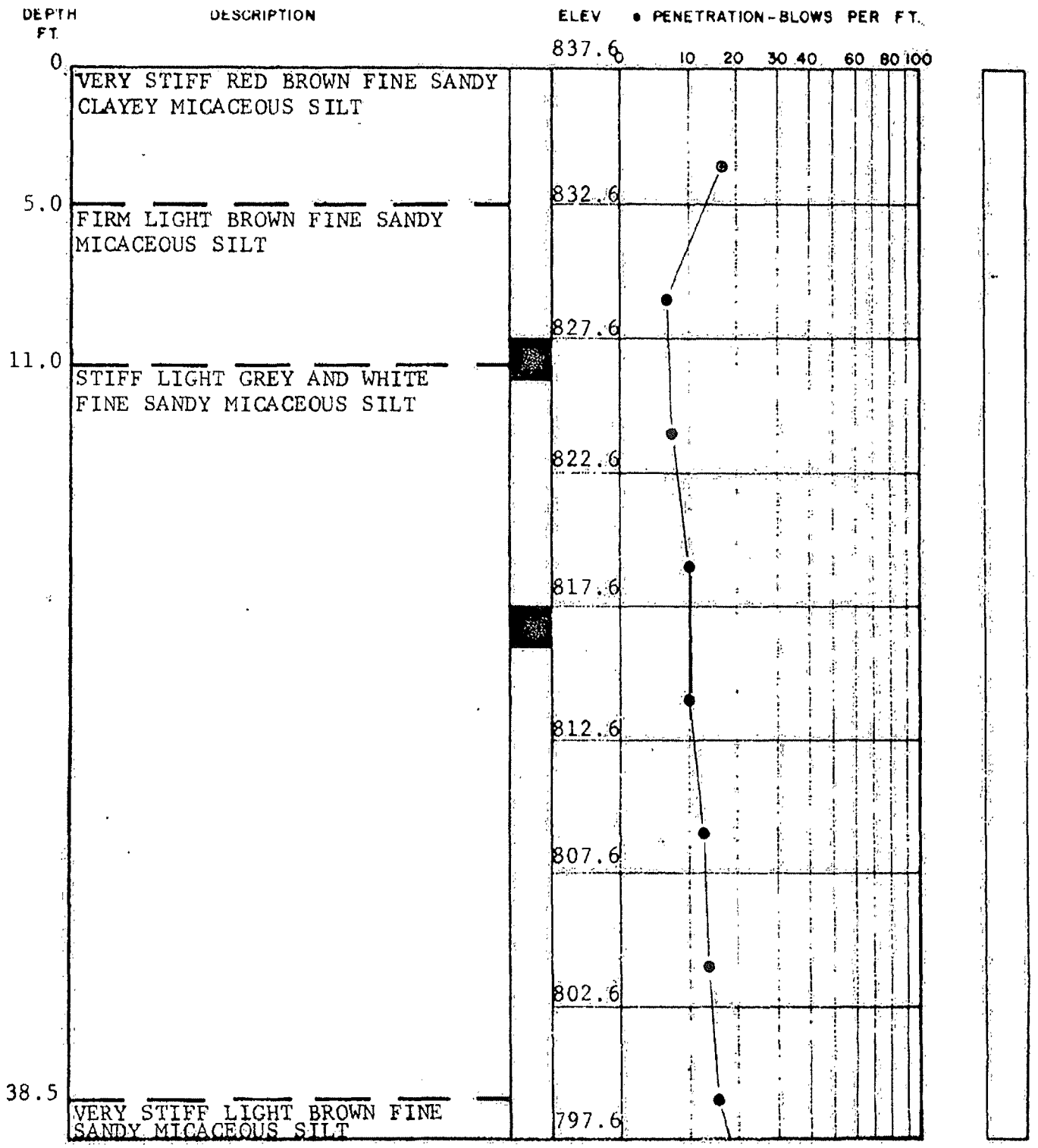
CONSOLIDATED QUICK

TRIAXIAL SHEAR TEST

BORING NO. NA29 SAMPLE NO. UD2

ELEV. OR DEPTH 20 FT. JOB NO. 5092

LAW ENGINEERING TESTING CO. B



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

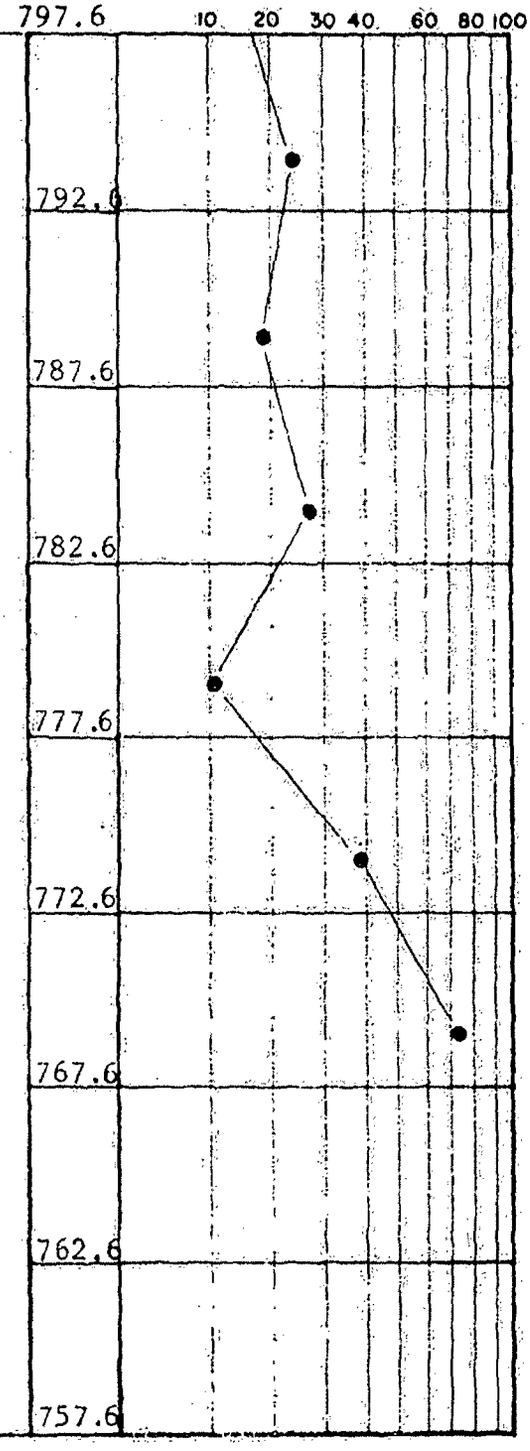
BORING NO. NA-30

DATE DRILLED 10-7-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY STIFF LIGHT BROWN FINE SANDY MICACEOUS SILT	797.6
61.0	HARD LIGHT BROWN FINE SANDY MICACEOUS SILT	



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-30

DATE DRILLED 10-7-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
80.0	HARD LIGHT BROWN FINE SANDY MICACEOUS SILT	757.6	
		752.6	
		747.6	
		742.6	
97.0			
	FISHTAIL REFUSAL BORING TERMINATED	737.6	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

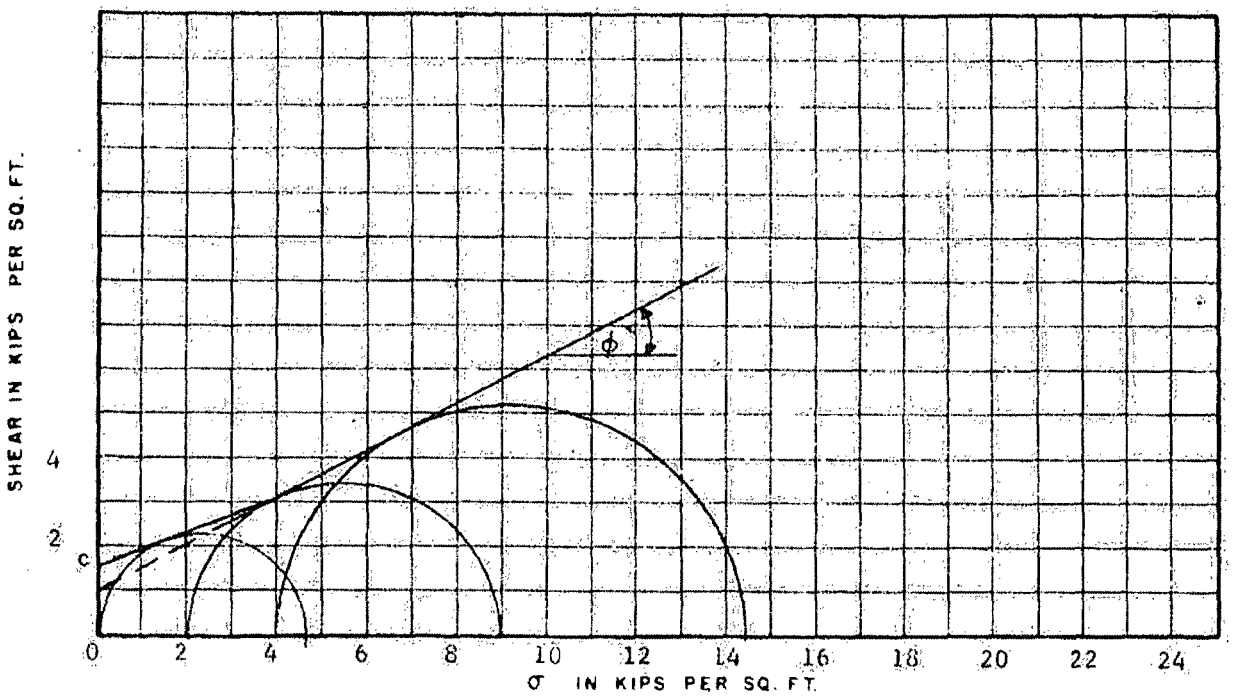
TEST BORING RECORD

BORING NO. NA-30

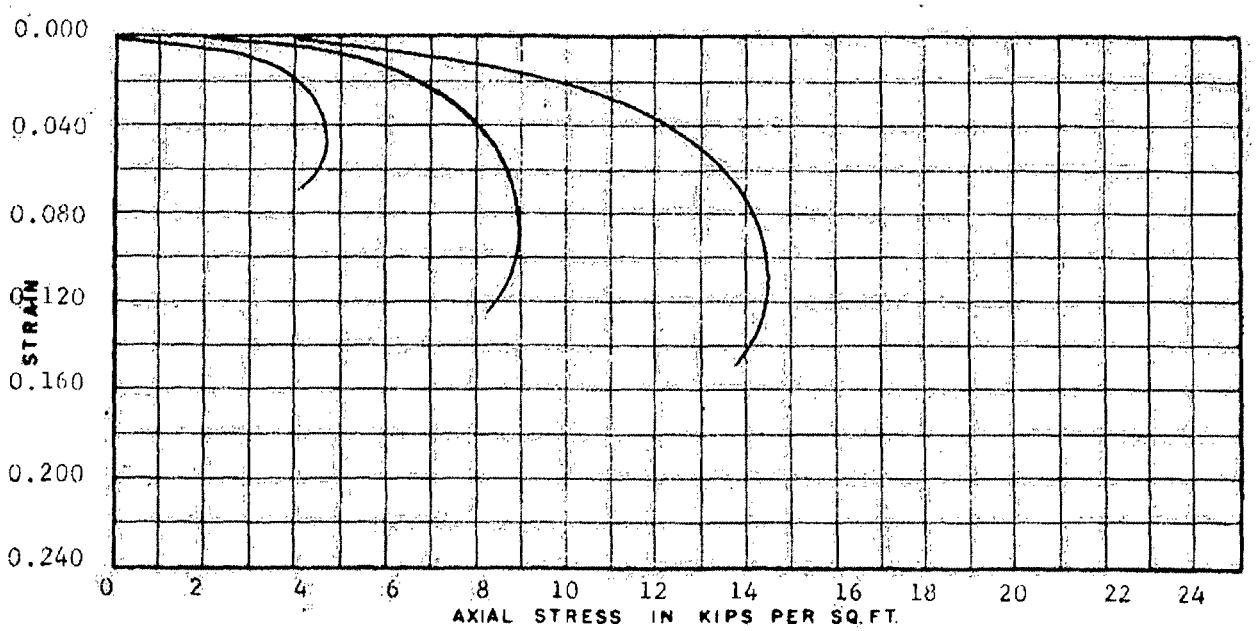
DATE DRILLED 1-7-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



SPECIMENS WERE REMOLDED

TO UNDISTURBED DENSITY

STRESS-STRAIN CURVES

SPECIFIC GRAVITY 2.67

"COHESION", C 1.00 KSF c. 160 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 28.0°

UNIT WEIGHT, γ 94.6 PCF (WET)

WATER CONTENT, W 17.5%

VOID RATIO, e 1.069

CONSOLIDATED QUICK

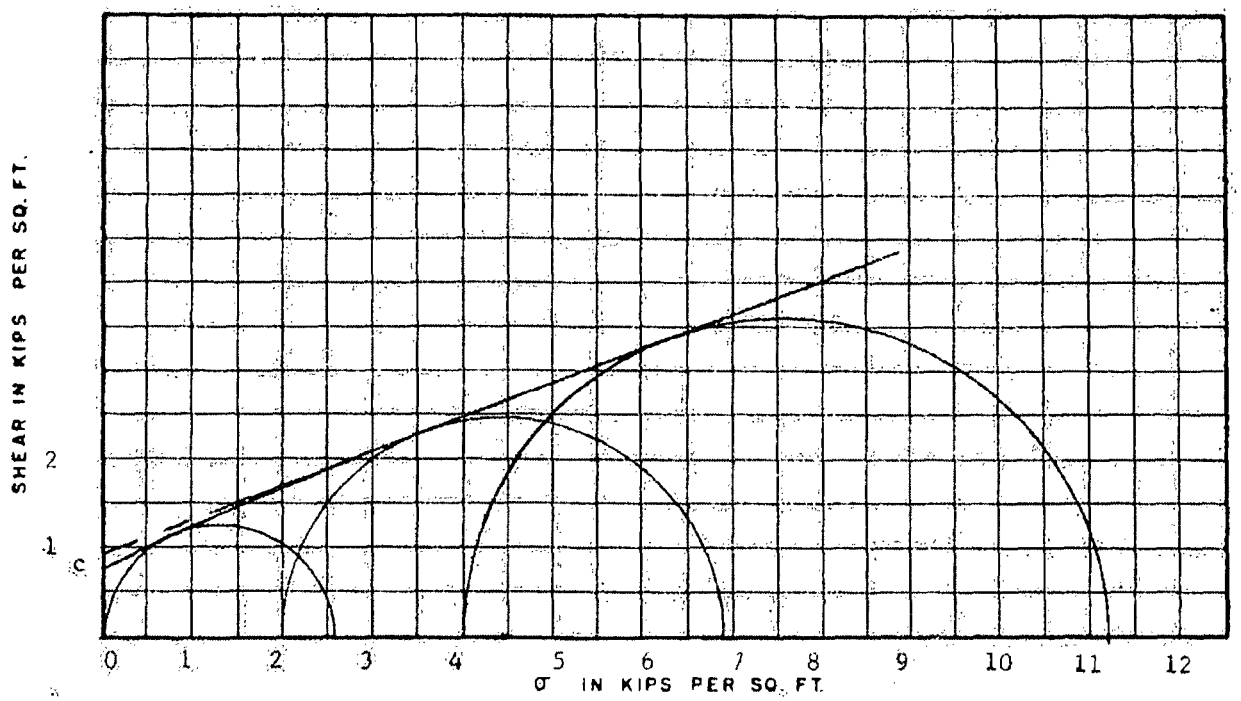
TRIAXIAL SHEAR TEST

BORING NO. NA-30 SAMPLE NO. UD-1

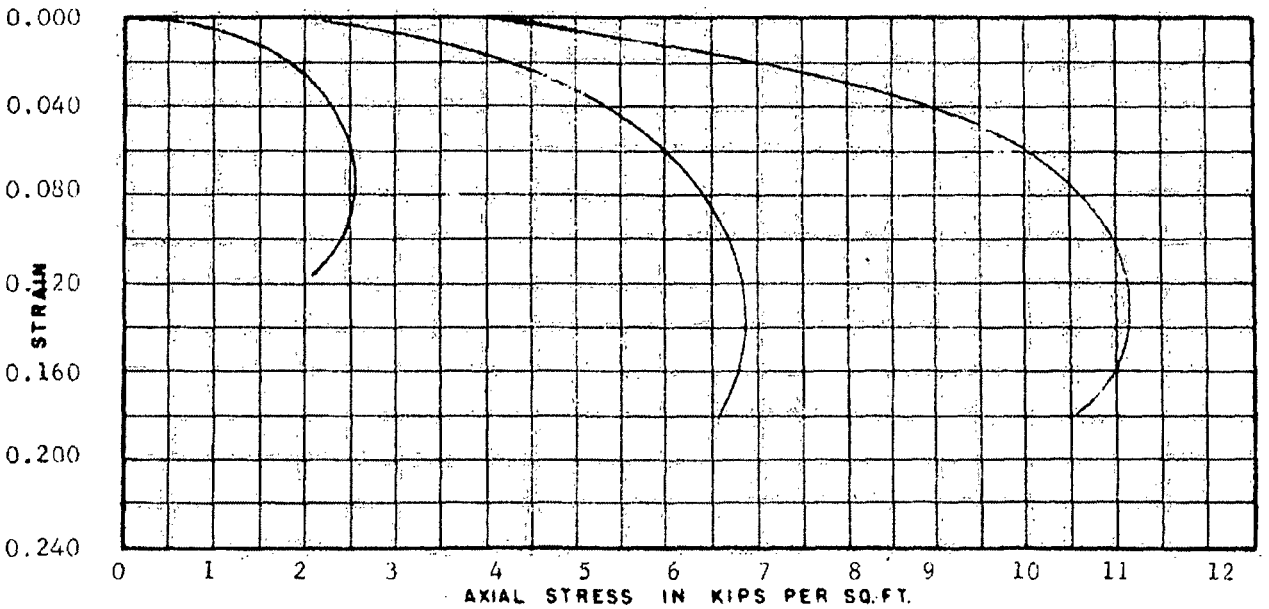
ELEV. OR DEPTH 10 FT. JOB NO. 5092

TAN, MICACEOUS, FINE TO MEDIUM SANDY SILT

LAW ENGINEERING TESTING CO. B



MOHR DIAGRAMS — ϕ



SPECIMENS WERE REMOLDED
TO UNDISTURBED DENSITY

STRESS-STRAIN CURVES

SPECIFIC GRAVITY 2.57

"COHESION", c 0.98 KSF c. 0.80 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 21.5

UNIT WEIGHT, γ 99.9 PCF (WET)

WATER CONTENT, W 14.1%

VOID RATIO, e 0.833

TAN, MICACEOUS, FINE SANDY SILT

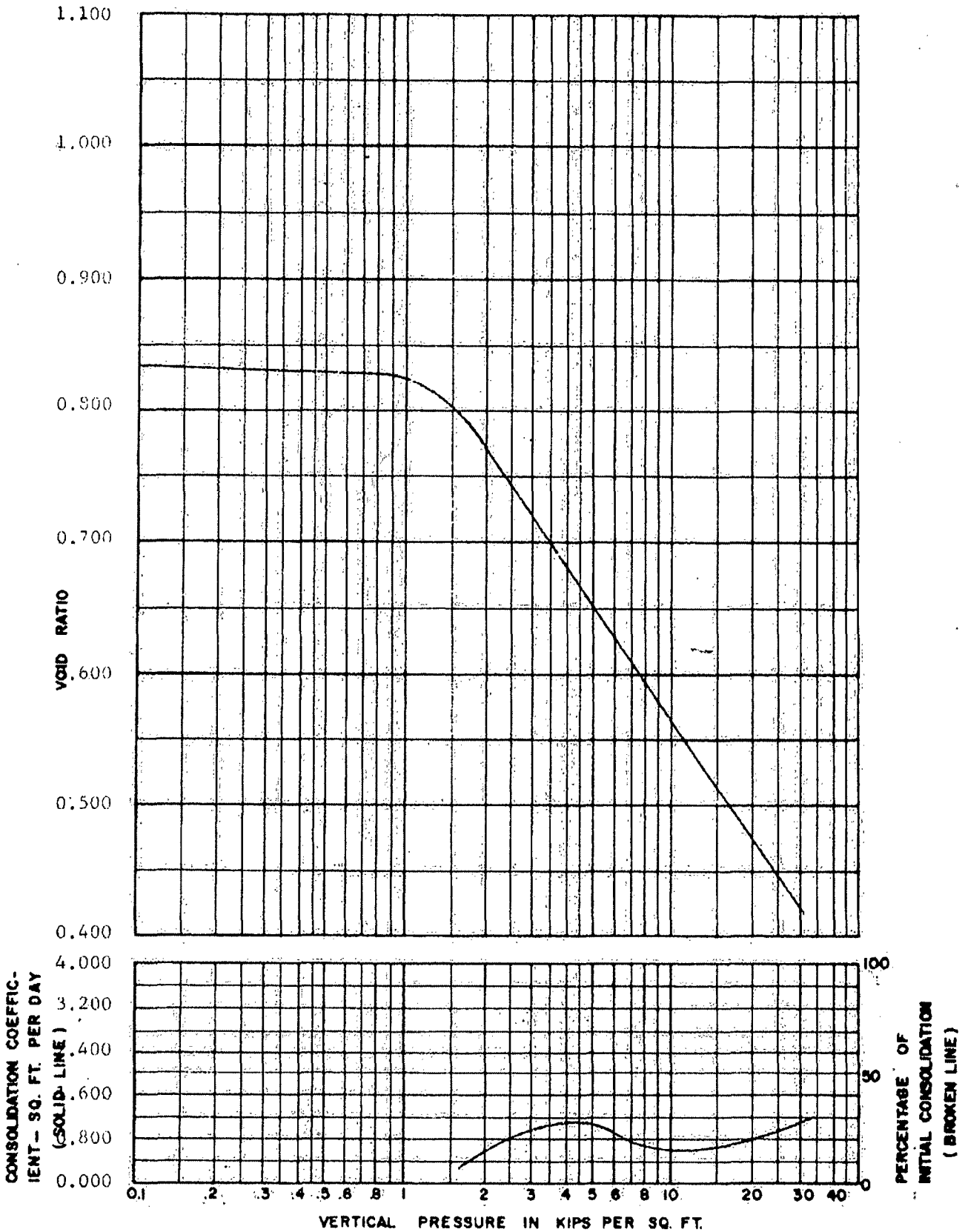
CONSOLIDATED QUICK

TRIAXIAL SHEAR TEST

BORING NO. NA-30 SAMPLE NO. UD-2

ELEV. OR DEPTH 20 FT JOB NO. 5092

LAW ENGINEERING TESTING CO. B



SPECIFIC GRAVITY 2.57

COMPRESSION INDEX 0.295

UNIT WEIGHT 99.9 PCF WET

WATER CONTENT 14.1

SATURATION 43.5%

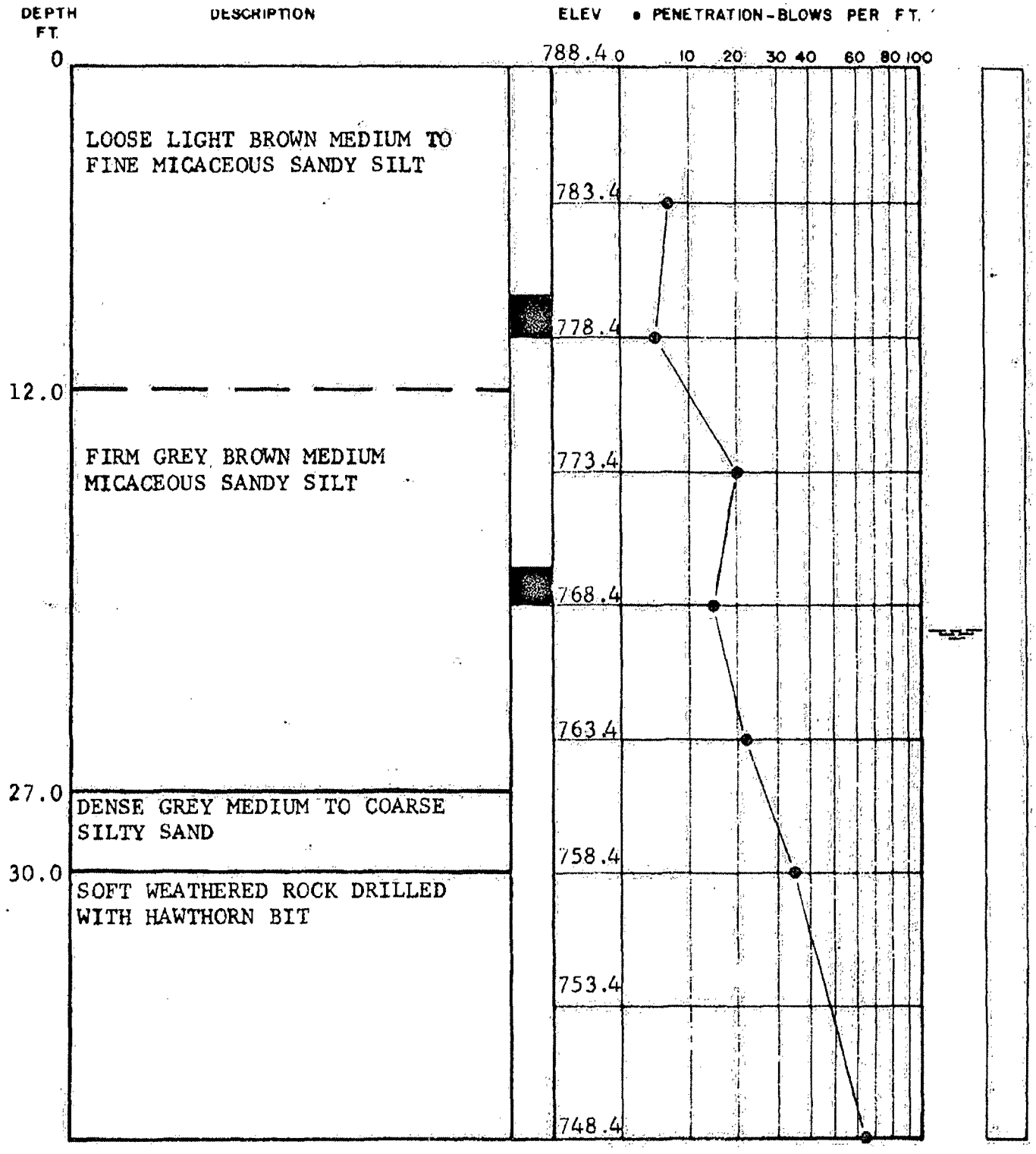
TAN, MICACEOUS, FINE SANDY SILT

CONSOLIDATION TEST

BORING NO. NA30 SAMPLE NO. UD2

ELEV. OR DEPTH 20 FT JOB NO. 5092

LAW ENGINEERING TESTING COMPANY B



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-31

DATE DRILLED 10-11-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0	SOFT WEATHERED ROCK DRILLED WITH HAWTHORN BIT	748.4	
		743.4	
		738.4	• 100+
53.75	REFUSAL BORING TERMINATED	733.4	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

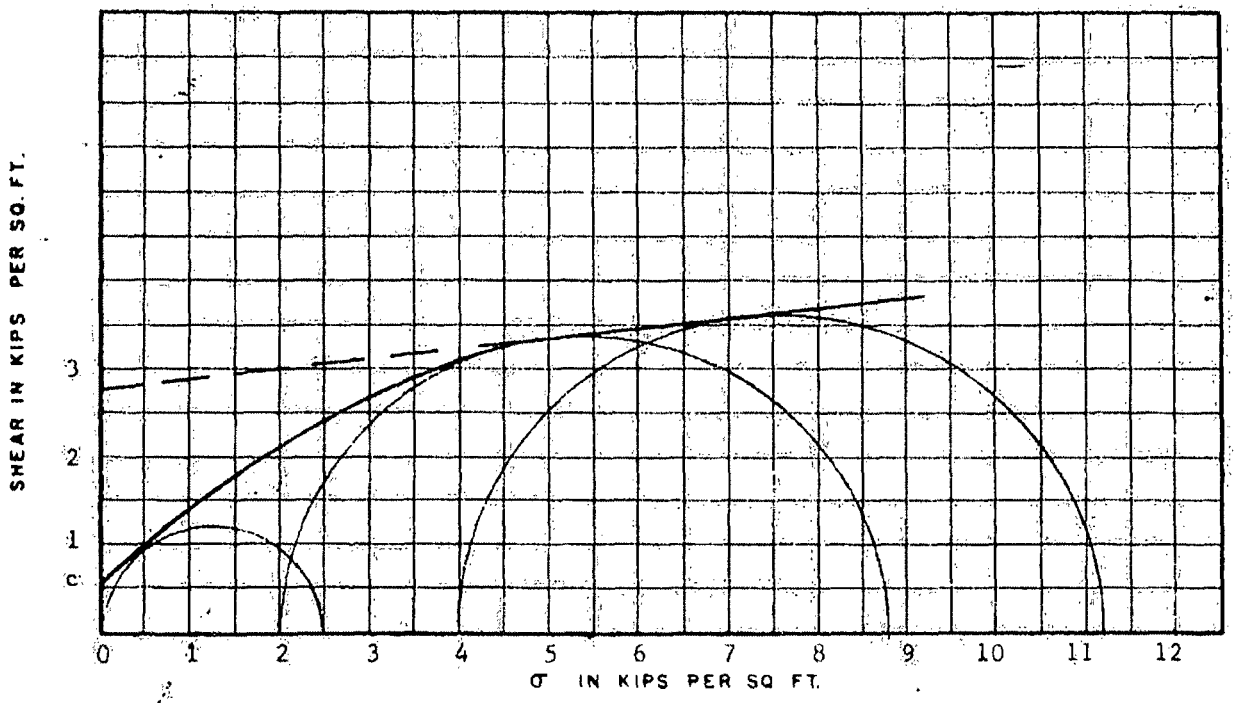
TEST BORING RECORD

BORING NO. NA-31

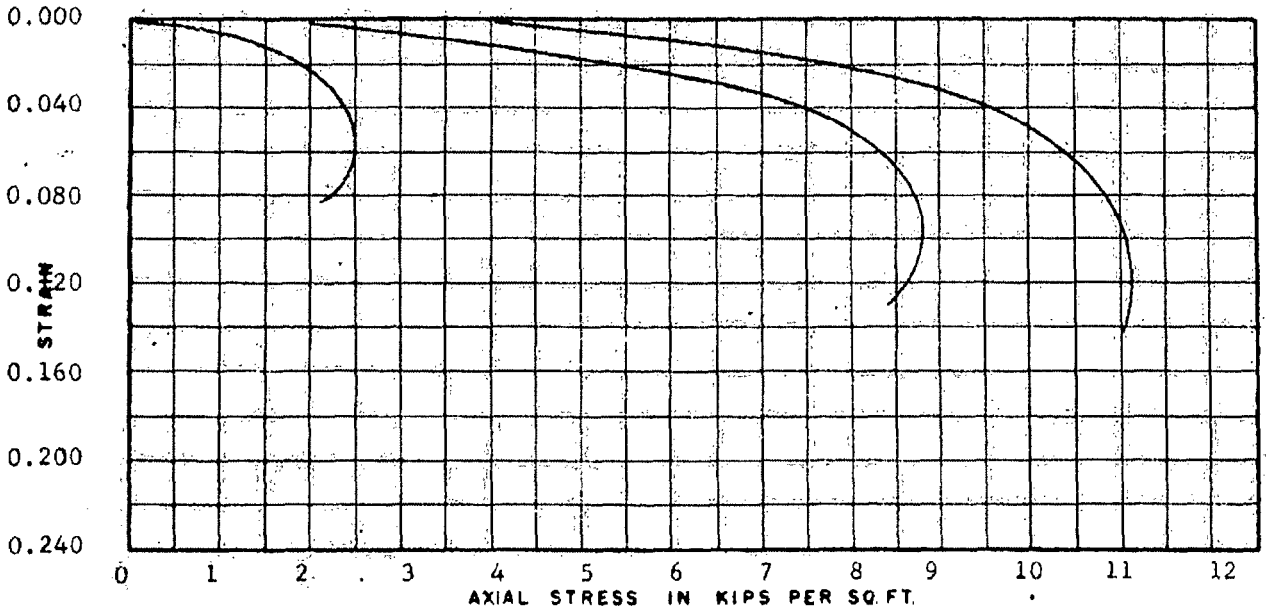
DATE DRILLED 10-11-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



STRESS-STRAIN CURVES

"COHESION", c 2.75 KSF c. 0.55 KSF

ANGLE OF SHEAR RESISTANCE. ϕ 7.0

UNIT WEIGHT, γ 117.0 PCF (WET)

WATER CONTENT. W 23.7%

VOID RATIO. e 0.777

GRAY AND BROWN, MICACEOUS, FINE TO MEDIUM SANDY SILT

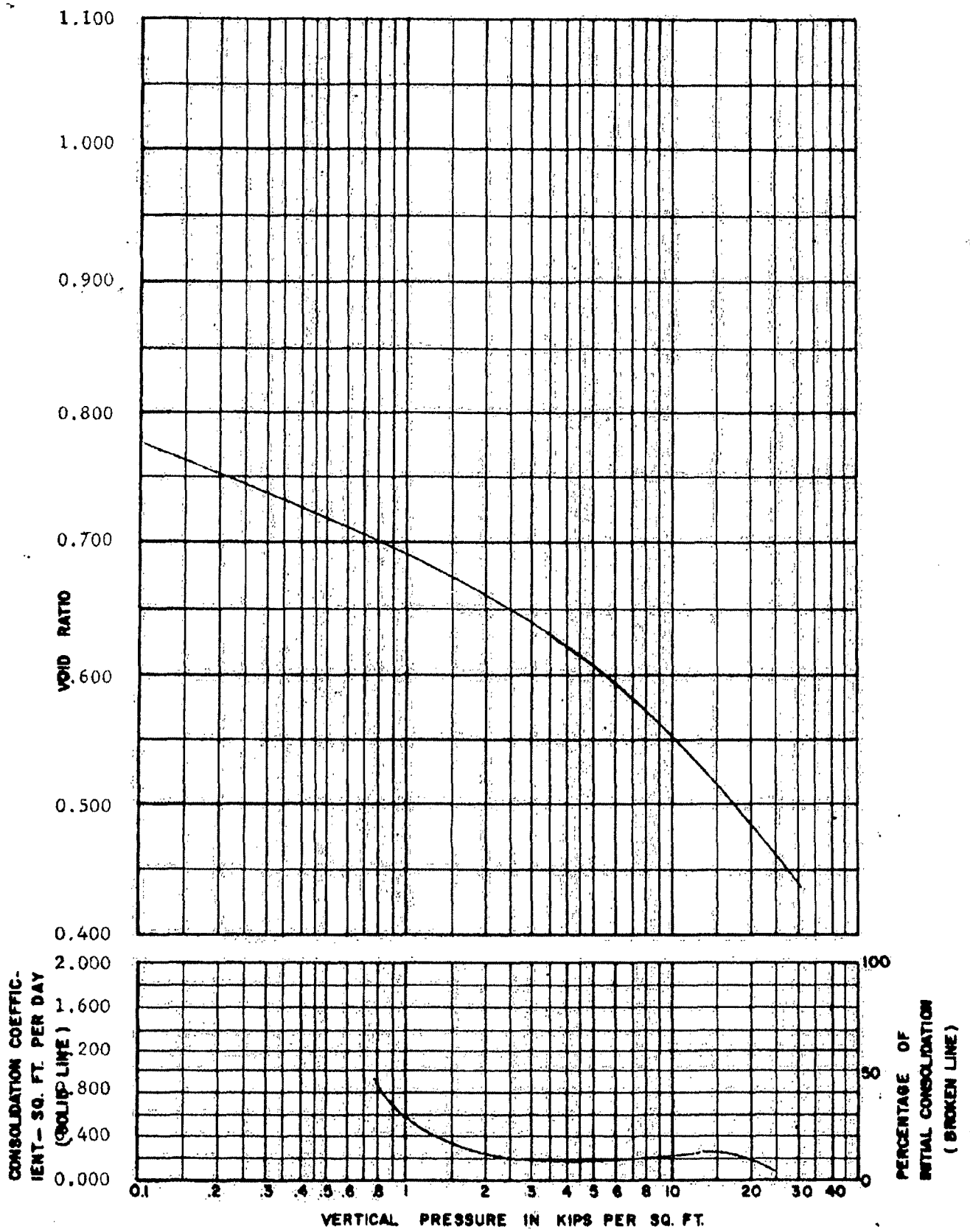
CONSOLIDATED QUICK

TRIAXIAL SHEAR TEST

BORING NO. NA-31 SAMPLE NO. UD-2

ELEV. OR DEPTH 20 FT. JOB NO. 5092

LAW ENGINEERING TESTING CO. B



SPECIFIC GRAVITY 2.70

COMPRESSION INDEX 0.249

UNIT WEIGHT 117.0 PCF WET

WATER CONTENT 23.7%

SATURATION 82.4%

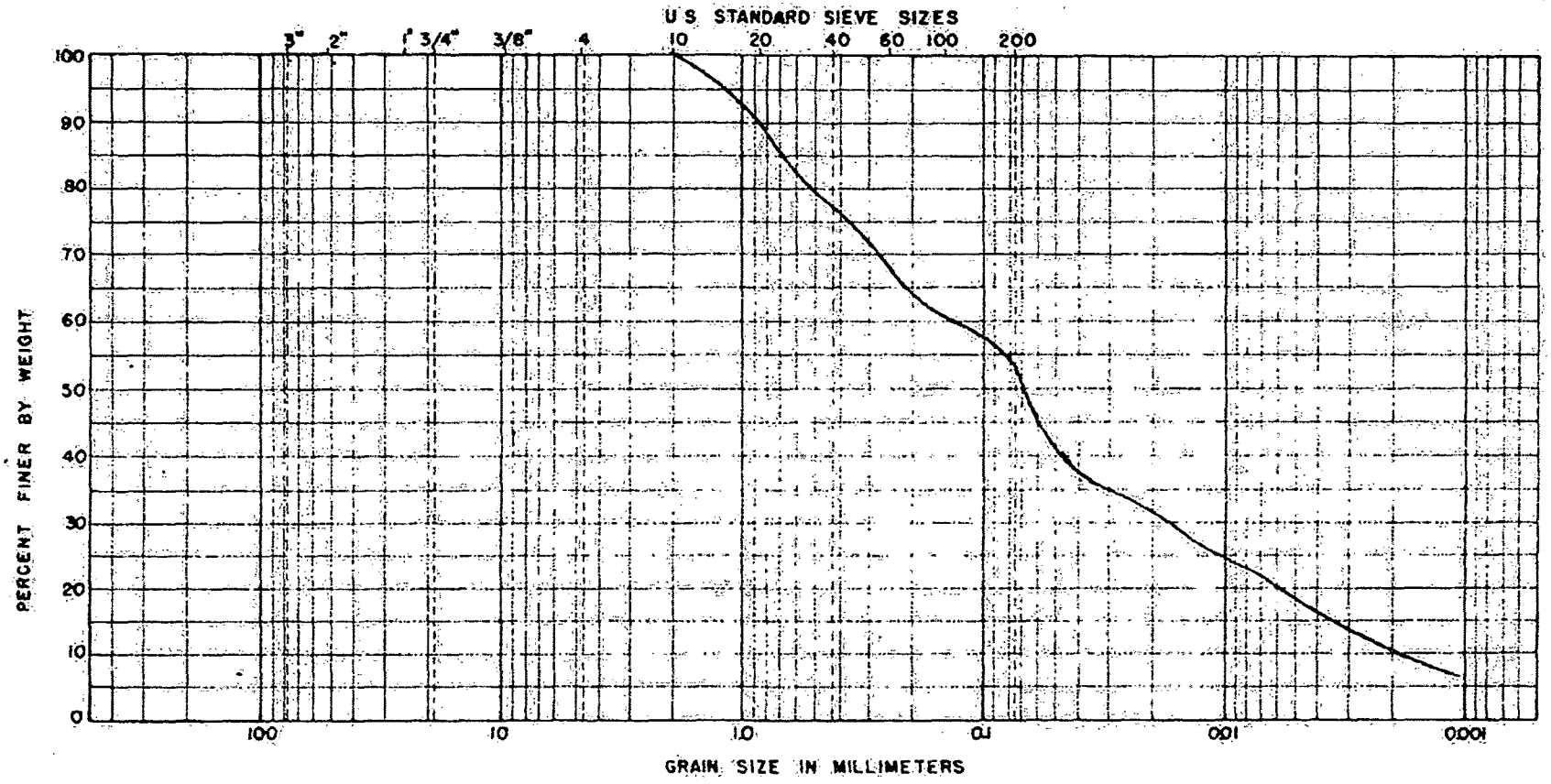
GRAY AND BROWN, MICACEOUS, FINE TO MEDIUM SANDY

CONSOLIDATION TEST

BORING NO. NA31 SAMPLE NO. UD-2

ELEV. OR DEPTH 20 FT JOB NO. 5092

LAW ENGINEERING TESTING COMPANY B



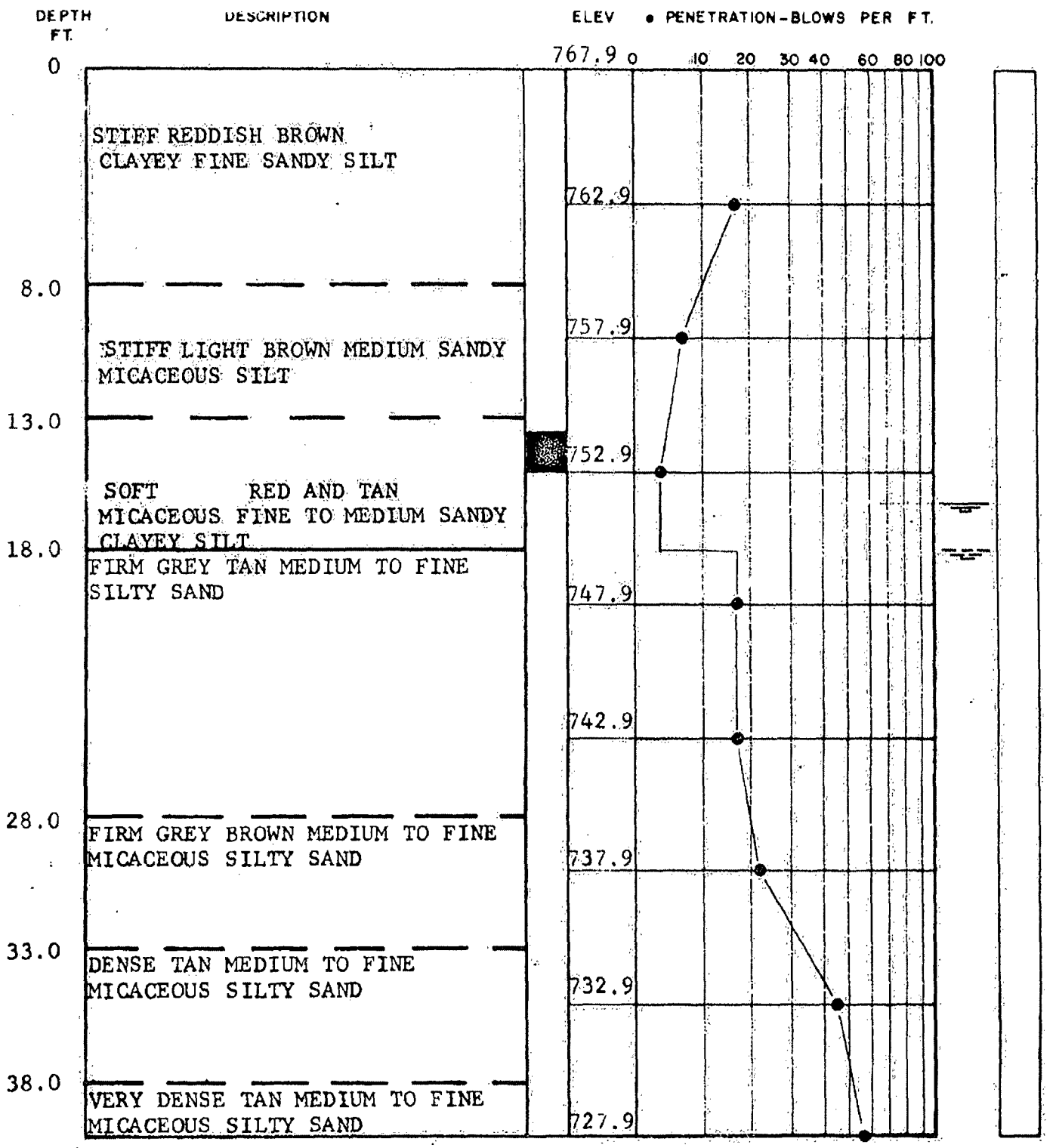
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA-31 UD-2	20 FT.	23.7				GRAY AND BROWN, MICACEOUS, FINE TO MEDIUM SANDY, SILT

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY B



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-32

DATE DRILLED 10-11-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
		727.9	
40.0	VERY DENSE TAN MEDIUM TO FINE MICACEOUS SILTY SAND		
		722.9	
45.0	SOFT WEATHERED ROCK DRILLED WITH HAWTHORN BIT		• 100+
		717.9	
		713.9	
		707.9	
		703.9	
66.0	ROCK ENCOUNTERED BORING TERMINATED		
		697.9	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

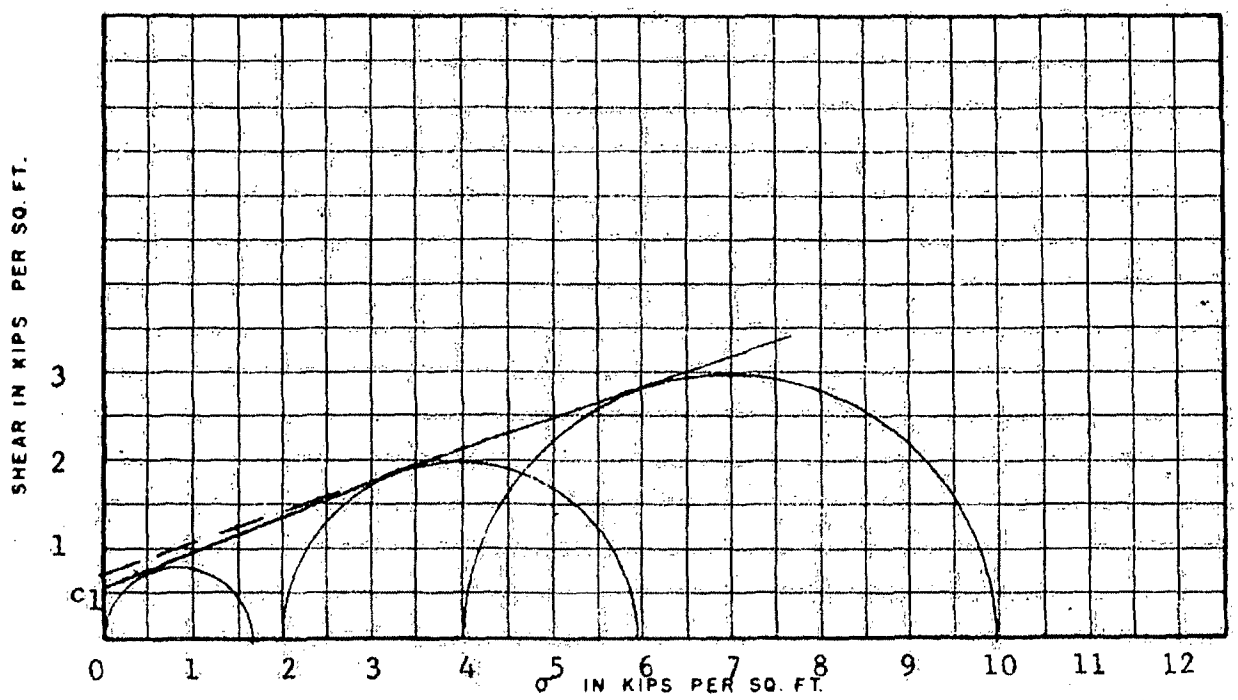
TEST BORING RECORD

BORING NO. NA-32

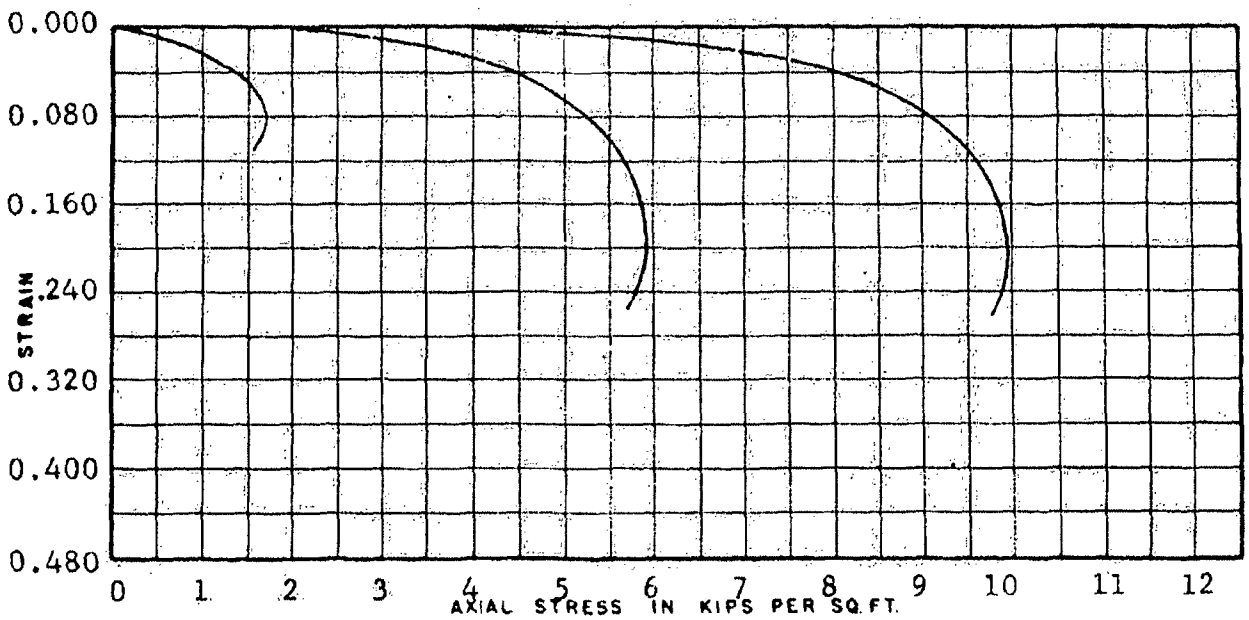
DATE DRILLED 10-11-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



STRESS-STRAIN CURVES

specific gravity 2.68

"COHESION", c 0.70 ksf c1 0.55 ksf

ANGLE OF SHEAR RESISTANCE, ϕ 19.5°

UNIT WEIGHT, γ 120.00 pcf (wet)

	initial	saturated
WATER CONTENT, w	20.2	24.0%
VOID RATIO, e	0.675	
saturation	80.2%	95.3%

SATURATED, CONSOLIDATED-QUICK

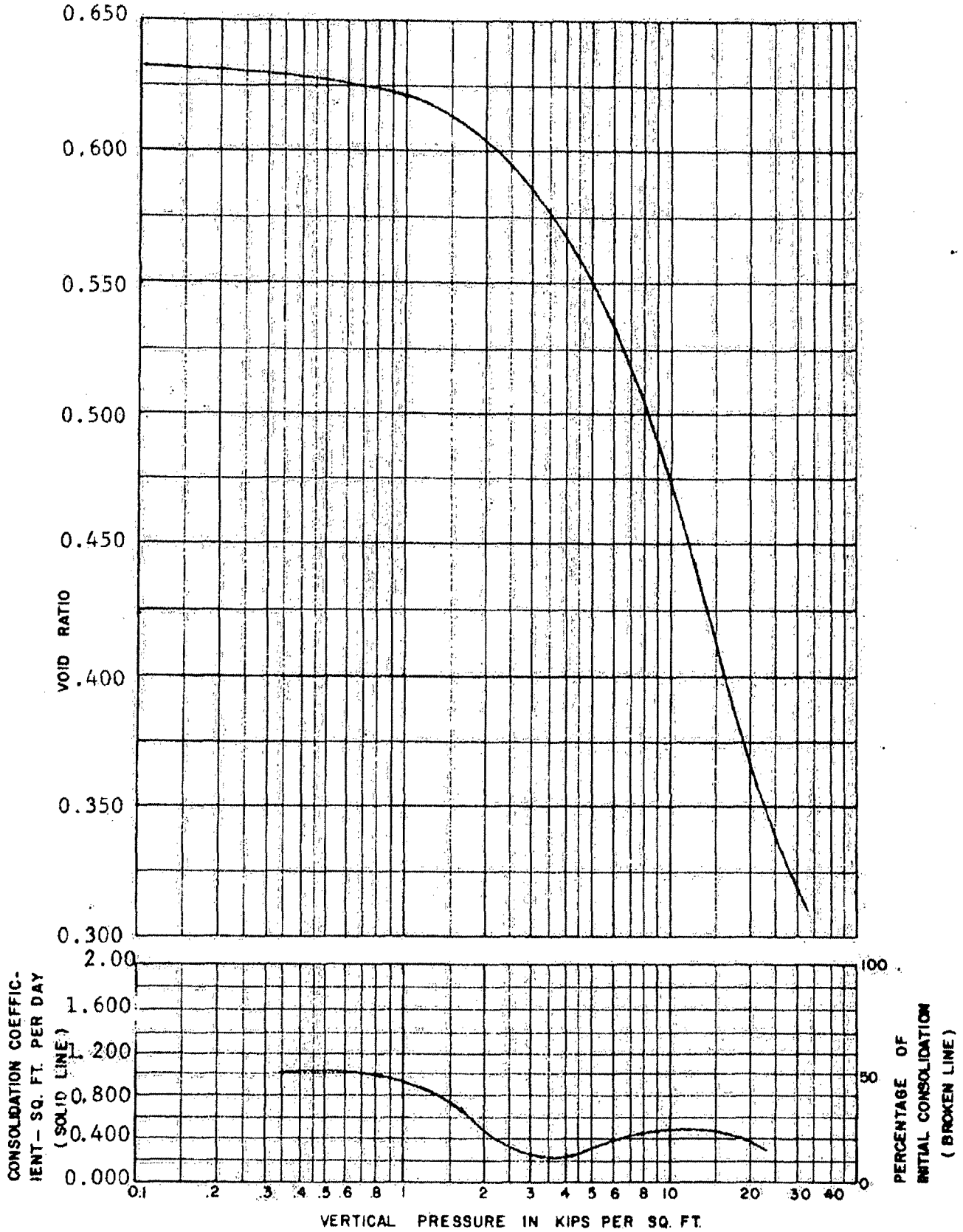
TRIAXIAL SHEAR TEST

BORING NO. NA 32 SAMPLE NO. UD-1

ELEV. OR DEPTH 15 ft JOB NO. 5092

LAW ENGINEERING TESTING CO.-B

Red and tan micaceous fine to medium sandy clayey silt



specific gravity 2.68

COMPRESSION INDEX 0.339

UNIT WEIGHT 123.2 pcf wet

WATER CONTENT 20.2

SATURATION 85.7 100.0%

Initial Final

Red & tan, micaceous, fine to medium sandy clayey silt

CONSOLIDATION TEST

BORING NO. NA-32 SAMPLE NO. UD-1

ELEV. OR DEPTH 15 ft. JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

bis

DEPTH FT.	DESCRIPTION	ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	RED BROWN CLAYEY SAND WITH QUARTZ FRAGMENTS	771.9	
		766.9	
		761.9	
		756.9	
		751.9	
		746.9	
		741.9	
		736.9	
40.0		731.9	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-32E

DATE DRILLED 10-21-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0	SOFT WEATHERED ROCK DRILLED WITH HAWTHORN BIT	731.9	
		726.9	
		721.9	•100+
		716.9	
		711.9	
		706.9	
68.1	ROCK ENCOUNTERED BORING TERMINATED	701.9	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-32E

DATE DRILLED 10-21-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	FIRM RED BROWN CLAYEY SAND WITH SMALL TO MEDIUM QUARTZ FRAGMENTS	764.0	
		759.0	
		754.0	
		749.0	
		744.0	
		739.0	
		734.0	
		729.0	
		724.0	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-32W

DATE DRILLED 10-20-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0	FIRM RED BROWN CLAYEY SAND WITH SMALL TO MEDIUM QUARTZ FRAGMENTS	724.0	
45.0	SOFT WEATHERED ROCK DRILLED WITH HAWTHORN BIT	719.0	• 100+
		714.0	
		706.0	• 100+
		704.0	
		696.0	• 100+
69.1	ROCK ENCOUNTERED BORING TERMINATED	694.0	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

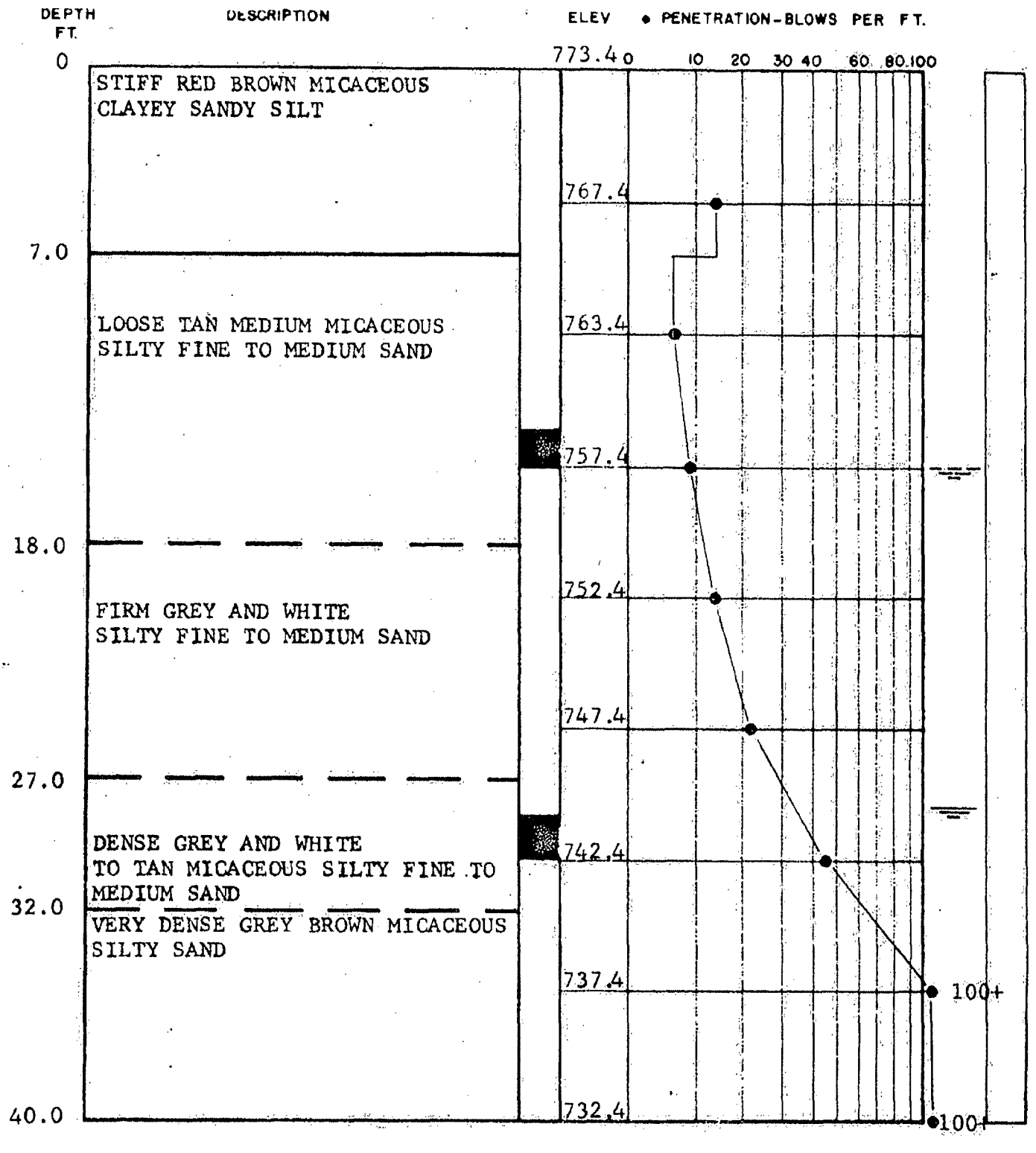
TEST BORING RECORD

BORING NO. NA-32W

DATE DRILLED 10-20-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-33

DATE DRILLED 10-10-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0			732.4	
41.7	SOFT WEATHERED ROCK DRILLED WITH HAWTHORN BIT			
	MODERATELY HARD GNEISS	NX	727.4	
		91%		
46.7	CORING TERMINATED		722.4	

bjs

TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

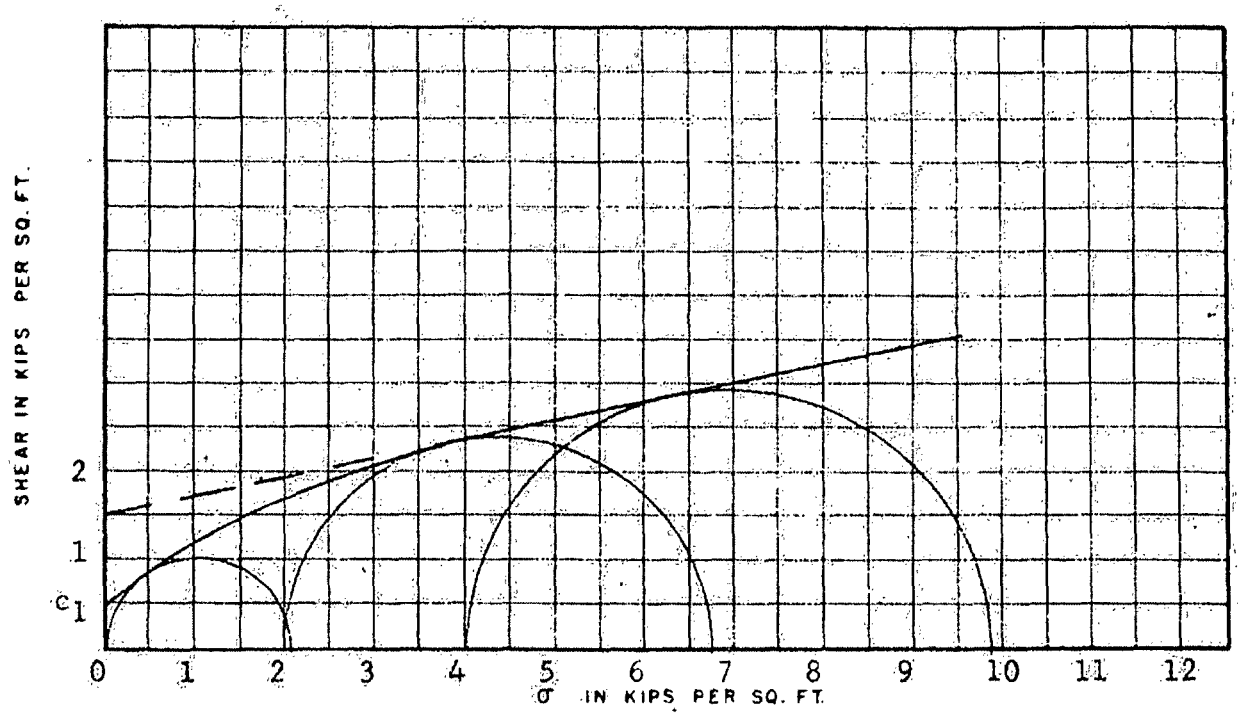
◀ LOSS OF DRILLING WATER

BORING NO. NA-33

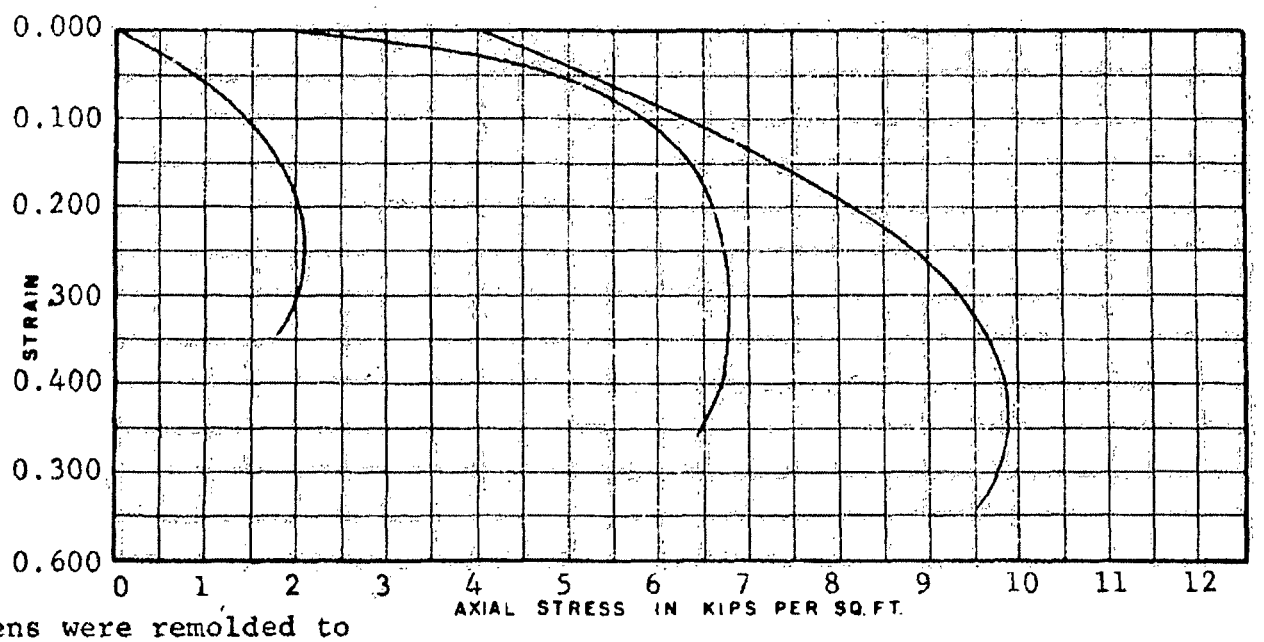
DATE DRILLED 10-10-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



Specimens were remolded to undisturbed density

STRESS-STRAIN CURVES

specific gravity 2.69

"COHESION", c 1.50 ksf c_1 = 0.50 ksf

ANGLE OF SHEAR RESISTANCE, ϕ 12.5

UNIT WEIGHT, γ 117.1 pcf (wet)

	initial	saturated
WATER CONTENT, w	1.62	20.8
VOID RATIO, e	0.600	
saturation	72.4%	93.3%

Tan, micaceous, silty, , fine to medium sand

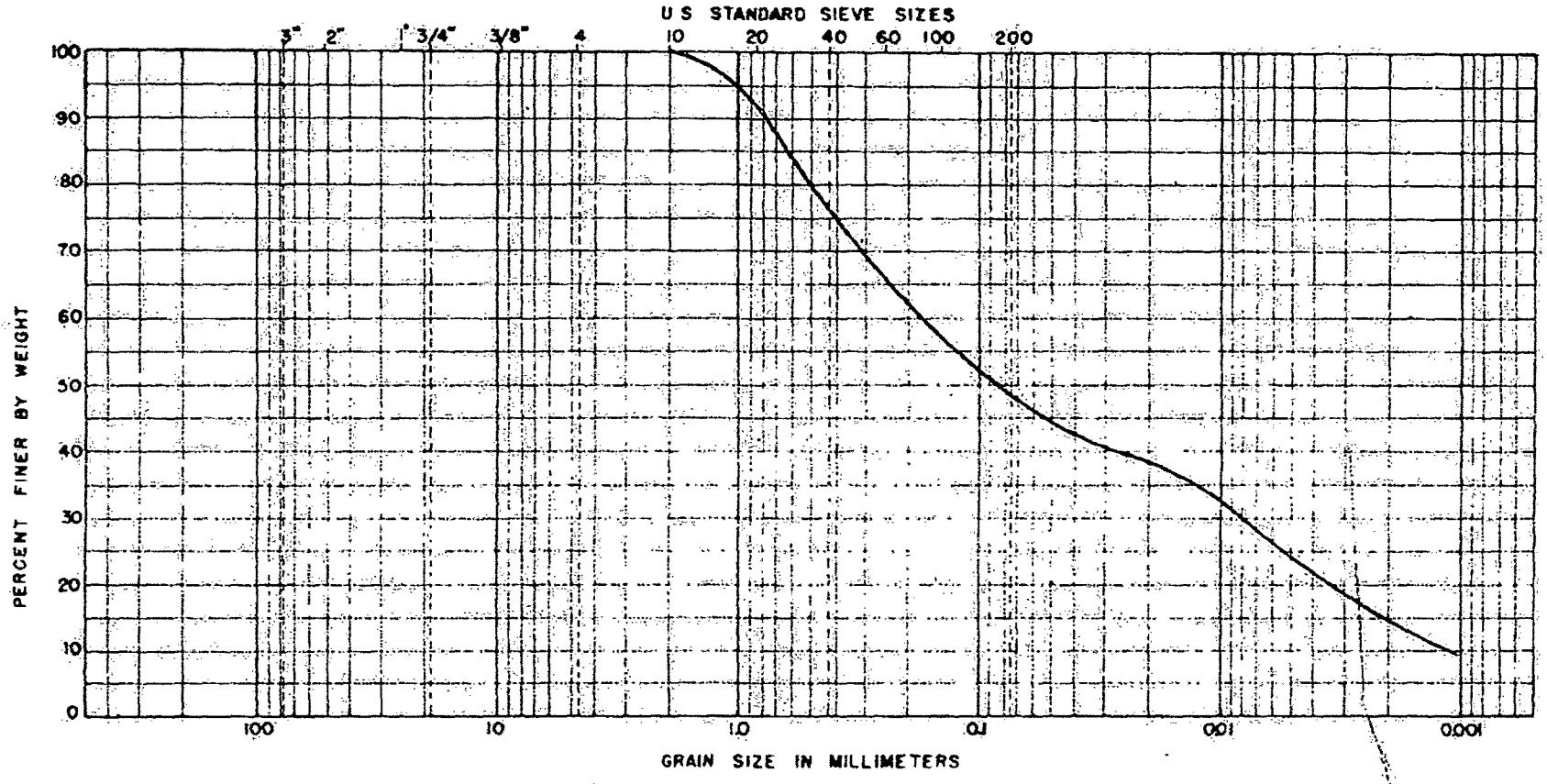
SATURATED, CONSOLIDATED-QUICK

TRIAXIAL SHEAR TEST

BORING NO. NA-33 SAMPLE NO. UD-2

ELEV. OR DEPTH 30 ft. JOB NO. 5092

LAW ENGINEERING TESTING CO. - B



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

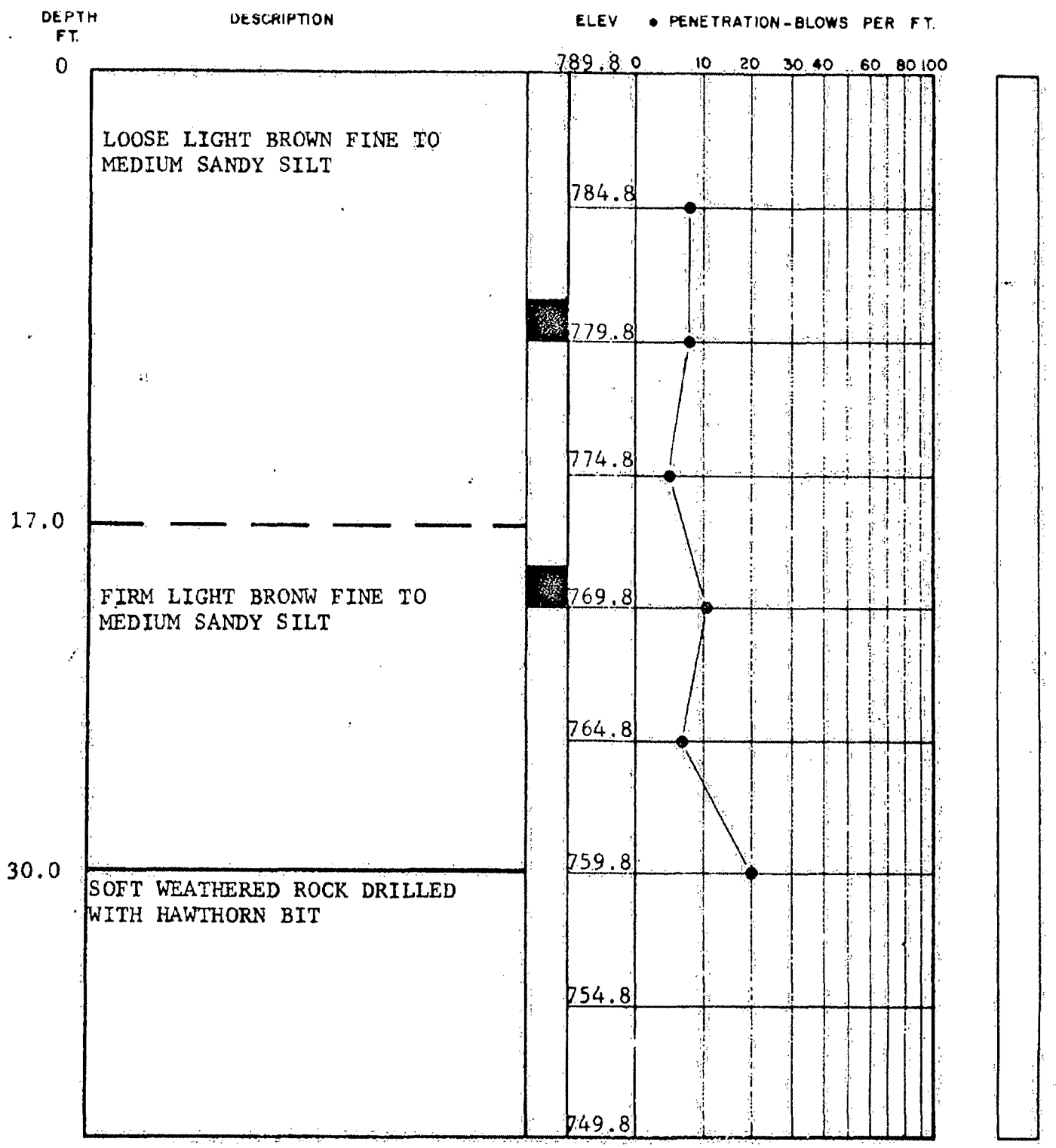
BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA 33 UD-2	30 ft.	16.2				Tan, micaceous, silty fine to medium sand

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY- B

bjs



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-34

DATE DRILLED 10-10-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0	SOFT WEATHERED ROCK DRILLED WITH HAWTHORN BIT	749.8	
		744.8	
		739.8	
		734.8	
		729.8	
60.5	BORING TERMINATED	724.8	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

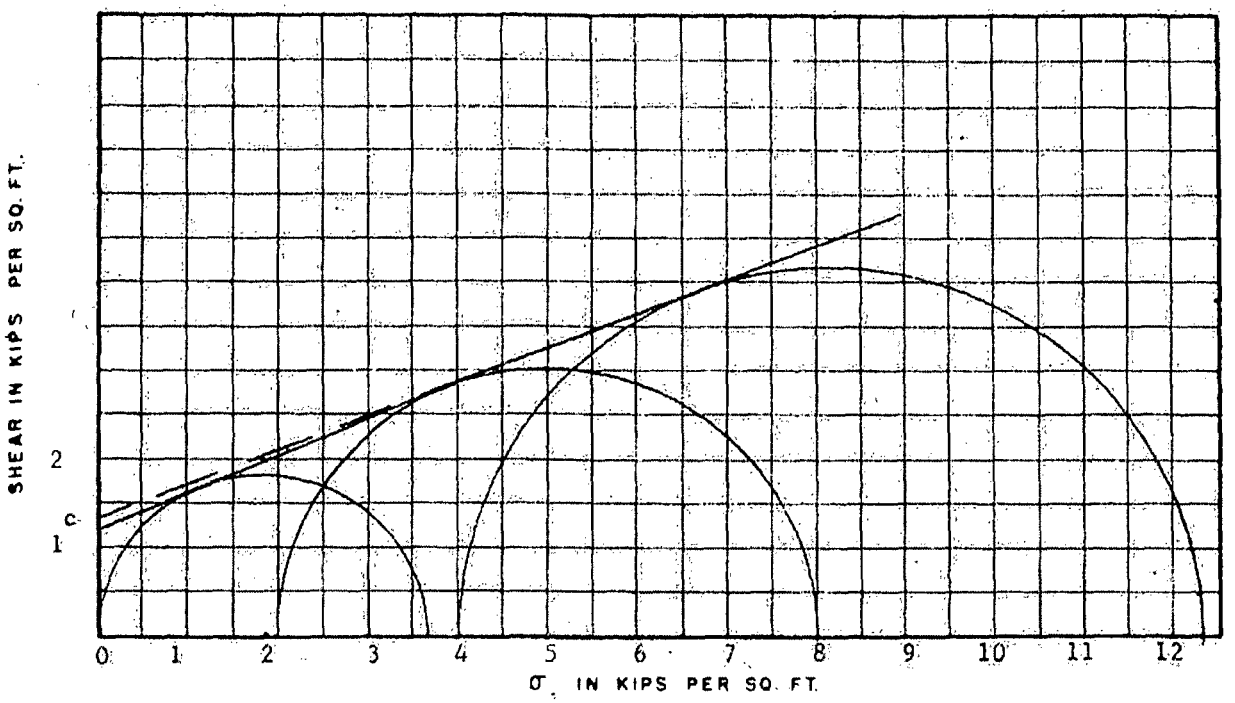
TEST BORING RECORD

BORING NO. NA-34

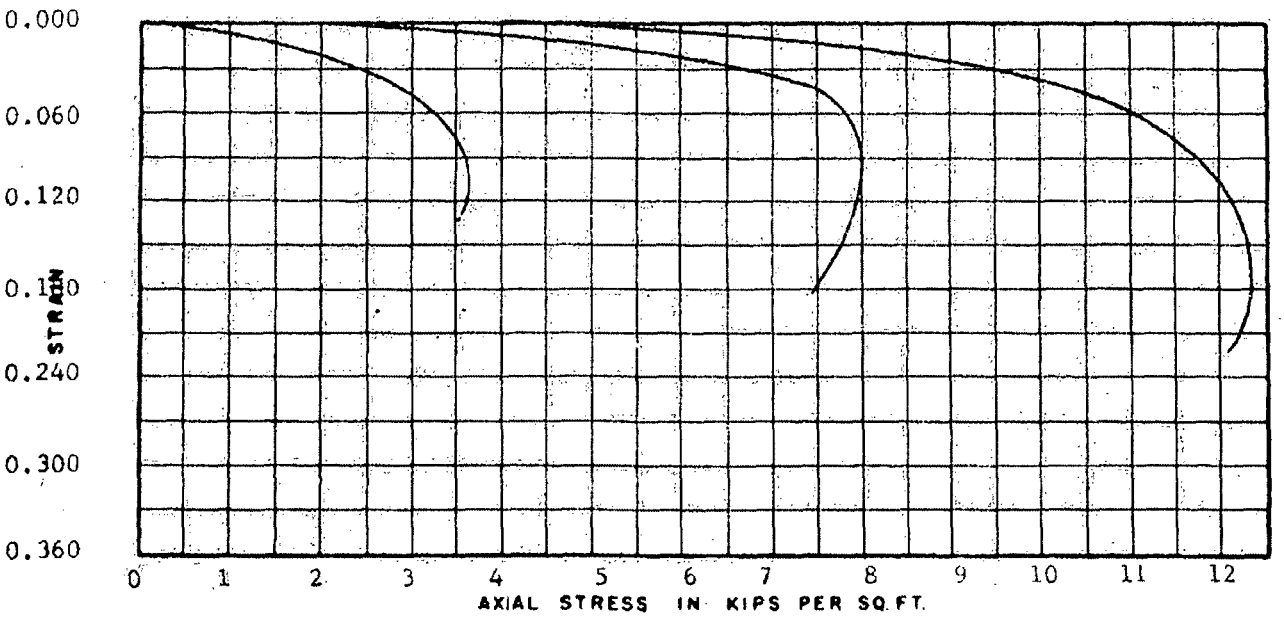
DATE DRILLED 10-10-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



MOHR DIAGRAMS — ϕ



STRESS-STRAIN CURVES

SPECIFIC GRAVITY 2.69

"COHESION", c 1.28 KSF c. 1.18 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 21.5°

UNIT WEIGHT, γ 127.0 PCF (WET)

WATER CONTENT, W 16.2%

VOID RATIO, e 0.599

BROWN, MICACEOUS, FINE TO MEDIUM, SANDY SILT

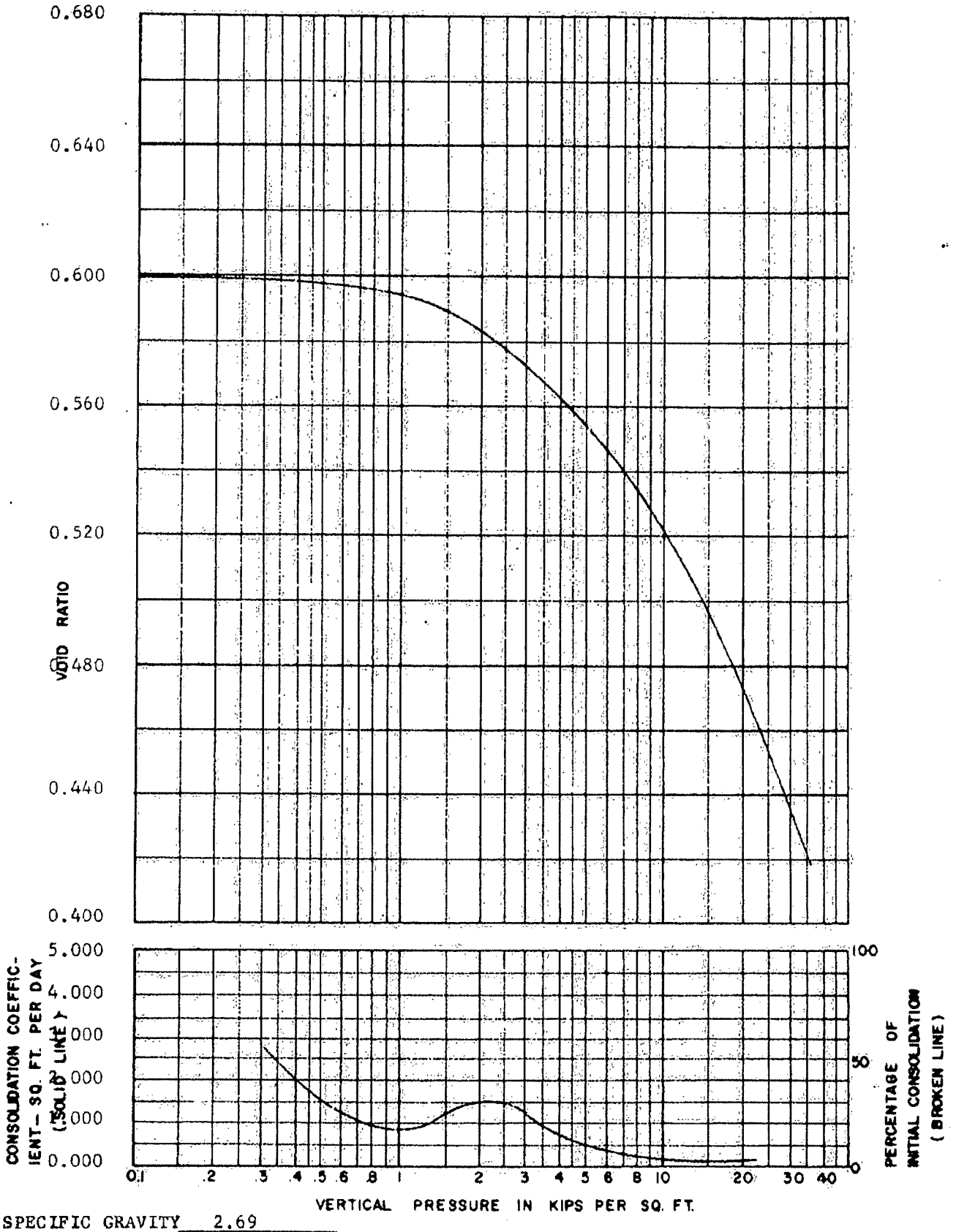
CONSOLIDATED QUICK

TRIAXIAL SHEAR TEST

BORING NO. NA-34 SAMPLE NO. UD-2

ELEV. OR DEPTH 20 FT. JOB NO. 5092

LAW ENGINEERING TESTING CO. B



SPECIFIC GRAVITY 2.69

COMPRESSION INDEX 0.193

UNIT WEIGHT 127.0 PCF (WET)

WATER CONTENT 16.2%

SATURATION 72.7%

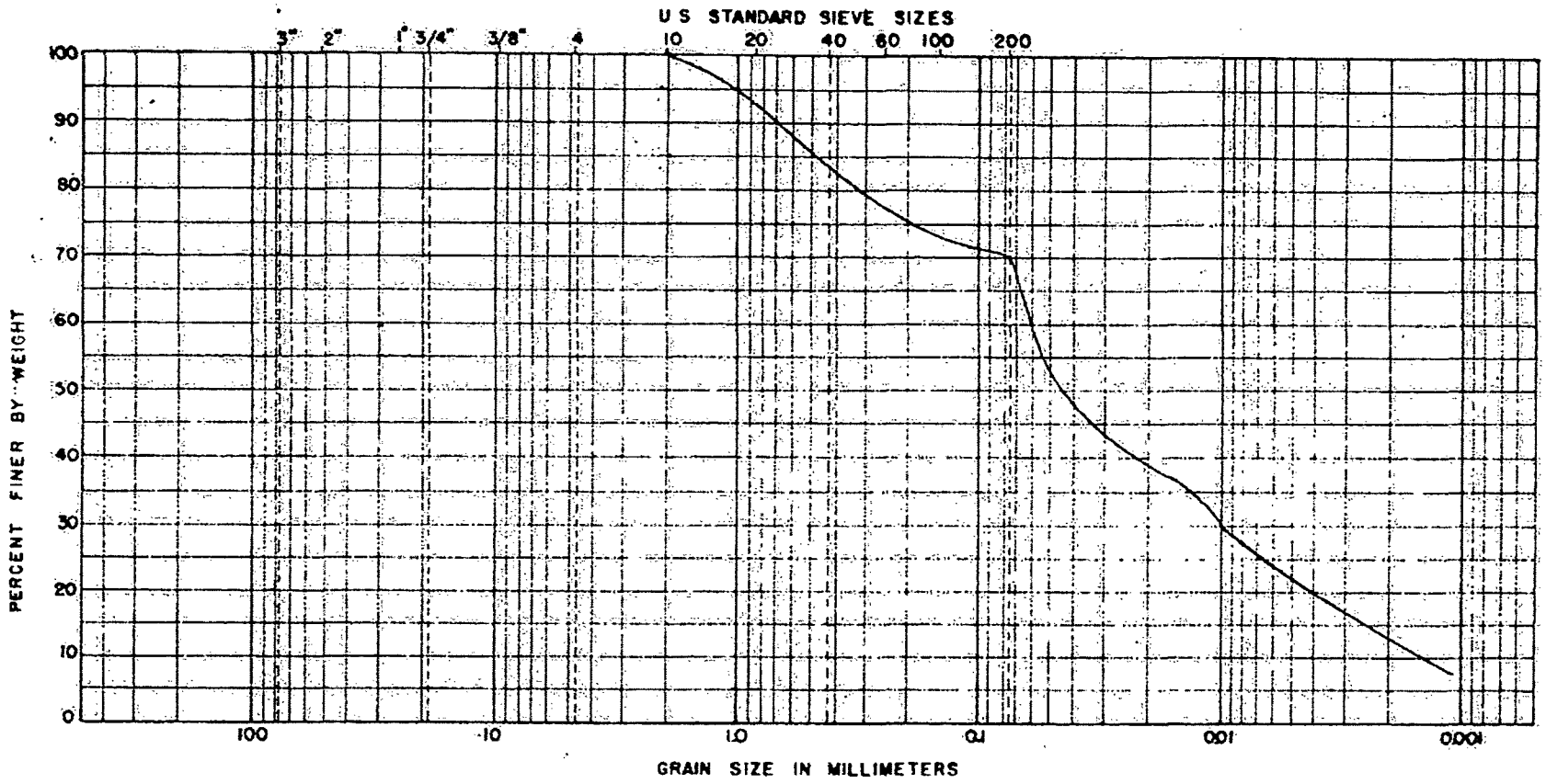
BROWN, MICACEOUS, FINE TO MEDIUM SANDY SILT

CONSOLIDATION TEST

BORING NO. NA34 SAMPLE NO. UD-2

ELEV. OR DEPTH 20 FT JOB NO. 5092

LAW ENGINEERING TESTING COMPANY B



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

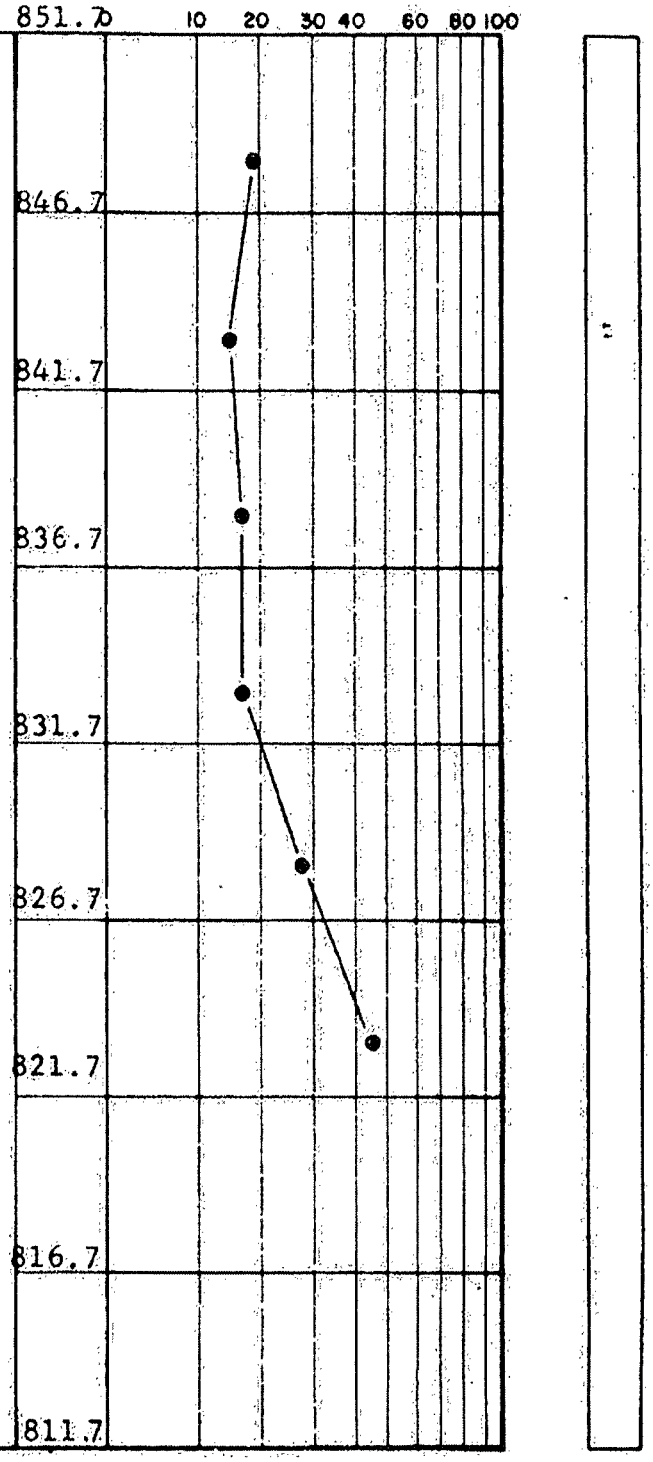
BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA-34 UD-2	20 FT.	16.2				BROWN, MICACEOUS, FINE TO MEDIUM SANDY SILT

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
0	VERY STIFF RED BROWN CLAYEY SANDY MICACEOUS SILT
12.0	VERY STIFF BROWN, BLACK AND WHITE MICACEOUS SANDY SILT WITH QUARTZ FRAGMENTS
16.5	FIRM GREENISH BLACK, BROWN AND WHITE MICACEOUS SILTY SAND
29.0	DENSE TO VERY DENSE GREENISH BLACK, BROWN AND WHITE MICACEOUS SILTY SAND



bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-35

DATE DRILLED 11-26-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0	DENSE TO VERY DENSE GREENISH BLACK, BROWN, AND WHITE MICACEOUS SILTY SAND		811.7	
43.5	ROCK, GRANITE GNEISS	NX 100%	806.7	
48.5	CORING TERMINATED		801.7	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

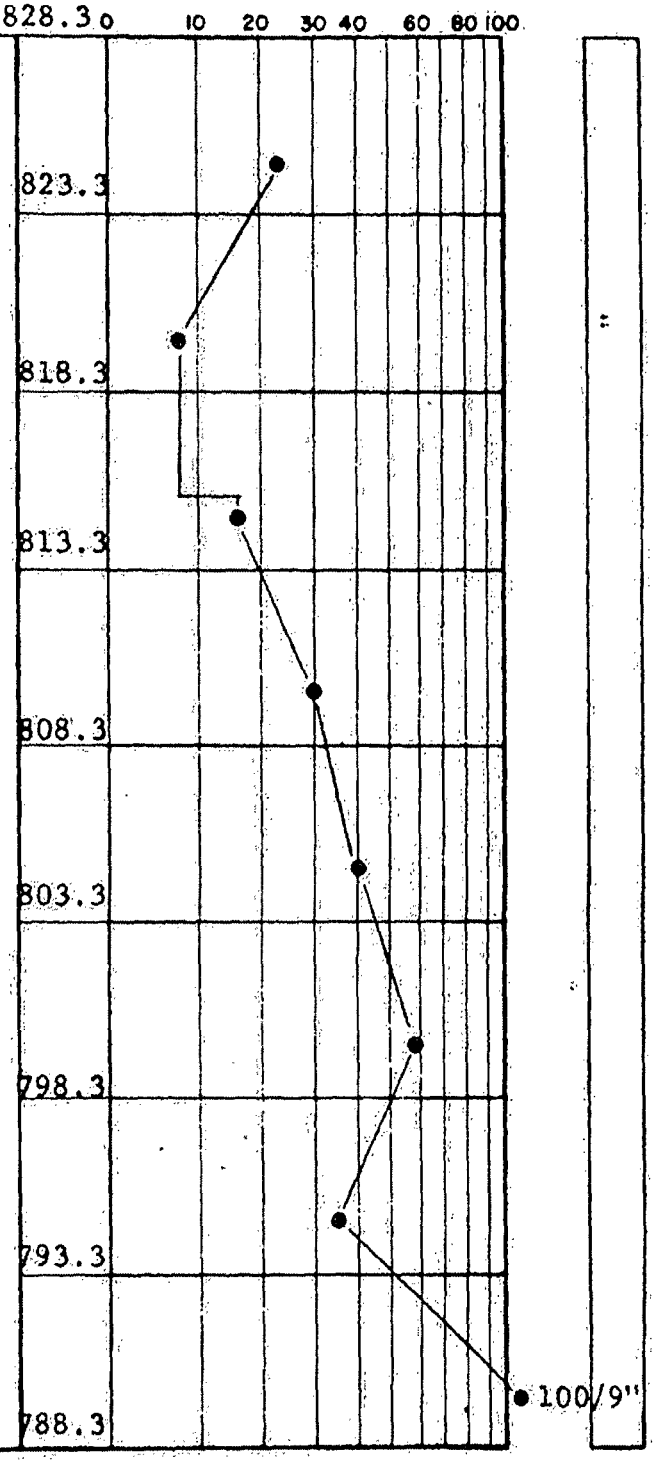
BORING NO. NA-35

DATE DRILLED 10-26-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
0	TOPSOIL	828.3
0.3	VERY STIFF RED BROWNISH MICACEOUS FINE TO MEDIUM SANDY CLAYEY SILT	
6.0	FIRM RED AND BROWN MICACEOUS FINE TO COARSE SANDY CLAYEY SILT	
13.0	VERY STIFF GRAY AND WHITE MICACEOUS SILTY FINE TO MEDIUM SAND	
20.0	SOFT WEATHERED ROCK WITH SMALL TO MEDIUM QUARTZ FRAGMENTS	



BJS

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-36

DATE DRILLED 10-17-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0			788.3	
	SOFT WEATHERED ROCK WITH SMALL TO MEDIUM QUARTZ FRAGMENTS		783.3	
			778.3	
			773.3	
58.0				
	ROCK, GRANITE GNEISS	NX 90%	768.3	
63.0				
	CORING TERMINATED		763.3	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

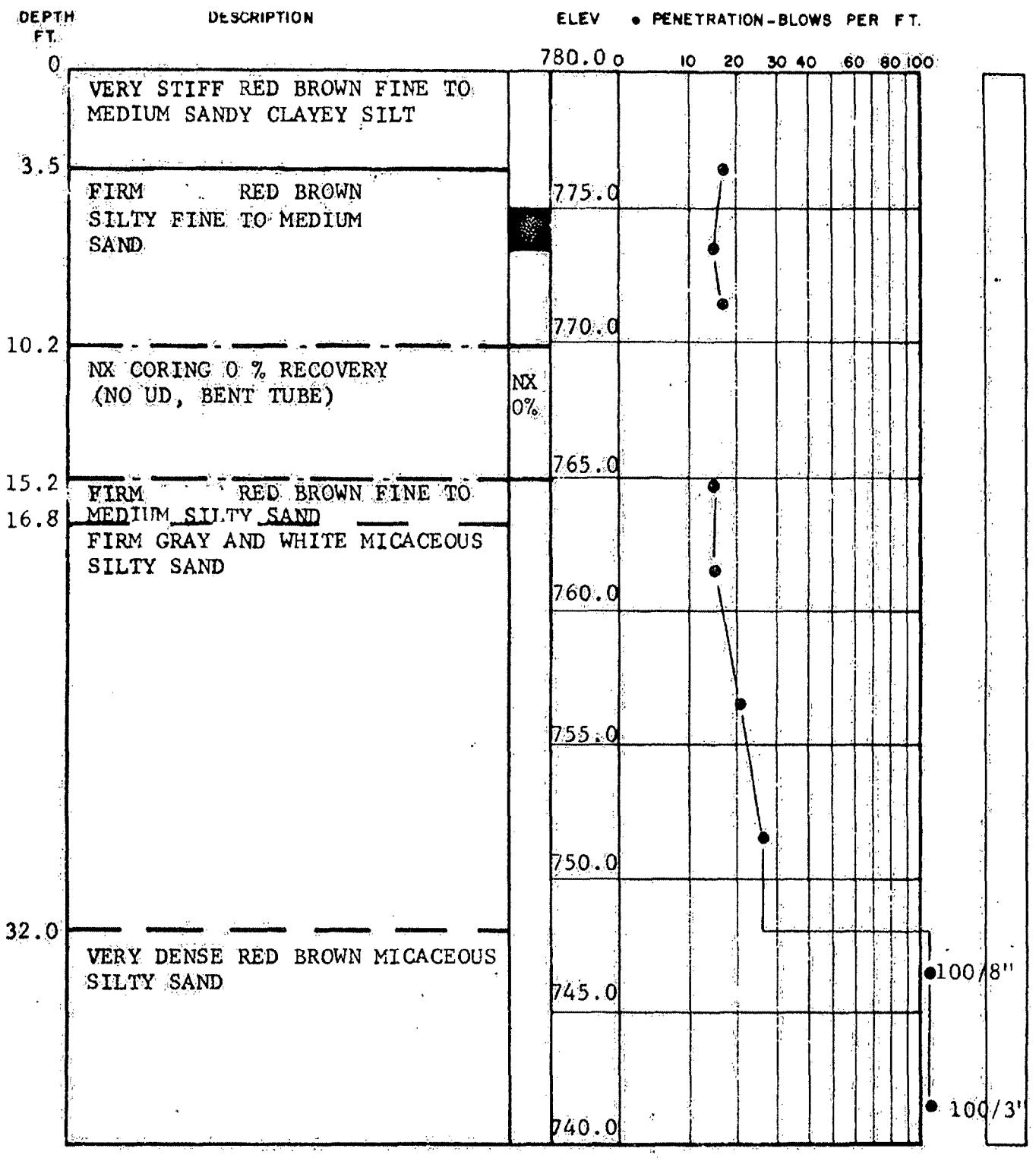
TEST BORING RECORD

BORING NO. NA-36

DATE DRILLED 10-17-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-37

DATE DRILLED 10-12-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
40.0	VERY DENSE RED BROWN MICACEOUS SILTY SAND		740.00	
			735.0	
			730.0	
			725.0	
57.0	ROCK	BX 68%	720.0	
62.0	CORING TERMINATED		715.0	
			710.0	
			705.0	
			700.0	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

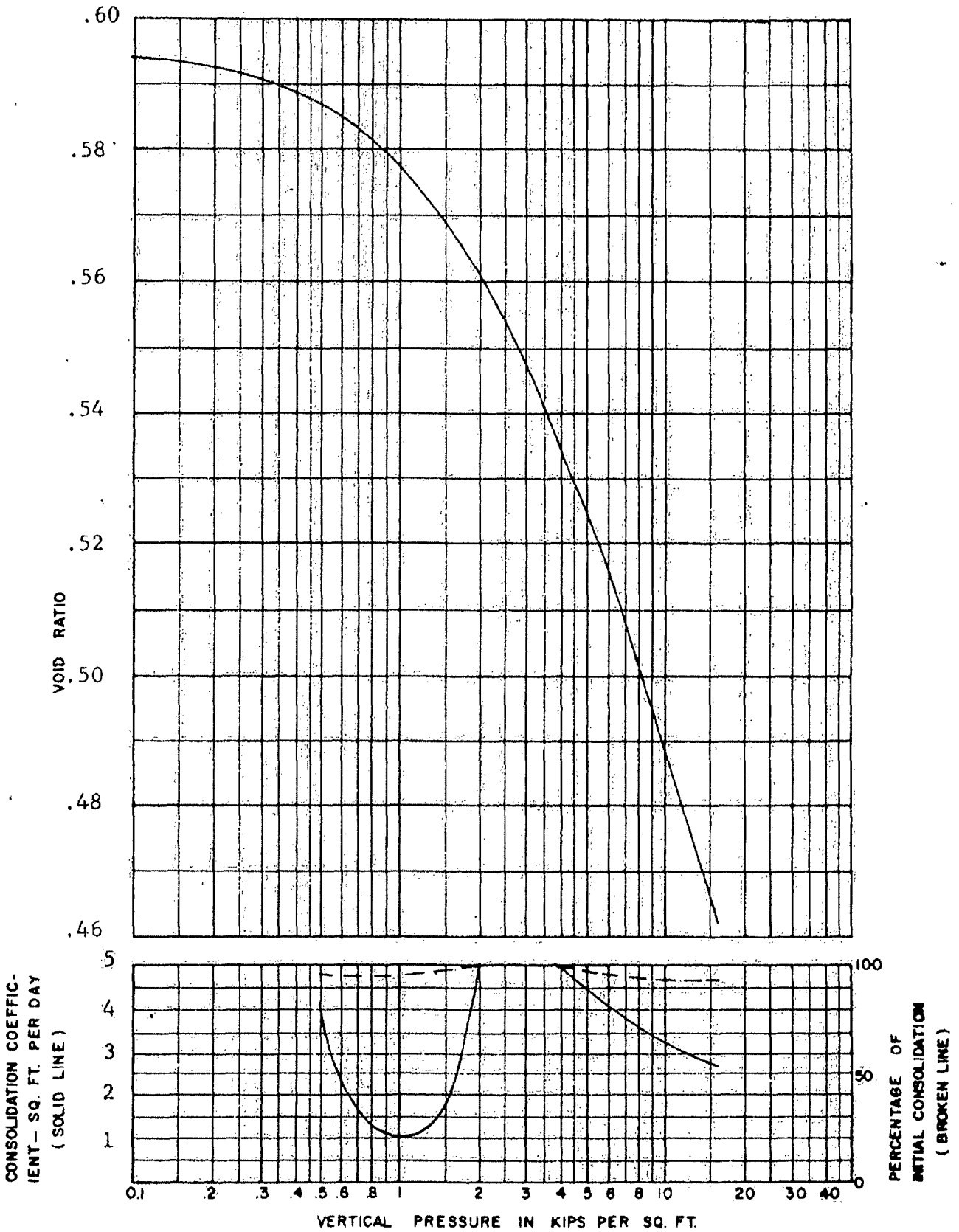
TEST BORING RECORD

BORING NO. NA-37

DATE DRILLED 10-12-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.



COMPRESSION INDEX 0.13
UNIT WEIGHT 120.6 pcf (wet)
WATER CONTENT 15.2%
SATURATION 68%
Gs 2.67

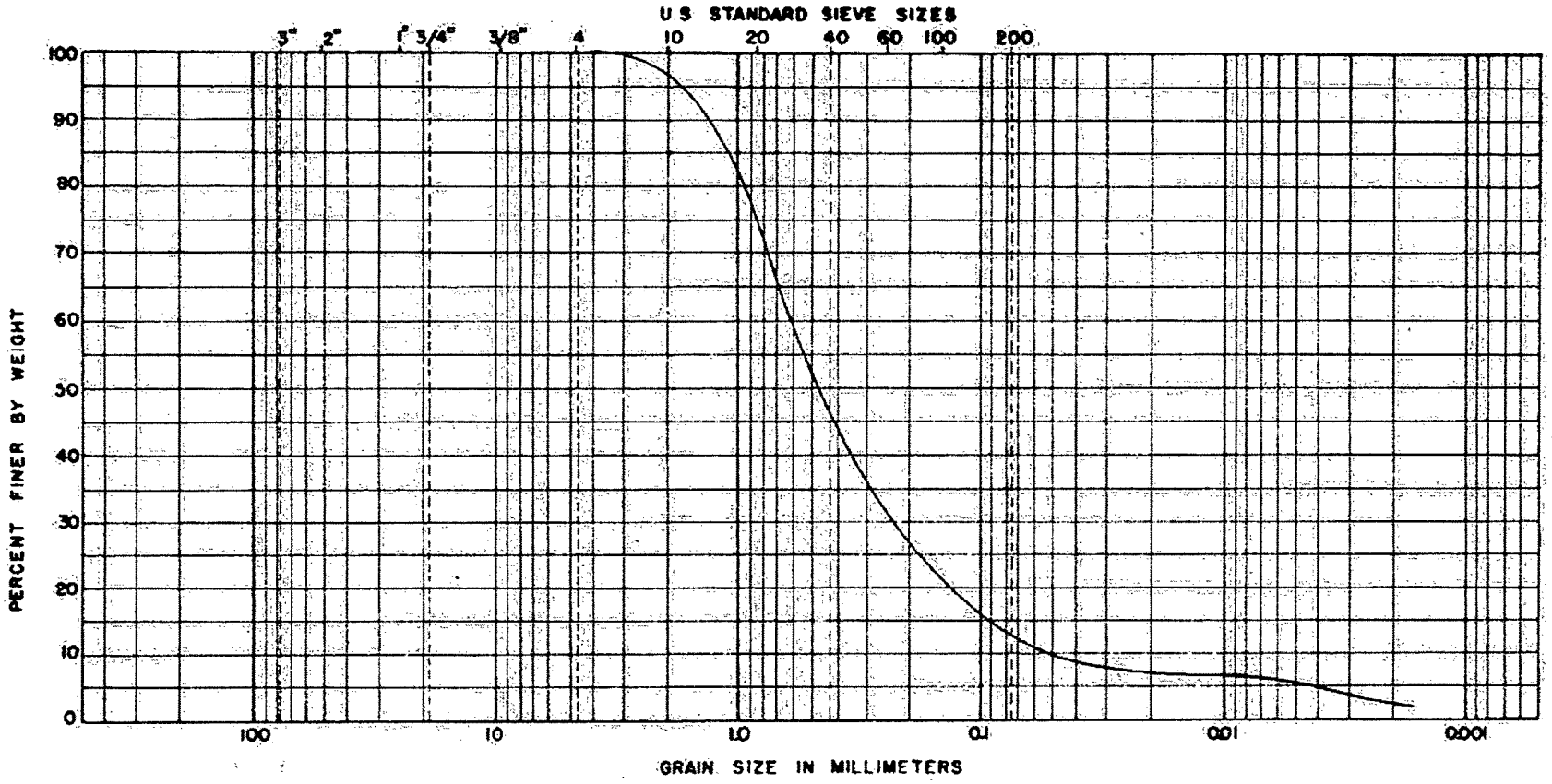
Brown slightly silty micaceous medium & fine sand

CONSOLIDATION TEST

BORING NO. NA-37 SAMPLE NO. UD-1
ELEV. OR DEPTH 6' JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

bjs



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
NA 37	6'				NP	Brown, Slightly Silty, Micaceous Medium and fine sand (SM) Permeability = 5.67×10^{-5} ft/sec.

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

bjs

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT.
0		718.4	0 10 20 30 40 60 80 100
0.5	TOPSOIL		
	DENSE RED AND BROWN SILTY MICACEOUS FINE TO COARSE SAND	713.4	
8.0	VERY DENSE RED AND BROWN SILTY MICACEOUS FINE TO COARSE SAND	708.4	
		703.4	50/1"
		698.4	
		693.4	
27.2	ROCK, GRANITE GNEISS	688.4	BX 92%
		683.4	
37.0	CORING TERMINATED	678.4	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

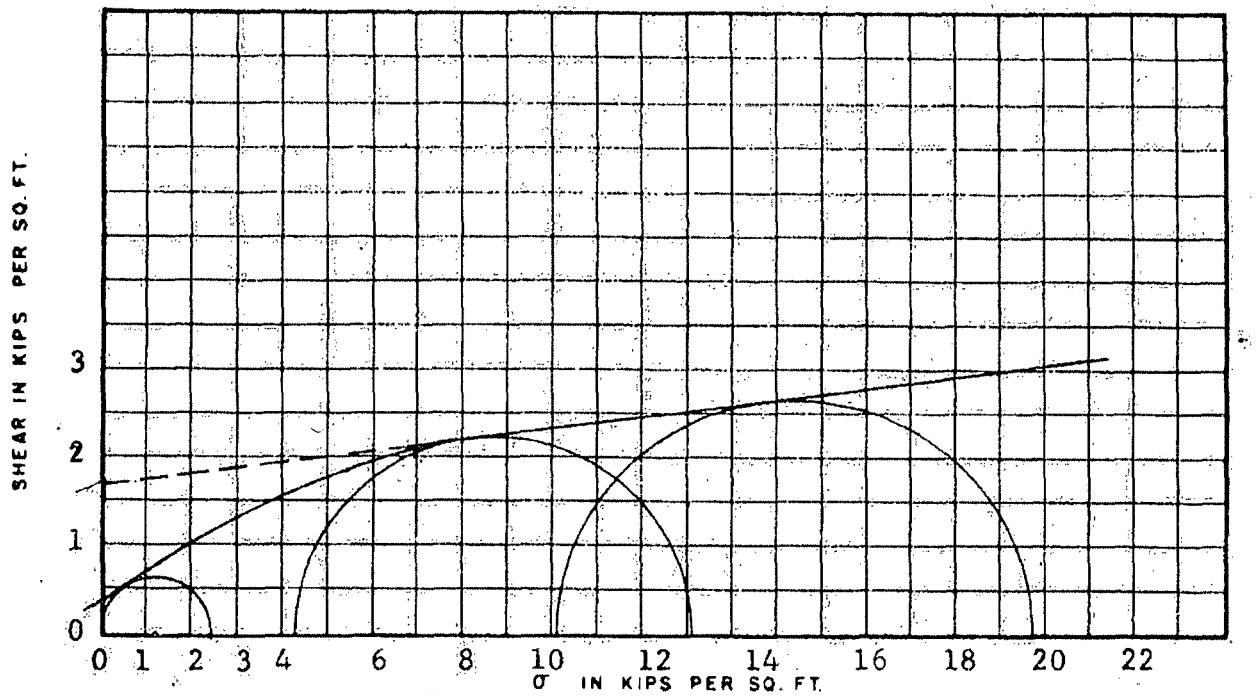
BORING NO. NA-38

DATE DRILLED 10-11-66

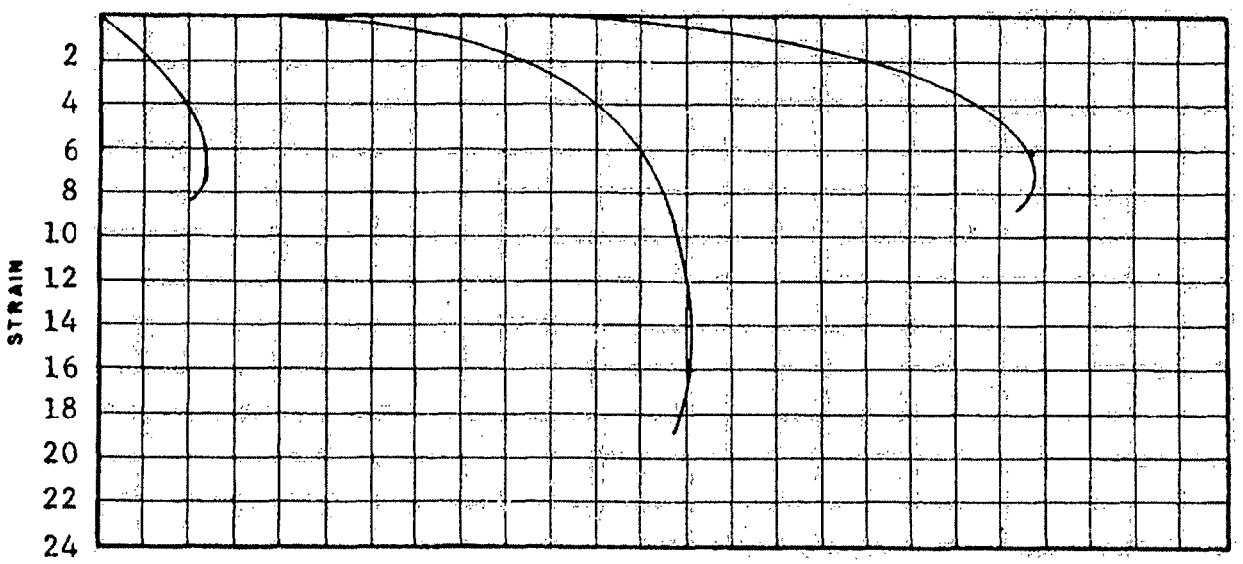
JOB NO. 5092

LAW ENGINEERING TESTING CO.

DJS



MOHR DIAGRAMS — ϕ



AXIAL STRESS IN KIPS PER SQ. FT.

STRESS-STRAIN CURVES

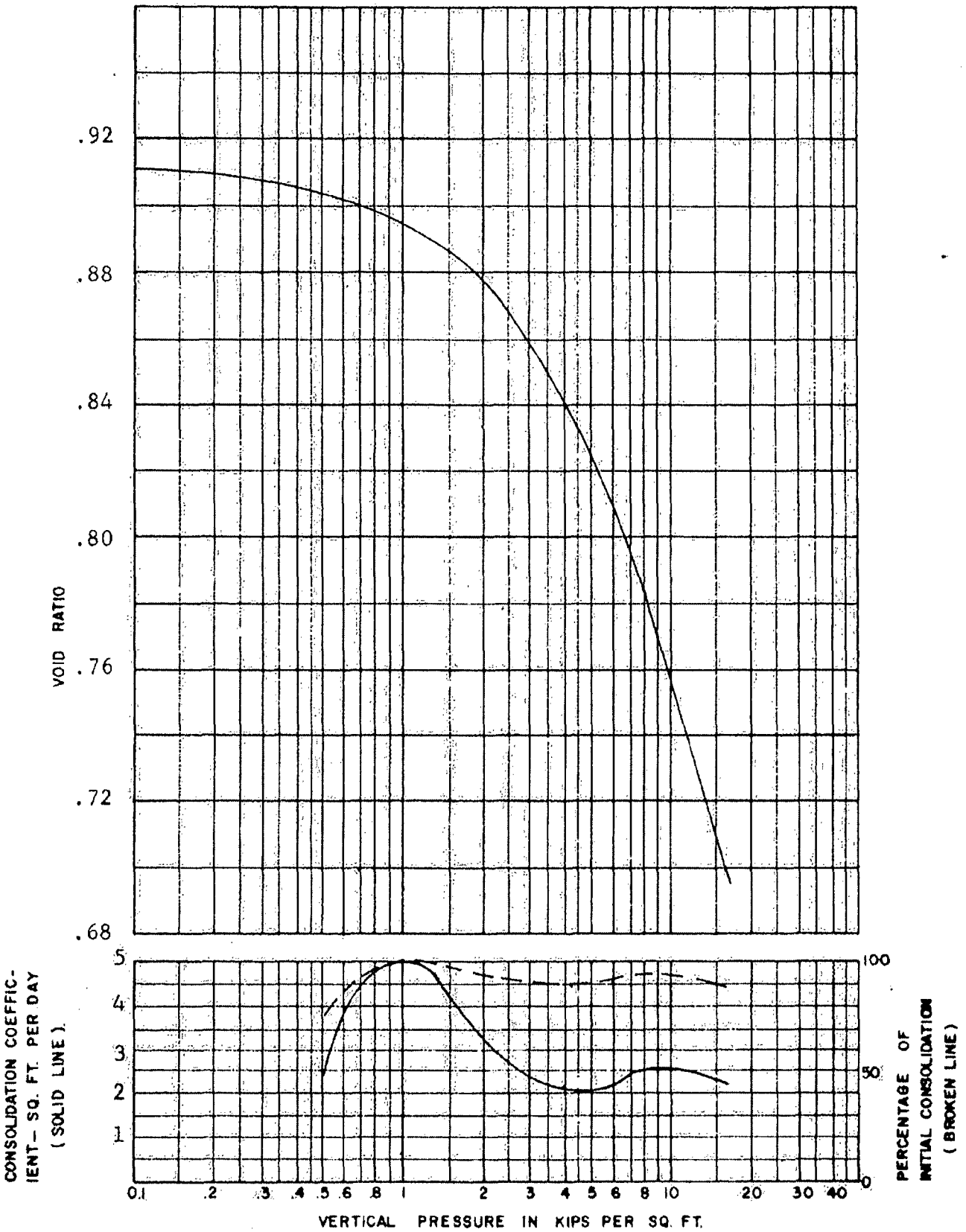
"COHESION", c	c_1 = 1.70 c	= 0.44
ANGLE OF SHEAR RESISTANCE, ϕ		7.5°
UNIT WEIGHT, γ	112.3pcf	120.0pcf
WATER CONTENT, w	19.0	27.5
VOID RATIO, e	0.78	0.78
saturation, s	54%	95%
	Before Soak	After Soak

SOAKED
CONSOLIDATED-UNDRAINED DUTCH METHOD
TRIAXIAL SHEAR TEST

BORING NO. NA 38 SAMPLE NO. UD-1
ELEV. OR DEPTH 5' JOB NO. 5092

LAW ENGINEERING TESTING CO.

bjs



COMPRESSION INDEX 0.28
UNIT WEIGHT 108.6 pcf(wet)
WATER CONTENT 23.1
SATURATION 70%
G_s 2.70

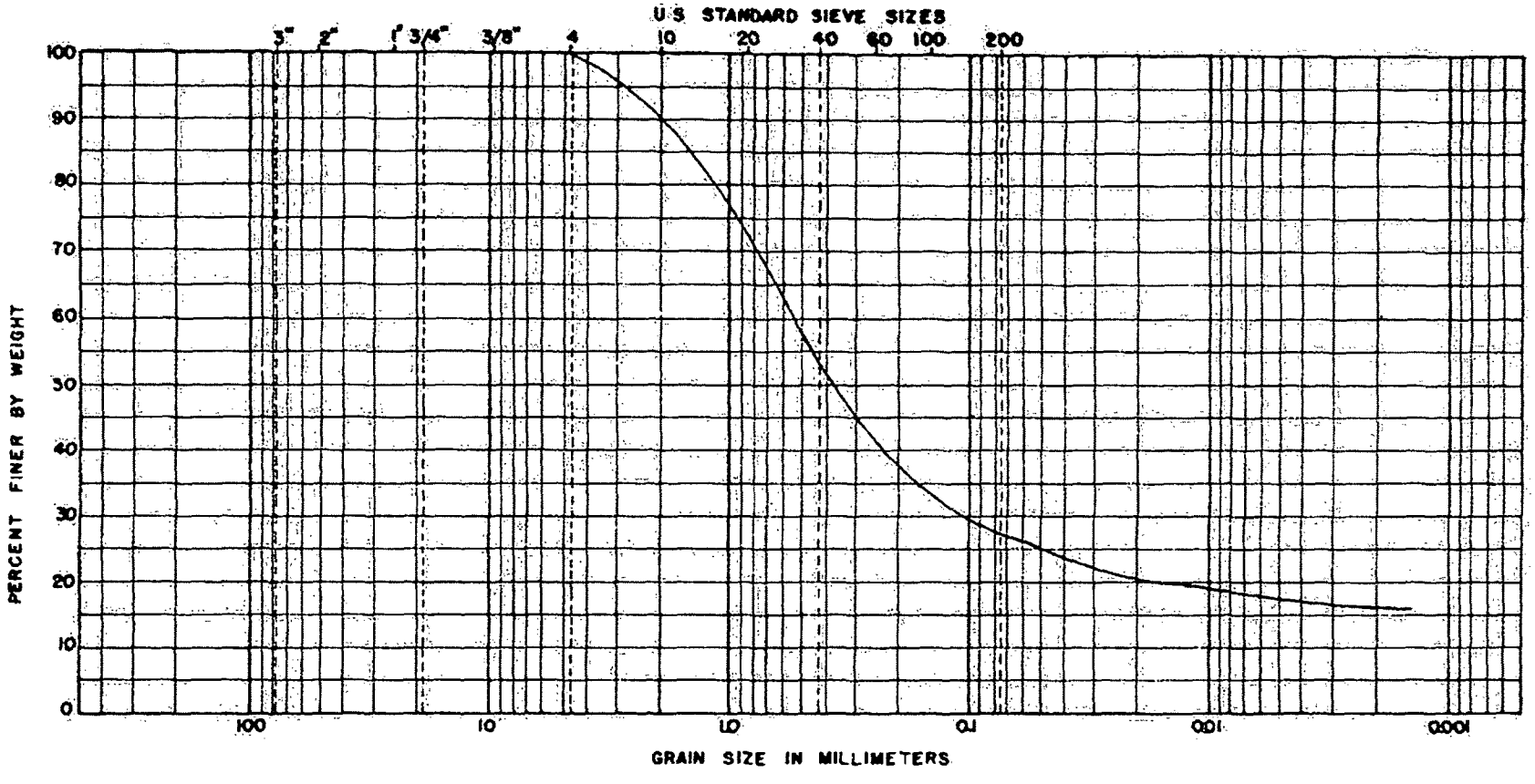
Red Brown, very micaceous, clayey silty graded sand

CONSOLIDATION TEST

BORING NO. NA 38 SAMPLE NO. UD-1
ELEV. OR DEPTH 6' JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

bs



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
NA 38 UD-1	6'				NP	Red Brown Very Micaceous, Clayey Silty Graded Sand (SM) Permeability = 2.0×10^{-5} ft/sec.

GRAIN SIZE DISTRIBUTION

JOB NO. 5092

LAW ENGINEERING TESTING COMPANY

bjs

DEPTH FT.	DESCRIPTION		ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0			784.4	
0.4	TOPSOIL			
	HARD RED BROWN FINE SANDY SILTY CLAY			
2.0	WEATHERED ROCK, GNEISS			●50/0"
			779.4	
6.5	WEATHERED ROCK, GNEISS	NX 50%		
			774.4	
11.5	WEATHERED ROCK-FISHTAIL REFUSAL			● 90/7"
13.0	WEATHERED ROCK, GNEISS	NX 57%	769.4	
16.0	WEATHERED ROCK, GNEISS	NX 92%		
			764.4	
21.0	CORING TERMINATED			
			759.4	

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

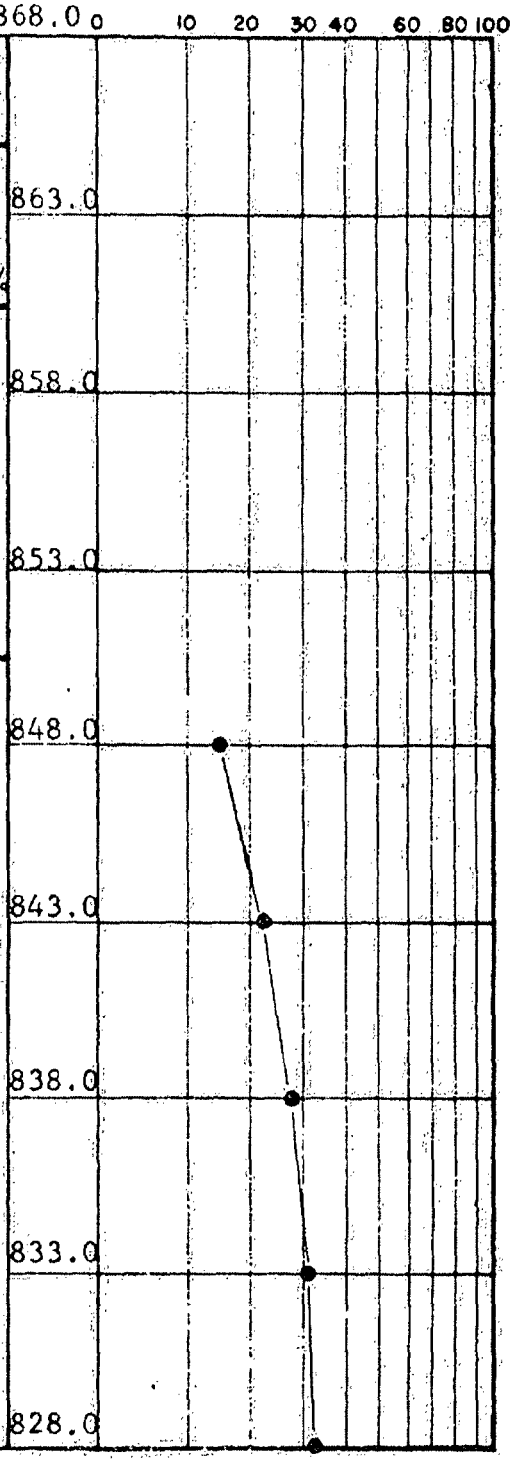
BORING NO. NA-39

DATE DRILLED 10-10-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV
0	BADLY WEATHERED GRANITE GNEISS		868.0
3.0	BADLY WEATHERED GRANITE GNEISS WITH CLAY SEAMS	NX 30%	863.0
7.67	BADLY WEATHERED GRANITE GNEISS WITH SAND SEAMS	NX 5%	858.0
			853.0
17.67	FIRM BROWN GRAY MEDIUM TO FINE MICACEOUS SILTY SAND		848.0
			843.0
			838.0
32.0	DENSE BROWN GRAY MEDIUM TO FINE MICACEOUS SILTY SAND		833.0
			828.0



NO GROUND WATER ENCOUNTERED

bjs

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

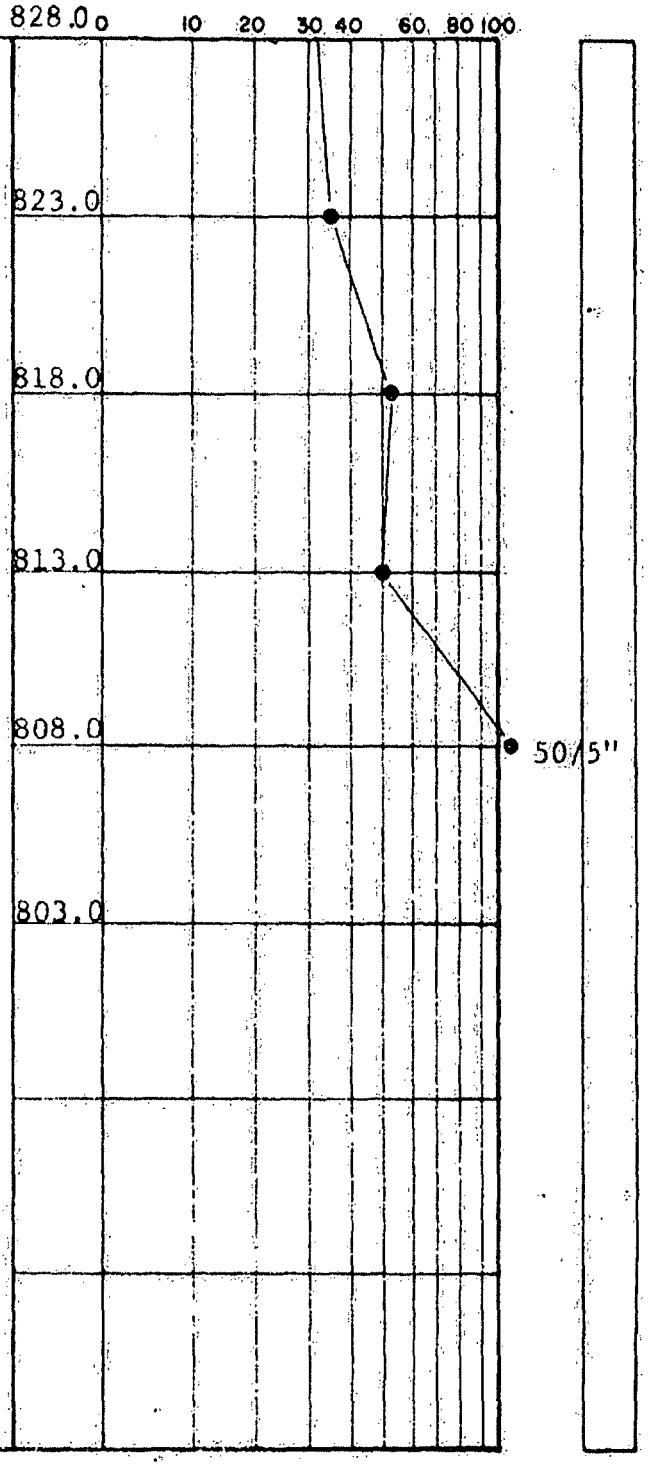
BORING NO. NA-40

DATE DRILLED 10-5-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
40.0	
2.0	DENSE BROWN GREY MEDIUM TO FINE MICACEOUS SILTY SAND
	DENSE GREY AND WHITE WEATHERED COARSE TO FINE MICACEOUS SILTY SAND
47.0	VERY DENSE GREY AND WHITE WEATHERED COARSE TO FINE SILTY SAND
61.0	BORING TERMINATED



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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

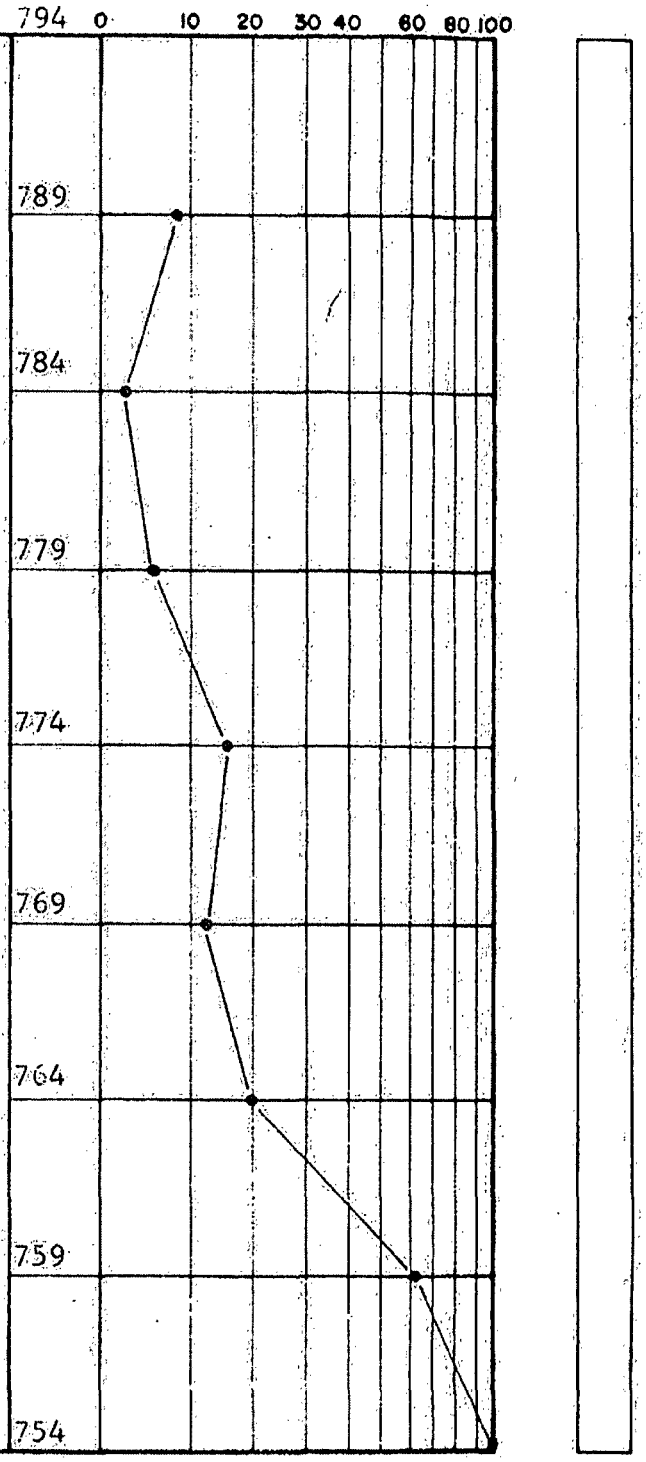
BORING NO. NA-40

DATE DRILLED 10-5-66

JOB NO. 5092

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
0	STIFF RED SANDY MICACEOUS CLAY
5.0	STIFF RED SANDY MICACEOUS CLAY
10.0	SOFT RED TAN MICACEOUS SANDY SILT
15.0	FIRM GREY TAN SANDY MICACEOUS SILT
30.0	VERY STIFF BROWN TAN WHITE SANDY MICACEOUS SILT
	HARD BROWN TAN SANDY MICACEOUS SILT



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RING AND SAMPLING MEETS ASTM D-1586
RE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 30 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-44

DATE DRILLED 3/6/67

JOB NO. 4503

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
			754	
40.0	HARD BROWN TAN SANDY MICACEOUS SILT			
			749	
45.0	HARD GRAY SILTY MICACEOUS FINE SAND			
47.2	SOFT GRANITE GNEISS	80% NX	744	
53.2	SOFT GRANITE GNEISS	45% NX	739	
57.2	HARD GRANITE GNEISS		734	
62.2	CORING TERMINATED	100% NX	724	

NO GROUND WATER ENCOUNTERED

DRILLING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

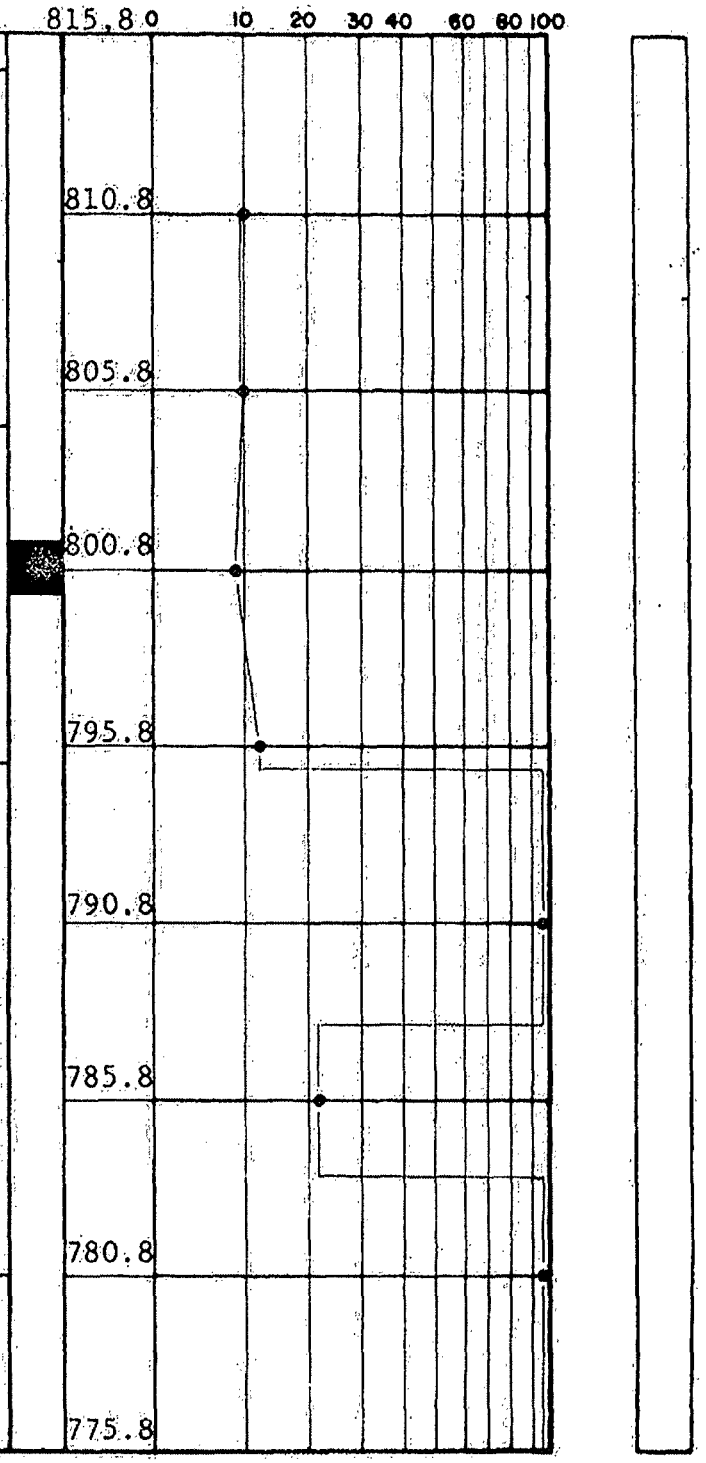
TEST BORING RECORD

BORING NO. NA-44

DATE DRILLED 3/6/67

JOB NO. 4503

DEPTH FT.	DESCRIPTION	ELEV
0		815.8
1.0	TOPSOIL	
	STIFF BROWN TAN SANDY MICACEOUS SILT	810.8
		805.8
11.0	STIFF BROWN SANDY MICACEOUS SILT	800.8
		795.8
21.0	VERY STIFF BROWN GREY SANDY MICACEOUS SILT	790.8
		785.8
		780.8
35.0	HARD GRAY SANDY MICACEOUS SILT (WITH SOFT WEATHERED GRANITE GNEISS	775.8



RING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-45

DATE DRILLED 3/7/67

JOB NO. 4503

DEPTH FT.	DESCRIPTION		ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0			775.8	
	HARD GREY SANDY MICACEOUS SILT (WITH SOFT WEATHERED ROCK)		770.8	
			765.8	
			760.8	
			755.8	
			750.8	
			745.8	
			740.8	
79.2	VERY SOFT GRANITE GNEISS	NX 90%	735.8	

RING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

bjs

TEST BORING RECORD

BORING NO. NA-45
DATE DRILLED 3/7/67
JOB NO. 4503

DEPTH FT.	DESCRIPTION	%	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
80.0	VERY SOFT GRANITE GNEISS		735.8	
84.2	VERY SOFT HARD GNEISS	90	730.8	
85.3	VERY SOFT GRANITE GNEISS	NX 50		
88.3	SOFT HARD GNEISS	NX 100		
89.2	MODERATELY HARD GRANITE GNEISS	100	725.8	
90.3	CORING TERMINATED		720.8	

NO GROUND WATER ENCOUNTERED

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

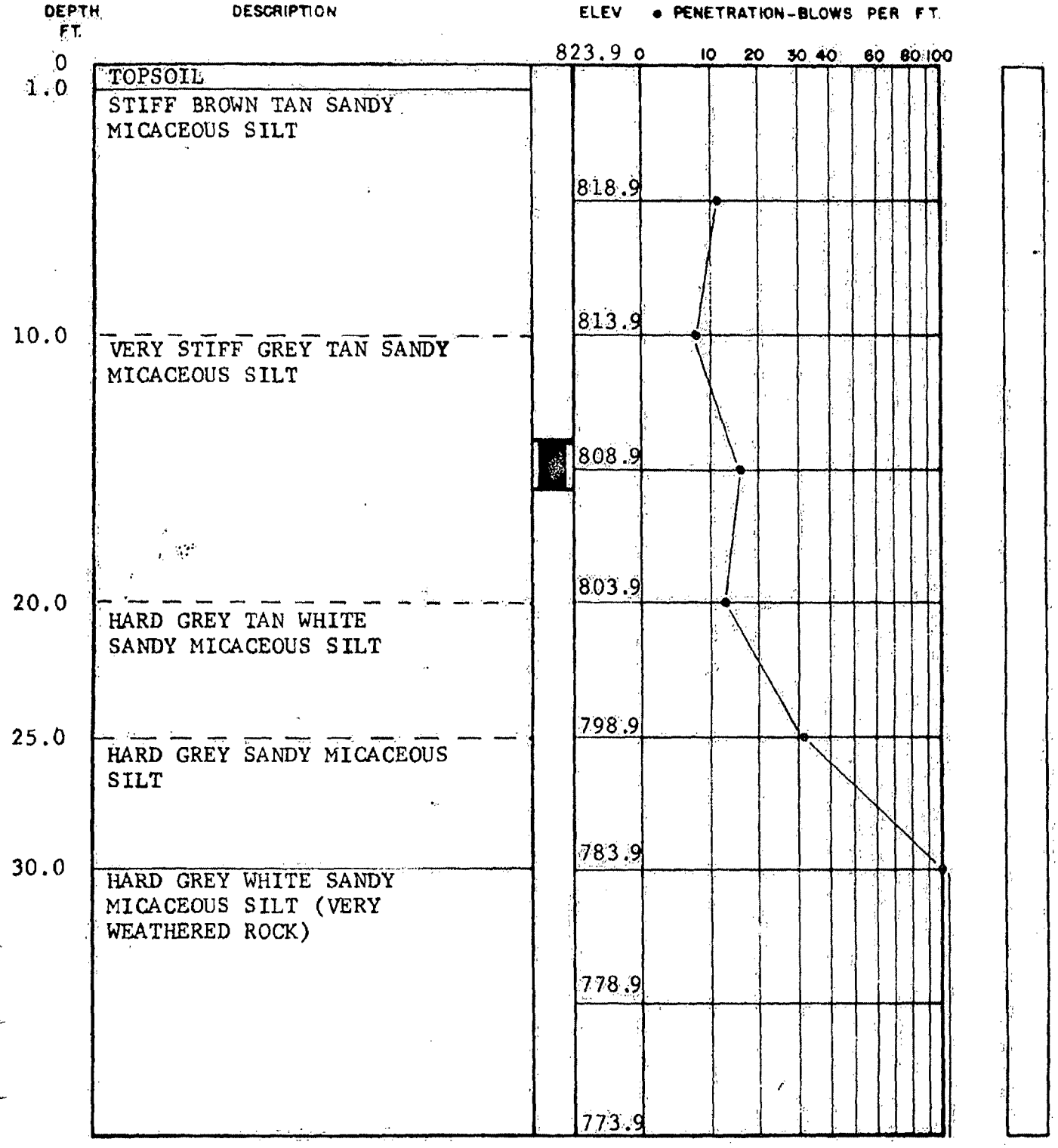
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-45
DATE DRILLED 3/7/67
JOB NO. 4503



(NG AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

bjs

TEST BORING RECORD

BORING NO. NA-46

DATE DRILLED 3/9/67

JOB NO. 4503

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0		773.9	
	HARD GREY WHITE SANDY MICACEOUS SILT (VERY WEATHERED ROCK)		
		768.9	
		763.9	
		758.9	
		753.9	
		748.9	
		743.9	
		738.9	
79.3	VERY SOFT WEATHERED GRAY *1	733.9	

*1 GRANITE

BORING AND SAMPLING MEETS ASTM D-1586
DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-46

DATE DRILLED 3/9/67

JOB NO. 4503

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
80.0	VERY SOFT WEATHERED GRAY GNEISS	733.9	
83.3	SOFT BLACK GRAY HARD GE GNEISS	728.9	
85.3	MODERATELY HARD WITH GRAY *1		
86.1	*2		
86.8	HARD WHITE GRAY GRANITE	723.9	
90.3	BORING TERMINATED	718.9	
		713.9	
		708.9	

*1 GRANITE
*2 SOFT BLACK GRAY HARD GNEISS

NO GROUND WATER ENCOUNTERED

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

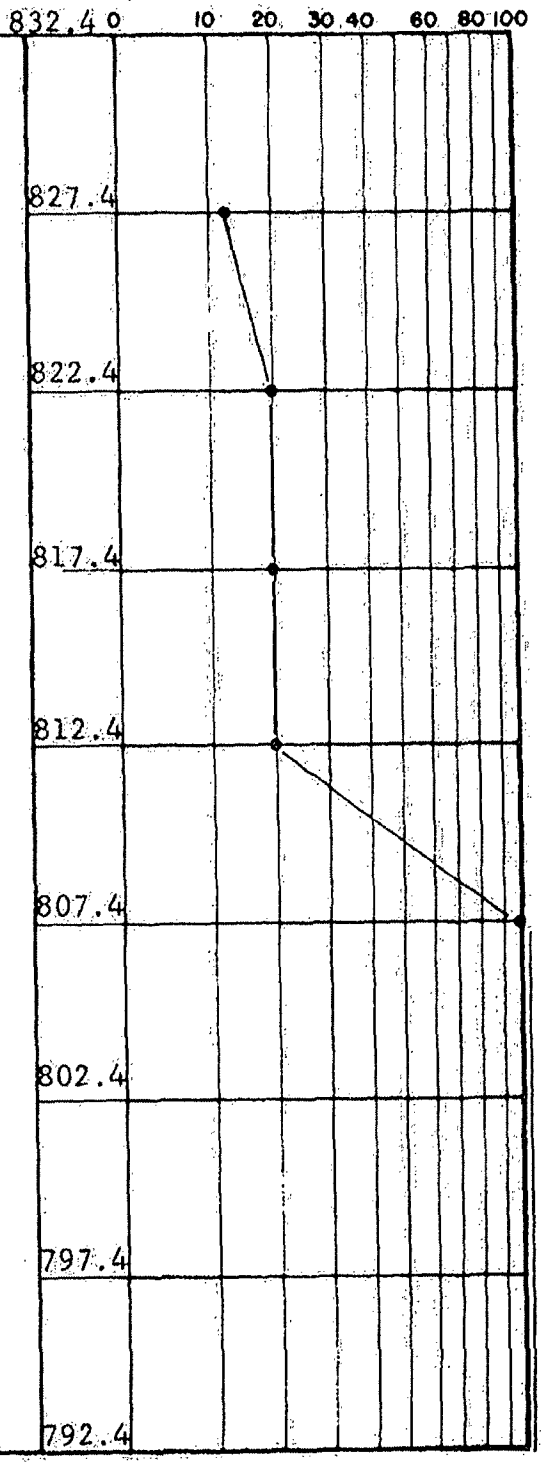
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
| 50 | % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-46
DATE DRILLED 3/9/67
JOB NO. 4503

DEPTH FT.	DESCRIPTION	ELEV
0		832.4
1.0	TOPSOIL	
	STIFF BROWN TAN SANDY MICACEOUS SILTY CLAY	
		827.4
5.0	VERY STIFF BROWN TAN SANDY MICACEOUS SILTY CLAY	
		822.4
		817.4
		812.4
		807.4
20.0	VERY STIFF BROWN TAN WHITE SANDY MICACEOUS SILTY CLAY	
		802.4
25.0	HARD GRAY WHITE SANDY MICACEOUS SILT (WITH SOME WEATHERED GRANITE)	
		797.4
		792.4



DRILLING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-47

DATE DRILLED 3/11/67

JOB NO. 4503

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
		792.4	
40.0	HARD GRAY WHITE SANDY MICACEOUS SILT (WITH SOME WEATHERED GRANITE	787.4	
		782.4	
50.2	SOFT WHITE GRAY GRANITE		
53.5	MODERATELY HARD WHITE GRAY GRANITE	777.4	
55.3	BORING TERMINATED		
		772.4	
		767.4	
		762.4	

NO GROUND WATER ENCOUNTERED

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

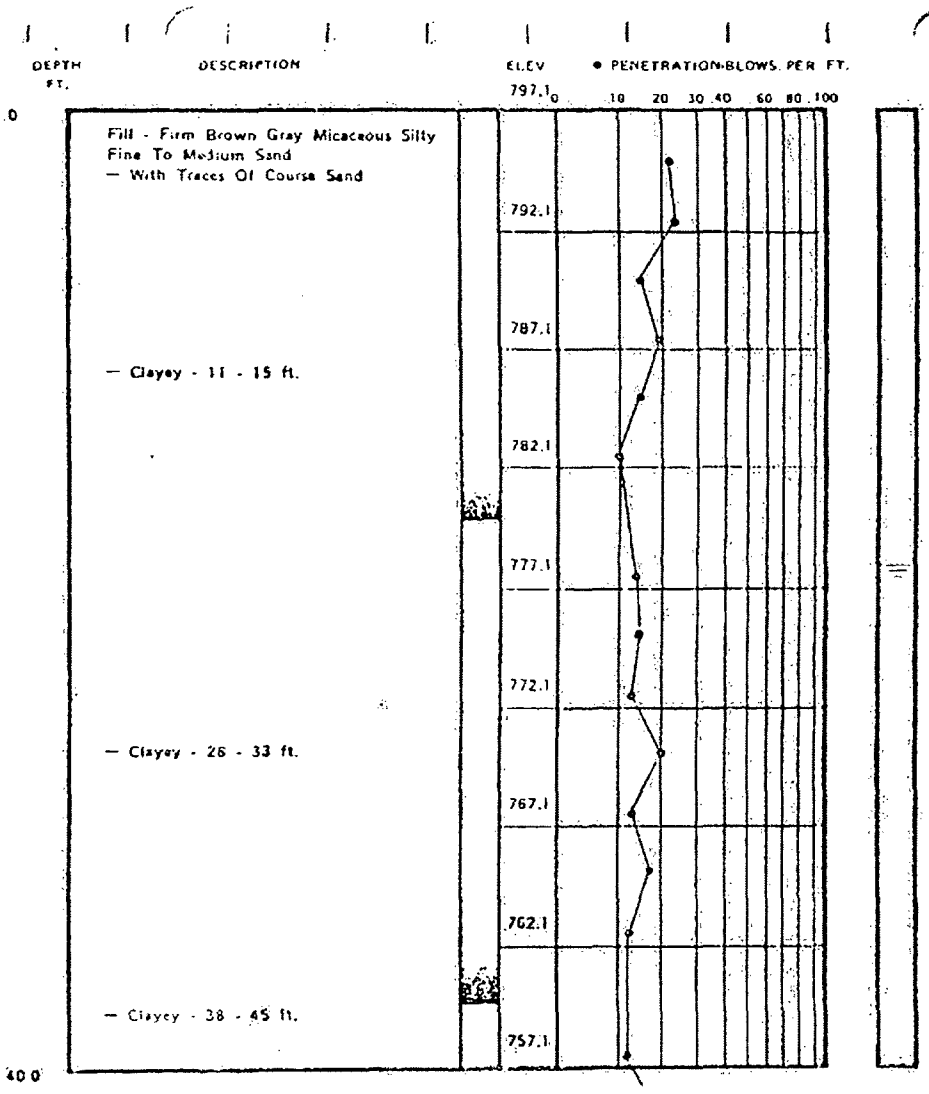
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NA-47

DATE DRILLED 3/11/67

JOB NO. 4503



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

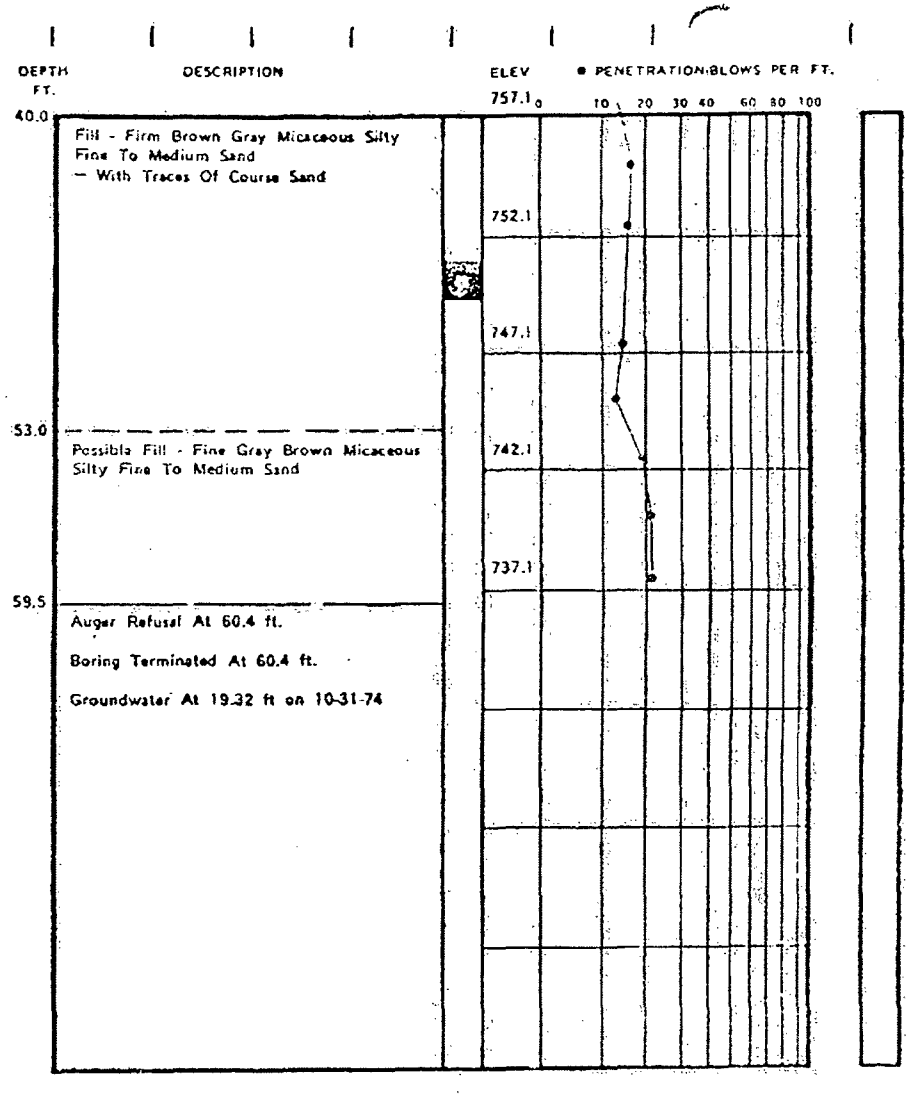
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR_W I
DATE DRILLED 9-16-74
JOB NO. CH 1065-N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

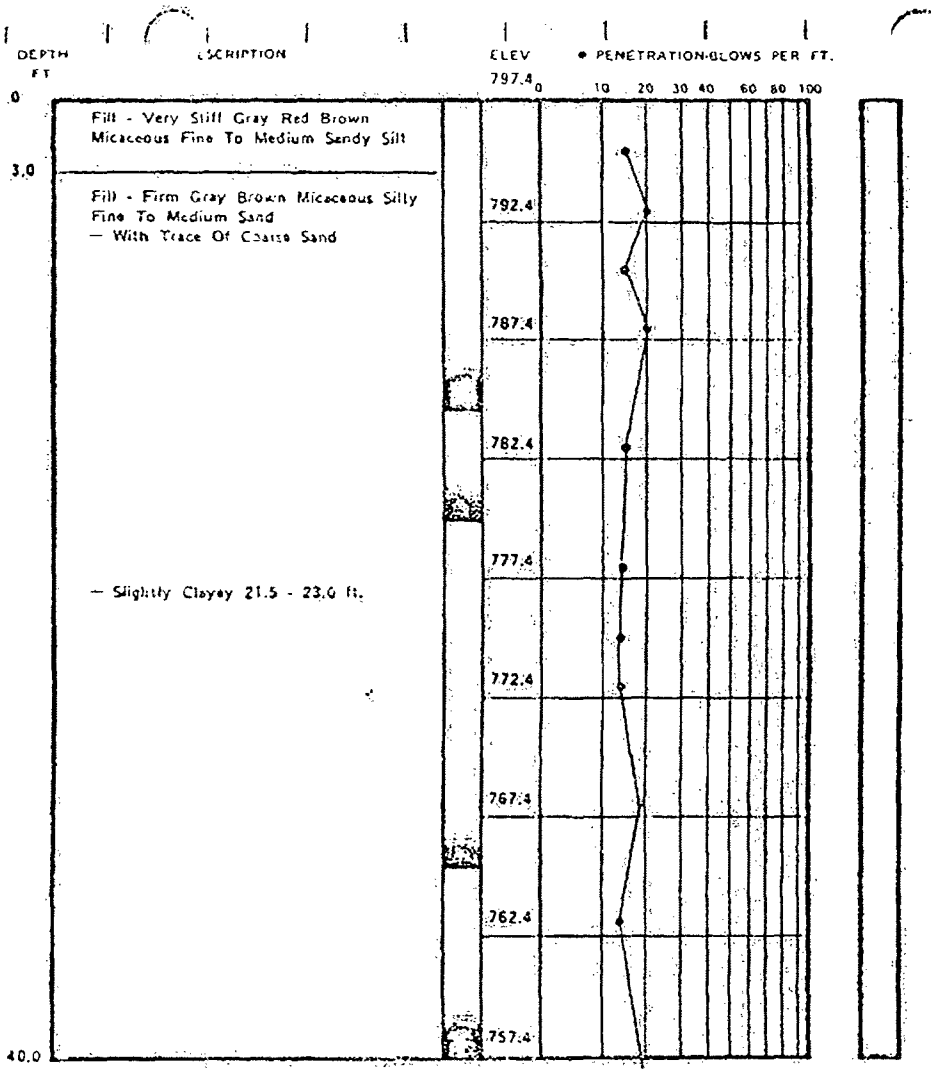
TEST BORING RECORD

BORING NO. NAR_W I
DATE DRILLED 9-16-74
JOB NO. CH 1065-N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-1



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

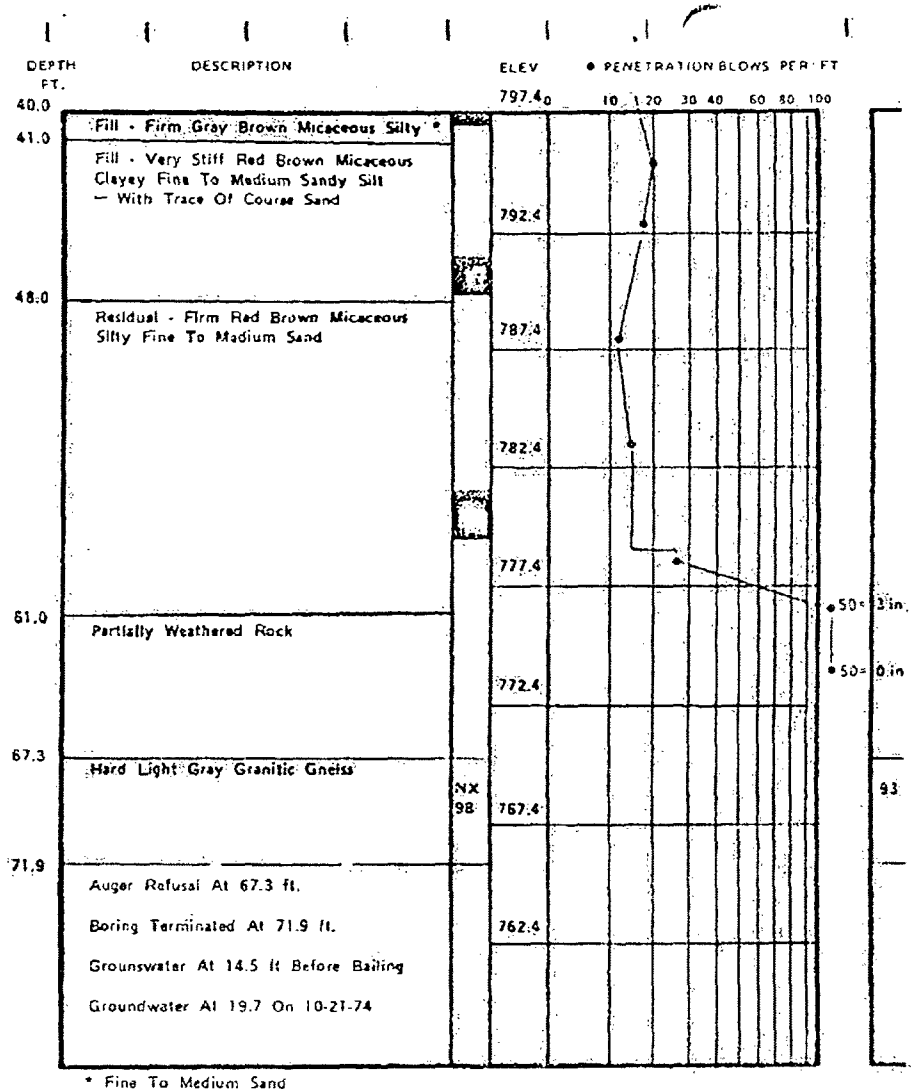
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW 2
DATE DRILLED 9-5-74
JOB NO. CH 1065N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



* Fine To Medium Sand
— With Trace Of Coarse Sand

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

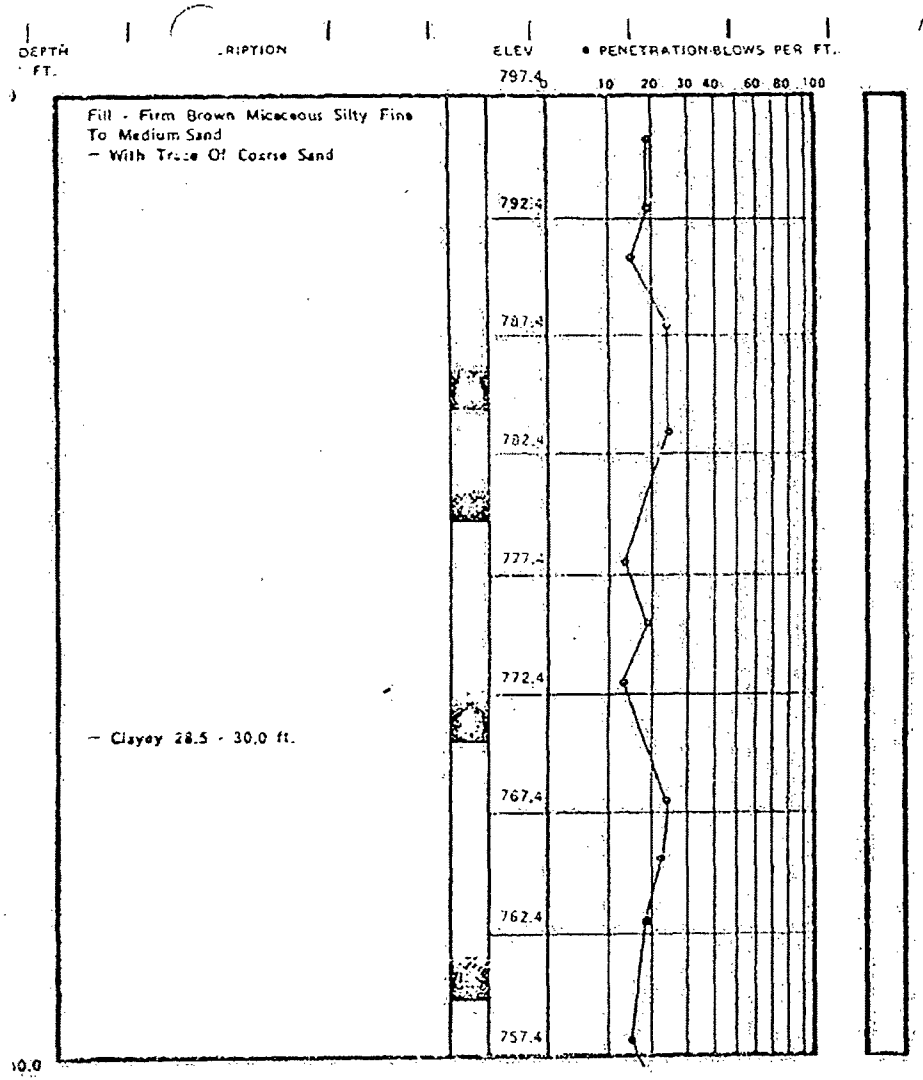
TEST BORING RECORD

BORING NO. NARW 2
DATE DRILLED 9-5-74
JOB NO. CH 1065N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-2



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

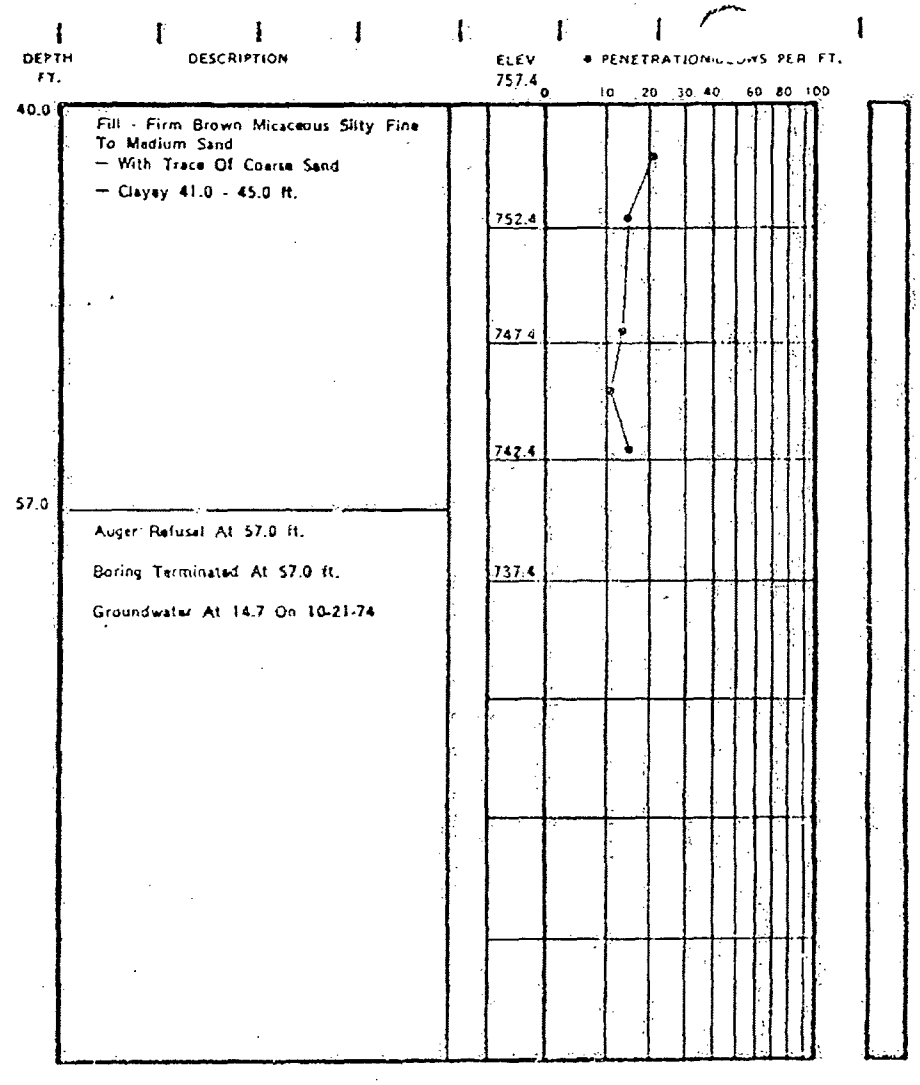
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW 3
DATE DRILLED 9-10-74
JOB NO. CH 1065N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

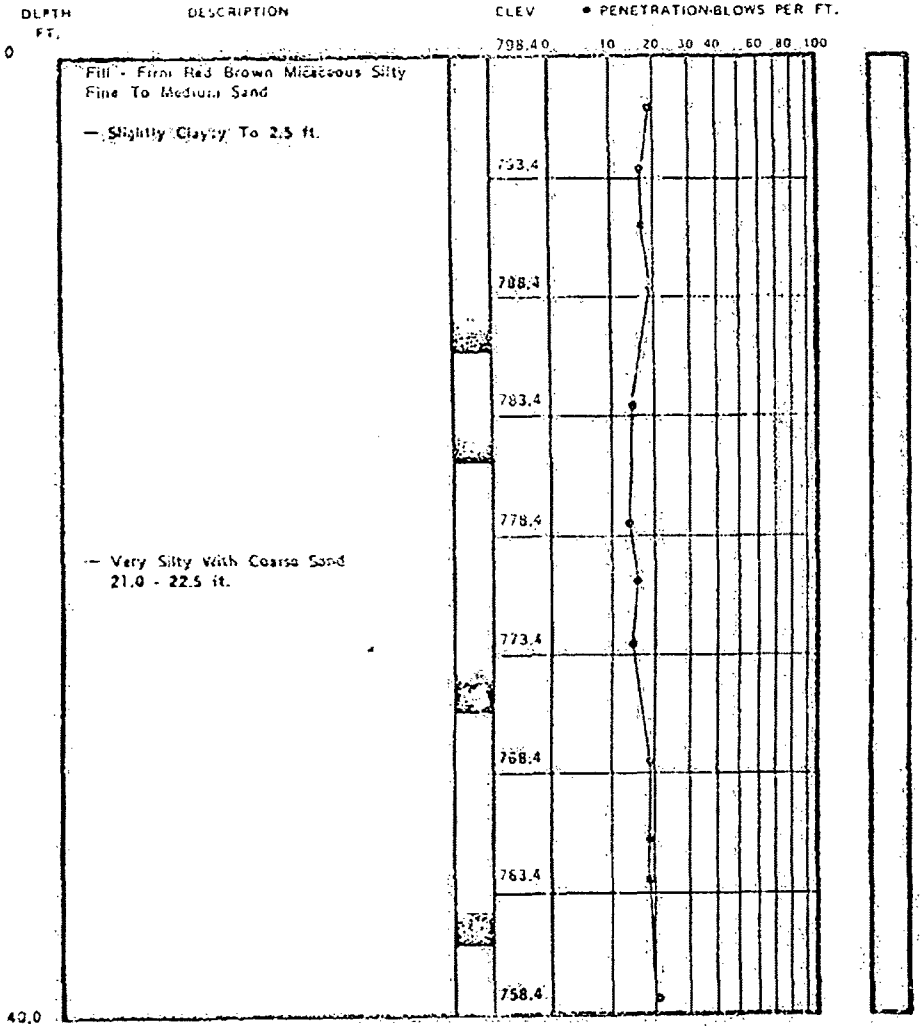
TEST BORING RECORD

BORING NO. NARW 3
DATE DRILLED 9-10-74
JOB NO. CH 1065N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-3



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

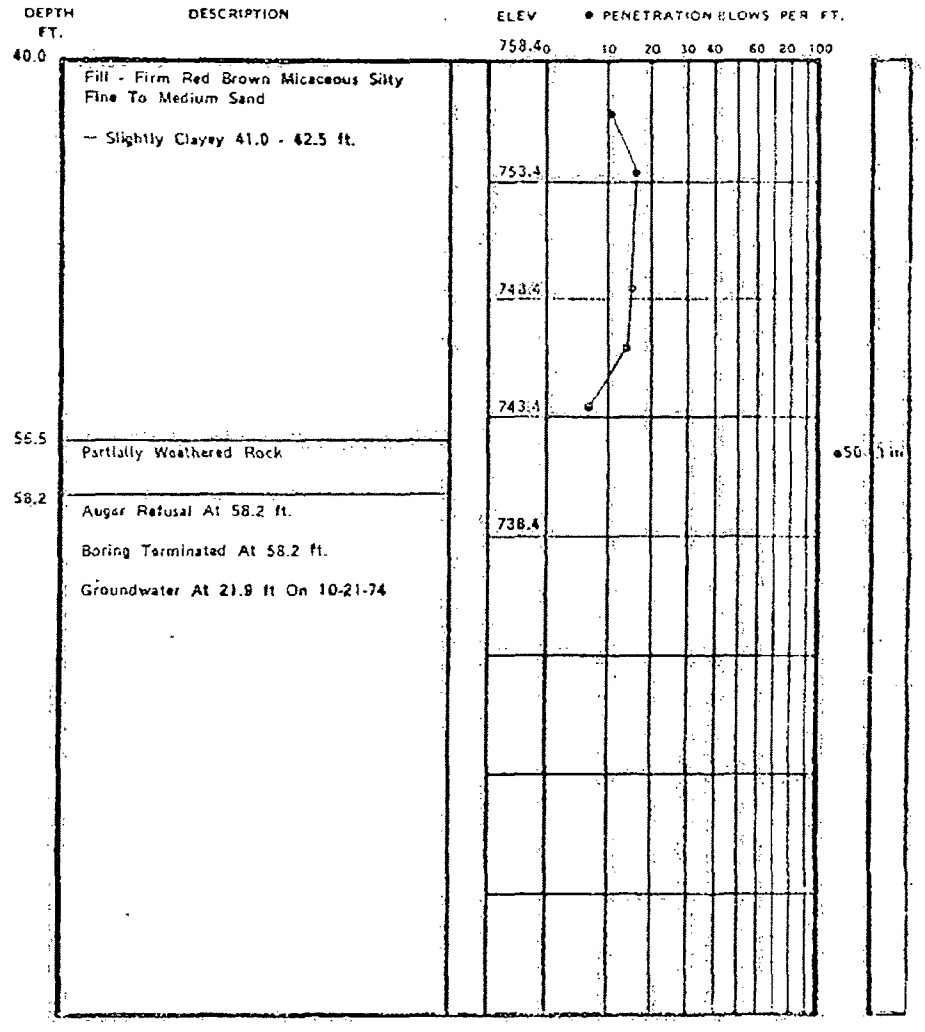
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW 4
DATE DRILLED 9-22-74
JOB NO. CH 1065N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

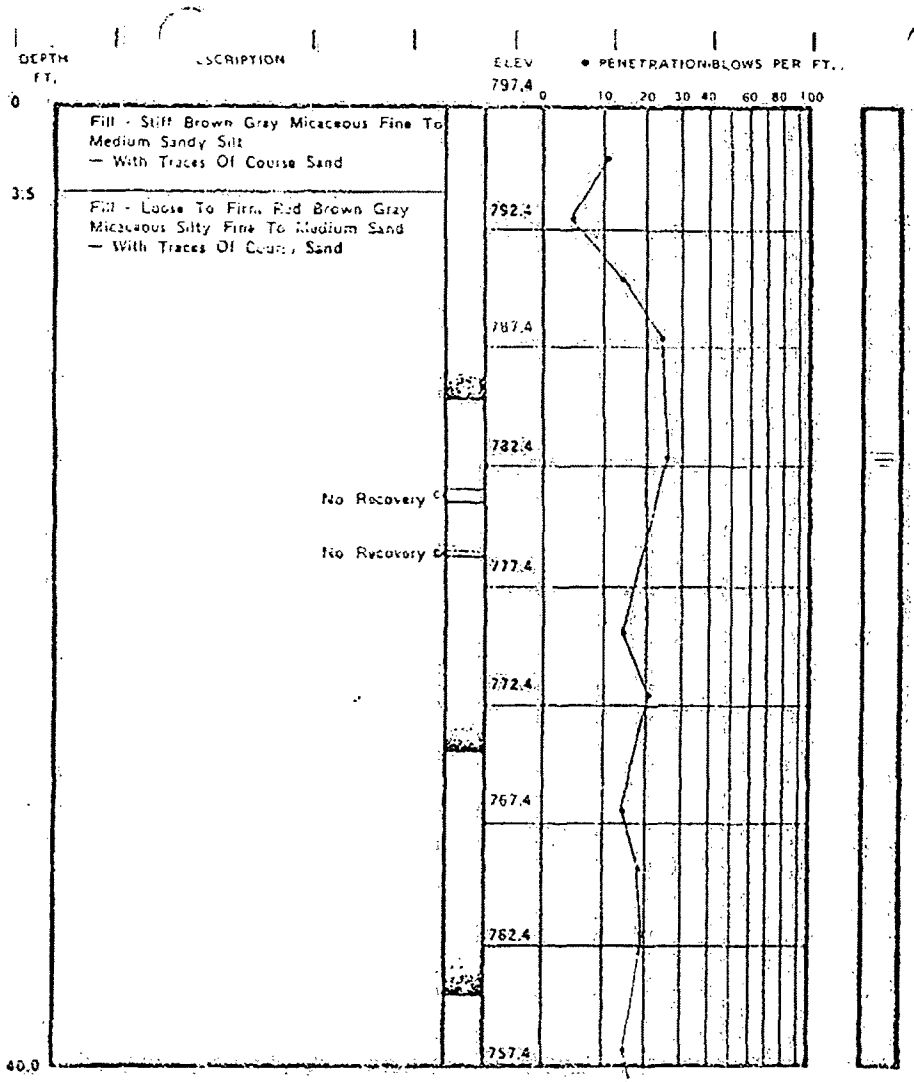
TEST BORING RECORD

BORING NO. NARW 4
DATE DRILLED 9-22-74
JOB NO. CH 1065N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-4



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D 2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. SD. SAMPLER 1 FT.

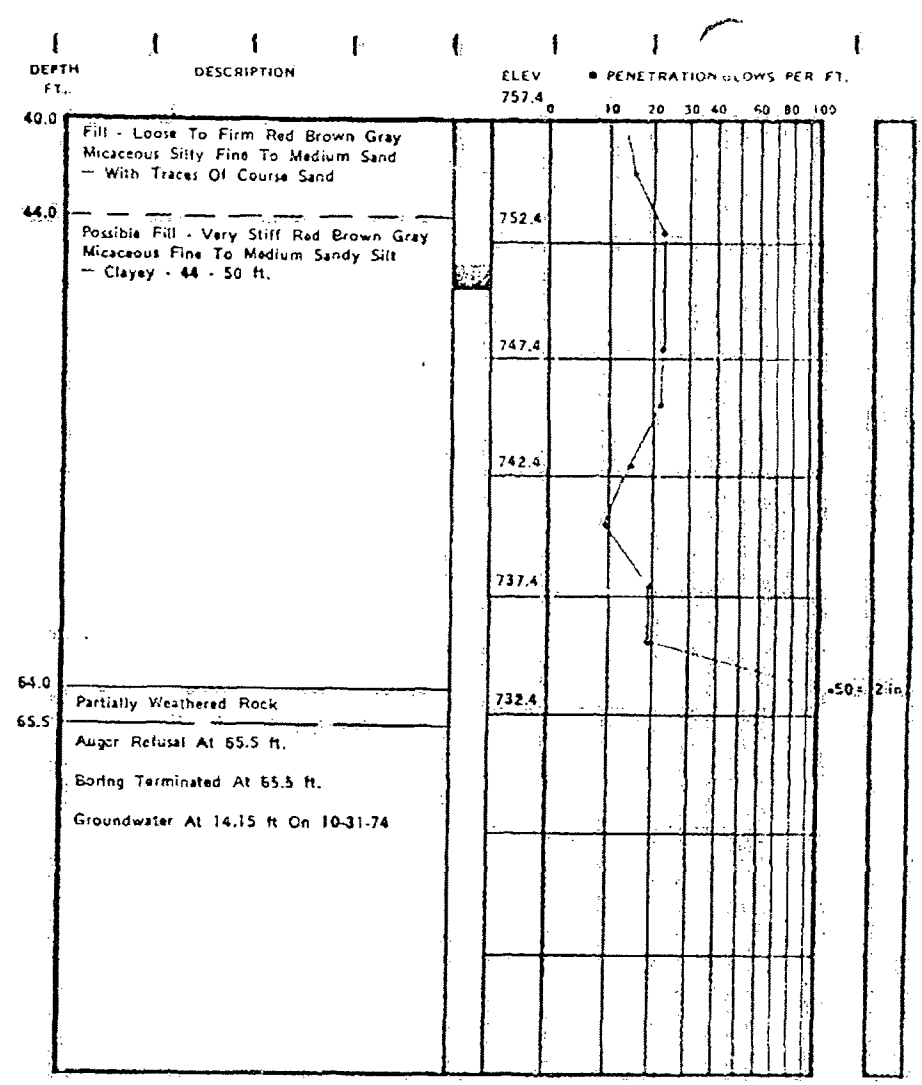
UNDISTURBED SAMPLE
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

TESY BORING RECORD

BORING NO. NAR_w5
DATE DRILLED 10-3-74
JOB NO. CH 1065N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D 2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. SD. SAMPLER 1 FT.

UNDISTURBED SAMPLE
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

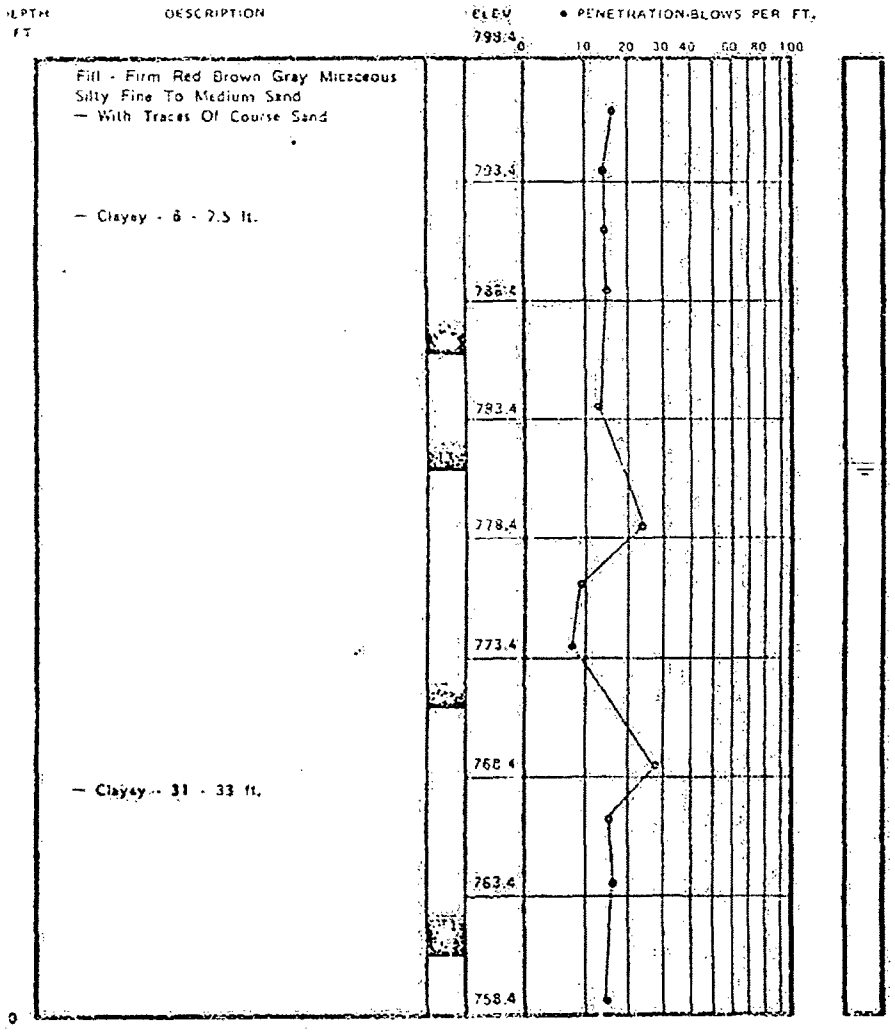
TEST BORING RECORD

BORING NO NAR_w5
DATE DRILLED 10-3-74
JOB NO. CH 1065N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-5



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

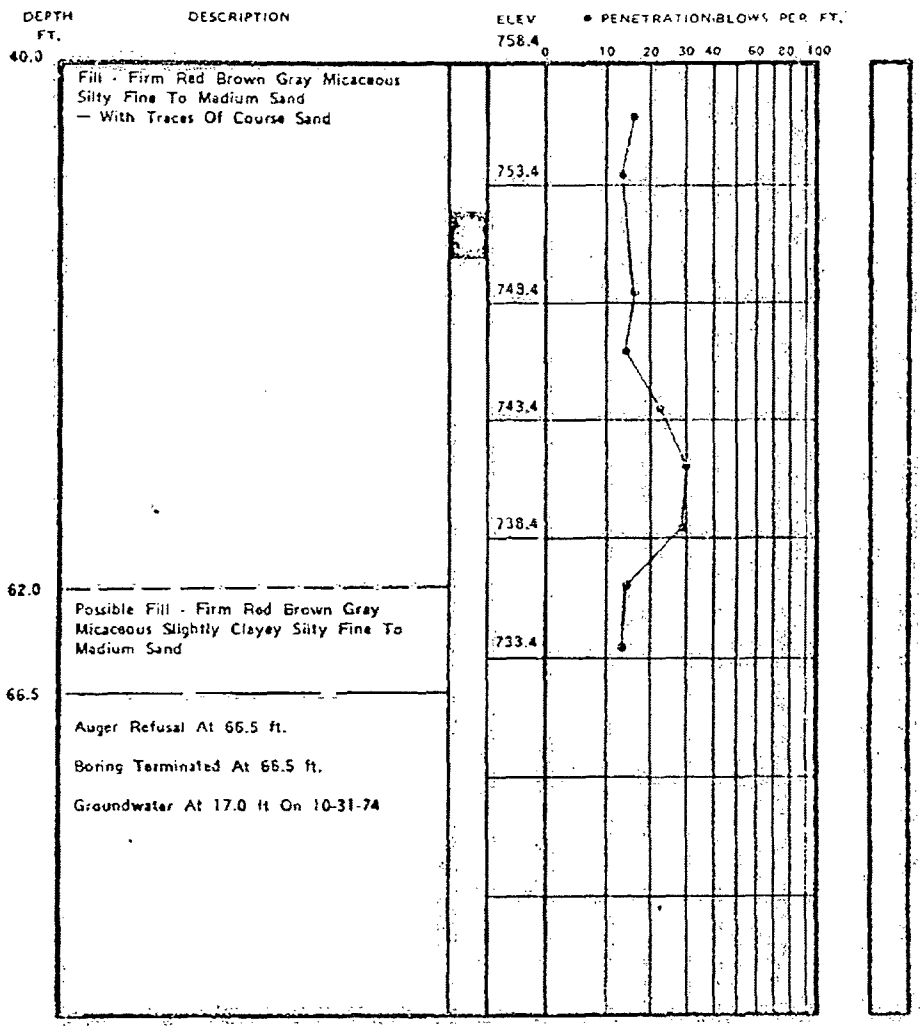
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR_w6
DATE DRILLED 9-30-74
JOB NO. CH 1065-N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

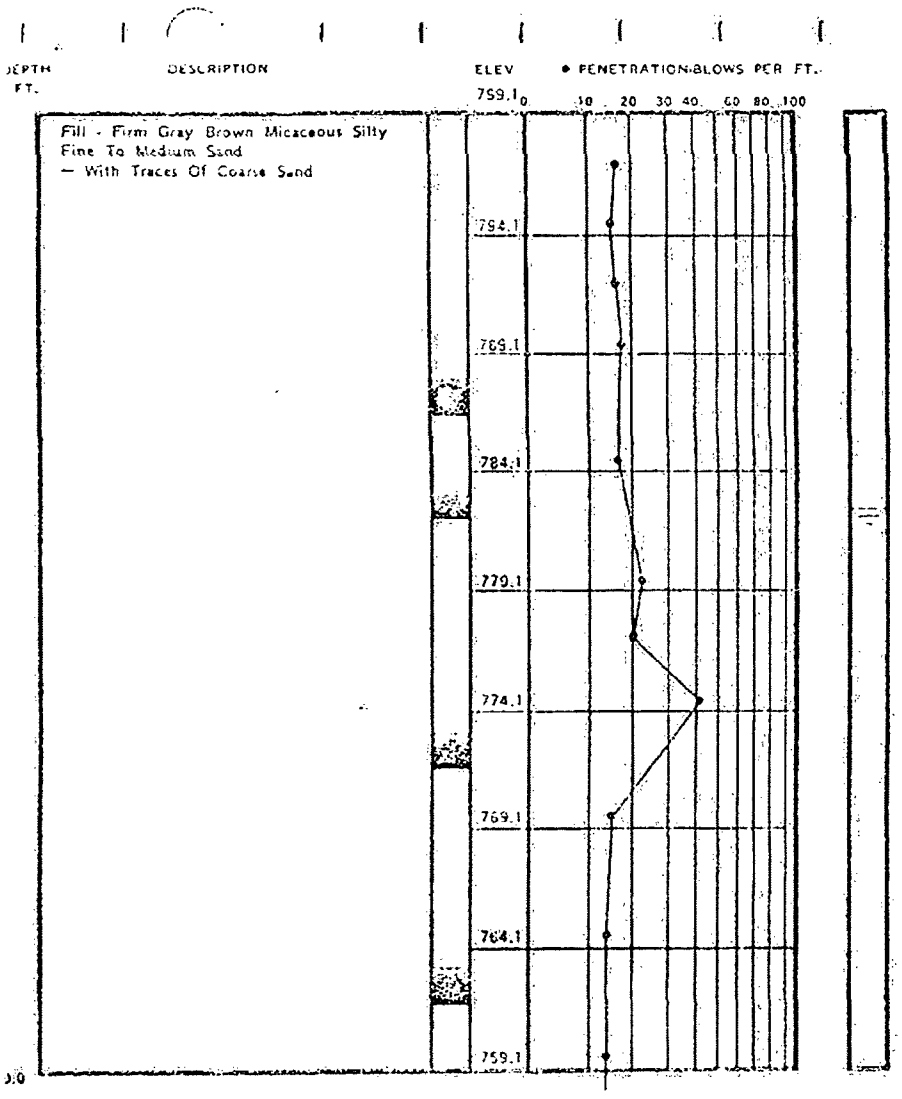
TEST BORING RECORD

BORING NO. NAR_w6
DATE DRILLED 9-30-74
JOB NO. CH 1065-N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-6



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

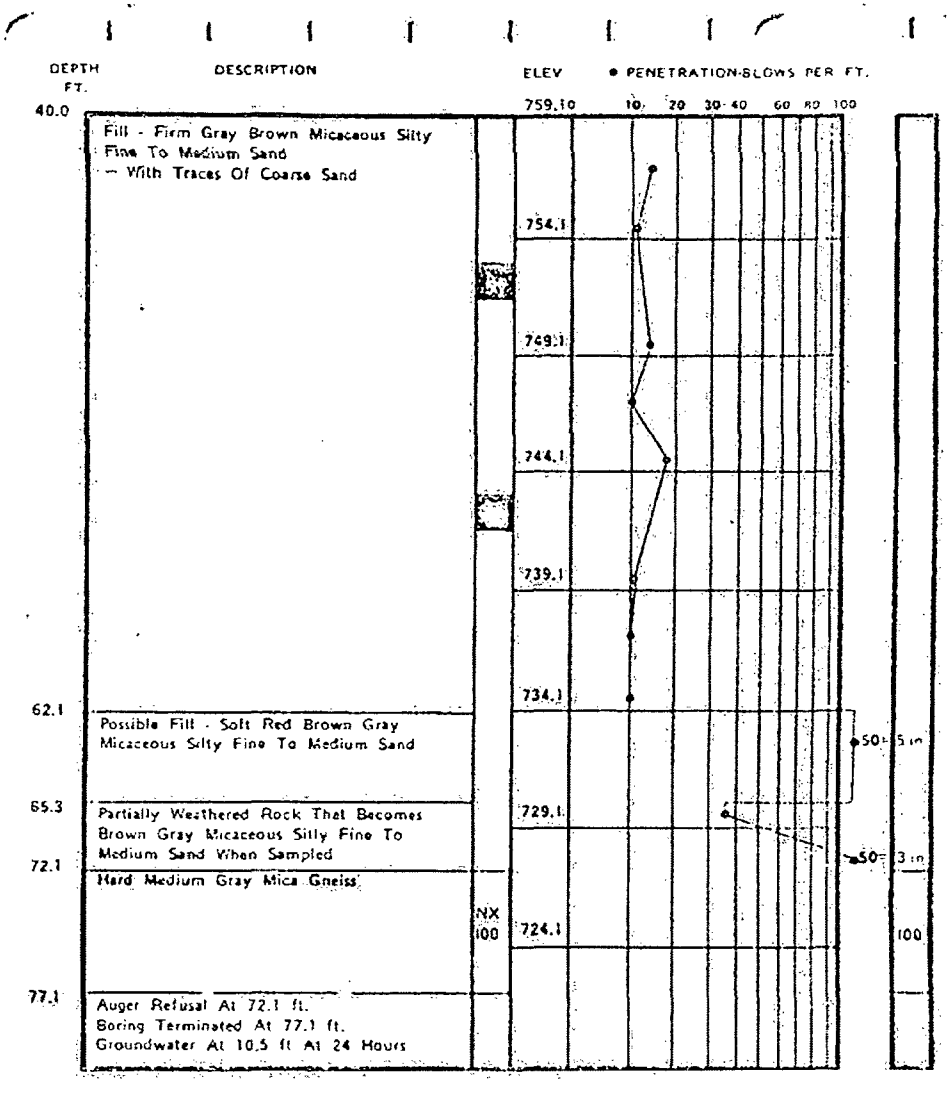
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW 7
DATE DRILLED 8-27-74
JOB NO. CH 1065N

PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW 7
DATE DRILLED 8-27-74
JOB NO. CH 1065N

PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

Figure B-7

DEPTH FT.	DESCRIPTION
0	Fill - Firm Tan Brown Orange Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
	- Clayey 7 to 8.5 Feet
	Fill - Loose Gray Brown Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
	Partially Weathered Rock
	Carbide Bit Refusal at 30.0 Feet
	Boring Terminated at 30.0 Feet
	Installed Open Tube Observation Well to 30.0 Feet
	Groundwater Encountered at 20.2 Feet After 24 Hours

Elev., Ft. • PENETRATION-BLOWS PER FT.

795.8 0 10 20 30 40 60 80 100

790.8

785.8

780.8

775.8

770.8

765.8

50= 0

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % R CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. HARW-8
DATE DRILLED 4/30/79
JOB NO. CH 1065P
PAGE 1 OF 1

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
0	Obtained Bag Samples at Depths of: 3 to 8 Feet, 8 to 14 Feet, 14 to 15.5 Feet, 15.5 to 25 Feet, 25 to 28.3 Feet
28.3	Boring Terminated at 28.3 Feet.

Elev., Ft. • PENETRATION-BLOWS PER FT.

795.8 0 10 20 30 40 60 80 100

790.8

785.8

780.8

775.8

770.8

765.8

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

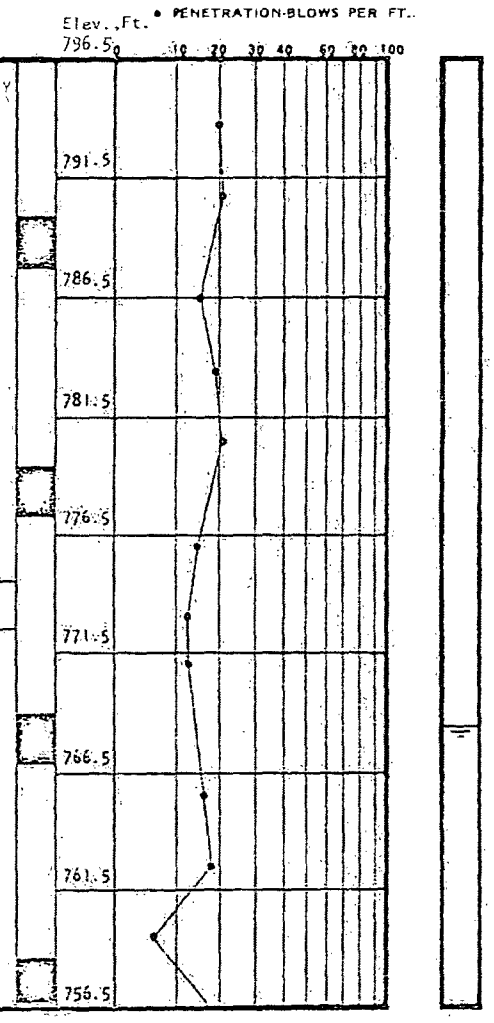
UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. HARW-8A
DATE DRILLED 4/30/79
JOB NO. CH 1065P
PAGE 1 OF 1

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
0	Fill - Firm Gray Brown Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
	-Clayey to 6.4 Feet
	Fill - Stiff Gray Brown Micaceous Fine to Medium Sandy Silt
	Fill - Loose and Firm Gray Brown Micaceous Silty Fine to Coarse Sand



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR.

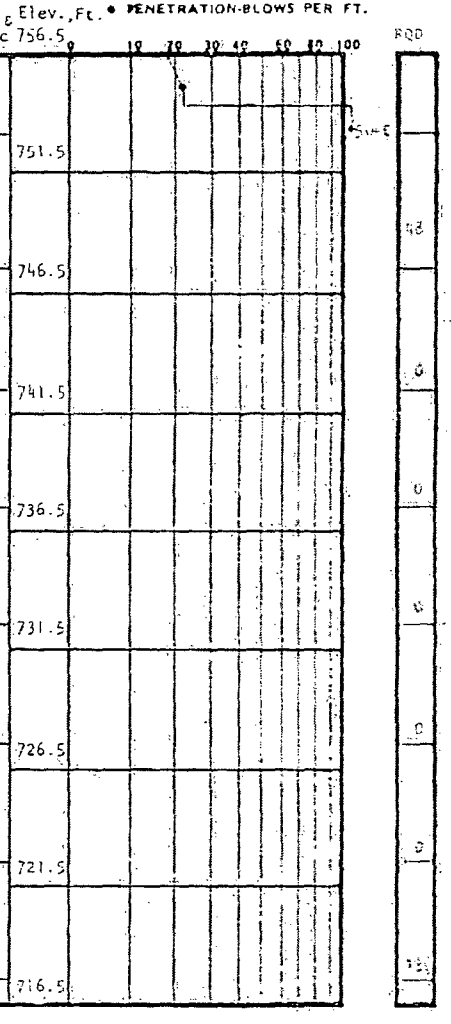
% ROCK CORE RECOVERY

TEST BORING RECORD

BORING NO. HARW-9
DATE DRILLED 6/18/79
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec
40.0	Fill - Loose and Firm Micaceous Silty Fine to Coarse Sand	
42.0	Partially Weathered Rock	
43.4	Carbide Bit Refusal at 43.4 Feet	
	Partially Weathered Rock That Becomes Gray Brown White Micaceous Silty Fine to Coarse Sand With Rock Fragments When Sampled	NX 71
		36
		16
		78
		10
		50
78.0	Hard Dark Gray Mica Gneiss, Very Slight Weathering to Fresh	88
80.0		



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

TEST BORING RECORD

BORING NO. HARW-9
DATE DRILLED 6/18/79
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size	Elev., Ft.	• PENETRATION-BLOWS PER FT.	RQD
		% Rec	716.5	10 20 30 40 60 80 100	
	Hard Dark Gray Mica Gneiss, Very Slight to Fresh	NX 100	711.5		98
	Coring Terminated at 88.7 Feet Installed Open-Tube Observation Well to 83.7 Feet Groundwater at 28.1 Feet After 24 Hours				

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
WATER TABLE, 24 HR.
WATER TABLE, HR.
% CORE RECOVERY

TEST BORING RECORD

BORING NO. [illegible]
DATE DRILLED 6/18/79
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.	• PENETRATION-BLOWS PER FT.	Core
		796.5	10 20 30 40 60 80 100	
0	Obtained Bag Samples at Depths of: 3 to 13 Feet 13 to 23 Feet 23 to 33 Feet 33 to 44 Feet	791.5		
		786.5		
		781.5		
		776.5		
		771.5		
		766.5		
		761.5		
40.0		756.5		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY

TEST BORING RECORD

BORING NO. NBR-9A
DATE DRILLED 6/19/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 756.5	PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Obtained Bag Samples		
		751.5	
	Boring Terminated at 44.0 Feet		
	Caved and Wet at 30.0 Feet After 24 Hours		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-9A
DATE DRILLED 6/19/79
JOB NO. CH 1065P
PAGE 2 OF 3
LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 797.3	PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Fill - Firm Gray Brown Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand		
		792.3	
	-Slightly Clayey 9 to 10.5 Feet	787.3	
		782.3	
		777.3	
		772.3	
		767.3	
		762.3	
40.0		757.3	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.

TEST BORING RECORD

BORING NO. NARW-10
DATE DRILLED 5/16/79
JOB NO. CH 1065P
PAGE 1 OF 3
LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec	Elev., Ft. 757.3	* PENETRATION-BLOWS PER FT. 0 10 20 30 40 50 60 70 80 90 100	RQD
0	Fill - Firm Gray Brown Red Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand		752.3		
			747.3		
			742.3		
			737.3		
	Fill - Soil With Crushed Stone (Commercial Aggregate)		732.3		
			727.3		
	Partially Weathered Rock That Becomes Olive Gray Very Micaceous Fine Sandy Silt With Sand Size Mica Flakes When Sampled Carbide Bit Refusal at 75.7Ft		722.3	50=4" 50=2"	
	Very Hard Light Gray Mica Gneiss, Fresh	NX 80	717.3		70

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE; WATER TABLE, 24 HR.; WATER TABLE, 1 HR.; 50 % ROCK CORE RECOVERY; LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-10
DATE DRILLED 5/16/79
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec.	Elev., Ft. 717.3	* PENETRATION-BLOWS PER FT. 0 10 20 30 40 50 60 70 80 90 100	RQD
80.0	Very Hard Light Gray Mica Gneiss, Fresh	NX 80			78
83.8	Coring Terminated at 83.8 Feet Groundwater at 25.3 Feet After 24 Hours		712.3		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE; WATER TABLE, 24 HR.; WATER TABLE, 1 HR.; 50 % ROCK CORE RECOVERY; LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-10
DATE DRILLED 5/16/79
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.	• PENETRATION-BLOWS PER FT. 10 20 30 40 50 60 70 80 90 100
0	Obtained Bag Samples at Depth of: 3 to 12 Feet, 12 to 22 Feet, 22 to 32 Feet, 32 to 36.5 Feet, 38 to 48 Feet, 48 to 57 Feet, 57 to 65 Feet, 67 to 74 Feet	797.3	
		792.3	
		787.3	
		782.3	
		777.3	
		772.3	
		767.3	
		762.3	
	Dense Gray Brown Micaceous Silty Fine to Medium Sand (74.5 to 38 Feet)	757.3	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.

TEST BORING RECORD

BORING NO. NAR-[illegible]
DATE DRILLED 5/17/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.	• PENETRATION-BLOWS PER FT. 10 20 30 40 50 60 70 80 90 100
40.0	Obtained Bag Samples at Depth of: 3 to 12 Feet, 12 to 22 Feet, 22 to 32 Feet, 32 to 36.5 Feet, 38 to 48 Feet, 48 to 57 Feet, 57 to 65 Feet, 67 to 74 Feet	757.3	
		752.3	
		747.3	
		742.3	
		737.3	
		732.3	
		727.3	
	Partially Weathered Rock That Becomes Gray Tan Micaceous Silty Fine to Medium Sand When Sampled (74.5 Feet)		
74.5		725.3	
	Boring Terminated at 74.5 Feet		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

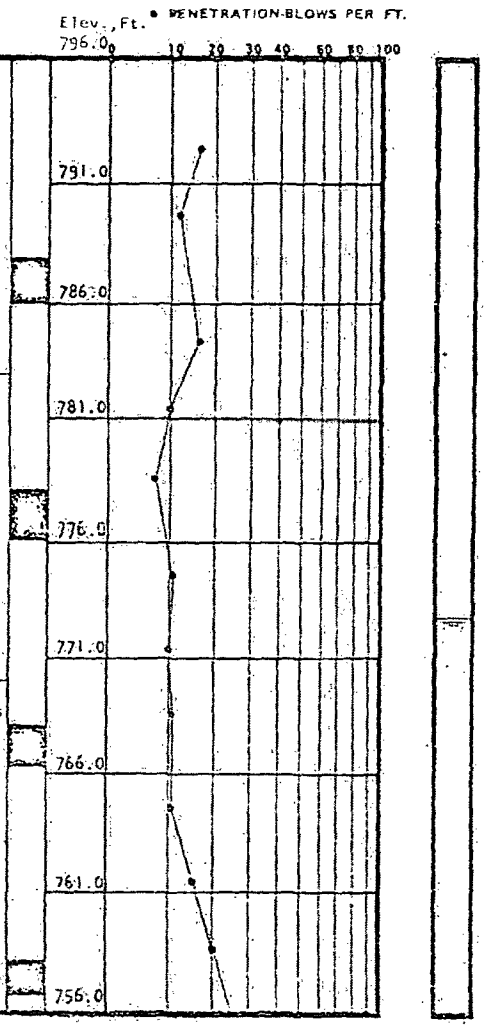
UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.

TEST BORING RECORD

BORING NO. NAR-[illegible]
DATE DRILLED 5/17/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
0	Fill - Firm Orange Red Brown Gray Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
1.0	Residual - Loose Orange Brown Gray Tan Micaceous Silty Fine to Medium Sand
13.0	Firm Rust Brown and Gray Tan Micaceous Silty Fine to Medium Sand



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

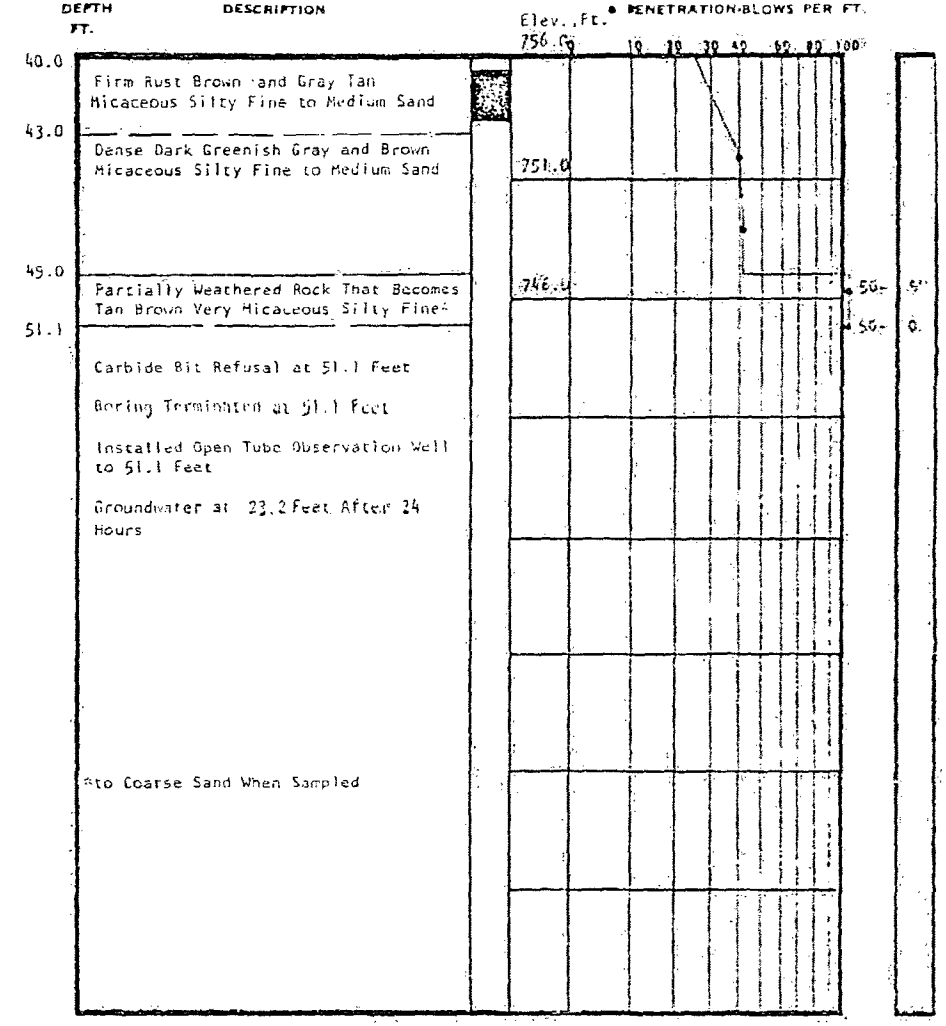
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-11
DATE DRILLED 5/24/79
JOB NO. CH 10659
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
40.0	Firm Rust Brown and Gray Tan Micaceous Silty Fine to Medium Sand
43.0	Dense Dark Greenish Gray and Brown Micaceous Silty Fine to Medium Sand
45.0	Partially Weathered Rock That Becomes Tan Brown Very Micaceous Silty Fine
51.1	Carbide Bit Refusal at 51.1 Feet Boring Terminated at 51.1 Feet Installed Open Tube Observation Well to 51.1 Feet Groundwater at 23.2 Feet After 24 Hours to Coarse Sand When Sampled



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-11
DATE DRILLED 5/24/79
JOB NO. CH 10659
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.0	PENETRATION-BLOWS PER FT. 10 20 30 40 50 60 70 80 90 100
0	Obtained Bag Samples at Depths of: 3 to 13 Feet; 13 to 17.5 Feet	791.0	
		786.0	
		781.0	
	Residual - Firm Orange Brown White Micaceous Silty Fine to Medium Sand (18 to 19.5 Ft)	776.0	
	Boring Terminated at 19.5 Feet		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAF -11A
DATE DRILLED 5/23/79
JOB NO. CH 1065P
PAGE 1 OF 1

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.2	PENETRATION BLOWS PER FT 10 20 30 40 50 60 70 80 90 100
0	Fill - Firm Gray Brown Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand	791.2	
5.0	Fill - Firm Red Brown Orange Very Micaceous Silty Fine to Medium Sand; - Clayey 5 to 6.5 Feet; 16 to 17.5 Feet	786.2	
15.0	Fill - Firm Gray Brown Very Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand	781.2	
		776.2	
		771.2	
		766.2	
33.0	Residual - Very Stiff Red Brown Fine to Medium Sandy Clayey Silt	761.2	
37.0	Firm Gray Brown Very Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand	756.2	
40.0			

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

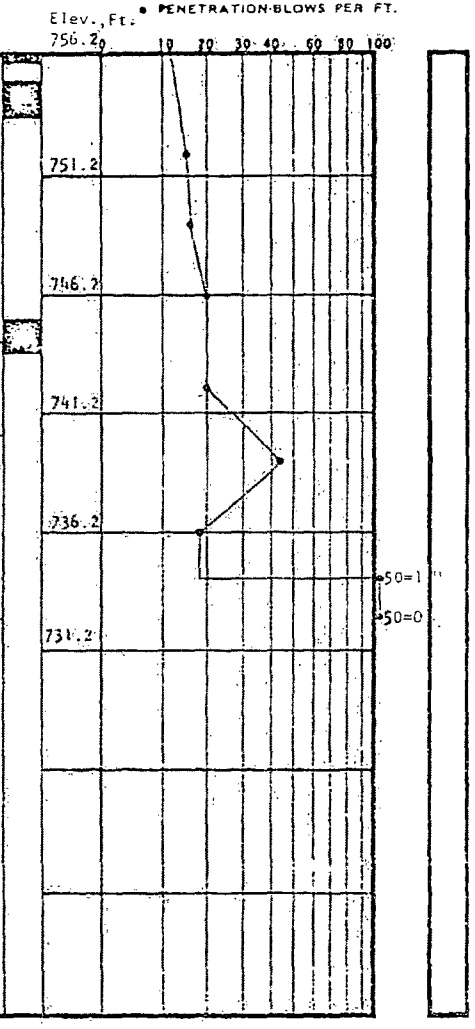
UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 90 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAF-11B
DATE DRILLED 6/27/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.
0	Firm Gray Brown Very Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand	756.2
		751.2
		746.2
	Firm Rust and Dark Greenish Gray Very Micaceous Silty Fine to Medium Sand	741.2
	Dense and Firm Gray Tan Very Micaceous Silty Fine to Coarse Sand	736.2
	Partially Weathered Rock That Becomes Gray Micaceous Silty Fine to Coarse*	731.2
	Carbide Bit Refusal at 63.8 Feet	
	Boring Terminated at 63.8 Feet	
	Installed Open Tube Observation Well to 63.8 Feet	
	Groundwater Encountered at 30.3 Feet After 24 Hours.	
	*Sand When Sampled	



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

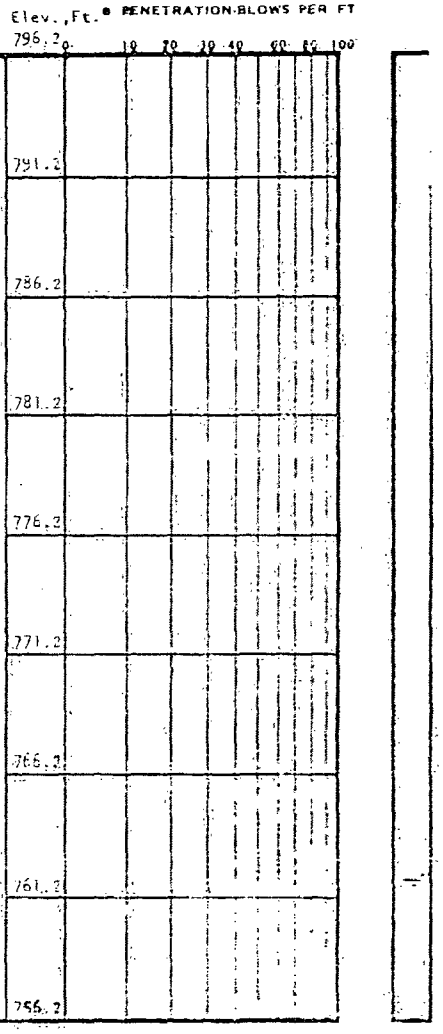
UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-12
DATE DRILLED 6/7/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.
0	Obtained Bag Samples at Depths of: 3 to 13 Feet, 13 to 23 Feet, 23 to 35 Feet, 35 to 40 Feet	796.2
		791.2
		786.2
		781.2
		776.2
		771.2
		766.2
		761.2
40.0	Boring Terminated at 40.0 Feet	756.2



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
Groundwater at 34.2 Feet After 24 Hours
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. [illegible]
DATE DRILLED [illegible]
JOB NO. CH 1065P
PAGE 1 OF 1

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.	PENETRATION-BLOWS PER FT.
0	Fill - Firm to Dense Gray Brown Micaceous Silty Fine to Medium Sand With Rock Pieces and Trace of Coarse Sand	795.6	10 20 30 40 50 60 100
		790.6	
	-Clayey 8. to 9.5 Feet	785.6	
	- Clayey 14 to 15.5 Feet	780.6	
		775.6	
	-Clayey 24 to 25.5 Feet	770.6	
		765.6	
	Hard Drilling Noted 33 to 35.5 Feet	760.6	50=2"
40		755.6	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY

TEST BORING RECORD

BORING NO. NAB-13
DATE DRILLED 6/21/79
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft.	PENETRATION-BLOWS PER FT.
40.0	Fill - Firm to Dense Gray Brown Micaceous Silty Fine to Medium Sand With Rock Pieces and Trace of Coarse Sand	750.6	0 10 20 30 40 50 60 100
		745.6	
		740.6	
50.0	Fill - Firm Gray Brown Micaceous Clayey Silty Fine to Medium Sand		
		735.6	
		730.6	
62.0	Residual - Firm Tan Brown Clayey Silty Fine to Medium Sand		
		725.6	
68.0	Partially Weathered Rock That Becomes Brown Silty Fine to Coarse Sand With Quartz Fragments When Sampled		50=5"
70.0	Hard Rust and Gray Very Micaceous Fine Sandy Silt	720.6	
72.0	Dense Gray Brown Micaceous Silty Fine to Coarse Sand With Zones of Partially Weathered Rock		50=5"
		715.6	
80.0		705.6	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D 2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY

TEST BORING RECORD

BORING NO. NAB-13
DATE DRILLED 6/21/79
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec	Elev., Ft. 710.6±	PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100	RQD
0.0	Partially Weathered Rock That Becomes Gray Micaceous Silty Fine to Coarse Sand With Very Micaceous Zones When Sampled			50= / 50=	4" / 3"
1	Carbide Bit Refusal at 85.1 Feet		705.6		
	Hard Light Gray Mica Gneiss, Very Slight Weathering	NX			
		91	700.6		78
			695.6		
		97			83
7			690.6		
	Coring Terminated at 99.7 Feet				
	Installed Open Tube Observation Well to 99.7 Feet				
	Groundwater at 43.3 Feet After 24 Hours				

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-13
DATE DRILLED 6/21/79
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 795.6	PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Obtained Bag Samples at Depths of: 4 to 13 Feet		
	13 to 23 Feet	790.6	
	23 to 33 Feet		
	33 to 43 Feet	785.6	
	43 to 53 Feet		
	53 to 58 Feet	780.6	
	58 to 62 Feet		
		775.6	
		770.6	
		765.6	
		760.6	
40.0		755.6	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-13A
DATE DRILLED 6/23/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 755.6	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 50 60 70 80 90 100
0.0	Obtained Bag Samples at Depths of: 4 to 13 Feet 13 to 23 Feet 23 to 33 Feet 33 to 43 Feet 43 to 53 Feet 53 to 58 Feet 58 to 62 Feet	750.6 745.6 740.6 735.6	
0	Boring Terminated at 62.0 Feet Boring Caved and Wet at 37.7 Feet After 24 Hours		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
% ROCK CORE RECOVERY — WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-13A
DATE DRILLED 6/28/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.4	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 50 60 70 80 90 100
0.0	Fill - Firm Red and Gray Brown Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand	791.4	
	-Clayey 9 to 10.5 Feet	786.4	
		781.4	
	-Clayey 15 to 16.5 Feet	776.4	
		771.4	
		766.4	
31.0	Residual - Firm Orange Gray Brown Micaceous Silty Fine to Medium Sand	761.4	
40.0		756.4	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
% ROCK CORE RECOVERY — WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-14
DATE DRILLED 6/29/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 756.4	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0.0	Residual - Firm Orange Gray Brown Micaceous Silty Fine to Medium Sand	751.4	
5.5	Firm Rust Gray Micaceous Silty Fine to Medium Sand	746.4	
5.5 / 53.4	Partially Weathered Rock That Becomes*		50=3" / 50=0"
	Carbide Bit Refusal at 53.4 Feet		
	Boring Terminated at 53.4 Feet		
	Installed Open Tube Observation Well to 53.4 Feet		
	*Gray Tan Micaceous Silty Fine to Coarse Sand When Sampled		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 56 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-14
DATE DRILLED 6/20/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.4	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Obtained Bag Samples at Depths of: 3 to 13 Feet, 13 to 23 Feet, 23 to 33.6 Feet, 33.6 to 43 Feet	791.4	
		786.4	
		781.4	
		776.4	
		771.4	
		766.4	
	Encountered Residual Soil at 33.6 Feet	761.4	
40.0		756.4	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 56 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO NARW-14A
DATE DRILLED 6/20/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 756.4	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Obtained Bag Samples at Depths of: 3 to 13 Feet, 23 to 33.6 Feet; 13 to 23 Feet, 33.6 to 43 Feet		
0	Boring Terminated at 43.0 Feet	751.4	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 10 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARw-14A
DATE DRILLED 6/20/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec	Elev., Ft. 796.0	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100	RQD
0	Fill - Loose and Firm Micaceous Silty Fine to Medium Sand		791.0		
7.0	Residual - Firm Dark Gray Micaceous Silty Fine to Medium Sand With Rock Fragments				
9.0	Partially Weathered Rock That Becomes Gray Brown Micaceous Silty Fine to Coarse Sand When Sampled		786.0	50=5" 50=7"	
12.0	Loose and Firm Gray Brown Micaceous Silty Fine to Medium Sand With Rock Fragments and Trace of Coarse Sand		781.0		
			776.0		
23.0	Firm Brown Micaceous Fine Gravelly Clayey Silty Fine to Coarse Sand		771.0		
27.0	Partially Weathered Rock That Becomes Gray Brown Micaceous Silty Fine to Coarse Sand		766.0	50=3" 50=1" 50=1"	
30.0	Medium Light Gray and Brown Mica Gneiss Moderately Severe Weathering				
31.4	Partially Weathered Rock That Becomes Gray Brown Micaceous Silty Fine to Medium Sand With Soft Zones When Sampled.	NX 88	761.0	50=4" 50=4"	0
40.0			756.0		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 10 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-15
DATE DRILLED 5/21/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec.	Elev., Ft. 756.0	• PENETRATION-BLOWS PER FT.	RQD
0.0	Partially Weathered Rock That Becomes Gray Brown Micaceous Silty Fine to Coarse Sand With Soil Zones When*			50=6"	
2.0	Firm Gray Brown Micaceous Fine to Medium Sandy Silt		751.0		
6.0	Partially Weathered Rock That Becomes Gray Brown Micaceous Silty Fine to Coarse Sand When Sampled Carbide Bit Refusal at 49.9 Feet		746.0	50=4" 50=3" 50=3"	
9.9	Medium to Moderately Hard Black and Gray Mica Gneiss, Slight Weathering				
1.6	Hard to Very Hard Light Gray Mica Gneiss, Very Slight Weathering	NX 100	741.0		87
[illegible]	Coring Terminated at 59.0 Feet Installed Open Tube Observation Well to 51 Feet Groundwater at 40.5 Feet After 24 Hours *Sampled		736.0		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-15
DATE DRILLED 5/21/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.0	• PENETRATION-BLOWS PER FT.
0	Obtained Bag Sample at Depths of 3 to 9.2 Feet	791.0	
9.2	Boring Terminated at 9.2 Feet No Groundwater Encountered During This Investigation	786.0	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

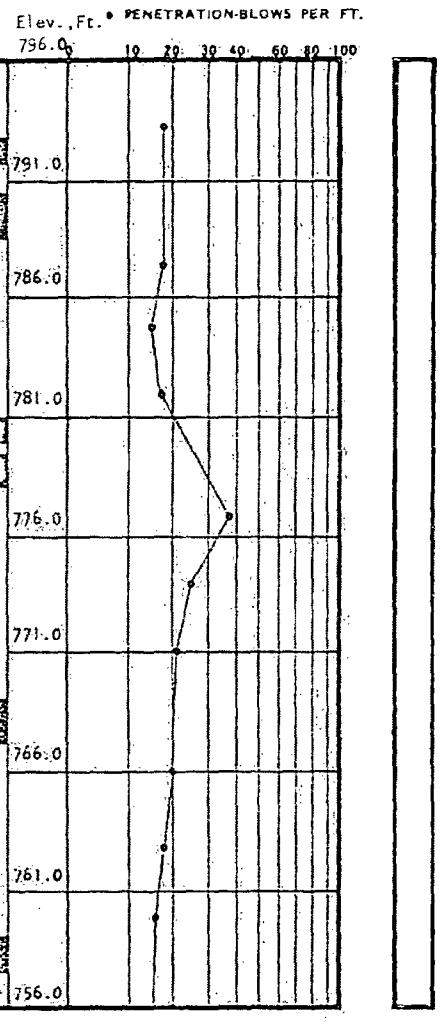
UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-15A
DATE DRILLED 5/25/79
JOB NO. CH 1065P
PAGE 1 OF 1

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
	Fill - Firm and Dense Gray Brown Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
	Residual - Very Stiff Red Brown Fine to Coarse Sandy Clayey Silt
	Firm Orange Tan Gray Micaceous Silty Fine to Medium Sand



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

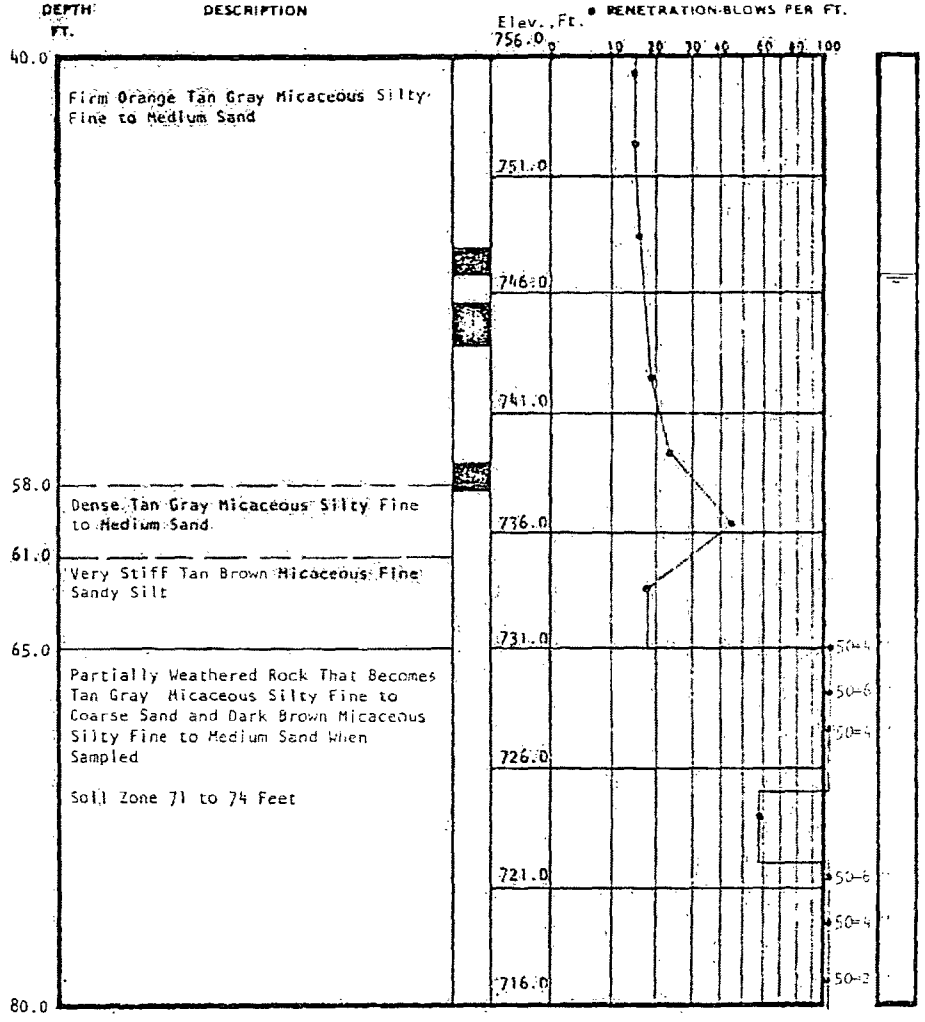
UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARw-16
DATE DRILLED 7/2/79
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
40.0	Firm Orange Tan Gray Micaceous Silty Fine to Medium Sand
58.0	Dense Tan Gray Micaceous Silty Fine to Medium Sand
61.0	Very Stiff Tan Brown Micaceous Fine Sandy Silt
65.0	Partially Weathered Rock That Becomes Tan Gray Micaceous Silty Fine to Coarse Sand and Dark Brown Micaceous Silty Fine to Medium Sand When Sampled Soil Zone 71 to 74 Feet
80.0	



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARw-16
DATE DRILLED 7/2/79
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 716.0	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
	Partially Weathered Rock That Becomes*		•50=0
	Carbide Bit Refusal at 81.0 Feet		
	Boring Terminated at 81.0 Feet		
	Installed Open Tube Observation Well to 81.0 Feet		
	Groundwater at 49.3 Feet After 24 Hours		
	*Tan Gray Micaceous Silty Fine to Coarse Sand and Dark Brown Micaceous Silty Fine to Medium Sand When Sampled		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NABw-16
DATE DRILLED 7/2/79
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.0	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Obtained Bag Samples at Depths of: 3 to 13 Feet, 13 to 23 Feet, 23 to 33 Feet, 33 to 37 Feet, 37 to 40 Feet	791.0	
		786.0	
		781.0	
		776.0	
		771.0	
		766.0	
		761.0	
40.0	Encountered Residual Soil at 40.0 Feet	756.0	

Boring Terminated at 40.0 Feet

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

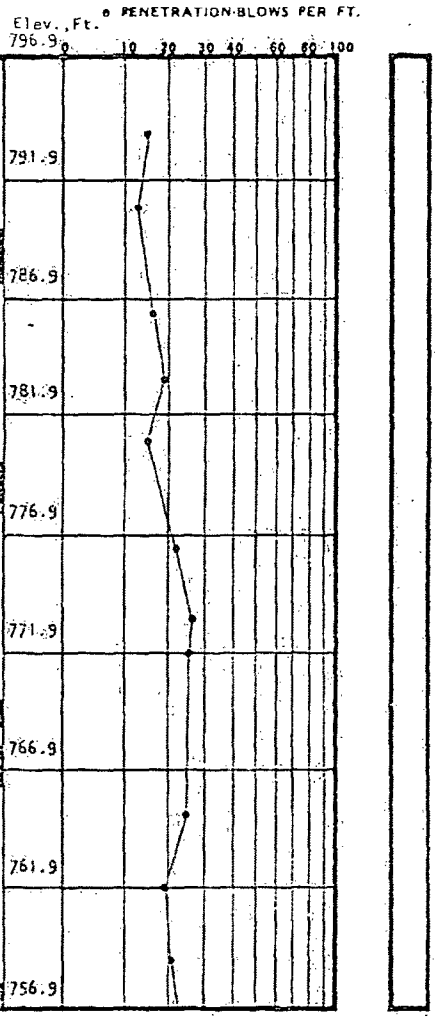
UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NABw-16A
DATE DRILLED 6/29/79
JOB NO. CH 1065P
PAGE 1 OF 1

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
0	Fill - Firm Red and Tan Brown Gray Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
	-Clayey 5 to 6.5 Feet
	-Clayey 9.5 to 11.0 Feet
	-Clayey 19.5 to 21 Feet
	-Silt Inclusions 31 to 32.5 Feet
0	



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

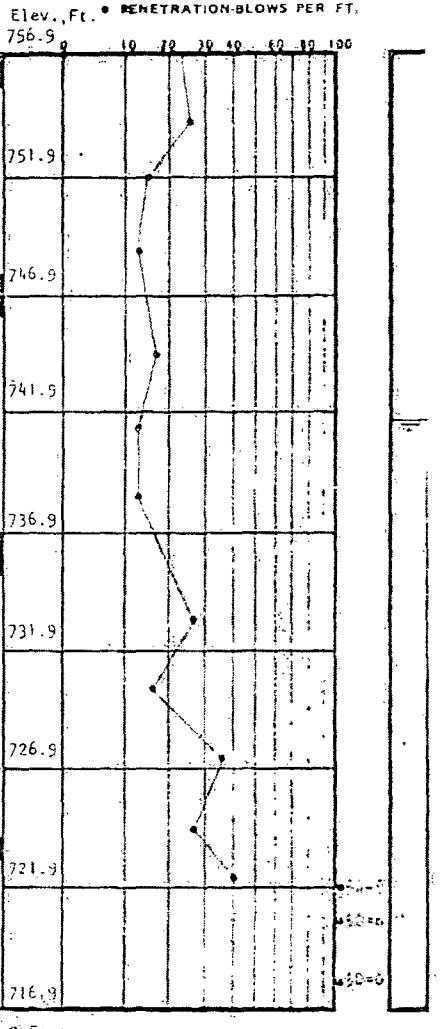
UNDISTURBED SAMPLE
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
50 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-17
DATE DRILLED 6/14/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
40.0	Fill - Firm Red and Tan Brown Gray Micaceous Silty Fine to Medium Sand With Trace of Coarse Sand
46.0	Residual - Firm Orange Brown Gray Micaceous Silty Fine to Medium Sand
57.0	Stiff Tan Black Micaceous Fine Sandy Silt
61.0	Firm Dark Gray Very Micaceous Silty Fine to Coarse Sand
65.0	Very Stiff and Hard Rust Brown and White Olive Gray Very Micaceous Fine to Coarse Sandy Silt
71.0	Firm and Dense Gray Very Micaceous Silty Fine to Coarse Sand
75.0	Partially Weathered Rock That Becomes Dark Greenish Gray Very Micaceous Silty Fine to Medium Sand When Sampled
78.9	Carbide Bit Refusal at 78.9 Feet



Boring Terminated at 78.9 Feet
Installed 1inch Tube Observation Well to 78.9 Feet
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
Groundwater at 55.1 Feet After 24 Hours
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
50 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARW-17
DATE DRILLED 6/14/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 796.9	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Obtained Bag Samples at Depths of: 3 to 13 Feet 13 to 20 Feet 20 to 30 Feet 30 to 40 Feet 40 to 48 Feet 48 to 52 Feet	791.9	
		786.9	
		781.9	
		776.9	
		771.9	
		766.9	
		761.9	
		756.9	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARw-17A
DATE DRILLED 6/14/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Elev., Ft. 756.9	• PENETRATION BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0	Obtained Bag Samples at Depths of: 3 to 13 Feet 13 to 20 Feet 20 to 30 Feet 30 to 40 Feet 40 to 48 Feet 48 to 52 Feet	751.9	
		746.9	
52.0	Boring Terminated at 52.0 Feet No Groundwater Encountered During This Investigation		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NARw-17A
DATE DRILLED 6/14/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec.	Elev., Ft. 741.5	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100	RQD
0	Residual - Stiff Red Brown Fine to Coarse Sandy Clayey Silt		736.5		
0	Very Loose to Firm Very Micaceous Silty to Very Silty Fine to Medium Sand		731.5		
			726.5		
0	Firm and Loose Rust Brown Gray Micaceous Silty Fine to Medium Sand		721.5		
5	Partially Weathered Rock That Becomes Gray Brown Micaceous Silty Fine to Medium Sand When Sampled Soil Zone 26.5 to 29 Feet		716.5	50=5" 50=3"	
	Partially Weathered Rock That Becomes Greenish Gray Micaceous Fine Sandy Silt When Sampled Carbide Bit (3-1/2" Dia) Refusal at		711.5	50=4"	
	Partially Weathered Rock		706.5	50=0 50=1"	
	Carbide Bit (2-1/2" Dia) Refusal at 37.6 Feet				
	Very Hard Light Gray Mica Gneiss, Very Slight Weathering to Fresh	NX 96	701.5	50=0	83

*31.8 Feet

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAP--18
DATE DRILLED 6/5/79
JOB NO. CH 1065P
PAGE 1 OF 2

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Core Size & % Rec.	Elev., Ft. 701.5	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100	RQD
40.0	Very Hard Light Gray Mica Gneiss, Very Slight Weathering Moderately Severely to Completely Weathered Zone 41.6 to 42.6 Feet	NX 96	696.5		83
47.6	Coring Terminated at 47.6 Feet Installed Open Tube Observation Well to 47.6 Feet Groundwater at 12.4 Feet After 24 Hours				

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

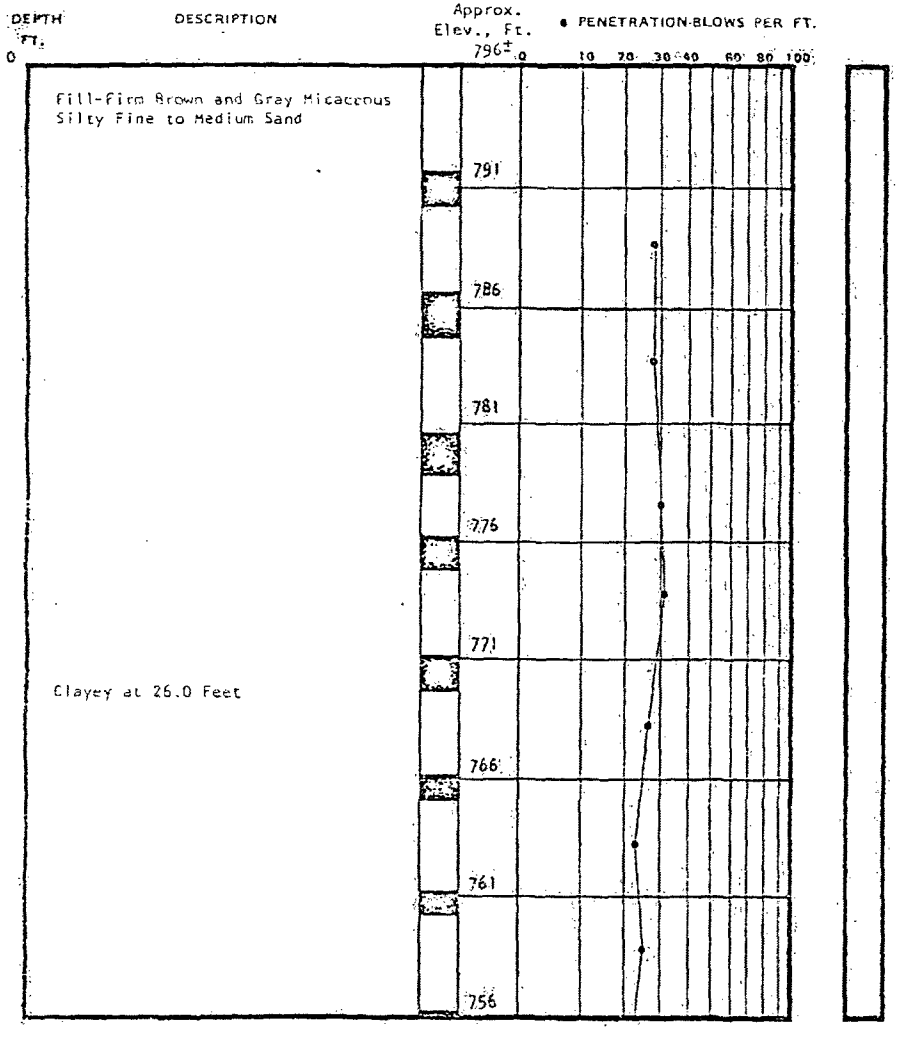
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAP--18
DATE DRILLED 6/5/79
JOB NO. CH 1065P
PAGE 2 OF 2

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

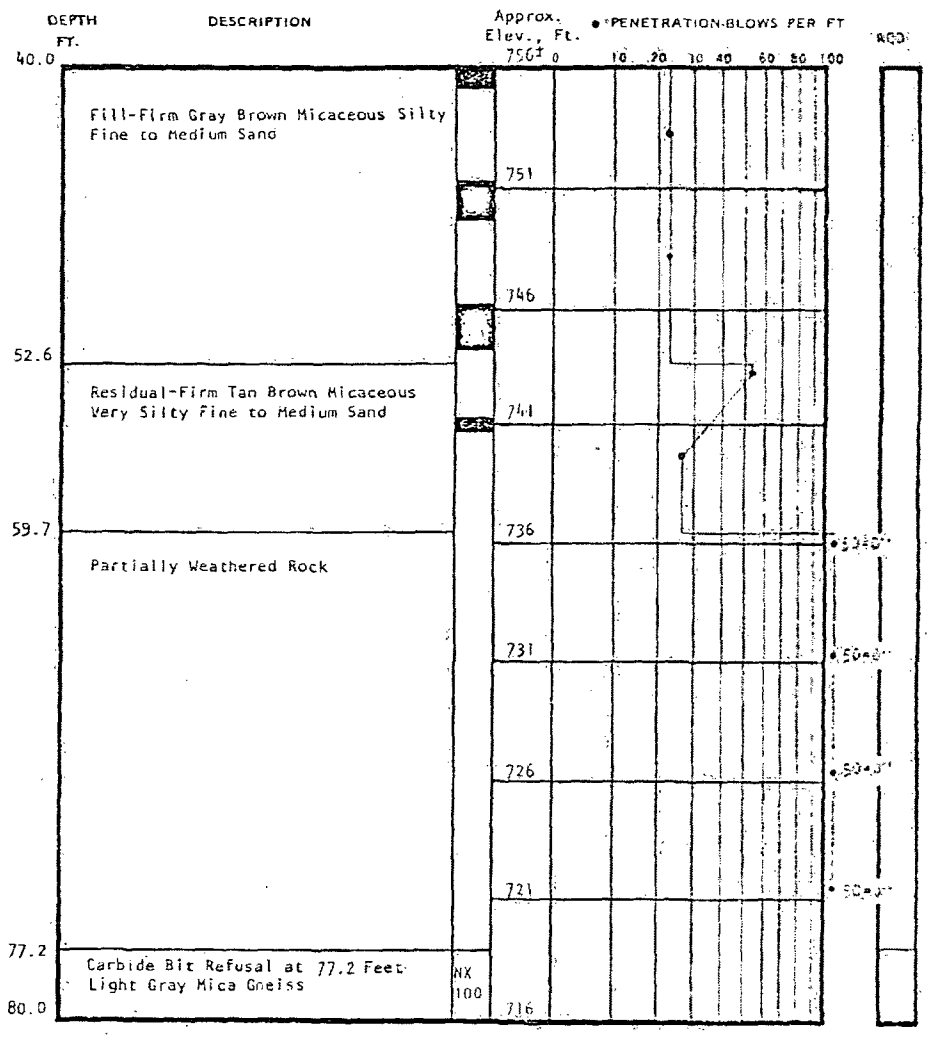
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-19
DATE DRILLED 2/5/80
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-19
DATE DRILLED 2/8-13/80
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft. 716±	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100	RQD
0	Light Gray Mica Gneiss	NX 100		
7		711		
	Coring Terminated at 84.7 Feet			

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR$_{W}$-19
DATE DRILLED 3/6/80
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft. 796.4	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100	RQD
0	Fill-Loose to Firm Brown and Gray Micaceous Silty Fine to Coarse Sand	791.4		
		786.4		
		781.4		
		776.4		
20.0	Fill-Firm Gray and Brown Silty Fine to Medium Sand	771.4		
		766.4		
		761.4		
40.0		756.4		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

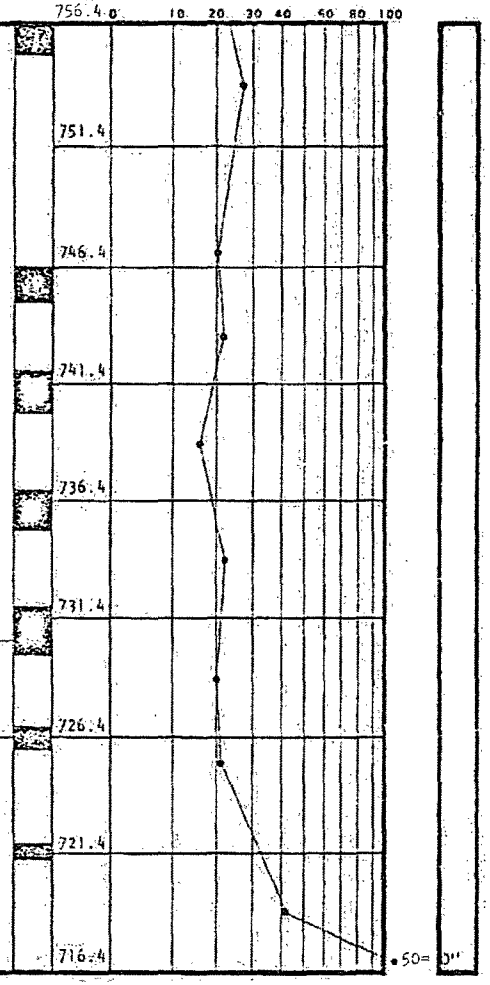
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-20
DATE DRILLED 2/27/80
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft.
	Fill-Firm Brown and Gray Micaceous Silty Fine to Coarse Sand	756.4
		751.4
		746.4
	Slightly Clayey at 48.0 Feet	
		741.4
		736.4
		731.4
	Possible Fill-Firm Brown Micaceous Silty Fine to Medium Sand	
		726.4
	Residual-Firm to Dense Brown Tan Gray Silty Micaceous Fine to Medium Sand	
		721.4
		716.4



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

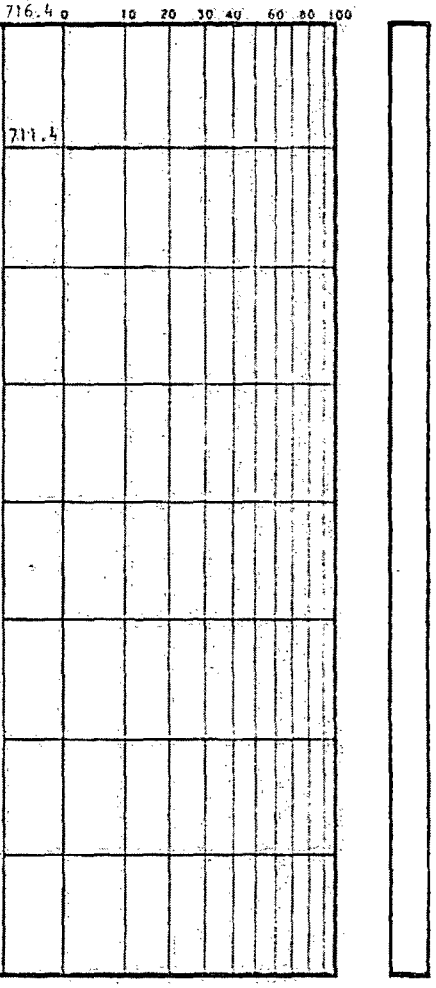
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-20
DATE DRILLED 2/7/80
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft.
80.0		716.4
80.7	Carbide Bit Refusal at 80.7 Feet	
	Boring Terminated at 80.7 Feet	
		711.4



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

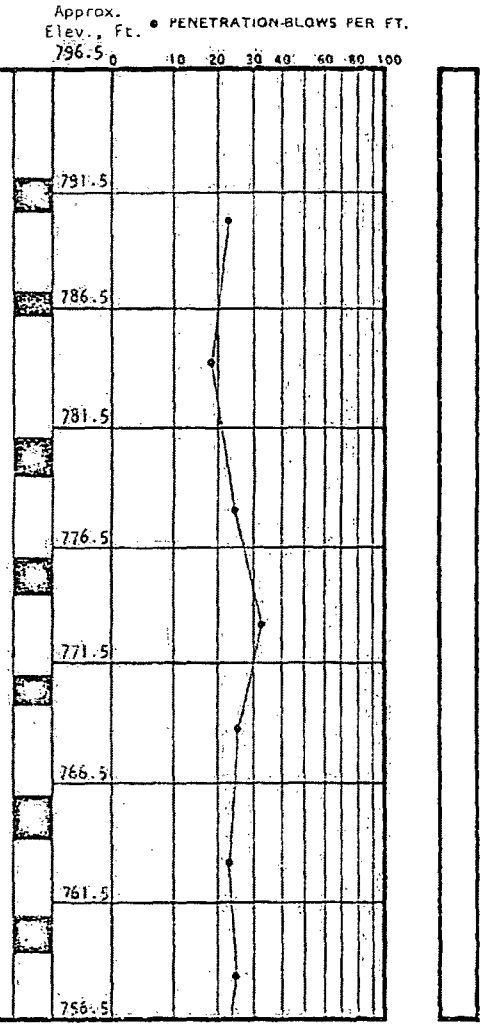
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO NAR-20
DATE DRILLED 2/7/80
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
	Fill-Firm to Dense Brown, Gray and Red Brown Micaceous Silty Fine to Medium Sand



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

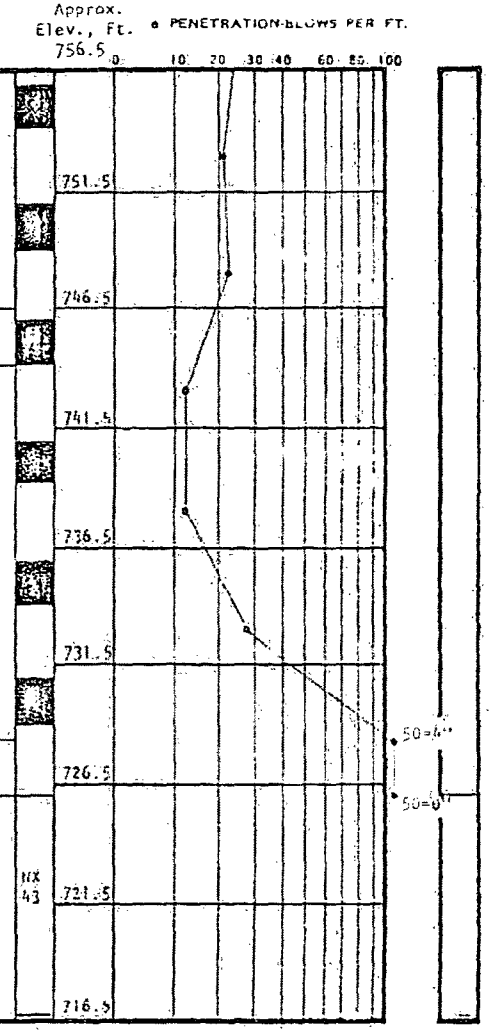
UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
53 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR_W-21
DATE DRILLED 1/29/80
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION
40.0	Fill-Firm Gray Brown Micaceous Silty Fine to Coarse Sand
50.0	Residual-Firm Red Brown Clayey Silty Fine to Medium Sand
52.4	Firm Red Brown and Brown Silty Fine to Medium Sand
68.4	Partially Weathered Rock That Becomes Gray Micaceous Silty Fine*
70.4	Carbide Bit Refusal at 70.4 Feet Light Gray Mica Gneiss
80.0	



*to Medium Sand When Sampled

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR_W-21
DATE DRILLED 1/29/80
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft.	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
		716.5	
	Light Gray Mica Gneiss		
		NX 70 711.5	
		706.5	
		90	
		701.5	
	Coring Terminated at 95.6 Feet		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAP-21
DATE DRILLED 1/29/80
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft.	• PENETRATION-BLOWS PER FT. 10 20 30 40 60 80 100
0		796.0	
	Fill-Firm Tan, Brown and Gray Micaceous Silty Fine to Medium Sand		
		791.0	
		786.0	
		781.0	
	Clayey at 16.8 Feet		
		776.0	
		771.0	
	Rock at 26.5 to 28.0 Feet		
28.0		766.0	
	Fill-Firm Gray Brown Silty Fine to Coarse Sand		
		761.0	
40.0		756.0	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
50 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAP-22
DATE DRILLED 2/5/80
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft.	• PENETRATION-BLOWS PER FT. (0 10 20 30 40 60 80 100)	RQD
0	Fill-Firm to Dense Gray Brown Silty Fine to Coarse Sand	756.0		
		751.0		
	Slightly Clayey at 48.0 Feet	746.0		
	Residual-Firm Red Brown Micaceous Silty Fine to Medium Sand	741.0		
	Firm Brown Slightly Micaceous Very Silty Fine Sand	736.0		
	Firm Black and Gray Silty Very Micaceous Fine to Medium Sand With Some Brown Fine Sandy Silt	731.0		
	Partially Weathered Rock That Becomes Black and Gray Micaceous Silty Fine to Medium Sand Where		50= 1"	
	Very Dense Black and Gray Micaceous Fine to Coarse Sand	726.0		
	Partially Weathered Rock	721.0	50= 0"	
	Carbide Bit Refusal at 75.2 Feet			
	Light Gray Mica Gneiss	NX 0.		0
		716.0	50= 1"	

*Sampled

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — 50 % ROCK CORE RECOVERY — ◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR_W-22
DATE DRILLED 2/5/80
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft.	• PENETRATION-BLOWS PER FT. (0 10 20 30 40 60 80 100)	RQD
80.0	Light Gray Mica Gneiss	716.0		
		NX 41		
		711.0		
		37		
		706.0		
		100		
		701.0		
		82		
		696.0		
103.4	Coring Terminated at 103.4 Feet	691.0		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — WATER TABLE, 1 HR. — % ROCK CORE RECOVERY — ◀ LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR_W-22
DATE DRILLED 2/5/80
JOB NO. CH 1065P
PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft. 796±	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
0	Boring Drilled As Energy Input Hole For Cross-Hole Survey		
1.6	Test Level	791	
		786	
6.6	Test Level	781	
		776	
16.6	Test Level	771	
		766	
26.6	Test Level	761	
36.6	Test Level	756	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR$_W$-23
DATE DRILLED 2/27/80
JOB NO. CH 1065P
PAGE 1 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION	Approx. Elev., Ft. 756±	● PENETRATION BLOWS PER FT. 0 10 20 30 40 50 60 100
40.0			
44.6	Test Level	751	
49.6	Test Level	746	
54.6	Test Level	741	
59.4	Test Level	736	
64.6	Test Level	731	
67.1	Test Level (Input in Boring NAR$_W$-21)		
69.6	Test Level (Input in Boring NAR$_W$-22)	726	
74.6	Test Level	721	
79.6	Test Level	716	
80.0			

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
50 % ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR$_W$-23
DATE DRILLED 2/27/80
JOB NO. CH 1065P
PAGE 2 OF 3

LAW ENGINEERING TESTING COMPANY

DEPTH FT.	DESCRIPTION		Approx. Elev., Ft. 716±	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
80.0				
84.6	Test Level		711	
89.6	Test Level		706	
	Light Gray Mica Gneiss	NX 71		
93.0				
	Coring Terminated at 93.0 Feet		701	

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I. D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. NAR-23

DATE DRILLED 2/27/80

JOB NO. CH 1065P

PAGE 3 OF 3

LAW ENGINEERING TESTING COMPANY

Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: SMW-1
Client: Oconee Nuclear Station		*Well Construction Data*	
Date Started: 6/13/06	Date Completed: 6/16/06	Screen: 2" (0.010) Slotted PVC	From: 15 - To: 25
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: #2 Filter Sand	From: 13 - To: 25
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: Bentonite Pellets	From: 10 - To: 13
Method: HSA	Equipment: Gus Pech GP-1100E	Grout: Portland Cement	From: 0 - To: 10
Boring Depth (ft.): 25.0	TOC Elevation: 795.79	Inner Casing: 2" Sch-40 PVC	
Boring Diameter (in): 8.0	GW Level: ▼ 17.42 Time/Date: 7/18/06	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.		
2								2
4								4
6								6
8	X		11 12 14 17			**SILTY SAND** (FILL), brown, fine to medium grained, well graded, micaceous, very silty, damp.		8
10								10
12								12
14	X		4 5 4 5			**SILTY SAND to SANDY SILT** (FILL), brown, fine to medium, micaceous, damp.		14
16							▼	16
18	X		3 50/3"			**SILTY SAND to SANDY SILT** (FILL), as above.		18
20						**SAPROLITE**, dark brown, Silty Sand, fine grained, damp.		20
22								22
24	X		7 12 50/1"			**PARTIALLY WEATHERED ROCK AND SAPROLITE**, gneissic, high quartz content. **SAPROLITE**, gray to black, Sandy Silt, micaceous, gneissic. Auger refusal at 25'.		24
						Boring terminated at 25'		

LOG OF BORING WELL 73067007.GPJ GAGE_GRP.GDT 8/19/06

Terracon
521 Clemson Road, Columbia, South Carolina 29229
Phone: 803-741-9000, Fax: 803-741-9900

Terracon

GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: **SMW-2**
Client: Oconee Nuclear Station		***Well Construction Data***	
Date Started: 6/13/06	Date Completed: 6/16/06	Screen: 2" (0.010) Slotted PVC	From: 16 - To: 36
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: #2 Filter Sand	From: 14 - To: 36
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: Bentonite Pellets	From: 12 - To: 14
Method: HSA	Equipment: Gus Pech GP-1100E	Grout: Portland Cement	From: 0 - To: 12
Boring Depth (ft.): 36.0	TOC Elevation: 795.83	Inner Casing: 2" Sch-40 PVC	
Boring Diameter (in): 8.0	GW Level: ▼ 17.49 / Time/Date: 7/18/06	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.		
2								2
4								4
6								6
8	X		11			**SILTY SAND** (FILL), red, fine, poorly graded, damp, micaceous.		8
			12			**SILTY SAND** (FILL), brown, fine to medium, well graded, micaceous, damp.		
			16					
10			21					10
12								12
	X		7			**SILTY SAND** (FILL), brown, fine to medium grained, well graded, micaceous, damp.		
14			10					14
			10					
			11					
16								16
18			50/2"			**SAPROLITE**, Silty Sand, red to gray, fine to medium, damp.	▼	18
20								20
22								22
24			50/1"			No split spoon recovery.		24

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: SMW-2
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
26								26
28			50/0"			**SAPROLITE**, tan to dark brown, Silty Sand to Sand, fine to coarse, poorly graded, wet.		28
30								30
32								32
			50/2"			**SAPROLITE**, tan to dark brown, Silty Sand to Sand, fine to coarse, poorly graded, wet.		
34								34
						Auger refusal at 36'		
36						Boring terminated at 36'.		36

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: SMW-3
Client: Oconee Nuclear Station		*Well Construction Data*	
Date Started: 6/15/06	Date Completed: 6/16/06	Screen: 2" (0.010) PVC	From: 10 - To: 20
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: #2 Filter Sand	From: 8 - To: 20
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: Bentonite Pellets	From: 5 - To: 8
Method: HSA	Equipment: Gus Pech GP-1100E	Grout: Portland Cement	From: 0 - To: 5
Boring Depth (ft.): 20.0	TOC Elevation: 795.78	Inner Casing: 2" Sch-40 PVC	
Boring Diameter (in): 8.0	GW Level: ▼ 17.40 / Time/Date: 7/18/06	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.		
2								2
4								4
6								6
8								8
						Shelby tube 9'-11'		
10								10
			5			**SILTY SAND** (FILL), brown, fine to medium grained, well graded, micaceous, damp.		
12			6					12
			6					
			5					
14						**SILTY SAND** (FILL), as above.		14
			5					
			4					
			6					
16			7					16
18			50/0"			Attempted shelby tube 18'-20'. Could not push, rods bending. 2 attemps for shelby tube, 1 for split spoon. Auger refusal at 20'.		18
20						Boring terminated at 20'.		20

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF		Project Number: 73067007	Boring/Well: SMW-5
Client: Oconee Nuclear Station		*Well Construction Data*	
Date Started: 6/15/06	Date Completed: 6/16/06	Screen: 2" (0.010) PVC	From: 22 - To: 32
Logged By: C. Suddeth	Coordinates: N 35 E 83	Pack: #2 Filter Sand	From: 20 - To: 34
Drilling Co.: SAEDACCO	Driller: R. Miller	Seal: Bentonite Pellets	From: 18 - To: 20
Method: HSA	Equipment: Gus Pech GP-1100E	Grout: Portland Cement	From: 0 - To: 18
Boring Depth (ft.): 34.0	TOC Elevation: 796.37	Inner Casing: 2" Sch-40 PVC	
Boring Diameter (in): 8.0	GW Level: ▼ 14.24 / Time/Date: 7/18/06	Outer Casing/Stick Up: Protective Flush Mounted Cover	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
						Air excavation performed 0-8'. No lithologic samples 0-8'.		
2								2
4								4
6								6
8	X		1, 1, 2, 2			SILTY SAND (FILL), brown, fine to medium grained, poorly graded, micaceous, damp.		8
10						Shelby Tube 10' 12'		10
12								12
14	X		2, 3, 4, 6			**SILTY SAND** (FILL), brown, fine to medium grained, well graded, micaceous, wet.	▼	14
16								16
18						Shelby Tube		18
20	X		5, 6, 6, 8			**SILTY SAND** (FILL), as above.		20
22								22
24	X		1, 1			**SILTY SAND** (FILL), brown, fine to medium grained, well graded,		24

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Terracon GEOLOGIST LOG

Project: Oconee Nuclear Station SSF	Project Number: 73067007	Boring/Well: SMW-5
Client: Oconee Nuclear Station	Well Construction Data	

Depth	Sample	Sample Number	Blows/ 6 inches	PID (ppm)	Lithology	Description	Well Detail	Depth
			1			micaceous, wet. (Photo taken)		
26			7			**SAND** (FILL), dark brown, medium to coarse grained, some gravel, well graded, saturated.		26
			13					
			5			**SAND and GRAVEL** (FILL), medium to very coarse grained, well graded, one wood fragment, saturated. (Photo taken)		
			6					
28			7			**SAPROLITE**, gray to white, Silty Sand, gray to white, fine to medium grained, well graded, gneissic, saturated.		28
						SAPROLITE, brown, Silty Sand to Sandy Silt, fine grained, micaceous, wet.		
30						Drill 28' - 34' with no sampling.		30
32								32
						Auger refusal at 34'.		
34						Boring terminated at 34'.		34

LOG OF BORING WELL 73067007.GPJ GAGE_GRP.GDT 8/19/06

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DEPTH FT.	DESCRIPTION	CORE SIZE	% & TIME MIN.	ELEV.	REMARKS	% R.Q.D.
0				796		
5				791		
10				786		
15				781		
20				776		
25				771		
30	Carbide Refusal at 31.0'					
	Hard to Very Hard, Light Gray, Banded Granitic Gneiss, medium-grained			766	31.0' to 39.4', med. to sl. weathered (granitic gneiss)	31.
35		NX 68		761		40
40				756	39.4' to 72.6', sl. unweath. (granitic gneiss)	

BORING AND SAMPLING MEETS ASTM D-1586

CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.

50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.

N = STANDARD PENETRATION — LOSS OF DRILLING WATER

R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:

L = LOW DIP 0–30°

M = MED. DIP 30°–60°

S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-1

DATE DRILLED 3/4 - 5/79

JOB NO. Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE SIZE	% & TIME MIN.	ELEV.	REMARKS	% R.Q.D.
40	Hard to Very Hard, Light Gray, Banded Granitic Gneiss, medium-grained	NX 61		756	42.1', open joint, steep dip	46
45				751	45.3' to 45.6', 45.7' to 45.9', 49.2' to 49.7', 51.4' to 51.8', 52.7' to 53.2', 57.7' to 58.2', 58.5' to 58.8' — hard, dark gray hornblende gneiss, medium-grained, sl. weathered.	34
50		NX 100		746	51.1', open joint, steep dip; 60.8' to 61.0', 61.8' to 62.1' — biotite-rich layers. mod. sev. weathering	46 / 93
55		NX 100		741	63.8', open joint, steep dip, mica coated	55
60				736	62.5' to 63.6', 63.9' to 84.6, 67.4' to 67.7', 68.1' to 68.3', 69.1' to 69.5' — hard, dark gray hornblende-biotite gneiss, med-gr. sl. weathered; 70.2' to 70.9', hard, dark gray, hornblende gneiss, feldspar (?) porphyroblasts	93
65		NX 99		731	71.9' to 72.1', hard, dark gray hornblende gneiss	64 / 83
70				726	Subhorizontal joints parallel to foliation are moderately close to close.	
75	Coring Terminated at 74.6'			721		74
80				716		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINTS
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-1
DATE DRILLED 3/4 - 5/79
JOB NO. Oconee
Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	% RQD
20				776		
25				771		
	Carbide Refusal at 29.6'				29.6' to 39.3', sev. to mod. sev. weath. (ggn)	25
30	Moderately Hard to Hard, Light Gray, Granitic Gneiss, medium-grained	NX 51		766		
35				761	33.0' to 34.3' / 41.2' to 41.9' Mod. hd. to hd, dk. gy. hornblende-biotite gneiss, sev. to mod. sev weath	31
40		NX 100		756	43.5' to 43.9', hd, dk gy, hornblende gneiss, feldspar(?) porphyroblasts	35
45				751	46.0' to 46.5' / 47.2' to 47.4' Med. to hd, dk gy hbn. gneiss, med-grn; 39.3' to 49.2', vsl weath. to unweath.	90
50	Coring Terminated at 49.2'			746	Subhorizontal joints parallel to foliation are close from 29.6' to 39.3', moderately close to wide from 39.3' to 49.2'.	49
55				741		
60				736		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINTS
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-2
DATE DRILLED 3/28/79
JOB NO. Oconee
Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	% R.Q.D.
35				761		
	Carbide Refusal at 39.2'				39.2' to 44.1', sl to vsl weath. (ggn)	39
40	Hard to Very Hard, Light Gray, Granitic Gneiss, medium-grained	NX 99		756	44.4' to 41.7', 42.2' to 42.6', 43.8' to 44.0' — Med to hd, dk gy hornblende gneiss, mod sev to sev weath	85
45				751	44.1' to 67.4', vsl weath to unweath (ggn)	48
50		NX 99		746	51.1' to 51.4', 54.4' to 55.7', 61.7' to 61.8', 62.7' to 63.1', 64.5' to 64.9', 65.8' to 66.5' — hd, dk gy hbn gneiss, med-gr, sl to vsl weath	81
55				741		58
60		NX 97		736		87
65				731	Subhorizontal joints are parallel to foliation, moderately close to close spacing.	67
	Coring Terminated at 67.4'					
70				726		
75				721		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-3
DATE DRILLED 3/29/79
JOB NO. Oconee

Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	R.Q.D. %
0				796		
5				791		
10				786		
15				781		
20				776		
25				771		
30				766		
	Carbide Refusal at 33.2'				33.2' to 37.1', mod to sl weath (ggn)	33
	Hard to Very Hard, Light Gray, Granitic Gneiss, medium-grained				35.3' to 35.4', hd, dk gy hbn gneiss	
35		NX 83		761	37.1' to 38.1', sev weath 38.1' to 68.7', vsl weath to unweath (ggn)	71
40				756		

Page 1 of 2

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
30 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-4
DATE DRILLED 4-6-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE SIZE	% & TIME MIN.	ELEV.	REMARKS	% RQD
40				756	42.6', biotite-rich layer 43.6' to 44.0', hd, dk gy hbn gneiss, feldspar augen (?)	43
45				751		
		NX 100			47.9' to 48.2', biotite-rich granitic gneiss	89
50				746	48.6' to 48.9' 49.4' to 49.6' 52.9' to 53.7' hd, dk gy hbn gneiss, med-gr, mod to sl weath	53
55		NX 100		741	55.0' to 55.8' 56.2' to 56.4' 58.2' to 58.4' 59.9' to 61.1' 63.0' to 63.5' hd, dk gy hbn gneiss, vsl weath	99 58
60				736		
		NX 98				90
65	68.0' Very Hard, Light Gray Granitic Gneiss, coarse-grained, pegmatitic in places			731	Subhorizontal joints parallel to foliation are moderately close to closely spaced.	68
70	Coring Terminated at 68.7'			726		
75				721		
80				716		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-4
DATE DRILLED 4-6-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	% R.Q.D.
0				796		
5				791		
10				786		
15				781		
20				776		
25				771		
30				766		
35				761		
40	Carbide Refusal at 38.6' Hard to Very Hard, Light Gray Granitic Gneiss with biolite rich layers, medium-grained			756	38.6' to 54.2', mod to sl weath (ggn)	38

BORING AND SAMPLING MEETS ASTM D-1586

CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.

50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.

N = STANDARD PENETRATION — LOSS OF DRILLING WATER

R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:

L = LOW DIP 0–30°

M = MED. DIP 30°–60°

S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-5

DATE DRILLED 3-30-79

JOB NO. Oconee

Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE SIZE	% & TIME MIN.	ELEV.	REMARKS	% R.Q.D.
40		NX 77		756	44.6' to 44.9', mod hd, dk gy to bk hbn gneiss, med-gr 48.5' to 49.0', sf to med hd, dk ggy to gy, gneiss, sev weath	52 43
45		NX 91		751	50.1' to 50.9' 51.8' to 52.2' 53.0' to 53.3' sf to med hd, dk gy hbn gneiss	59
50				746	51.4', joint, steep dip, mica coated 54.2' to 77.4', sl to vsl weath, (ggn) 54.3' to 54.7', coarse-gr graniti gneiss	54
55		NX 100		741	56.3' to 57.4' 58.0' to 58.3' 59.5' to 60.4' 60.5' to 60.6' Med hd to hd, dk gy hbn gneiss, mod sev to sl weath	90
60		NX 99		736	60.9' to 61.4', hd. dk gy, hbn gneiss, med to cor-gr, feldspar (?) porphyroblasts	60 94
65				731	62.8' to 66.9' 66.5' to 67.0' hd, dk gy hbn gneiss 68.5' to 69.2', hd, dk gy, hbn gneiss, feldspar(?) porphyroblasts	69
70		NX 77		726	69.2' to 70.0' 72.1' to 72.2' hd, dk gy hbn gneiss	76
75				721	Subhorizontal joints are widely spaced parallel to dominant foliation.	77
80	Coring Terminated at 77.4'			716		

BORING AND SAMPLING MEETS ASTM D-1586

CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.

50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.

N = STANDARD PENETRATION — LOSS OF DRILLING WATER

R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:

L = LOW DIP 0–30°

M = MED. DIP 30°–60°

S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-5

DATE DRILLED 3-30-79

JOB NO. Oconee

Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE % & TIME SIZE MIN.	ELEV.	REMARKS	% R.Q.D.
0			796		
5			791		
10			786		
15			781		
20			776		
	Carbide Refusal at 23.0' Hard, Light Gray, Banded Granitic Gneiss, medium-grained			23.0' to 29.2', sl weath (ggn) 24.0', open joint, steep dip	23
25		NX 81	771	27.8' to 28.0', med hd,dk gy hbn gneiss, mod weath 29.2' to 36.4', sev weath granitic gneiss	60 29.
30			766	36.4' to 62.5', vsl weath (ggn)	
		NX 42			
35			761		35
				39.2', joint, steep dip, mica coated	39.
40			756		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-6
DATE DRILLED 4-11-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV	REMARKS	% R.Q.D.
40	Hard to Very Hard, Light Gray Granitic Gneiss, medium-grained			756	40.9' to 41.1', 41.6' to 41.9', 45.2' to 46.2', 50.7' to 51.3', 52.0' to 52.2', 52.5' to 52.7' — med hd to hd, dk gy hbn gneiss, sl weath	
45		NX 100		751		88
50				746	53.1' to 53.8', interlayered cr-gr ggn and hbn-bi gneiss 54.7', open joint, steel dip, mica coated	49
55		NX 94		741	55.2' to 55.4', 55.6' to 55.7 — med hd hbn gneiss 57.9' to 59.2', small scale folding of biotite rich layers	65
60				736	59.7' to 60.1', 61.1' to 61.9' — hd hbn gneiss, sev weath biotite zone	59
	62.5'					
65	Moderately Hard, Light to Medium Gray, Biotite-rich Granitic Gneiss, medium-grained	NX 95		731	62.5' to 66.7', sev weath (ggn) 66.7' to 86.3', vsl weath to unweath (ggn) 68.1' to 68.2', biotite-rich layer	56
	66.7'					
70	Hard to Very Hard, Light Gray, Granitic Gneiss, medium-grained			726	69.2' to 70.2', 74.6' to 74.8', 75.2' to 75.6' — hd, dk gy hbn gneiss, med-gr, sl weath 76.4', joint, steel dip, mica coated	69
75		NX 99		721	79.6' to 79.8', biotite-rich layer	98
80				716		79

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-6
DATE DRILLED 4-11-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	R.Q.D.
80		NX 100		716	80.9' to 82.9' 82.4' to 83.1' pegmatite (quartz- 84.2' to 85.1' feldspar-biotite) 85.5' to 86.3'	97
85				711	82.2' to 82.4', hbn gneiss 83.1' to 84.2', small scale folding of hbn gneiss and granitic gneiss	86.
	Coring Terminated at 86.3'					
90				706	85.1' to 85.5', interlayered hbn gneiss and granitic gneiss	
95				701		
100				696		
105				691		
110				686		
115				681		
120				676		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-6
DATE DRILLED 4-11-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	R.Q.D. %
0				796		
5				791		
10				786		
15				781		
20				776		
25	Carbide Refusal at 26.2'			771	26.2' to 35.6', mod to sl weath (ggn)	
	Hard to Very Hard, Light Gray, Banded Granitic Gneiss, medium-grained				33.5', open joint, steep dip 36.7', joint, steep dip, mica coated	26.
30		NX 51		766	36.5' to 36.6', 37.3' to 37.5', 43.2' to 43.5' hd, dk gy hbn gneiss, med-gr, sl weath	7
35				761		34.
					36.6' to 55.2', sl to vsl weath (ggn)	
40				756		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-7
DATE DRILLED 4-9-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE SIZE	%	TIME MIN.	ELEV.	REMARKS	% RQD
40		NX	69		756		48
45		NX	100		751	46.6' to 47.2', 48.3' to 48.5' hd,dk gy hbn gneiss	44. 88
50					746	49.2' to 50.4', interlayered hbn. gneiss and granitic gneiss	
55	55.2' Medium Hard, Dark Gray Hornblende Gneiss, medium-to coarse-grained severely weathered	NX	96		741	51.3' to 51.4', 52.9' to 53.2', 53.8' to 54.0', 54.7' to 54.9', 58.5' to 58.9', 67.0' to 67.3' hd, dk gy hbn gneiss	53.
	57.2' Hard to Very Hard, Light Gray, Granitic Gneiss, medium-grained						72
60	60.8' Very Hard, Light Gray Granitic Gneiss, coarse-grained, pegmatitic in places				736		
	64.7'						63.
65	Hard to Very Hard, Light Gray Granitic Gneiss, medium-grained				731		
	69.0'	NX	100				90
70	Very Hard, Light Gray Granitic Gneiss, medium-to coarse-grained				726		72
75	75.5'	NX	100		721	77.5' to 80.8', hd,dk gy, hbn gneiss, feldspar(?) porphyroblasts	77
	Hard to Very Hard, Dark Gray Hornblende Gneiss, medium to coarse-grained with interlayered Light Gray Granitic Gneiss						
80					716		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-7
DATE DRILLED 4-9-79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	% RQD
80	80.8' Hard to Very Hard, Light Gray Granitic Gneiss, medium-grained	NX 100		716	81.5' to 81.6' } biotite-rich 83.1' to 83.3' } layers 84.3' to 84.6' } hbn gneiss 85.0' to 85.2' } hbn gneiss	74
85	86.7' Very Hard, Light Gray Granitic Gneiss, coarse-grained			711	87.3' } joints, steep dips, mica 87.6' } coated	
90	Coring Terminated at 89.1'			706	Subhorizontal joints are parallel to dominant foliation and moderately close to closely spaced	89.
95				701		
100				696		
105				691		
110				686		
115				681		
120				676		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINTS
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-7
DATE DRILLED 4-9-79
JOB NO. Oconee
Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE % & SIZE	TIME MIN.	ELEV.	REMARKS	% RQD
0				796		
5				791		
10				786		
15				781		
20				776		
25	Carbide Refusal at 25.1' Hard, Light Gray, Banded Granitic Gneiss, medium-grained	NX 83		771	25.1' to 39.3', mod to sl weath (ggn)	25 36
30				766	27.1' to 27.3' 27.5' to 27.6' 27.7' to 27.8' 32.0' to 32.1' 32.8' to 33.4' 34.1' to 34.3' } sf to mod hd, dk gy hbn gneiss; sev weath	29
35		NX 62		761	39.3' to 39.5' 40.2' to 40.4' } mod to mod hd, dk gy hbn gneiss, sl weath	49
40				756		39

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1-4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N = STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-7A
DATE DRILLED 5-14-79
JOB NO. Oconee
Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE SIZE	% & TIME MIN.	ELEV.	REMARKS	R.Q.D.
40				756	40.8' to 41.0', 43.3' to 43.6', 46.1' to 47.0' mod hd, dk gy hbn gneiss, sl to mod weath	
		NX 100				93
45				751	48.2' to 48.4', biotite-rich layer; 49.7' to 50.0', hbn gneiss; 52.3', joints, steep dip, mica coated.	49
50		NX 100		746	51.5' to 51.6', hbn gneiss; 53.0' to 53.7', hbn-bi gneiss At 53.0' the hbn gneiss layers is offset 1/4" along a steeply dipping plane with several associated subparallel planes. The foliation is kinked or distorted between these planes.	95
55				741		53
		NX 94				82
60	60.4' Very Hard, Light Gray, Granitic Gneiss, coarse-grained, pegmatite in places (qtz-feld-bi)			736	54.5' to 54.9', biotite-rich layer, mod weath; 55.7' to 56.3', 56.6' to 57.4' mod hd, dk gy hbn gneiss, sev to sl weath	63
65	66.3' Very Hard, Light Gray, Banded Granitic Gneiss, medium-grained	NX 96		731	65.3' to 65.6', med-gr granitic gneiss; 66.4' to 66.5', 69.5' to 70.2' coarse-gr biotite rich zone, disrupted foliation	81
70				726		71
	Coring Terminated at 71.9'				Subhorizontal joints are parallel to foliation and are moderately close to closely spaced.	
75				721		
80				716		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR. — ROCK JOINT:
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR. — L = LOW DIP 0–30°
N = STANDARD PENETRATION — LOSS OF DRILLING WATER — M = MED. DIP 30°–60°
R.Q.D. ROCK QUALITY DESIGNATION — S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-7A
DATE DRILLED 5-14-78
JOB NO. Oconee
Standby Shutdown Facilit

DEPTH FT.	DESCRIPTION	CORE SIZE	% & TIME MIN.	ELEV	REMARKS	% R.Q.D.
40				756		
	Carbide Refusal at 43.8'				43.8' to 63.8', vsl weath (ggn)	43.
	Hard, Light Gray Granitic Gneiss, medium-grained				45.4', open joint, steel dip	
45				751	46.4' to 46.7', mod hd, dk gy hbn gneiss.	
		NX 90			47.6', open joint, steep dip 47.8', fin-gr quartz vein	67
50				746	40.8' to 49.4', hd, dk gy, hbn gneiss, feldspar(?) porphyroblasts	
					51.4' to 52.3', hbn gneiss	53.
55				741	52.8' to 52.9' } biotite-rich layers 54.9' to 55.0' } sev weath	
					56.4' to 57.9', sev weath (ggn)	61
		NX 81			58.3' to 58.4, bi-hbn rich layer	
60				736	61.0' to 63.1', med hd to hd, dk gy hbn gneiss, sev weath from 61.0' to 61.3'	
					67.6' to 67.8' 68.6' to 68.7' } bi-hbn rich layers 70.7' to 70.8' 71.2' to 71.4'	63.
65				731		
		NX 100			74.0' to 74.7', small scale folding of biotite-rich layers	96
70				726		
	72.5'				80.0' to 80.1', bi-hbn rich layer, steep dip	
	Very Hard, Light Gray Granitic Gneiss, coarse-grained, pegmatitic in places, foliation not very distinct					73.
75		NX 100		721		99 76.
		NX 93			Subhorizontal joints parallel to foliation are moderately close to closely spaced.	86
80	Coring Terminated at 80.6'			716		80.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
50 % ROCK CORE RECOVERY — WATER TABLE, 1 HR.
N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-8
DATE DRILLED 4/17/79
JOB NO. Oconee
Standby Shutdown Facility

DEPTH FT.	DESCRIPTION	CORE % & TIME SIZE MIN.	ELEV.	REMARKS	R.Q.D. %
0			796		
5			791		
	Carbide Refusal at 9-1'				9.1
10	Hard, Light Gray, Banded Granitic Geniss, medium-grained	NX 23	786	9.1' to 19.3', moderately severe to severe weathering Foliation has a medium dip.	21
15			781		
					19.
20			776		
25			771		
30			766		
35			761		
40			756		

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N - STANDARD PENETRATION — LOSS OF DRILLING WATER
R.Q.D. ROCK QUALITY DESIGNATION

ROCK JOINT:
L = LOW DIP 0–30°
M = MED. DIP 30°–60°
S = STEEP DIP 60°–90°

TEST BORING RECORD

BORING NO. SSF-9
DATE DRILLED 4/13/79
JOB NO. Oconee
Standby Shutdown Facility