Project: Port Arthur Boat Basin

SUMMARY OF LABORATORY TEST RESULTS

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

Boring No. 03-88

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		
1	0 - 2	2.75		Silty Clay,w/grass roots & calcareous nodules, Very stiff,Yellowish brown & gray	C L	18.1											
2	2 - 4	1.00		Silty Clay,w/silt seams & calcareous nodules, Stiff,Yellowish brown & gray	C L	22.4											
3	4 - 6			Sandy Silt,Loose,Gray	M L	23.8											
4	6-7.5		6	Sandy Silt,Loose,Gray	M L	27.2											
5	10-12	1.75		Clay,w/calcareous nodules & ferrous stains, Stiff,Yellowish brown & gray	C H	31.0											
6	12 - 14	1.00		Clay,w/silt seams calcareous & ferrous nodules,Stiff,Yellowish brown & gray	C H	30.1	85.6	111.3	75.0	26.0							1.01
7	14 - 16	1.75		Silty Clay,w/calcareous & ferrous nodules, Stiff,Yellowish brown & gray	C L	21.6	104.8	127.4	48.0	20.0							
8	16 - 18	1.75		Silty Clay,w/calcareous & ferrous nodules, Stiff,Yellowish brown & gray	C L	22.4											
9	18-19.5	1.50		Silty Clay,w/sand seams calcareous & ferrous nodules,Stiff,Yellowish brown & gray	C L	22.1											
10	19.5-20			Silty Sand,Medium dense,Brown	S M	26.8											
11	20-21.5		18	Silty Sand,Medium dense,Brown	S M	23.9											
12	25-27	0.75		Silty Clay,w/silt seams,Medium stiff,Yellowish brown & gray	C L	29.4											
13	27-29	0.75		Silty Clay,w/shell & shell frag & sandy silt sms, Medium stiff,Gray	C L	27.3											
14	29-31	0.50		Silty Clay,w/sandy silt seams & parting, Medium stiff,Gray	C L	32.0	85.9	113.5	47.0	19.0							0.61
15	31-33	0.50		Silty Clay,w/sandy silt seams & parting, Medium stiff,Gray	C L	31.5											
16	33-35	0.50		Silty Clay,w/sandy silt seams & parting & shell fragments,Medium stiff,Olive gray	C L	29.5											
17	35-37	0.50		Silty Clay,w/sandy silt seams & parting, Medium stiff,Olive ray	C L	33.8											
18	37-39	0.50		Silty Clay,w/sandy silt seams,Medium stiff, Gray	C L	34.2											
19	39-41	0.50		Silty Clay,w/sandy silt seams,Medium stiff, Gray	C L	29.6											
20	41-43	0.50		Silty Clay,w/sandy silt seams,Medium stiff, Gray	C L	30.4											

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

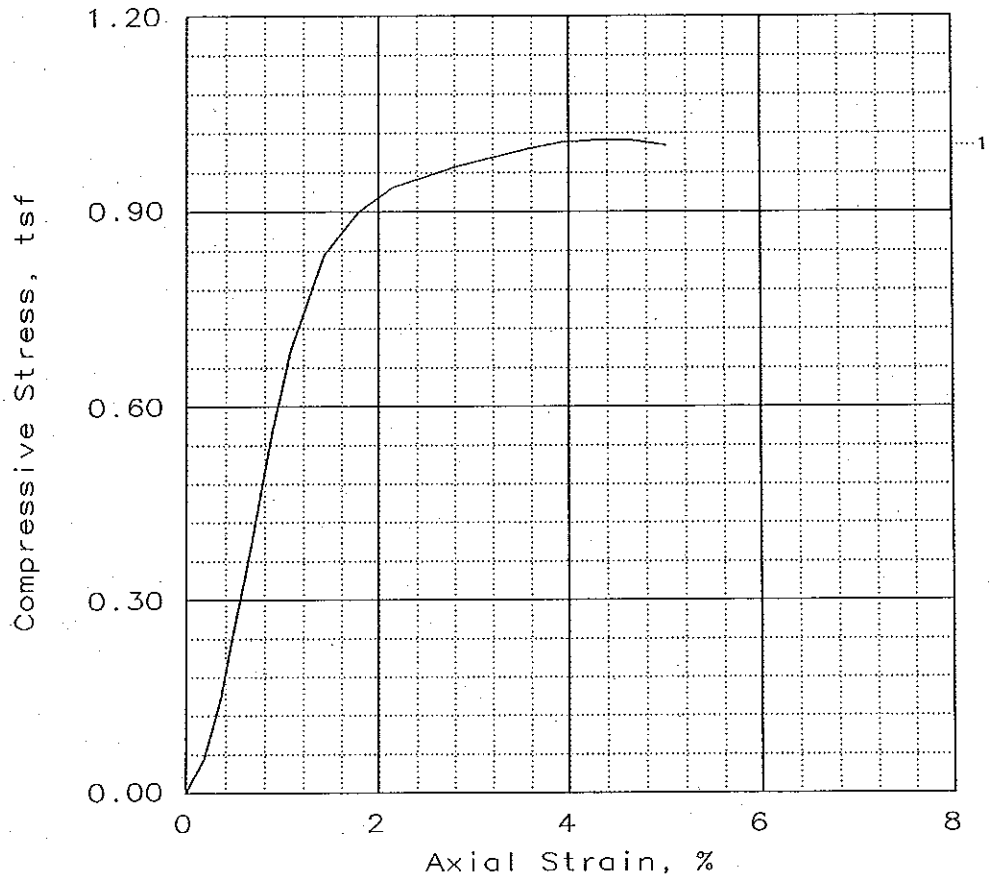
Contract No. DACW64-98-D-0002 Delivery order No. 0106

Boring No. 03-88

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	43-45	0.50		Clay,w/silt seams,Medium stiff,Gray	C H	34.1											
22	45-47	0.50		Clay,w/silt seams,Medium stiff,Gray	C H	43.5											
23	47-49	0.50		Clay,w/silt seams,Medium stiff,Gray	C H	45.5											
24	49-51	0.50		Clay,w/silt seams,Medium stiff,Gray	C H	46.2											

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	1.01			
Undrained shear strength, tsf	0.50			
Failure strain, %	4.3			
Strain rate, %/min	1.07			
Water content, %	30.1			
Wet density, pcf	111.3			
Dry density, pcf	85.6			
Saturation, %	85.4			
Void ratio	0.9325			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Clay,w/si sms calc & fer nod,Stiff,Yish bn & gy

LL = 75	PL = 26	PI = 49	ASS. GS= 2.65	Type: Undisturbed

Project No.: 11401272106

Date: 09-25-2003

Remarks:

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

Project: Port Arthur Boat Basin

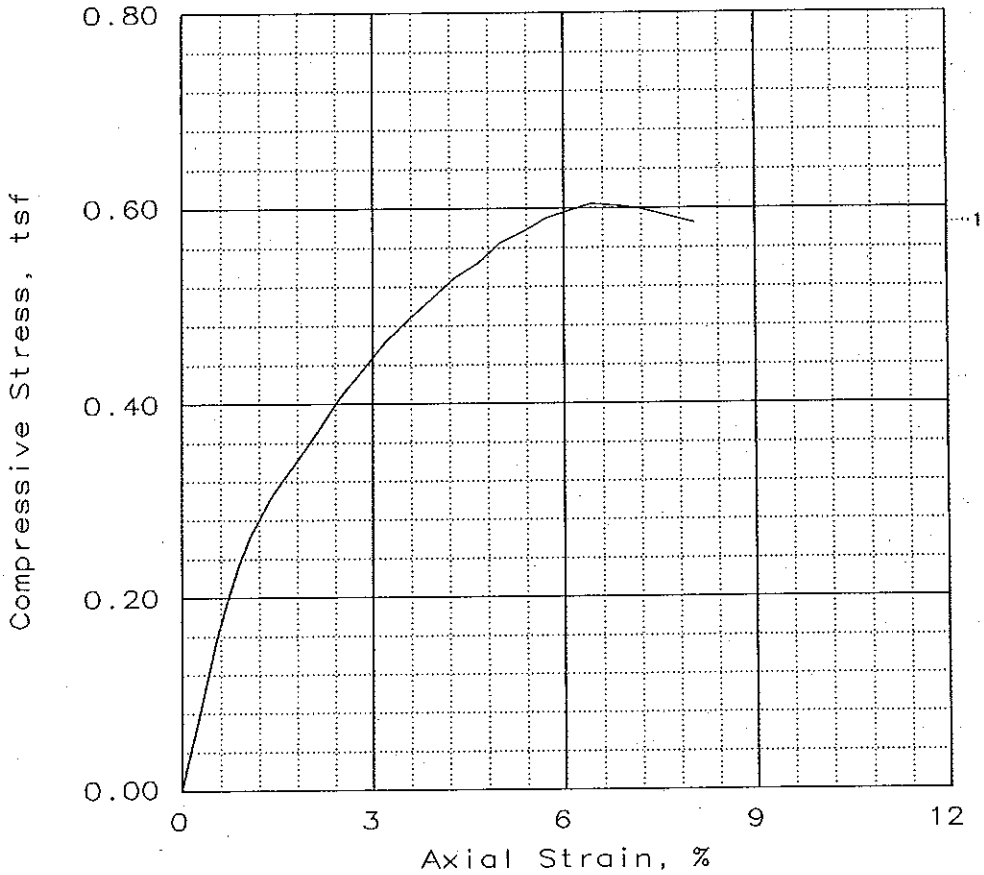
Location: Boring No. 03-88
Sample No. 6 Depth: 12-14 ft.

UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

Fig. No.: ——

UNCONFINED COMPRESSION TEST



SAMPLE NO.:	1			
Unconfined strength, tsf	0.61			
Undrained shear strength, tsf	0.30			
Failure strain, %	6.4			
Strain rate, %/min	1.07			
Water content, %	32.0			
Wet density, pcf	113.5			
Dry density, pcf	85.9			
Saturation, %	91.7			
Void ratio	0.9252			
Specimen diameter, in	2.83			
Specimen height, in	5.60			
Height/diameter ratio	1.98			

Description: Silty Clay,w/sandy silt sms&parting,M.S,Gray

LL = 47	PL = 19	PI = 28	ASS. GS= 2.65	Type: Undisturbed

Project No.: 11401272106

Date: 09-25-2003

Remarks:

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

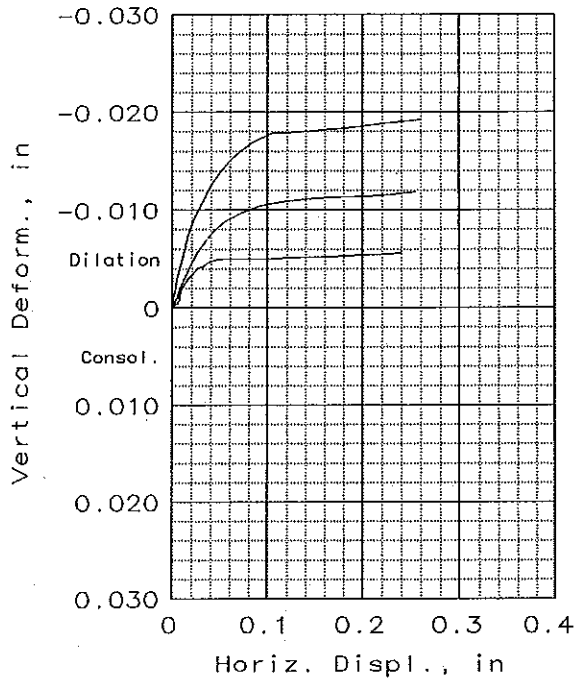
Project: Port Arthur Boat Basin

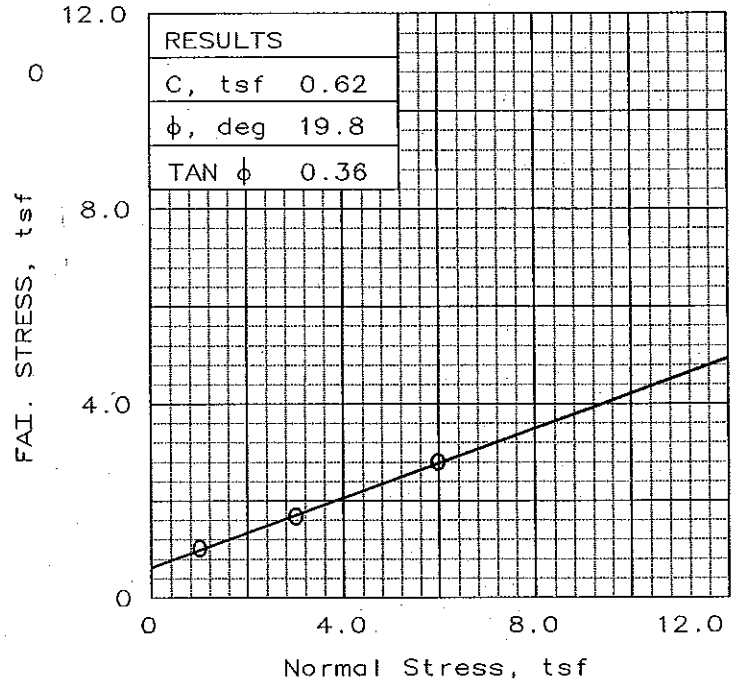
Location: Boring No. 03-88
Sample No. 14 Depth: 29-31 ft.

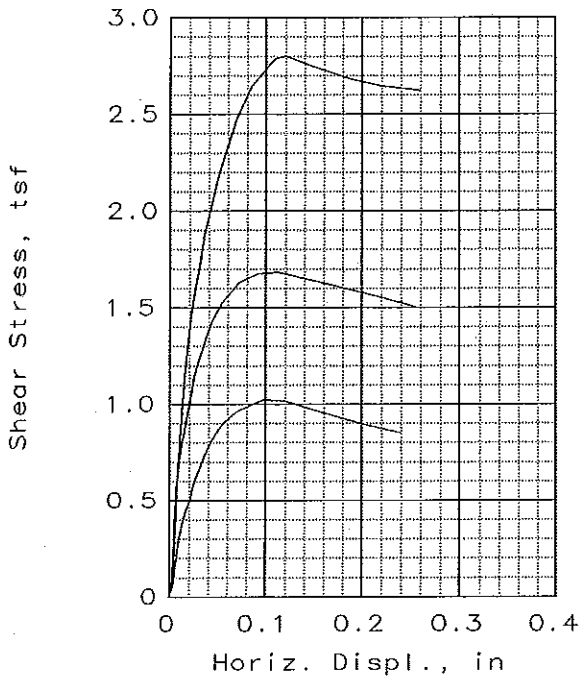
UNCONFINED COMPRESSION TEST

GEOTEST ENGINEERING, INC.

Fig. No.: ——







	SAMPLE NO.:	1	2	3
INITIAL	WATER CONTENT, %	21.3	21.8	21.8
	DRY DENSITY, pcf	105.0	104.8	104.6
	SATURATION, %	98.1	99.8	99.2
	VOID RATIO	0.576	0.578	0.582
	DIAMETER, in	2.50	2.50	2.50
	HEIGHT, in	1.00	1.00	1.00
AT TEST	WATER CONTENT, %	20.8	18.6	18.4
	DRY DENSITY, pcf	106.6	110.9	111.2
	SATURATION, %	99.9	100.0	100.0
	VOID RATIO	0.552	0.492	0.487
	DIAMETER, in	2.50	2.50	2.50
	HEIGHT, in	0.99	0.95	0.94
	NORMAL STRESS, tsf	1.06	3.07	6.04
	FAI. STRESS, tsf	1.02	1.68	2.80
	DISPLACEMENT, in	0.10	0.11	0.12
	RESIDUAL STRESS, tsf			
	DISPLACEMENT, in			
	Strain rate, %/min	0.0022	0.0022	0.0022

SAMPLE TYPE: Undisturbed
DESCRIPTION: Silty Clay,w/calc& fer nod,Stiff,Yish bn & Gray
LL= 48 PL= 20 PI= 28
ASSUMED SPECIFIC GRAVITY= 2.65
REMARKS:

Fig. No.: _____

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

SAMPLE LOCATION: Boring No. 03-88
Sample No. 7 Depth: 14-16 ft.

PROJ. NO.: 11401272106 DATE: 10-03-2003

DIRECT SHEAR TEST REPORT

GEOTEST ENGINEERING, INC.