

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE NO.	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. 99-2 DATE: BEGIN 4-29-99 PAGE 1 / 2				
					JOB NO. 1140114801 COMPLETE 4-29-99 Thin Walled Tube				
PROJECT Neches River Saltwater Barrier					3" ☐ 6" ☐				
LOCATION N = 876453.26, E = 3543469.47					ELEVATION OF HOLE -0.2				
MANUFACTURER'S DESIGNATION OF DRILL RIG DNR 75 w/ Barge & Track Buggy					GROUNDWATER: DEPTH * ft., ELEV. ft., at end of Drilling				
WEATHER Sunny & Hot					DRILLER Dempsey Geary				
					LOGGER Troy Mastamand				
					COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	J 1	0.00	Gray	Clay	U. soft				* 3' of water
	J 2	0.00	Gray	Clay	V. soft				- w/ decayed wood & roots
									- w/ decayed wood & roots
									- sample fell out of tube 0-4'
- 5	3	0.00	Gray	Clay	V. soft				- w/ decayed wood & roots
	4	0.00	Gray	Clay	V. soft				- w/ decayed wood & roots
	5	0.00	Gray	Clay	V. soft				- w/ decayed wood & roots
- 10	6	0.00	Gray	Clay	V. soft				- w/ decayed wood & roots
	7	0.50	olive gray	Clay	M. stiff	Silt			- w/ Sand Seams & Sand Pkts
	8	0.50	olive gray	Clay	M. stiff	Silt			- w/ Sand Seams & Sand Pkts
- 15	X 9	5 7 9	Gray	Sand	M. Dense	Silt			- w/ decayed wood
- 20	10	2-5	olive gray	Clay	V. stiff				- w/ calc nod & fer stains, SLKS
	11	0.50	Gray	Clay	M. stiff	Silt			- w/ silty Sand Seams
- 25	12	1.00	Gray	Clay	Stiff	Silt			- w/ Fer stains & Sand Seams
	13	2-25	Yellowish gray	Clay	V. stiff	Silt			- w/ Fer stains & Sand Seams
	14	2-25	Yellowish gray	Clay	V. stiff	Silt			- w/ Fer stains & Seams
- 30	15	2-50	Yellowish gray	Clay	V. stiff	Silt			- w/ Fer stains & Seams
	16	2-50	Yellowish gray	Clay	V. stiff	Silt			- w/ Fer stains & Seams
- 35	X 17	8 11 15	Yellowish gray	Silt	M. Dense	Clayey			- silty sand Seams

(3)

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>99-2</u> DATE: BEGIN <u>4-29-99</u> PAGE <u>2</u> / <u>2</u>				
				JOB NO. <u>1140114808</u> COMPLETE <u>4-29-99</u> Thin Walled Tube				
PROJECT <u>Neches River Saltwater Barrier</u>				☒ 3" ☐ 6"				
LOCATION <u>N=876453.26, E=3543469.47</u>				ELEVATION OF HOLE _____				
MANUFACTURER'S DESIGNATION OF DRILL RIG <u>DNR75 w/ Barge & Track Buggy</u>				GROUNDWATER: DEPTH <u>*</u> ft., ELEV. _____ ft., at end of Drilling				
WEATHER <u>Sunny & Hot</u>				DRILLER <u>Dempsey Gearen</u> LOGGER <u>Erin Mostamand</u>				
				COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
-35-				Yellowish Gray	silt	M. Dense	Clay	- w/ silty sand seams
-40-	X 1879	13		Gray	silt	M. Dense	Clay	
-45-	19	3.75		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
	20	3.50		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
	21	3.50		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
-50-	22	3.50		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
	23	3.75		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
-55-	24	3.50		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
	25	3.50		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
	26	3.50		Reddish Brown	Clay	V. stiff		- w/ calc nod & Fer stains, SLKS
-60-								J1 Jar Sample
-65-								
-70-								

SUMMARY OF LABORATORY TEST RESULTS

Contract No. DACW64-98-D-0002 Delivery Order No. 0010

Boring No. 99-2

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	Mc (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	PL (%)	Mechanical Analysis % Passing					Specific Gravity	q u (tsf)
											#4	#10	#40	#100	#200		
1	0 - 2	0.00		Clay, w/decayed wood & roots, Very soft, Gray	C H	101.4											
2	2 - 4	0.00		Clay, w/decayed wood & roots, Very soft, Gray	C H	103.8											
3	4 - 6	0.00		Clay, w/decayed wood & roots, Very soft, Gray	C H	98.5											
4	6 - 8	0.00		Clay, w/decayed wood & roots, Very soft, Gray	C H	93.8											
5	8 - 10	0.00		Clay, w/decayed wood & roots, Very soft, Gray	C H	88.6										2.454	
6	10 - 12	0.00		Clay, w/decayed wood & roots, Very soft, Gray	C H	83.4											
7	12 - 14	0.50		Silty Clay, w/sand seams & sand pockets, Medium stiff, Olive gray	C L	22.7	99.5	122.0	35.0	18.0							
8	14 - 16	0.50		Silty Clay, w/sand seams & sand pockets, Medium stiff, Olive gray	C L	24.8											
9	16-17.5		16	Sand, w/decayed wood, Medium dense, Gray	S P						100.0	100.0	80.1	4.3	3.3		
10	20-22	2.25		Clay, w/calc nod & fer stains, silts, Very stiff, Olive gray	C H	38.9											
11	22-24	0.50		Silty Clay, w/silty sand seams, Medium stiff, Gray	C L	21.3	104.3	126.6	23.0	14.0							0.57
12	24-26	1.00		Silty Clay, w/fer stains & sand seams, Stiff, Gray	C L	18.4	108.5	128.5									1.34
13	26-28	2.25		Silty Clay, w/fer stains & sand seams, Very stiff, Yellowish gray	C L	16.7	109.4	127.6									2.00
14	28-30	2.25		Silty Clay, w/fer stains & sand seams, Very stiff, Yellowish gray	C L	18.9											
15	30-32	2.50		Silty Clay, w/fer stains & sand seams, Very stiff, Yellowish gray	C L	20.7											
16	32-34	2.50		Silty Clay, w/fer stains & sand seams, Very stiff, Yellowish gray	C L	23.1											
17	34-35.5		26	Clayey Silt, w/silty sand seams, Medium dense, Yellowish gray	ML-CL	21.8											
18	39-40.5		22	Clayey Silt, Medium dense, Gray	ML-CL	22.7			25.0	19.0							
19	44-46	3.75		Clay, w/calc nod & fer stains, silts, Very stiff, Reddish brown	C H	26.9	96.1	122.0									
20	46-48	3.50		Clay, w/calc nod & fer stains, silts, Very stiff, Reddish brown	C H	28.2											

S #: Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content
q u : Unconfined Compressive Strength, W O H : Weight of hammer, W O P : Weight of Pipe

Project: Neches River Saltwater Barrier

SUMMARY OF LABORATORY TEST RESULTS

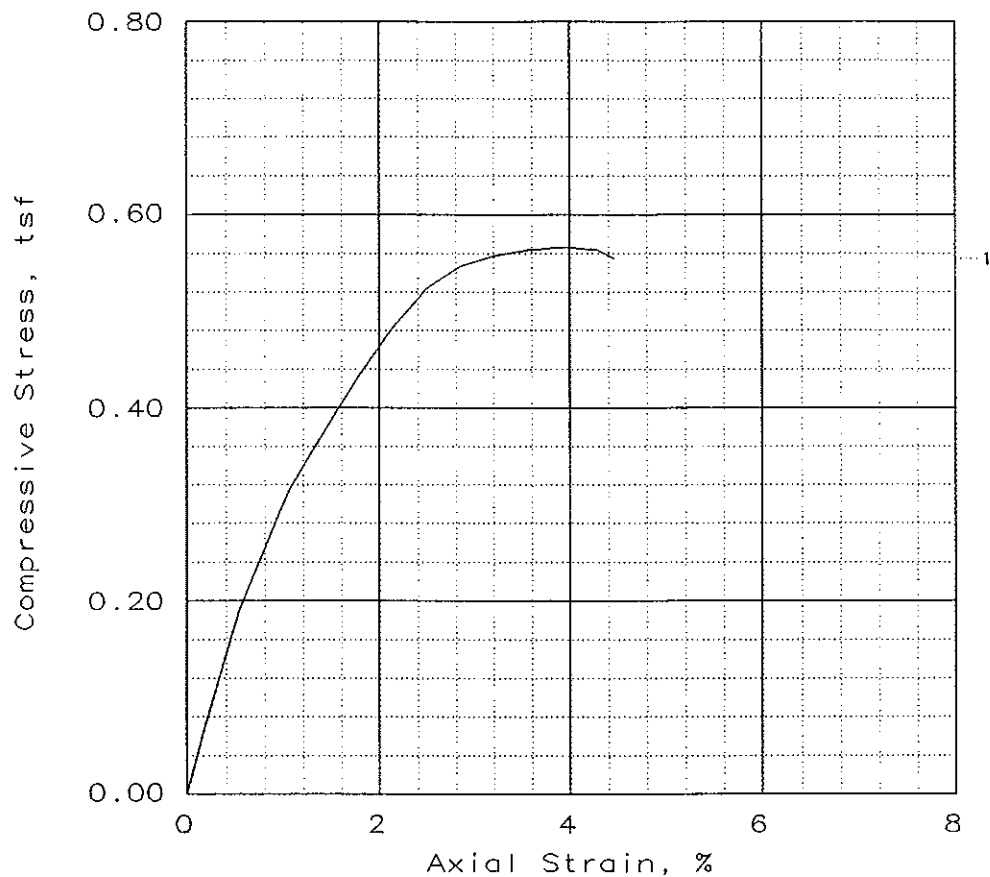
Contract No. DACW64-98-D-0002 Delivery Order No. 0010

Boring No. 99-1

[illegible]

S #: Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content
q u : Unconfined Compressive Strength, W O H : Weight of hammer, W O P : Weight of Pipe

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	0.57			
Undrained shear strength, tsf	0.28			
Failure strain, %	3.9			
Strain rate, %/min	1.07			
Water content, %	21.3			
Wet density, pcf	126.6			
Dry density, pcf	104.3			
Saturation, %	96.4			
Void ratio	0.5856			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Silty Clay, w/si sd sms, Medium stiff, Gray

LL = 23 PL = 14 PI = 9 ASS. GS = 2.65 Type: Undisturbed

Project No.: 1140114813

Date: 7-12-99

Remarks:

Client: U.S Army Corps of Engineers

Galveston District Office

Project: Neches River Saltwater Barrier

Location: Boring No. 99-2

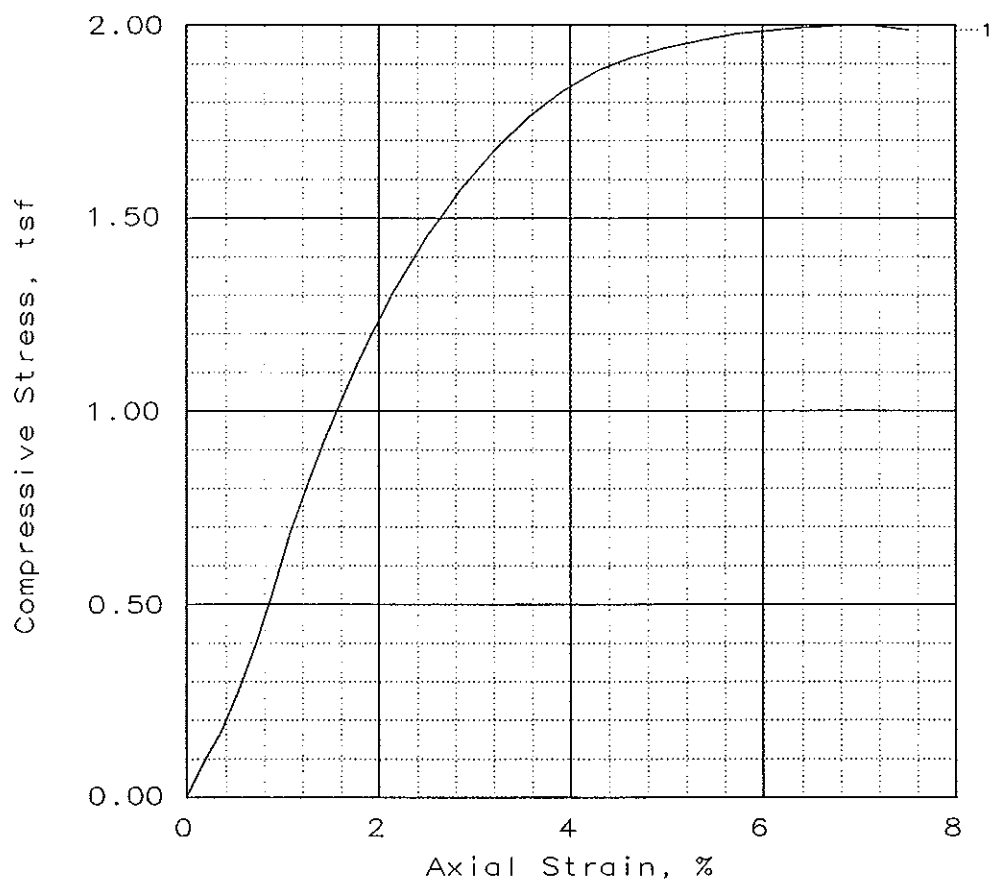
Sample No. 11 Depth: 22-24 ft

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

Fig. No.: _____

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	2.00			
Undrained shear strength, tsf	1.00			
Failure strain, %	7.1			
Strain rate, %/min	1.07			
Water content, %	16.7			
Wet density, pcf	127.6			
Dry density, pcf	109.4			
Saturation, %	86.1			
Void ratio	0.5126			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Silty Clay, w/fer stains&sd sms, V.S, Yish gray

ASS. GS= 2.65

Type: Undisturbed

Project No.: 1140114813

Date: 7-12-99

Remarks:

Client: U.S Army Corps of Engineers

Galveston District Office

Project: Neches River Saltwater Barrier

Location: Boring No. 99-2

Sample No. 13 Depth: 26-28 ft

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

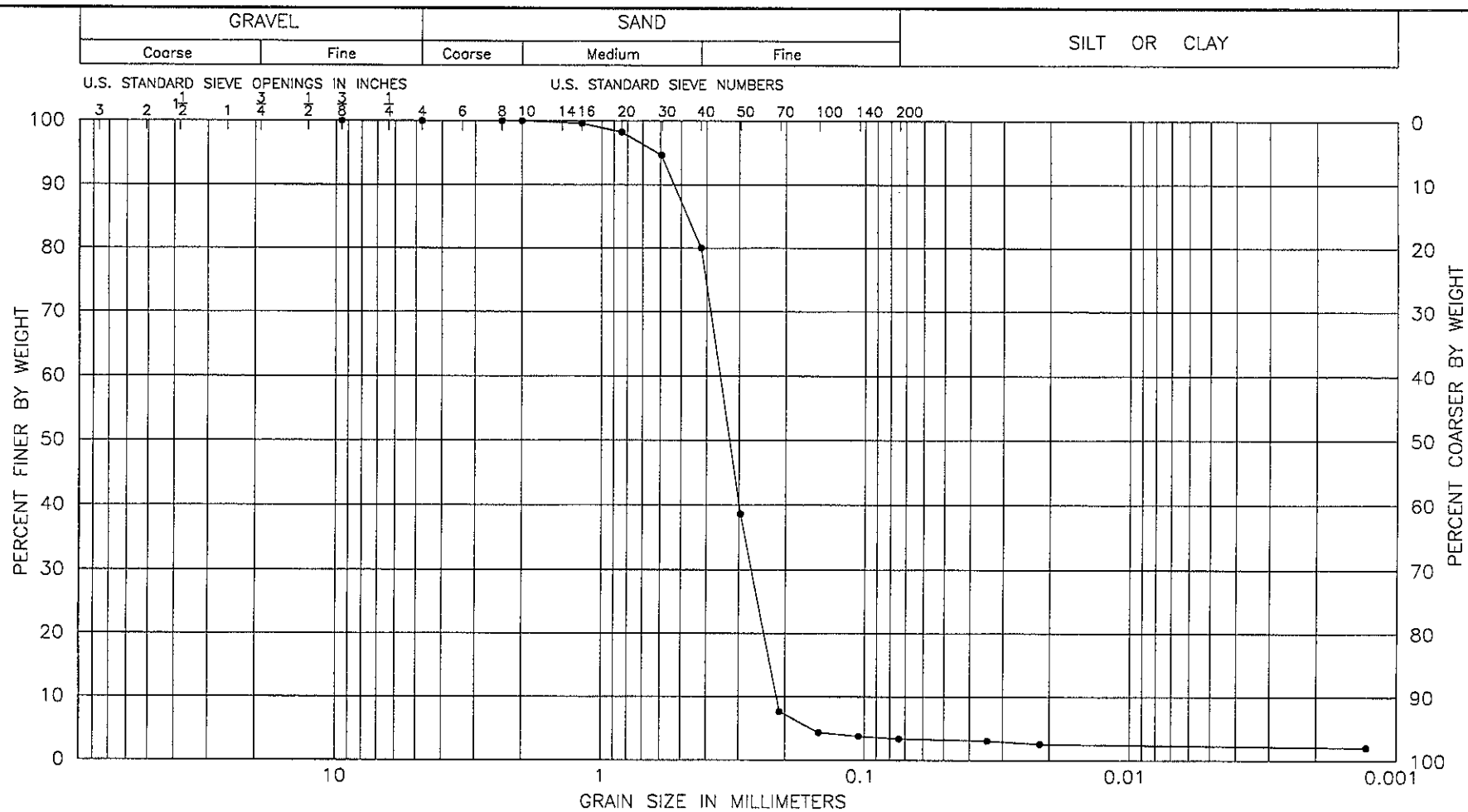
Fig. No.: _____

SUMMARY OF LABORATORY TEST RESULTS

Project: Neches river Saltwater barrier
Contract No. DACW64-98-D-0002

Boring No.	S#	Visual Classification	U S C	Mechanical Analysis																	
				% Passing																	
				#2	#1 1/2	#1	#1/2	#3/4	#3/8	#4	#8	#10	#16	#20	#30	#40	#50	#70	#100	#140	#200
99-1	5	Sandy Silt,w/decayed wood & sand,very loose,gray	ML	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	98.2	87.4	68.3	50.3
99-1	8	Sand,w/decayed wood & silt,loose, gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	95.6	82.3	54.9	27.1	14.4	10.4	9.1	8.3	7.6
99-2	9	Sand,w/decayed wood,medium dense,gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	98.2	94.7	80.1	38.6	7.6	4.3	3.7	3.3
99-3	8	Sand,w/pea gravel,medium dense,gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	98.9	96.6	90.3	74.7	43.5	5.5	1.7	1.3	1.2
99-4	8	Silty Sand,w/roots,loose,gray	SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.3	97.4	89.7	69.7	46.7	33.0	27.8	23.7	
99-5	7	Sand,medium dense,gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.5	97.3	88.3	63.6	28.4	6.7	4.5	4.0	3.7	
99-5	8	Sand,w/pea gravel,medium dense,gray	SP	100.0	100.0	100.0	100.0	100.0	99.6	98.9	98.4	98.1	95.7	87.7	66.6	37.6	16.1	5.6	3.7	3.3	3.1
99-6	11	Sand,w/decayed wood & pea gravel,medium dense gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	99.5	98.0	97.1	91.3	83.2	69.8	53.8	31.6	10.3	6.4	5.1	3.9
99-7	5	Sand,w/silt,loose,gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.6	98.1	95.4	87.4	69.6	46.5	28.1	13.8	7.8	6.3	5.7
99-7	7	Sand,w/silt & pea gravel, medium dense, gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.7	92.3	73.1	44.9	23.0	9.9	6.3	5.6	5.2
99-8	5	Sand,w/pea gravel, loose, gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.8	98.1	93.0	79.7	53.1	28.1	18.1	10.6	6.3	5.4	4.9
99-8	7	Sand, w/decayed wood & gravel,medium dense, gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.5	91.2	77.4	54.4	32.2	17.8	10.2	8.1	7.1	6.5
99-8	15	Clayey Silt,w/sand,medium dense,yellowish gray	ML	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.5	93.3	82.2	64.6
99-10	6	Sand,loose,gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.2	92.6	78.6	50.2	27.4	14.1	8.4	6.5	5.4
99-10	8	Sand,w/silt,clay pockets,medium dense,gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.1	91.3	71.5	42.1	20.2	10.9	9.0	8.0	7.2
99-10	13	Silt,medium dense,yelllowish brown & gray	ML	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.8	98.7
99-11	6	Sity Sand,medium dense,gray	SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.3	96.4	76.6	32.5	18.7	14.3

S#: Sample Number, U S C: Unified Soil Classification



LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
•••••	99-2	9	16-17.5	Sand, w/decayed wood, medium dense, gray

GRAIN SIZE DISTRIBUTION CURVES