U.S. ARMY CORPS OF ENGINEERS

BORING NO. 93-314 DATE: BEGIN 7-8-93 PAGE 1 / 1
JOB NO. 146630 COMPLETE 7-8-93 Thin Walled Tube
PROJECT Brazos Island Harbor Project. ■ 3" □ 6"
LOCATION Brownsville ship channel near Brownsville, Tx
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Ardco R-4X4
GROUNDWATER: DEPTH 0 ft., ELEV. ____ ft., at end of Drilling
WEATHER Sunny & Hot
DRILLER Scott Gregurek LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSIS-TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	X	1	3/4/4	Gray	Sand	Loose	Silty	
		2	0.00	Gray	Clay	Very Soft		-w/Sa Pkts
5		3	0.00	Gray	Clay	Very Soft		-w/Sa Sms
		4	0.25	DK. Gray	Clay	Soft		
		5	1.00	Brown	Clay	Stiff		-w/Fe st
10		6	1.25	Brown	Clay	Stiff		-w/Fe st
		7	1.75	Brown	Clay	Stiff		-w/Fe Nod
15		8	1.25	Brown	Clay	Stiff		-w/Fe Nod
		9	1.50	Brown	Clay	Stiff		-w/Fe Nod
		10	1.75	Brown	Clay	Stiff		-w/Fe Nod
20								
25								
30								
35								

Project : Brazos Island Harbor Project, Brownsville Shipchannel near Brownsville, Texas
Contract No. DACW64-92-D-0005 Delivery order No. 0018

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 93-314

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 #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0-1.5		8	Gray,Sand,Loose,Silty	SM												
2	2-4	0.00		Gray,Clay,Very soft,w/sand pockets	CH	23.4										0.08	
3	4-6	0.00		Gray,Clay,Very soft,w/sand pockets	CH	36.6			65							0.10	
4	6-8	0.25		Dark gray,Clay,Soft,w/blocky structure	CH	37.2										0.12	
5	8-10	1.50		Brown,Clay,Stiff,w/ferrous stains	CH	35.2	86.3	116.7	66	27	100.0	100.0	99.9	99.0	97.7		1.60
6	10-12	1.75		Brown & gray,Clay,Stiff,w/ferrous stains	CH	35.2											
7	12-14	2.00		Brown & gray,Clay,Very stiff,w/ferrous nodules	CH	32.0			63								
8	14-16	1.75		Brown & gray,Clay,Stiff,w/ferrous nodules	CH	37.8											
9	16-18	1.25		Brown & gray,Clay,Stiff,w/ferrous nodules	CH	36.0											
10	18-20	1.75		Brown & gray,Clay,Stiff,w/ferrous nodules	CH	34.7											

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

Geotest Engineering, Inc.

JOB NO. 14G634 DATE 8/5/93

PROJECT Brazos Island Harbor Project
Brownsville Shipchannel

AREA near Brownsville, Texas

BORING NO. 93-314 SAMPLE NO. 5 DEPTH 8-10 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown, Clay, Stiff, w/ferrous stains

Tare No.	P-28	Height	5.595 in.
Tare plus Wet Specimen	347.85 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	268.49 gm	Initial Area	6.290 sq in.
Water Weight	79.36 gm	Volume	35.194 cu in.
Tare Weight	43.07 gm	Volume of Solids	cu in.
Wet Specimen	1077.69 gm	Void Ratio	
Dry Specimen	797.08 gm	Saturation	%
Water Content	35.21 %	Dry Density	86.3 lb/cu ft
Specific Gravity of Solids			

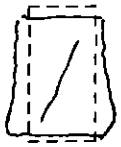
LL = 66 PL = 27 PI = 39

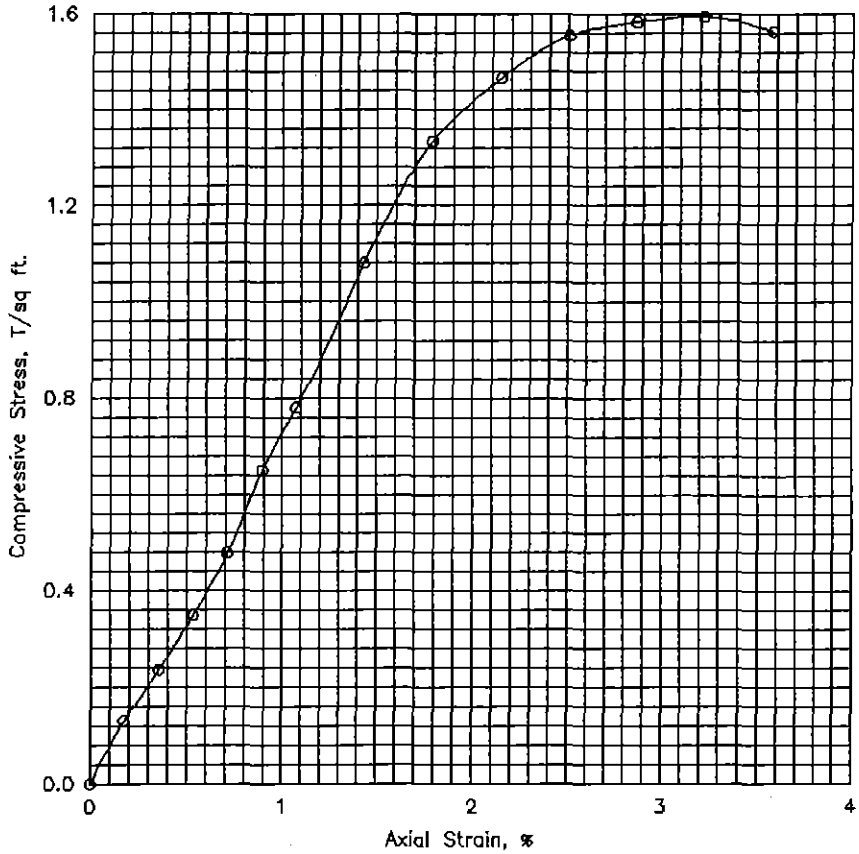
Proving Ring No. 10170
Proving Ring Constant, K = .766 lbs/div.

Elapsed Time min.	Dial Reading 0.001"	Cumulative Change in.	Proving Ring Dial Reading	Axial Load lb	Axial Strain	Area Corr. sq in.	Compr. Stress tsf
.0	0.	.000	.0	.0	.000	6.29	.000
.2	10.	.010	15.0	11.5	.002	6.30	.131
.4	20.	.020	27.0	20.7	.004	6.31	.236
.6	30.	.030	40.0	30.6	.005	6.32	.349
.8	40.	.040	55.0	42.1	.007	6.34	.479
1.0	50.	.050	75.0	57.4	.009	6.35	.652
1.2	60.	.060	90.0	68.9	.011	6.36	.781
1.7	80.	.080	125.0	95.8	.014	6.38	1.080
2.1	100.	.100	155.0	118.7	.018	6.40	1.335
2.5	120.	.120	171.0	131.0	.021	6.43	1.467
2.9	140.	.140	182.0	139.4	.025	6.45	1.556
3.3	160.	.160	186.0	142.5	.029	6.48	1.584
3.7	180.	.180	188.0	144.0	.032	6.50	1.595
4.1	200.	.200	185.0	141.7	.036	6.52	1.564

Job No. 14G634

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	35.2 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	86.3			
Time to failure, min		t_f	3.67			
Unconfined compressive strength, T/sq ft		q_u	1.60			
Undrained shear strength, T/sq ft		S_u	.80			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Brown, Clay, Stiff, w/ferrous stains

LL	66	PL	27	PI	39	G_s	

Remarks

Project	Brazos Island Harbor Project
	Brownsville Shipchannel
Area	near Brownsville, Texas
Boring No. 93-314	Sample No. 5
Depth 8-10 ft El	Date 8/5/93
UNCONFINED COMPRESSION TEST REPORT	

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

B.I.H. DISPOSAL AREA NO. 7 (Cont.)

	CORE BORING	COORDINATES X	Y	N.B. ELEV.
25	93-311	2378835.57	109220.80	9.90
26	93-312	2378651.26	109678.24	12.33
27	93-313	2379430.22	109197.84	11.43
28	93-314	2379366.81	109932.52	14.15
29	93-315	2380017.75	110194.21	11.81
30	93-316	2380661.04	110451.44	11.49
31	93-317	2381319.67	110719.22	12.51
32	93-318	2381965.45	110977.46	13.14
33	93-319	2382618.30	111238.43	12.29