U.S. ARMY CORPS OF ENGINEERS

BORING NO. 93-318 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 K4X4
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	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0		1	0.00	Brown	clay	Very Soft		-w/sa layer on Top
		2	0.00	Brown	clay	Very Soft		
5		3	0.00	Gray	clay	Very Soft		
		4	0.00	Gray	clay	Very Soft		-w/sa sms
		5	0.25	Gray	clay	Soft		
10		6	0.75	Brown	clay	Medium Stiff		
		7	0.50	Brown	clay	M.stiff	silty	-w/sa sms
15		8	0.75	Brown	clay	M.stiff	silty	-w/sa sms
		9	0.50	Brown	clay	M.stiff	silty	-w/sa sms
		10	0.75	Brown	clay	M.stiff		
20								Bottom of 93-318 @20'
25								
30								
35								

GEOTEST ENGINEERING, INC.

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. 93-318

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	0-2	0.00		Brown,Clay,Very soft	CH	34.9										0.10	
2	2-4	0.00		Brown,Clay,Very soft	CH	48.5										0.10	
3	4-6	0.00		Brown,Clay,Very soft	CH	49.1			58							0.09	
4	6-8	0.00		Brown & gray,Clay,Very soft,w/sand pockets	CH	27.1										0.10	
5	8-10	0.25		Brown & gray,Clay,Soft	CH	27.1										0.13	
6	10-12	0.75		Brown,Clay,Medium stiff,w/mica	CH	28.3	93.0	119.3	59		99.3*	96.6*	92.7*	90.9	90.1		0.50
7	12-14	0.50		Brown,Clay,Medium stiff,Silty	CL	24.8											
8	14-16	1.00		Brown,Clay,Stiff,Silty	CL	27.8			37								
9	16-18	0.75		Brown,Clay,Medim stiff,Silty	CL	28.1											
10	18-20	1.25		Brown & gray,Clay,Stiff	CH	30.6											

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
* Material Retained are Mica

Geotest Engineering, Inc.

JOB NO. 14G634 DATE 8/6/93

PROJECT Brazos Island Harbor Project
Brownsville Shipchannel

AREA near Brownsville, Texas

BORING NO. 93-318 SAMPLE NO. 6 DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown, Clay, Medium Stiff, w/mica

Tare No.	KL-16	Height	5.595 in.
Tare plus Wet Specimen	346.41 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	279.42 gm	Initial Area	6.290 sq in.
Water Weight	66.99 gm	Volume	35.194 cu in.
Tare Weight	42.52 gm	Volume of Solids	cu in.
Wet Specimen	1101.98 gm	Void Ratio	
Dry Specimen	859.06 gm	Saturation	%
Water Content	28.28 %	Dry Density	93.0 lb/cu ft
Specific Gravity of Solids			

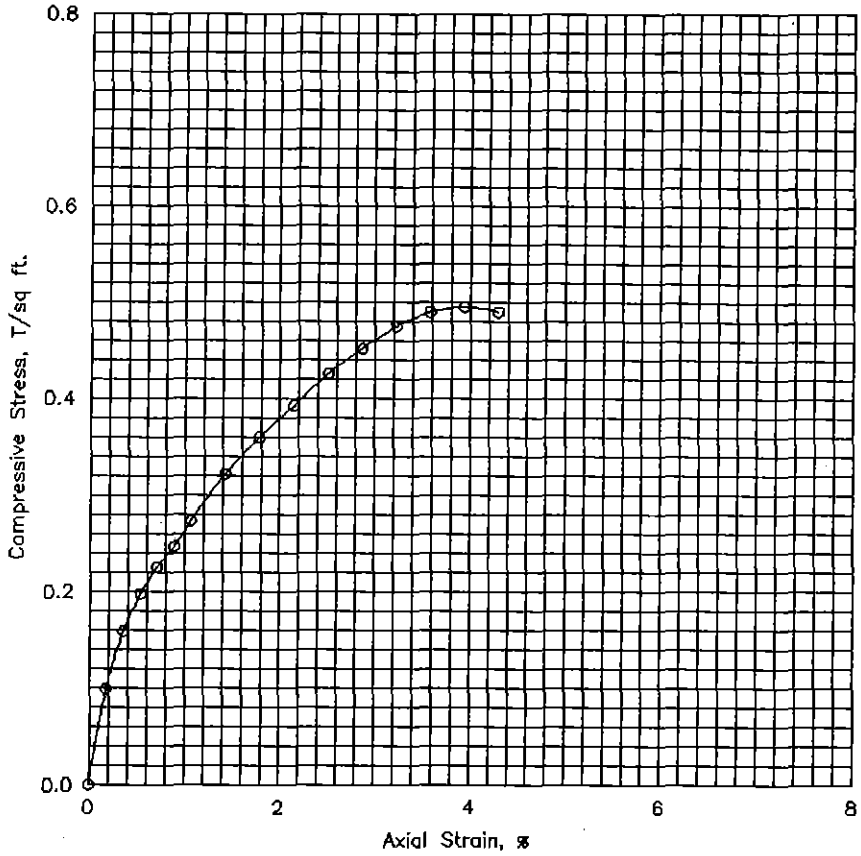
LL = 59 PL = PI =

Proving Ring No. 17015
Proving Ring Constant, K = .311 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	28.0	8.7	.002	6.30	.099
.4	20.	.020	45.0	14.0	.004	6.31	.159
.7	30.	.030	56.0	17.4	.005	6.32	.198
.9	40.	.040	64.0	19.9	.007	6.34	.226
1.0	50.	.050	70.0	21.7	.009	6.35	.247
1.2	60.	.060	78.0	24.2	.011	6.36	.274
1.5	80.	.080	92.0	28.6	.014	6.38	.322
1.9	100.	.100	103.0	32.0	.018	6.40	.360
2.1	120.	.120	113.0	35.1	.021	6.43	.393
2.5	140.	.140	123.0	38.2	.025	6.45	.426
2.8	160.	.160	131.0	40.7	.029	6.48	.452
3.2	180.	.180	138.0	42.9	.032	6.50	.475
3.5	200.	.200	143.0	44.4	.036	6.52	.490
3.8	220.	.220	145.0	45.0	.039	6.55	.495
4.1	240.	.240	144.0	44.7	.043	6.57	.490

Job No. 14G634

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	28.3 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	93.0			
Time to failure, min		t_f	3.83			
Unconfined compressive strength, T/sq ft		q_u	.50			
Undrained shear strength, T/sq ft		S_u	.25			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Brown, Clay, Medium Stiff, w/mica

LL 59	PL	PI	G_s

Remarks

Project	Brazos Island Harbor Project
	Brownsville Shipchannel
Area	near Brownsville, Texas
Boring No. 93-318	Sample No. 6
Depth El 10-12 ft	Date 8/6/93
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