Project: Port Arthur Boat Basin

SUMMARY OF LABORATORY TEST RESULTS

Contract No. DACW64-98-D-0002 Delivery order No. 0106

Boring No. 03-92

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 #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0 - 2	0.00		Clay,w/silt,Very soft,Dark gray	C H	84.5											
2	2 - 4	0.00		Clay,Very soft,Dark gray	C H	66.5											
3	4 - 6	0.00		Silty Clay,Very soft,Gray	C L	42.4											
4	6 - 8	0.00		Silty Clay,w/ferrous nodules,Very soft, Yellowish gray	C L	34.5											
5	8 - 10	0.50		Silty Clay,w/silt seams,Medium stiff,Gray	C L	34.9											
6	10 - 12	0.50		Silty Clay,w/silt seams,Medium stiff,Gray	C L	38.9											
7	12 - 14	0.75		Silty Clay,w/silt seams,Medium stiff,Gray	C L	38.4	81.6	112.9	49.0	22.0							0.55
8	14 - 16	0.75		Silty Clay,w/silt seams,Medium stiff,Gray	C L	47.9											
9	16 - 18	0.75		Silty Clay,w/silt seams,Medium stiff,Gray	C L	48.8											
10	18 - 20	0.75		Clay,Medium stiff,Gray	C H	41.3											
11	20 - 22	0.75		Clay,Medium stiff,Gray	C H	56.7											
12	22 - 24	0.75		Clay,Medium Stiff,Gray	C H	53.5	69.4	106.5	94.0	32.0							
13	24 - 26	0.75		Clay,w/shell fragments,Medium stiff,Olive gray	C H	55.2											
14	26 - 28	1.00		Clay,w/shell fragments,Stiff,Olive gray	C H	35.5											
15	28 - 30	1.00		Clay,w/shell fragments,Stiff,Olive gray	C H	35.7											
16	30 - 32	0.75		Clay,w/shell fragments & silt seams,Medium stiff,Olive gray	C H	45.0											
17	32 - 34	0.75		Clay,w/shell fragments,Medium stiff,Olive gray	C H	47.1	71.1	104.6	84.0	29.0							0.70
18	34 - 36	0.75		Clay,w/shell fragments,Medium stiff,Olive gray	C H	48.7											
19	36 - 38	0.75		Clay,w/shell fragments,Medium stiff,Olive gray	C H	52.7											
20	38 - 40	0.75		Clay,w/shell fragments,Medium stiff,Olive gray	C H	52.9											

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

Project: Port Arthur Boat Basin

SUMMARY OF LABORATORY TEST RESULTS

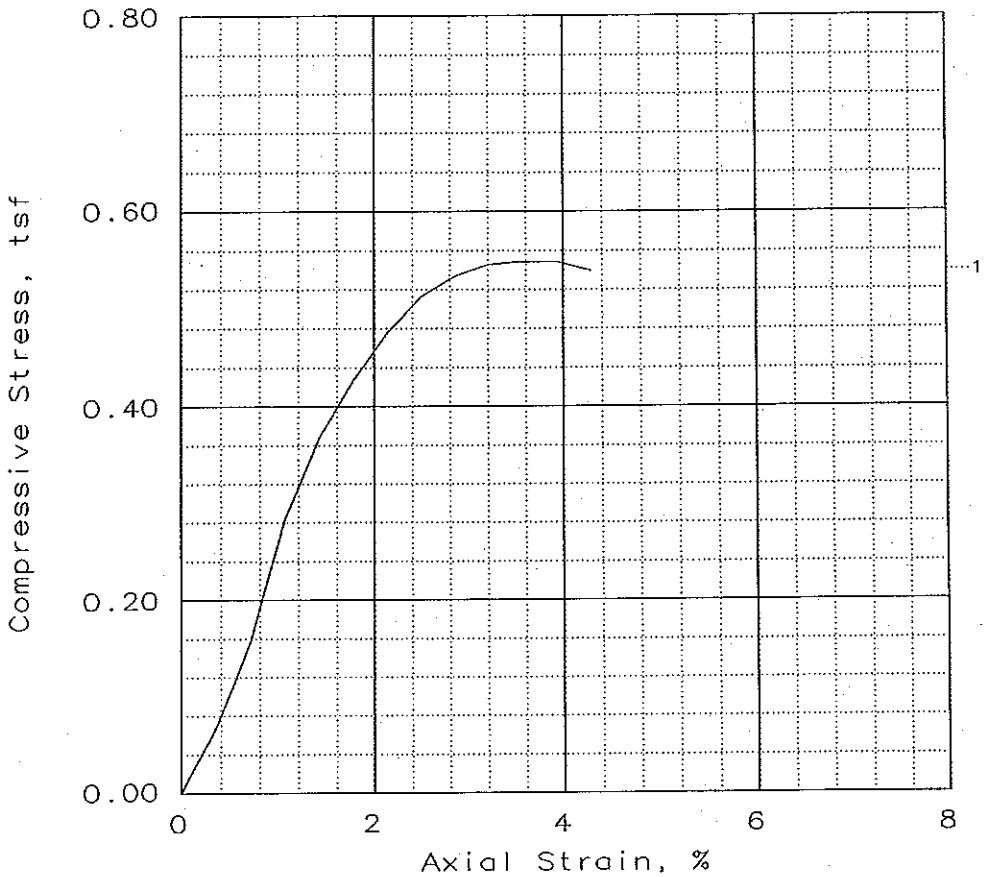
Contract No. DACW64-98-D-0002 Delivery order No. 0106

Boring No. 03-92

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					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
21	40-42	1.00		Clay,Stiff,Gray	C H	51.0											
22	42-44	1.25		Silty Clay,w/silt seams,Stiff,Gray	C L	34.7											
23	44-46	1.25		Clay,w/organic material,Stiff,Gray	C H	40.6											
24	46-48	1.25		Clay,w/organic material,Stiff,Gray	C H	34.4											
25	48-50	1.25		Clay,w/organic material,Stiff,Gray	C H	35.9											
26	50-52	1.25		Clay,w/organic material,Stiff,Gray	C H	65.2											
27	52-54	1.25		Clay,w/organic material,Stiff,Gray	C H	50.0											
28	54-56	1.25		Clay,w/organic material,Stiff,Olive gray	C H	39.2											
29	56-58	1.25		Clay,w/organic material,Stiff,Olive gray	C H	34.1											
30	58-60	1.25		Clay,w/organic material,Stiff,Olive gray	C H	29.3											

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

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	0.55			
Undrained shear strength, tsf	0.27			
Failure strain, %	3.6			
Strain rate, %/min	1.07			
Water content, %	38.4			
Wet density, pcf	112.9			
Dry density, pcf	81.6			
Saturation, %	99.0			
Void ratio	1.0278			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Silty Clay,w/silt seams,Medium stiff,Gray

LL = 49	PL = 22	PI = 27	ASS. GS= 2.65	Type: Undisturbed

Project No.: 11401272106

Date: 10-01-2003

Remarks:

Client: U.S Army Corps of Engineers
Galveston District Office

Project: Port Arthur Boat Basin

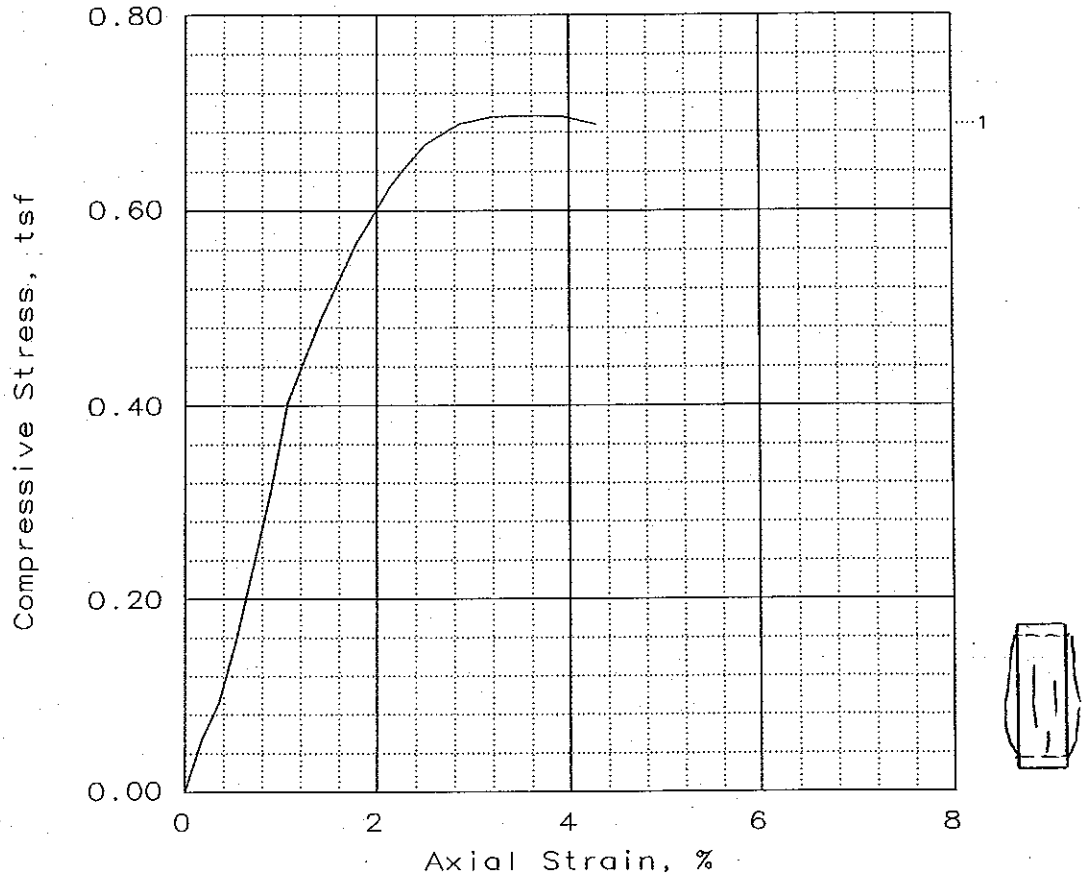
Location: Boring No. 03-92
Sample No. 7 Depth: 12-14 ft.

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

Fig. No.: ——

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	0.70			
Undrained shear strength, tsf	0.35			
Failure strain, %	3.6			
Strain rate, %/min	1.07			
Water content, %	47.1			
Wet density, pcf	104.6			
Dry density, pcf	71.1			
Saturation, %	94.0			
Void ratio	1.3263			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Clay,w/shell frag, Medium stiff,Olive gray

LL = 84	PL = 29	PI = 55	ASS. GS= 2.65	Type: Undisturbed

Project No.: 11401272106

Date: 10-01-2003

Remarks:

Client: U.S Army Corps of Engineers
Galveston District Office

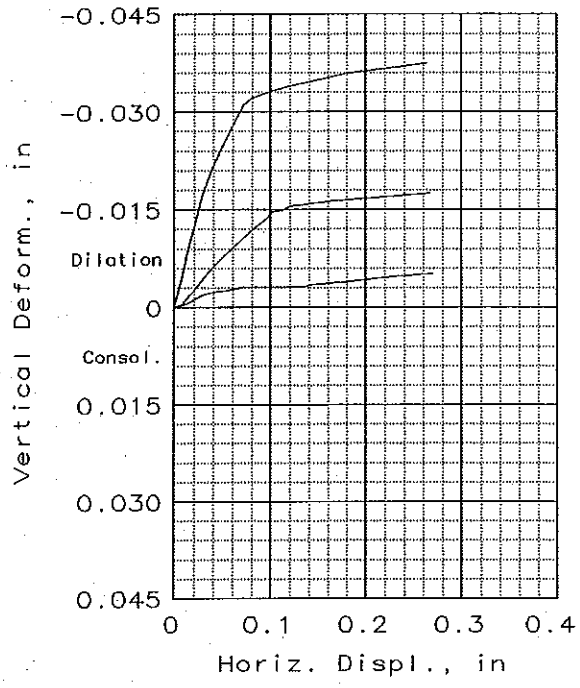
Project: Port Arthur Boat Basin

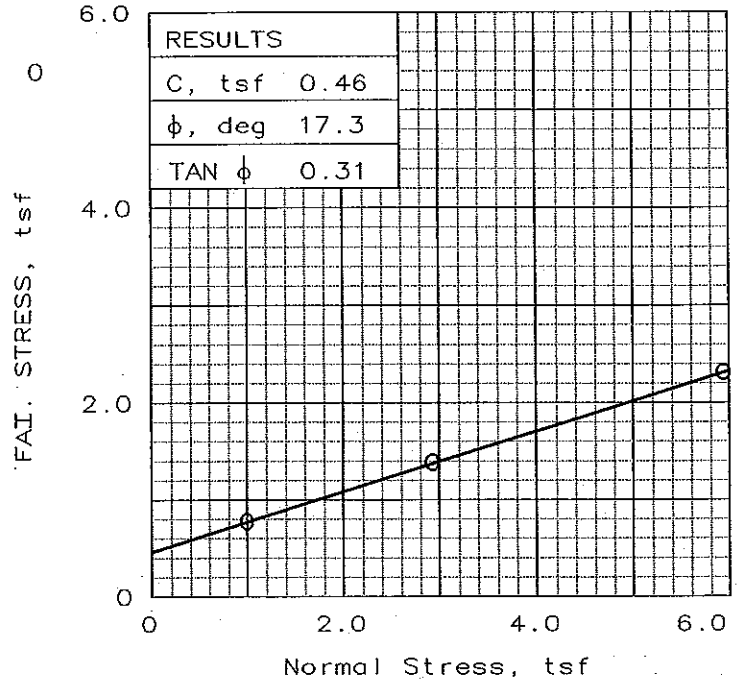
Location: Boring No. 03-92
Sample No. 17 Depth: 32-34 ft.

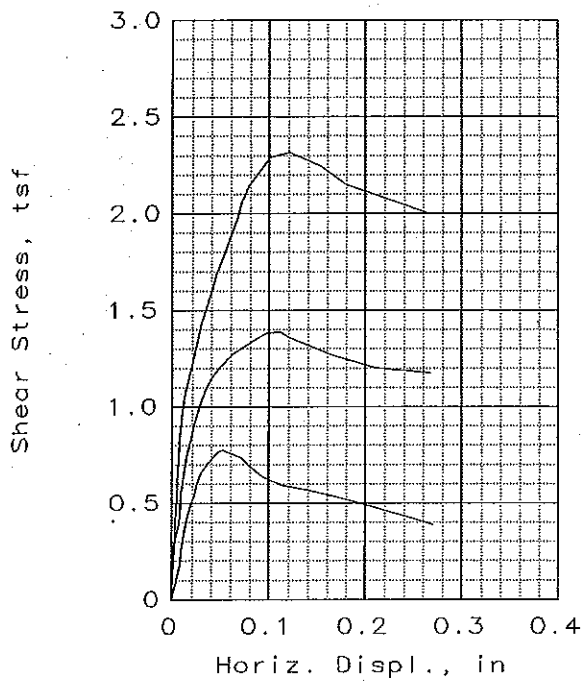
UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

Fig. No.: ——







SAMPLE NO.:		1	2	3
INITIAL	WATER CONTENT, %	53.0	54.0	53.5
	DRY DENSITY, pcf	69.7	69.1	69.4
	SATURATION, %	99.6	100.0	99.8
	VOID RATIO	1.464	1.484	1.474
	DIAMETER, in	2.50	2.50	2.50
	HEIGHT, in	1.00	1.00	1.00
AT TEST	WATER CONTENT, %	50.7	48.4	44.3
	DRY DENSITY, pcf	71.7	73.6	77.4
	SATURATION, %	99.9	100.0	100.0
	VOID RATIO	1.395	1.332	1.219
	DIAMETER, in	2.50	2.50	2.50
	HEIGHT, in	0.97	0.94	0.90
NORMAL STRESS, tsf		1.03	2.96	5.97
FAI. STRESS, tsf		0.78	1.39	2.31
DISPLACEMENT, in		0.05	0.11	0.12
RESIDUAL STRESS, tsf				
DISPLACEMENT, in				
Strain rate, %/min		0.0022	0.0022	0.0022

SAMPLE TYPE: Undisturbed
DESCRIPTION: Clay,w/silt seams,
Medium Stiff,Gray
LL= 94 PL= 32 PI= 62
ASSUMED SPECIFIC GRAVITY= 2.75
REMARKS:

Fig. No.: _____

CLIENT: U.S Army Corps of Engineers
Galveston District Office
PROJECT: Port Arthur Boat Basin

SAMPLE LOCATION: Boring No. 03-92
Sample No. 12 Depth: 22-24 ft.

PROJ. NO.: 11401272106 DATE: 10-09-2003

DIRECT SHEAR TEST REPORT

GEOTEST ENGINEERING, INC.

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 03-92 DATE: BEGIN 8-1-03 PAGE 1 /2
JOB NO. 11401272100 COMPLETE 8-1-03 Thin Walled Tube
PROJECT Port Arthur Boat Basin ☒ 3" ☐ 6"
LOCATION N=13,897,505.935 E=3,574,532.00
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Failing 36
GROUNDWATER: DEPTH * ft., ELEV. ft., at end of Drilling
WEATHER Clear & Hot
DRILLER Dempsey Gearen 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								
	J	1	0.00	DK. gray	Clay	V-soft		* 21' of Water -w/silt 0-2"
		2	0.00	DK Gray	Clay	V-soft		
5		3	0.00	Grayish	Clay	V-soft	Silt	Sample Bulge on extrudsion
		4	0.00	Gray	Clay	V.Soft	Silt	-w/Fer nod
		5	0.50	Gray	Clay	M.stiff	Silt	-w/silt sms
10		6	0.50	Gray	Clay	M.stiff	Silt	-w/silt sms
		7	0.75	Gray	Clay	M.stiff	Silt	-w/silt sms
15		8	0.75	Gray	Clay	M.stiff	Silt	-w/silt sms
		9	0.75	Gray	Clay	M.stiff	Silt	-w/silt sms
20		10	0.75	Gray	Clay	M.stiff		
		11	0.75	Gray	Clay	M.stiff		
		12	0.75	Gray	Clay	M.stiff		
25		13	1.00	olive gray	Clay	stiff		-w/shell Fragments
		14	1.00	olive gray	Clay	stiff		-w/shell Fragments
		15	1.00	olive gray	Clay	stiff		-w/shell Fragments
30		16	0.75	olive gray	Clay	M.stiff		-w/shell Fragments & silt sms
		17	0.75	olive gray	Clay	M.stiff		-w/shell Fragments
35		18	0.75	olive gray	Clay	M.stiff		-w/shell Fragments

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 03-92 DATE: BEGIN 8-1-03 PAGE 2/2
JOB NO. 1140127200 COMPLETE 8-1-03 Thin Walled Tube
PROJECT Port Arthur Boat Basin ■ 3" ☐ 6"
LOCATION N = 13,897505.935 E = 3,574,532.00
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Failing 36
GROUNDWATER: DEPTH ____ ft., ELEV. ____ ft., at end of Drilling
WEATHER Clear & Hot
DRILLER Dempsey Gearen LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
35								
		19	0.75	olive gray	Clay	M. stiff		-w/shell Fragments
		20	0.75	olive gray	Clay	M. stiff		-w/shell Fragments
40		21	1.00	Gray	Clay	stiff		
		22	1.25	Gray	Clay	stiff	silt	-w/silt sms
45		23	1.25	Gray	Clay	stiff		-w/organic material
		24	1.25	Gray	Clay	stiff		-w/organic material
		25	1.25	Gray	Clay	stiff		-w/organic material
50		26	1.25	Gray	Clay	stiff		-w/organic material
		27	1.25	Gray	Clay	stiff		-w/organic material
55		28	1.25	olive gray	Clay	stiff		-w/organic material
		29	1.25	olive gray	Clay	stiff		-w/organic material
		30	1.25	olive gray	Clay	stiff		-w/organic material
60								Depth below Mudline Tide reading 2.1
								J: Jar sample
65								
70								

GEOTEST ENGINEERING, INC.