U.S. ARMY CORPS OF ENGINEERS

BORING NO. 93-313 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 Bidco K 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	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0		1	0.25	Brown	Clay	Soft		w/Sa Sms
		2	0.00	Brown	Clay	Very soft		
5		3	0.25	Brown	clay	Soft		
		4	1.25	Brown	clay	stiff		
		5	1.50	Brown	clay	stiff		
10		6	2.00	Brown	Clay	Very stiff		-w/Fe Nod
		7	2.25	Brown	Clay	Very stiff		-w/Fe Nod
15		8	2.75	Brown	Clay	Very stiff		-w/Fe Nod
		9	2.00	Brown	Clay	Very stiff		-w/Fe Nod
		10	2.25	Gray	Clay	Very stiff		-w/Fe Nod
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. 93-313

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	44.7											
2	2-4	0.00		Brown,Clay,Very soft	CH	35.9											
3	4-6	0.25		Gray,Clay,Soft	CH	34.5											
4	6-8	1.50		Gray,Clay,Stiff	CH	33.7	86.4	115.5	70		100.0	100.0	99.4	99.1	98.6		1.00
5	8-10	1.50		Brown,Clay,Stiff	CH	35.8											
6	10-12	2.00		Brown,Clay,Very stiff	CH	31.5			57								
7	12-14	2.00		Brown,Clay,Very stiff	CH	36.0											
8	14-16	2.50		Brown,Clay,Very stiff	CH	43.3			75								
9	16-18	2.50		Brown,Clay,Very stiff	CH	33.6											
10	18-20	3.00		Brown,Clay,Very stiff	CH	36.8											

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. 93-313 SAMPLE NO. 4 DEPTH 6-8 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray, Clay, Stiff

Tare No.	P226	Height	5.595 in.
Tare plus Wet Specimen	472.28 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	364.01 gm	Initial Area	6.290 sq in.
Water Weight	108.27 gm	Volume	35.194 cu in.
Tare Weight	42.82 gm	Volume of Solids	cu in.
Wet Specimen	1067.17 gm	Void Ratio	
Dry Specimen	798.13 gm	Saturation	%
Water Content	33.71 %	Dry Density	86.4 lb/cu ft
Specific Gravity of Solids			

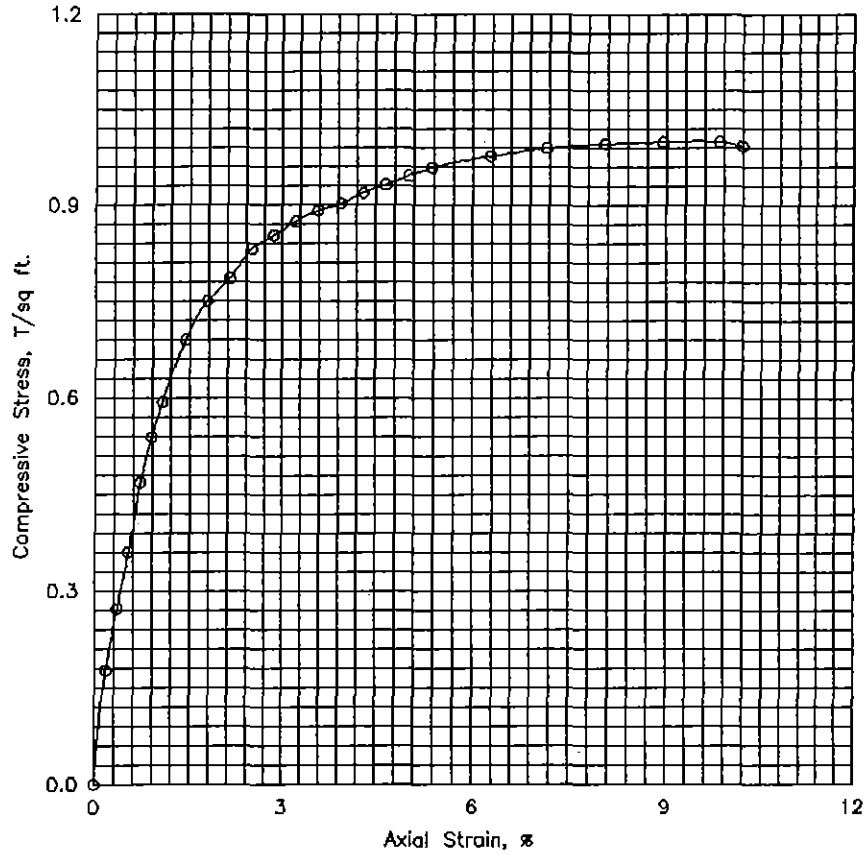
LL = 70 PL = PI =

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	50.0	15.5	.002	6.30	.177
.4	20.	.020	77.0	23.9	.004	6.31	.273
.6	30.	.030	102.0	31.7	.005	6.32	.361
.7	40.	.040	133.0	41.3	.007	6.34	.469
.9	50.	.050	153.0	47.5	.009	6.35	.539
1.1	60.	.060	169.0	52.5	.011	6.36	.594
1.4	80.	.080	197.0	61.2	.014	6.38	.690
1.7	100.	.100	215.0	66.8	.018	6.40	.751
2.0	120.	.120	226.0	70.2	.021	6.43	.786
2.4	140.	.140	240.0	74.5	.025	6.45	.832
2.8	160.	.160	247.0	76.7	.029	6.48	.853
3.1	180.	.180	254.0	78.9	.032	6.50	.874
3.4	200.	.200	260.0	80.8	.036	6.52	.891
3.8	220.	.220	264.0	82.0	.039	6.55	.902
4.1	240.	.240	270.0	83.9	.043	6.57	.919
4.4	260.	.260	275.0	85.4	.046	6.60	.932
4.7	280.	.280	280.0	87.0	.050	6.62	.946
5.1	300.	.300	285.0	88.5	.054	6.65	.959
5.8	350.	.350	293.0	91.0	.063	6.71	.977
6.7	400.	.400	300.0	93.2	.071	6.77	.990
7.5	450.	.450	305.0	94.7	.080	6.84	.997
8.3	500.	.500	309.0	96.0	.089	6.91	1.000
8.8	550.	.550	312.0	96.9	.098	6.98	1.000
9.1	570.	.570	311.0	96.6	.102	7.00	.993

Job No. 14G634

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	33.7 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	86.4			
Time to failure, min		t_f	8.33			
Unconfined compressive strength, T/sq ft		q_u	1.00			
Undrained shear strength, T/sq ft		S_u	.50			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Gray, Clay, Stiff

LL	70	PL		PI		G_s

Remarks

Project	Brazos Island Harbor Project
	Brownsville Shipchannel
Area	near Brownsville, Texas
Boring No. 93-313	Sample No. 4
Depth 6-8 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