U.S. ARMY CORPS OF ENGINEERS

BORING NO. 99-19 DATE: BEGIN 4-21-99 PAGE 1 / 1
JOB NO. 1140114808 COMPLETE 4-21-99 Thin Walled Tube
PROJECT Neches River Saltwater Barrier ■ 3" □ 6"
LOCATION N=875502.02, E=3543197.84
ELEVATION OF HOLE 0.9'
MANUFACTURER'S DESIGNATION OF DRILL RIG DNR 75 with Barge
GROUNDWATER: DEPTH ✱ ft., ELEV. ____ ft., at end of Drilling
WEATHER Sunny
DRILLER Dempsy Gearon LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
Mud line — 0	X	1	2 3 4	Brown	Sand	loose	Silt	* 3' of standing water
5	X	2	3 4 5	Brown	Sand	loose	Silt	- Set 12' of casing after taking sample 2, Total casing Below mudline 9' (3' water + 2' Deck + 1' of stick up)
10	X	3	7 14 24	Brown	Sand	Dense		
15	X	4	9 13 26	Brown	Sand	Dense		-w/gravel
20	■	5	4.25	Brown & gray	Clay	Hard	Silt	
25								
30								
35								

22

Project: Neches River Saltwater Barrier

SUMMARY OF LABORATORY TEST RESULTS

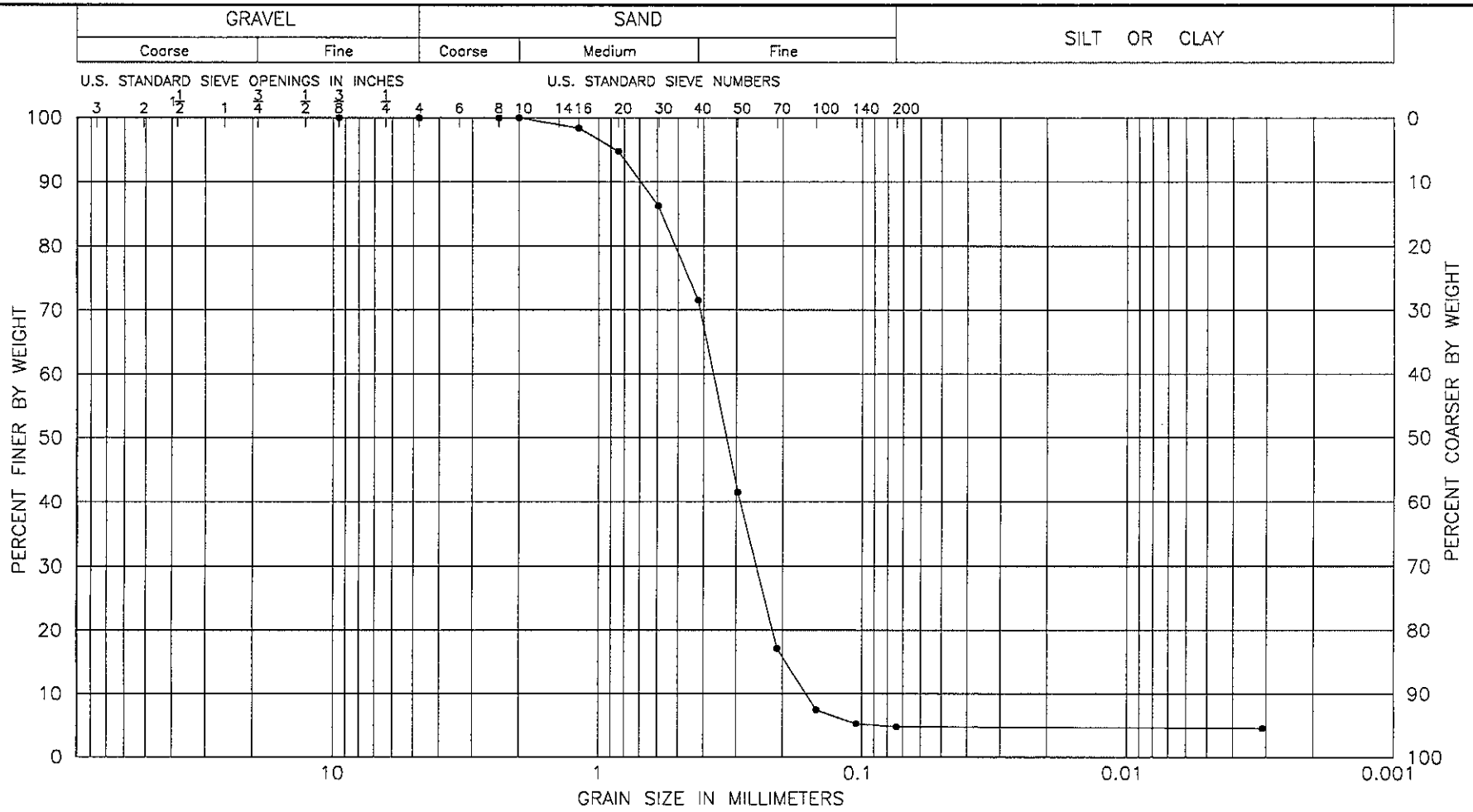
Contract No. DACW64-98-D-0002 Delivery Order No. 0010

Boring No. 99-22

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	107.8											
2	2 - 4	0.00		Clay,w/decayed wood,Very soft,Gray	C H	79.8											
3	4 - 6	0.50		Silty Clay,w/sand pockets&roots,Medium stiff,Olive gray	C L	36.2	81.9	111.5	49.0	20.0							0.67
4	6 - 8	0.50		Silty Clay,w/sand pockets&roots,Medium stiff,Olive gray	C L	24.5											
5	8-9.5		16	Sand,Medium dense,Gray	S P						100.0	100.0	71.6	7.4	4.7		
6	13-14.5		13	Silty Sand,Medium dense,Gray	S M												
7	16-17.5		15	Sand,Medium dense,Gray	S P												
8	18.5-20		17	Sand,Medium dense,Gray	S P												

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. 1140114810



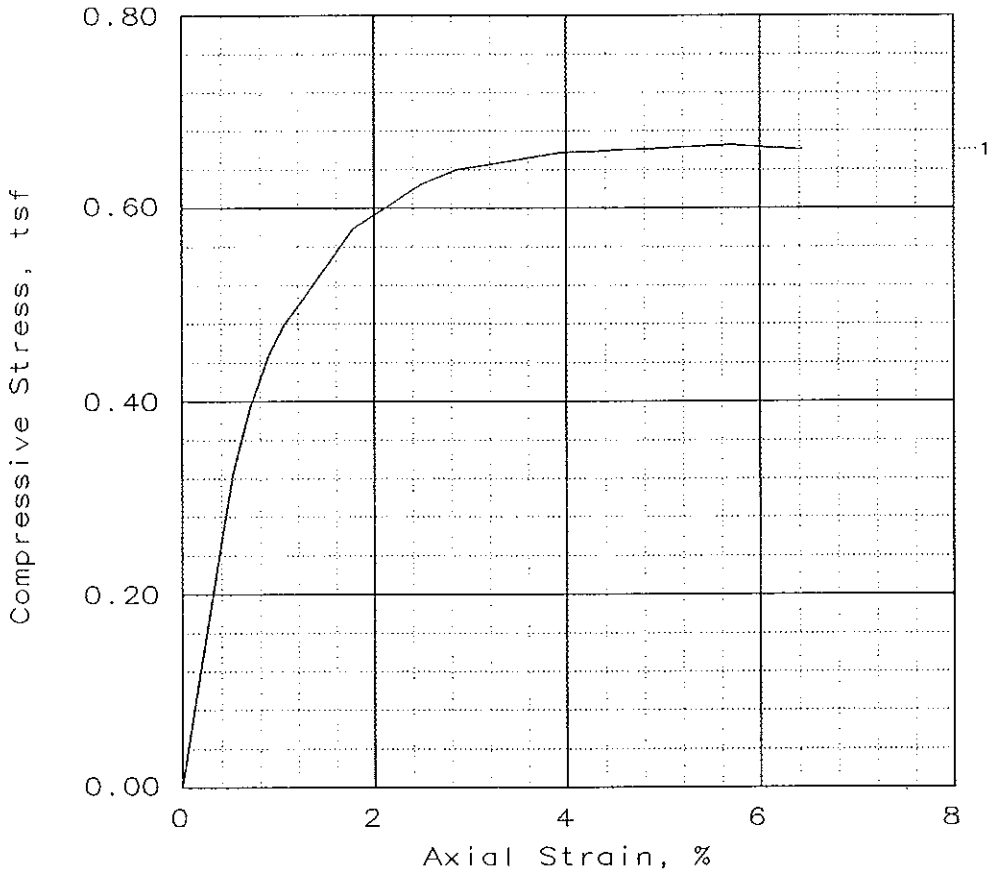
LEGEND	BORING NO.	SAMPLE NO.	DEPTH FT.	SAMPLE DESCRIPTION
●●●●●	99-22	5	8-9.5	Sand, medium dense, gray

GRAIN SIZE DISTRIBUTION CURVES

FIGURE

Geotest Engineering, Inc.

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	0.67			
Undrained shear strength, tsf	0.33			
Failure strain, %	5.7			
Strain rate, %/min	1.07			
Water content, %	36.2			
Wet density, pcf	111.5			
Dry density, pcf	81.9			
Saturation, %	92.9			
Void ratio	1.0433			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Silty Clay,w/sand poc&roots,Med. s,Olive gray

LL = 49	PL = 20	PI = 29	ASS. GS= 2.68	Type: Undisturbed

Project No.: 1140114810
Date: 6-07-99
Remarks:
Assumed Specific gravity

Fig. No.: ——

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

Location: Boring No. 99-22
Sample No. 3 Depth: 4-6 ft

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

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
99-11	7	Sand,medium dense,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.5	99.0	96.6	83.2	28.2	5.7	2.7	2.2	2.0
99-13	6	Sand,w/silt,loose,gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	96.2	85.0	58.7	30.1	12.4	10.0	7.9	6.4
99-13	8	Silty Sand,w/clayey silt pockets,medium dense, gray	SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	97.5	90.2	71.6	45.6	24.7	15.1	13.4	12.3
99-13	13	Silty Sand,medium sand,yellowish brown & gray	SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	93.5	70.6	45.0
99-14	6	Sand,w/wood,medium dense,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.8	99.7	99.4	98.5	94.6	76.0	42.0	16.2	5.9	3.0	2.8
99-14	7	Sand,w/gravel,medium dense,brown	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.3	98.0	92.9	70.4	47.0	29.1	19.3	14.2	10.6
99-14	18	Silty Sand,w/silty clay seams,dense,brown	SM	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.3	97.5	89.2	74.0	53.0	31.0	21.7	17.8	15.6	14.5	13.0
99-16	6	Sand,w/silt,loose,gray	SP-SM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.5	95.1	72.8	34.9	20.1	12.7	8.1
99-16	8	Sand,dense,gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.2	97.1	86.5	65.0	38.0	11.8	3.8	1.6
99-17	9	Clayey Sand,w/roots & wood,medium dense, gray	SC	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.2	96.9	90.7	79.3	63.5	50.0	42.4	36.1
99-17	10	Sand,w/pea gravel,medium dense,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	98.3	95.6	94.1	86.7	76.2	59.6	38.7	20.9	9.7	4.2	2.9	2.5
99-19	1	Sand,w/silt,loose,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	98.2	92.1	72.8	32.5	11.6	6.5	4.7
99-19	3	Sand,dense,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.4	93.5	73.8	33.0	10.4	3.8	2.2	1.4
99-20	2	Sand,medium dense,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.7	99.6	99.5	98.3	89.0	68.7	38.6	11.2	5.4	4.0
99-20	4	Sand,dense,brown	SP	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.5	98.5	94.1	76.2	48.0	18.7	4.7	2.3	1.5
99-21	8	Sand,medium dense,gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.2	98.9	98.4	96.6	91.1	76.6	46.6	17.7	8.1	4.3	3.2
99-22	5	Sand,medium dense,gray	SP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.4	94.7	86.3	71.6	41.5	17.1	7.4	5.3	4.7

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