

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>99-8</u> DATE: BEGIN <u>4-30-99</u> PAGE <u>1/2</u> JOB NO. <u>1140114808</u> COMPLETE <u>5-1-99</u> Thin Walled Tube PROJECT <u>Neches River Saltwater Barrier</u> ☒ 3" ☐ 6" LOCATION <u>N = 876102.39, E = 3543890.22</u> ELEVATION OF HOLE <u>1.2</u> MANUFACTURER'S DESIGNATION OF DRILL RIG <u>DNR75W/Barge & Track Buggy</u> GROUNDWATER: DEPTH <u>4</u> ft., ELEV. <u> </u> ft., at end of Drilling WEATHER <u>Sunny</u> DRILLER <u>Dempsey Gearen</u> LOGGER <u>Iraj Mostafaei</u>				
				COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	J1	0.00		Gray	Clay	V. soft	silt	* 4' of water - w/decayed wood & roots
	2	0.00		Gray	clay	V. soft	silt	- w/decayed wood & roots
- 5	3	0.00		Gray	clay	V. soft	silt	- w/decayed wood & roots - set to casing total casing below mud line
	4	0.00		Gray	clay	V. soft	silt	- w/decayed wood & roots
- 10	X5	3.5		Gray	Sand	loose	silt	- w/Pea gravel add 5' of casing Total casing below mud line 10.5'
- 15	X6	3.5		Gray	Sand	loose		- w/Pea gravel
- 20	X7	3.5		Gray	Sand	M. Dense		- w/decayed wood & Pea gravel
- 25	8	3.25		olive gray	Clay	V. stiff		- w/Fer stains, silt parting, SLKS
	9	3.00		olive gray	clay	V. stiff		- w/Fer stains, SLKS
	10	3.25		olive gray	clay	V. stiff		- w/Fer stains, SLKS
- 30	11	3.25		olive gray	clay	V. stiff		- w/Fer stains silt sms, SLKS
	12	4.50		yellowish brown & gray	Clay	V. stiff		- w/Fer stain, SLKS
- 35	13	1.75		Yellowish Brown & Gray	Clay	stiff	silt	- w/calc nod & Sand sms

Mud line

(14)

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				JOB NO. <u>1140114808</u> COMPLETE <u>5-1-99</u> Thin Walled Tube				
PROJECT <u>Neches River Saltwater Barrier</u>				☒ 3" ☐ 6"				
LOCATION <u>N=876102-39, E=3543890.22</u>				ELEVATION OF HOLE _____				
MANUFACTURER'S DESIGNATION OF DRILL RIG <u>DNR 75 w/Barge & Track Buggy</u>				GROUNDWATER: DEPTH <u>*</u> ft., ELEV. _____ ft., at end of Drilling				
WEATHER <u>Sunny</u>				DRILLER <u>Dempsey Beaman</u> LOGGER <u>Tray Mostamand</u>				
				COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
-35	J14			Yellowish Gray	Silt	M. Dense	clay	- w/ Sand
	X 15	11.15		Yellowish Gray	Silt	M. Dense	clay	- w/ Sand
	16	1.75		Reddish Gray	clay	stiff		- w/fer stains & silt sms
-40	17	1.75		Reddish Gray	clay	stiff		- w/fer stains & silt sms
	18	3.00		Reddish Gray	clay	v. stiff		- w/claystone & fer stains, SLKS
-45	19	2.75		Reddish Gray	clay	v. stiff		- w/fer stains, SLKS
	20	3.00		Reddish Brown & Gray	clay	v. stiff		- w/fer stains & silt sms, SLKS
	21	3.25		Reddish Brown & Gray	clay	v. stiff		- w/fer stains & silt sms, SLKS
-50	22	3.50		Reddish Brown & Gray	clay	v. stiff		- w/fer stains & silt sms, SLKS
	23	4.25		Reddish Brown & Gray	clay	Hard		- w/fer 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/fer stains, SLKS
	26	3.50		Reddish Brown	clay	v. stiff		- w/fer stains, SLKS
-60								J: Jar Sample
-65								
-70								

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	M c (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	P L (%)	Mechanical Analysis % Passing					Specific Gravity	q u (tsf)
											#4	#10	#40	#100	#200		
1	0 - 2	0.00		Silty Clay, w/decayed wood & roots, Very soft, Gray	C L	111.3											
2	2 - 4	0.00		Silty Clay, w/decayed wood & roots, Very soft, Gray	C L	109.4											
3	4 - 6	0.00		Silty Clay, w/decayed wood & roots, Very soft, Gray	C L	103.1											
4	6 - 8	0.00		Silty Clay, w/decayed wood & roots, Very soft, Gray	C L	83.5											
5	8-9.5		8	Sand, w/pea gravel, Loose	S P						99.7	98.1	28.1	6.3	4.9		
6	13-14.5		9	Sand, w/pea gravel, Loose, Gray	S P												
7	18-19.5		13	Sand, w/decayed wood & gravel, Medium dense, Gray	SP-SM						100.0	98.5	32.2	8.1	6.5		
8	23-25	3.25		Clay, w/fer stains & silt partings, silts, Very stiff, Olive gray	C H	24.8											
9	25-27	3.00		Clay, w/fer stains, silts, Very stiff, Olive gray	C H	25.7	96.4	121.2	61.0	25.0							
10	27-29	3.25		Clay, w/fer stains, silts, Very stiff, Olive gray	C H	25.3											
11	29-31	3.25		Clay, w/fer stains & silt seams, silts, Very stiff, Olive gray	C H	23.8											
12	31-33	4.50+		Clay, w/fer stains, silts, Hard, Olive gray	C H	23.2											
13	33-35	1.75		Silty clay, w/calc nod & sand seams, Stiff, Yellowish brown & gray	C L	21.1											
14	35-37			Clayey silt, w/sand, Medium dense, Yellowish gray	M L	22.9											
15	37-38.5		28	Clayey silt, w/sand, Medium dense, Yellowish gray	M L	22.5					100.0	100.0	99.9	93.3	64.6		
16	38.5-40	1.75		Clay, w/fer stains & silt seams, Stiff, Red & gray	C H	22.2	101.1	123.5	51.0	21.0							1.67
17	40-42	1.75		Clay, w/fer stains & silt seams, Stiff, Red & gray	C H	23.5	99.6	123.1	50.0	21.0							
18	42-44	3.00		Clay, w/clay stone & fer stains, silts, Very stiff, Red & gray	C H	29.0											
19	44-46	2.75		Clay, w/fer stains, silts, Very stiff, Red & gray	C H	30.7											
20	46-48	3.00		Clay, w/fer stains & silt seams, silts, Very stiff,	C H	30.1											

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 99-8

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

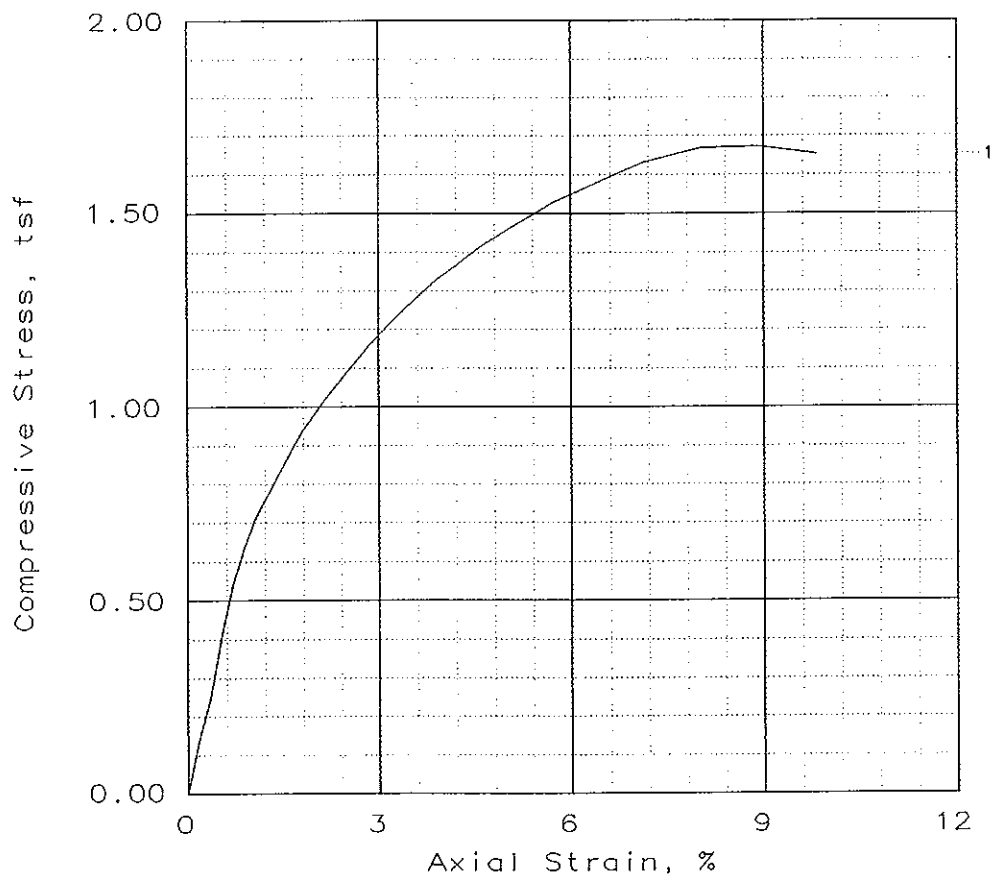
SUMMARY OF LABORATORY TEST RESULTS

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

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	1.67			
Undrained shear strength, tsf	0.84			
Failure strain, %	8.9			
Strain rate, %/min	1.07			
Water content, %	22.2			
Wet density, pcf	123.5			
Dry density, pcf	101.1			
Saturation, %	90.9			
Void ratio	0.6556			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Clay, w/fer stains & silt sms, Stiff, Red & gray

LL = 52 PL = 21 PI = 31 ASS. GS = 2.68 Type: Undisturbed

Project No.: 1140114810

Date: 6-04-99

Remarks:

Assumed Specific gravity

Client: U.S Army Corps of Engineers

Galveston office District

Project: Neches River Saltwater Barrier

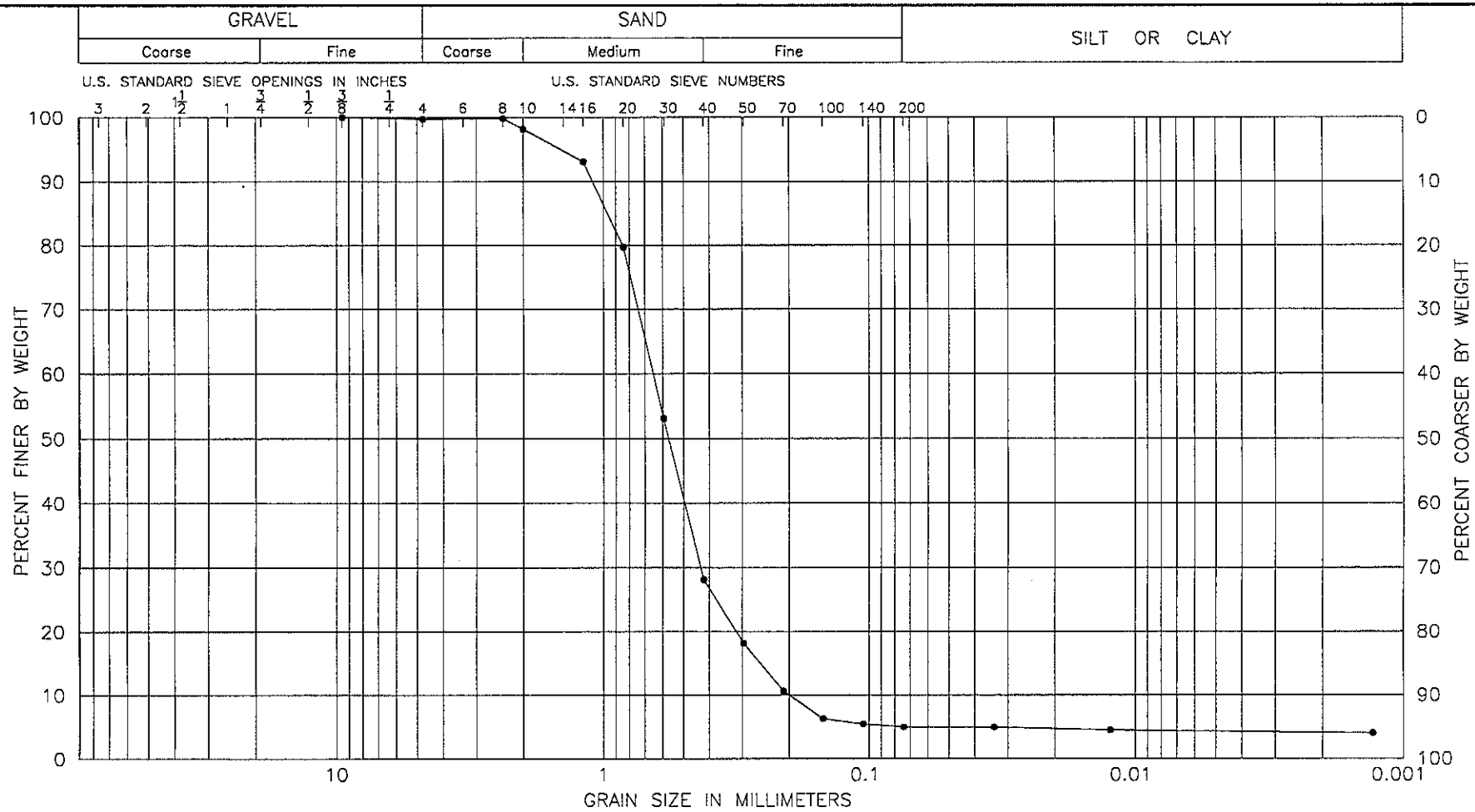
Location: Boring No. 99-8

Sample No. 16 Depth: 38.5-40 ft

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

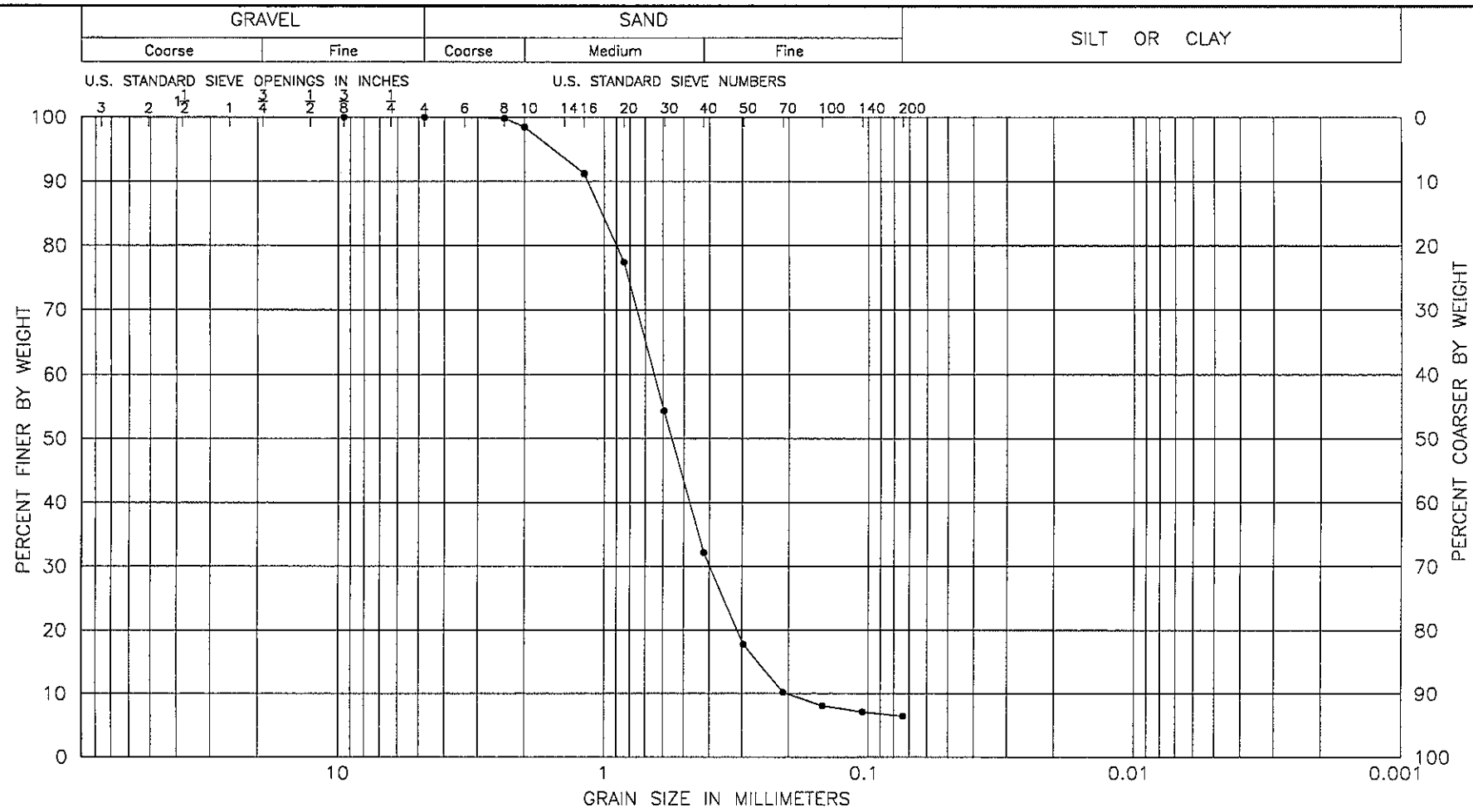
Fig. No.: _____



LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
.....	99-8	5	8-9.5	Sand, w/pea gravel, loose, gray

GRAIN SIZE DISTRIBUTION CURVES

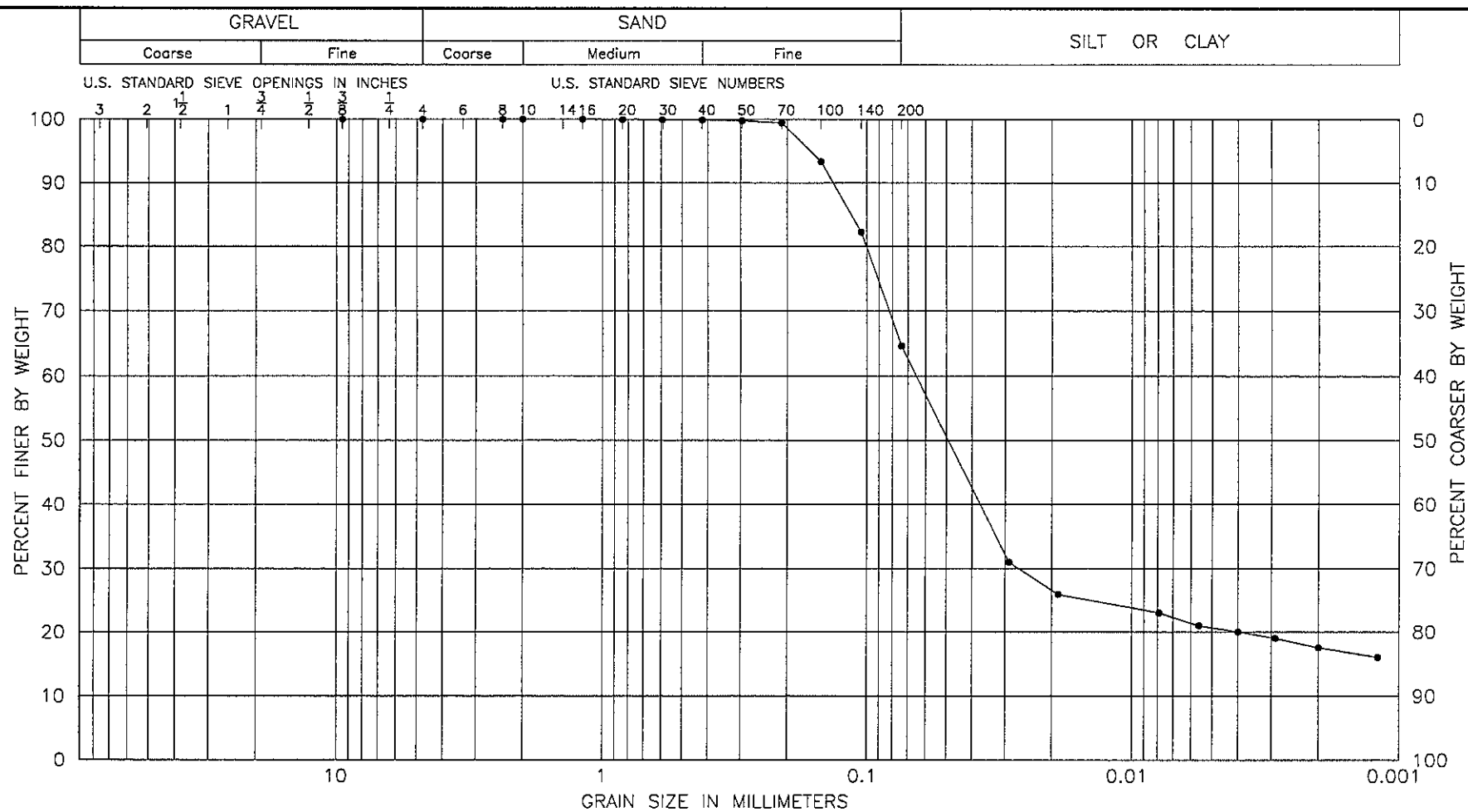
Geotest Engineering, Inc.



LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
.....	99-8	7	18-19.5	Sand, w/decayed wood & gravel, medium dense, gray

GRAIN SIZE DISTRIBUTION CURVES

FIGURE



LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
•••••	99-8	15	37-38.5	Clayey silt, w/sand, medium dense, yellowish gray

GRAIN SIZE DISTRIBUTION CURVES