U.S. ARMY CORPS OF ENGINEERS

BORING NO. 99-14 DATE: BEGIN 4-24-94 PAGE 1 / 2
JOB NO. 114011408 COMPLETE 4-24-94 Thin Walled Tube
PROJECT Neches River Saltwater Barrier ■ 3" □ 6"
LOCATION N = 875652.41 , E = 3543466.93
ELEVATION OF HOLE 0.8
MANUFACTURER'S DESIGNATION OF DRILL RIG DNR 75 W/ Barge
GROUNDWATER: DEPTH * ft., ELEV. _____ ft., at end of Drilling
WEATHER Cloudy
DRILLER Dempsey Gearen LOGGER Inj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
Mud line 0	J	1	0.00	Gray	Clay	V. Soft		2 1/2' of standing water - w/decayed wood - sample fall out of tube on
	J	2	0.00	Gray	Clay	V. soft		- w/decayed wood
5		3	0.00	Gray	Clay	V. soft		- w/organic material & decayed wood frags
		4	0.00	Gray	Clay	V. soft	Silt	- w/Sa sms & Sa pkts & roots - Set 10' of casing Total casing below mudline 6'
	X	5	3 5 12	Gray	Sand	M. Dense	Silt	- w/roots
10								
	X	6	4 6 10	Brown	Sand	M. Dense	Silt	- w/wood
15								
	X	7	5 8 13	Brown	Sand	M. Dense		- w/gravel
20		8	2.75	Yellowish Brown	Clay	V. stiff	Silt	- w/fer stains
		9	3.25	Yellowish Brown	Clay	V. stiff	Silt	- w/fer stains & Silt sms
25		10	3.75	Reddish Brown & Gray	Clay	V. Stiff		- w/fer stains & silt sms
		11	3.50	Reddish Brown & Gray	Clay	V. stiff	Silt	- w/fer stains & silt sms
		12	3.75	Yellowish Brown & Gray	Clay	V. stiff		- w/ fer stains, SLKS
30		13	3.75	Yellowish Brown & Gray	Clay	V. stiff		- w/fer stains, SLKS
		14	3.75	Yellowish Brown & Gray	Clay	V. stiff		- w/fer stains, SLKS
35		15	3.75	Yellowish Brown & Gray	Clay	V. stiff	Silt	- w/fer stains & silt sms

(18)

U.S. ARMY CORPS OF ENGINEERS

BORING NO. '99-14 DATE: BEGIN 4-24-99 PAGE 2 12
JOB NO. 1140114808 COMPLETE 4-24-99 Thin Walled Tube
PROJECT Neches River Salt Water Barrier ■ 3" □ 6"
LOCATION N = 875652.41 E = 3543466.93
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG DNR 75 W/ Barge
GROUNDWATER: DEPTH * ft., ELEV. ft., at end of Drilling
WEATHER Cloudy
DRILLER Dempsey Craven LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSIS-TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
35								
		16	3.75	Yellowish Brown & Gray	Clay	V. stiff	silt	- w/Fer stains & silt sms
		17	2.75	Gray & Yellowish Brown	Clay	V. stiff	silt	- w/Fer stains & sa sms
40	X	18	11 19 36	Brown	Sand	Dense	silt	- w/ silty clay sms
		19	3.75	Red & Gray	Clay	V. stiff		- w/Fer stains, SLKS
45		20	4.25	Red & Gray	Clay	Hard		- w/Fer stains, SLKS
		21	2.75	Reddish Brown & Gray	Clay	V. stiff		- w/Fer stains, SLKS
		22	3.00	Reddish Brown & Gray	Clay	V. stiff		- w/Fer stains, SLKS
50		23	3.25	Reddish Brown & Gray	Clay	V. stiff		- w/Fer stains, SLKS
		24	3.50	Red & Gray	Clay	V. stiff		- w/c/c nod & Fer stains, SLKS
55		25	3.50	Red & Gray	Clay	V. stiff		- w/Fer stains, SLKS
		26	3.50	Red & Gray	Clay	V. stiff		- w/Fer stains, SLKS
		27	3.50	Red & Gray	Clay	V. stiff		- w/Fer stains, SLKS
60								J: Jar Sample
65								
70								

(19)

Project: Neches River Saltwater Barrier

SUMMARY OF LABORATORY TEST RESULTS

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

Boring No. 99-14

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,Very soft,Gray	C H	105.5											
2	2 - 4	0.00		Clay,w/decayed wood,Very soft,Gray	C H	79.2											
3	4 - 6	0.00		Clay,w/decayed wood,Very soft,Gray	C H	76.6	50.0	88.3	103.0	45.0	100.0	100.0	100.0	100.0	100.0	2.068	
4	6 - 8	0.00		Silty Clay,w/organic material decayed wood & roots,Very soft,Gray	C L												
5	8-9.5		17	Silty Sand,w/roots,Medium dense,Gray	S M												
6	13-14.5		16	Sand,w/wood,Medium dense,Brown	S P						99.8	99.7	76.0	5.9	2.8		
7	18-19.5		21	Sand,w/gravel,Medium dense,Brown	SP-SM						100.0	99.9	70.4	19.3	10.6		
8	20-22	2.75		Silty Clay,w/fer stains,Very stiff,Yellowish brown	C L	24.3											
9	22-24	3.25		Silty Clay,w/fer stains & silt seams,Very stiff,Yellowish brown	C L	25.9	96.9	121.9	37.0	18.0							2.14
10	24-26	3.75		Clay,w/fer stains & silt seams,Very stiff, Reddish brown & gray	C H	19.3											
11	26-28	3.50		Silty Clay,w/fer stains & silt seams,Very stiff,Reddish brown & gray	C L	23.5											
12	28-30	3.75		Clay,w/fer stains,slks,Very stiff,Yellowish brown & gray	C H	23.6											
13	30-32	3.75		Clay,w/fer stains,slks,Very stiff,Yellowish brown & gray	C H	23.8											
14	32-34	3.75		Clay,w/fer stains,slks,Very stiff,Yellowish brown & gray	C H	20.5	102.8	124.0	52.0	21.0							
15	34-36	3.75		Silty Clay,w/fer stains & silt seams,Very stiff,Yellowish brown	C L	18.8											
16	36-38	3.75		Silty Clay,w/fer stains & silt seams,Very stiff,Yellowish brown	C L	18.7											
17	38-40	2.75		Silty Clay,w/fer stains & silt seams,Very stiff,Yellowish brown	C L	16.5											
18	40-41.5		45	Silty Sand,w/silty clay seams,Dense, Brown	S M	16.1					99.8	97.5	31.0	15.6	13.0		
19	42-44	3.75		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	22.2											
20	44-46	4.25		Clay,w/fer stains,slks,Hard,Red & gray	C H	24.0											

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classifcation, 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

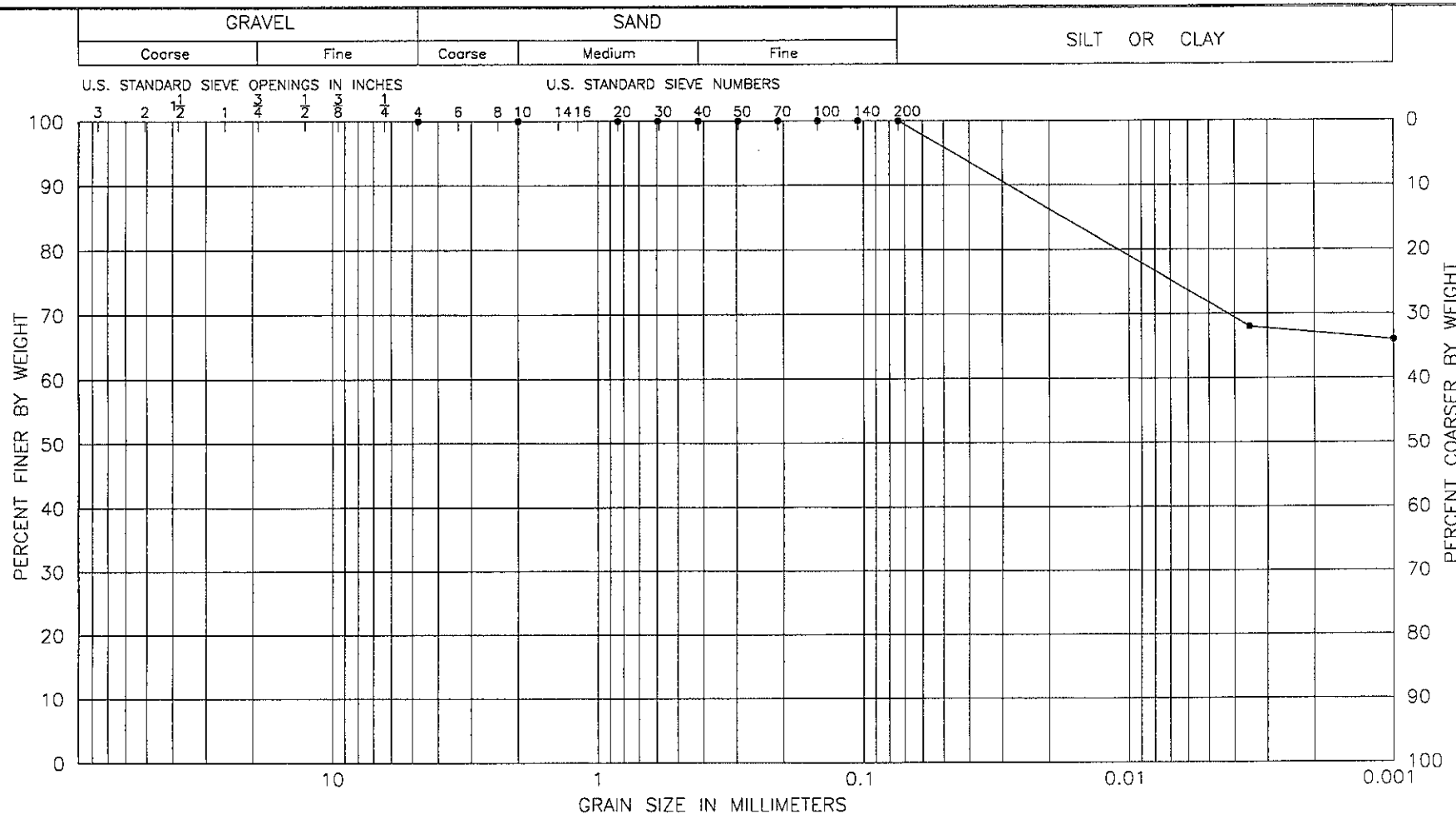
Contract No. DACW64-98-D-0002 Delivery Order No. 0010

Boring No. 99-14

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		
21	46-48	2.75		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	31.6	86.9	114.3	86.0	31.0							
22	48-50	3.00		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	30.1											
23	50-52	3.25		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	29.3											
24	52-54	3.50		Clay,w/calc nod & fer stains,slks,Very stiff,Red & gray	C H	29.6											
25	54-56	3.50		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	29.8											
26	56-58	3.50		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	30.0											
27	58-60	3.50		Clay,w/fer stains,slks,Very stiff,Red&gray	C H	30.1											

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

Job No. 1140114813



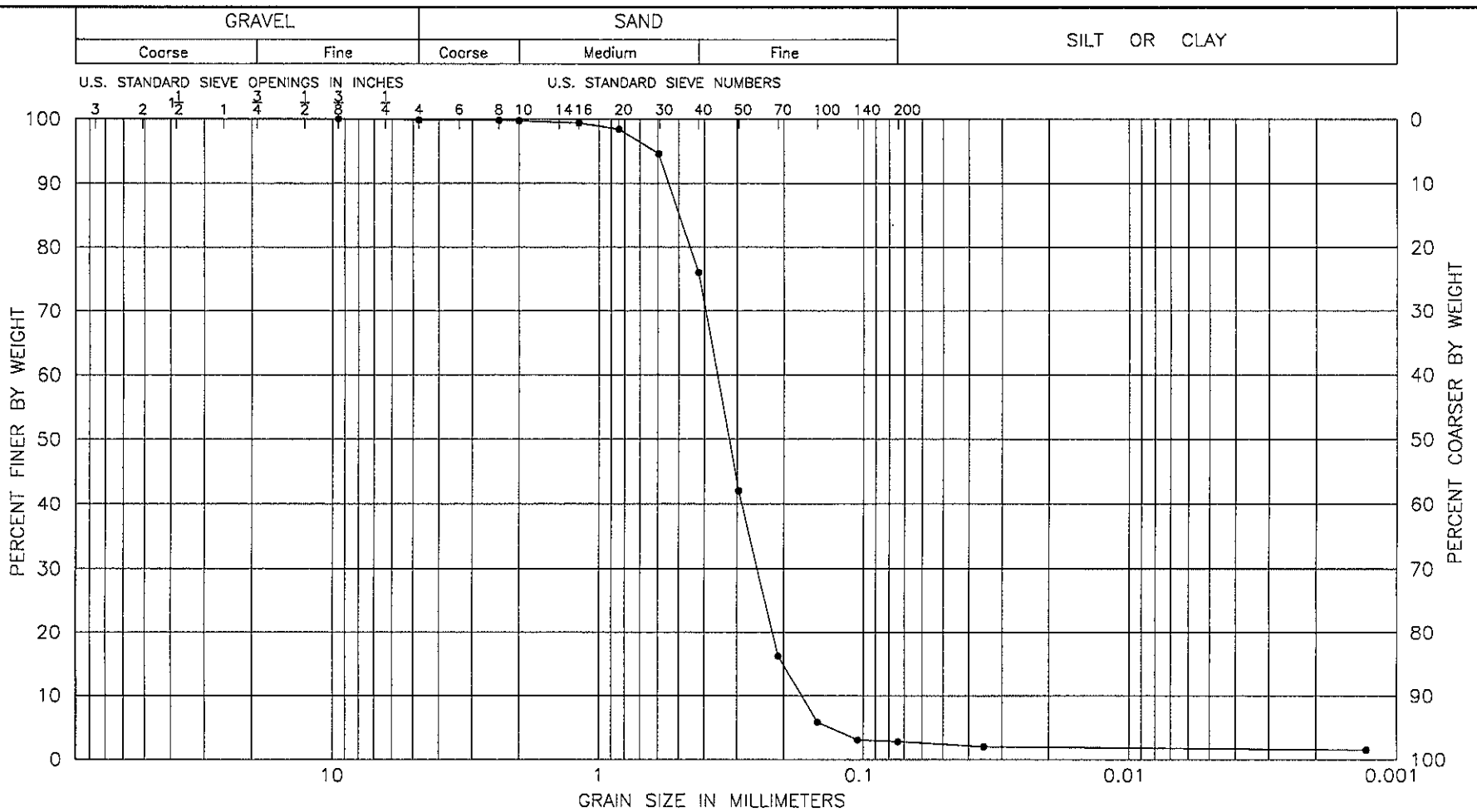
LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
●●●●●	99–14	3	4–6	Clay,w/decayed wood,gray

GRAIN SIZE DISTRIBUTION CURVES

FIGURE

Geotest Engineering, Inc.

Job No. 1140114810



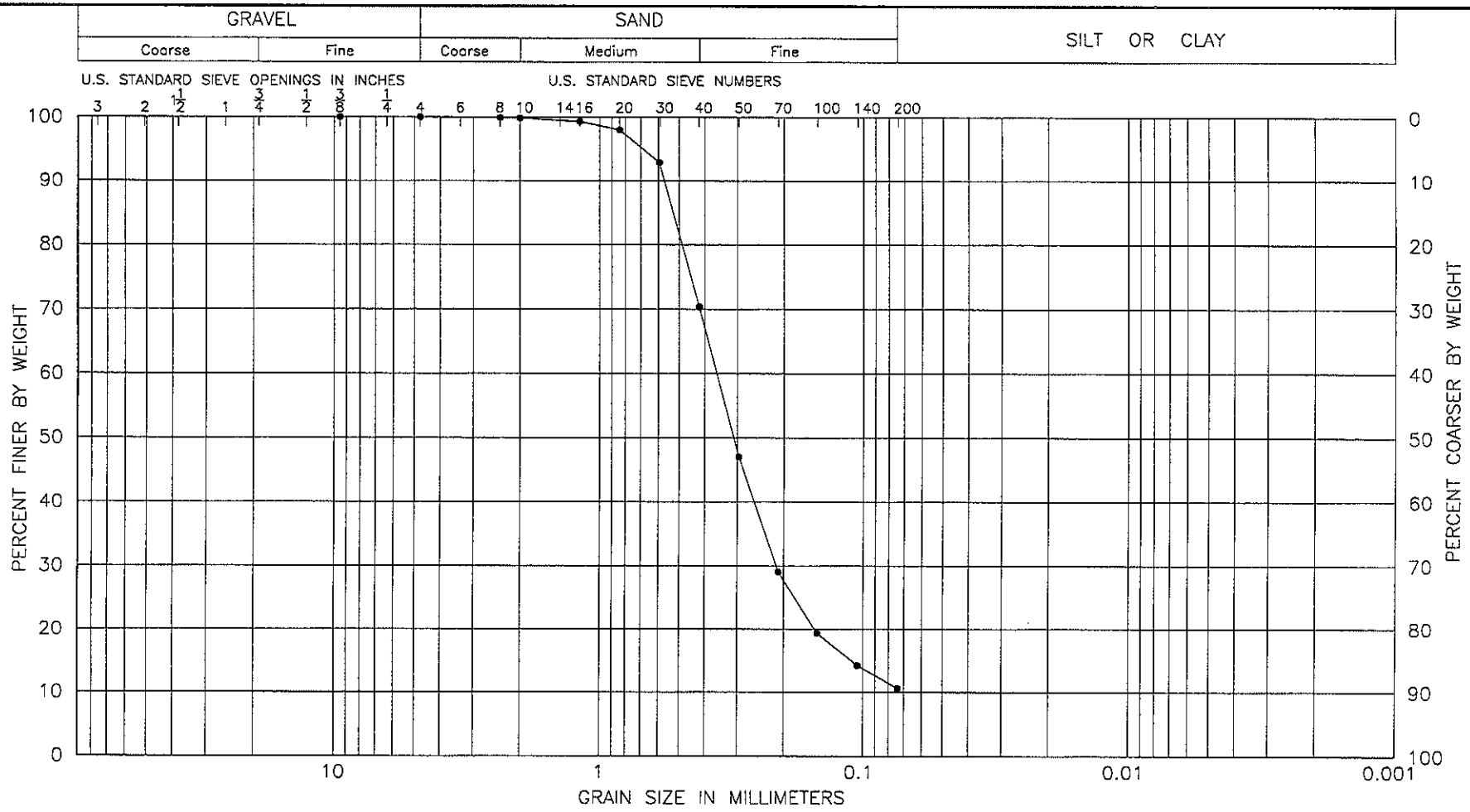
LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
●●●●●	99–14	6	13–14.5	Sand, w/wood, medium dense, brown

GRAIN SIZE DISTRIBUTION CURVES

FIGURE

Geotest Engineering, Inc.

Job No. 1140114810



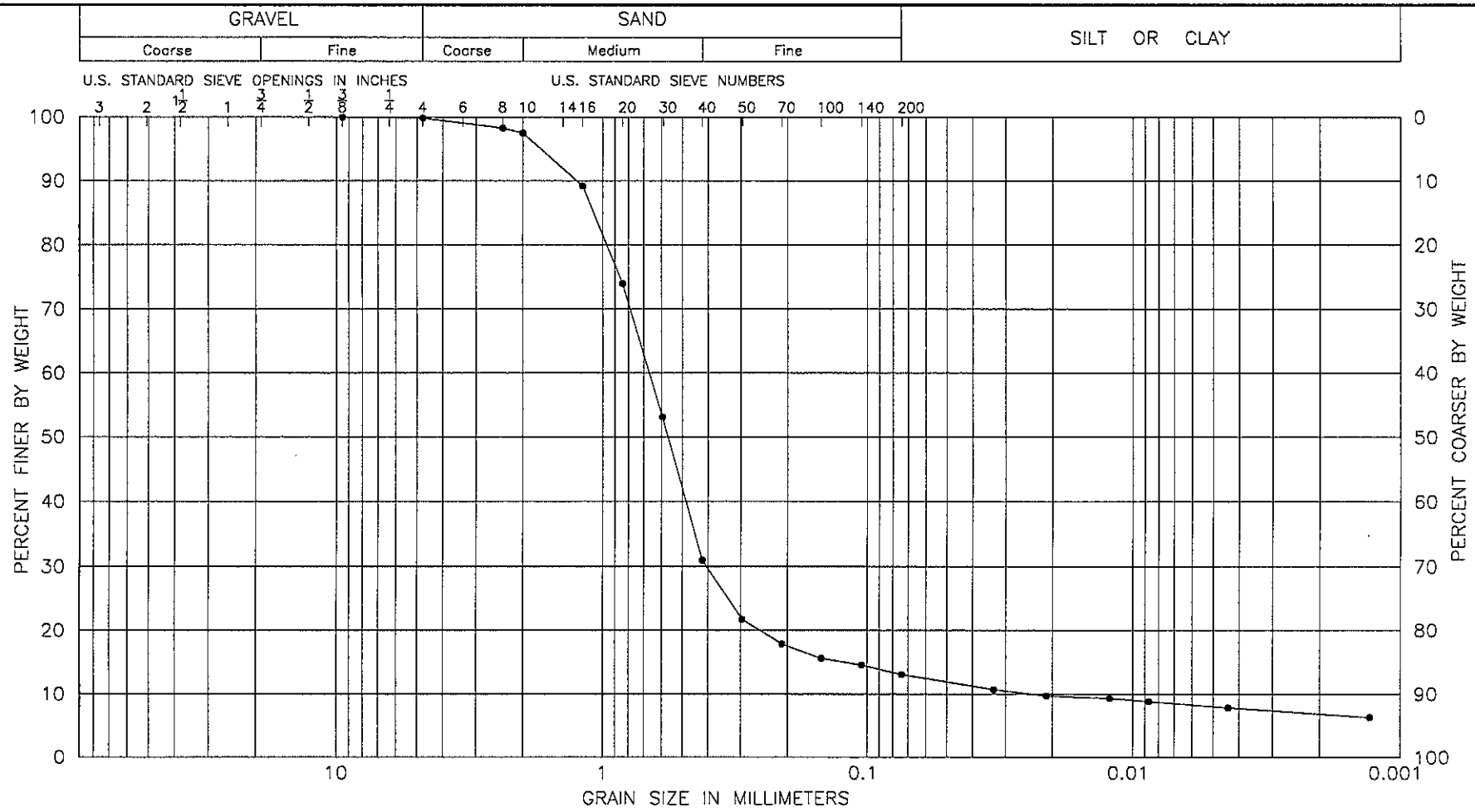
LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
●●●●●	99–14	7	18–19.5	Sand, w/gravel, medium dense, brown

GRAIN SIZE DISTRIBUTION CURVES

FIGURE

Geotest Engineering, Inc.

Job No. 1140114810



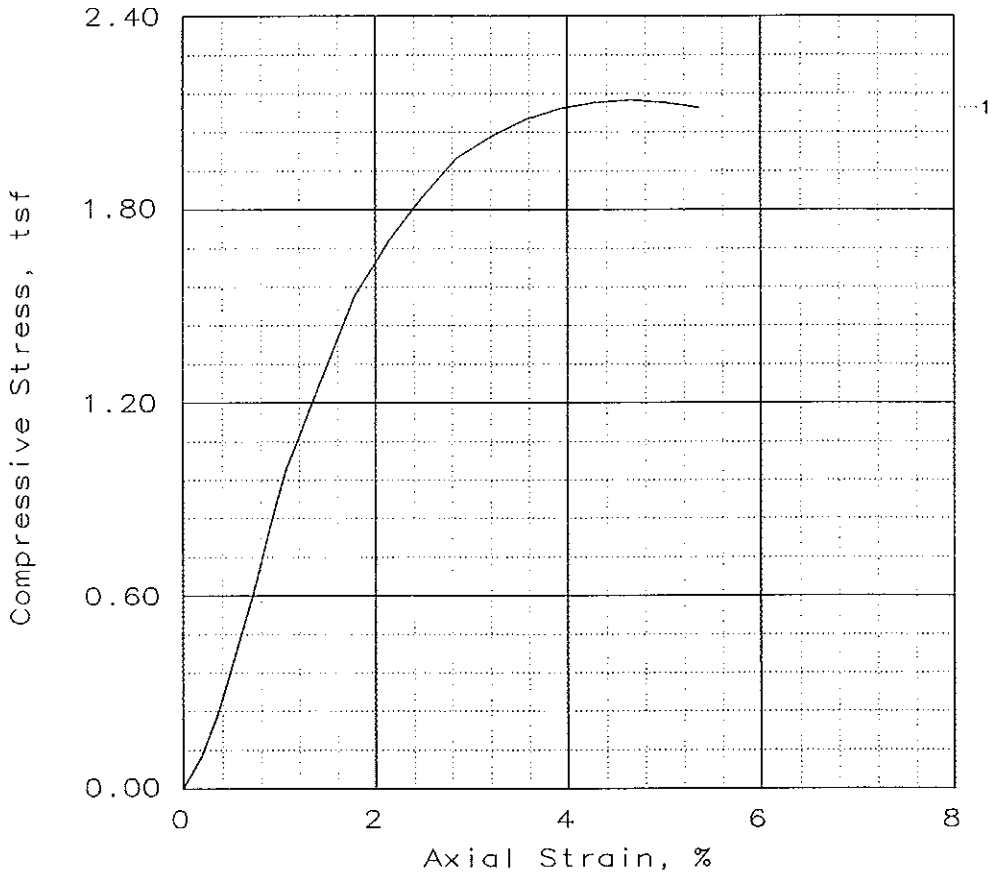
LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
●●●●●	99–14	18	40–41.5	Silty sand, w/silty clay seams, dense, brown

FIGURE

GRAIN SIZE DISTRIBUTION CURVES

Geotest Engineering, Inc.

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	2.14			
Undrained shear strength, tsf	1.07			
Failure strain, %	4.6			
Strain rate, %/min	1.07			
Water content, %	25.9			
Wet density, pcf	121.9			
Dry density, pcf	96.9			
Saturation, %	95.3			
Void ratio	0.7268			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Silty Clay,w/fer stains&si sms,V s,Yish bn

LL = 37	PL = 18	PI = 19	ASS. GS= 2.68	Type: Undisturbed

Project No.: 1140114810
Date: 6-10-99
Remarks:
Assumed Specific gravity

Fig. No.: ———

Client: U.S Army Corps of Engineers
Galveston office District
Project: Neches River Saltwater Barrier

Location: Boring No. 99-14
Sample No. 9 Depth: 22-24 ft

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.