U.S. ARMY CORPS OF ENGINEERS

BORING NO. 93-308 DATE: BEGIN 7-9-93 PAGE 1 / 1
JOB NO. 146630 COMPLETE 7-9-93 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 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	CONSIS-TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0		1	0.25	Brown	clay	soft		
		2	0.00	Brown	clay	Very soft		
5		3	1.25	Gray & Brown	Clay	stiff		
		4	1.50	Brown	clay	stiff		-w/Fest
		5	1.75	Brown	clay	stiff		-w/Fest
10		6	2.00	Brown	clay	Very stiff		-w/Fest
		7	2.00	Brown	clay	Very stiff		-w/Fest
15		8	2.25	Brown	clay	Very stiff		-w/Fest
		9	1.75	Brown	clay	stiff		-w/Fest
		10	1.50	Brown	clay	stiff		-w/Fest
20								
25								
30								
35								

GEOTEST ENGINEERING INC

JOB NO. 14G634 DATE 8/5/93

PROJECT Brazos Island Harbor Project
Brownsville Shipchannel

AREA near Brownsville, Texas

BORING NO. 93-308 SAMPLE NO. 3 DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown, Clay, Stiff, w/mica & Blocky structure

Tare No.	P-27	Height	5.595 in.
Tare plus Wet Specimen	403.31 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	316.27 gm	Initial Area	6.290 sq in.
Water Weight	87.04 gm	Volume	35.194 cu in.
Tare Weight	42.74 gm	Volume of Solids	cu in.
Wet Specimen	1092.40 gm	Void Ratio	
Dry Specimen	828.70 gm	Saturation	%
Water Content	31.82 %	Dry Density	89.7 lb/cu ft
Specific Gravity of Solids			

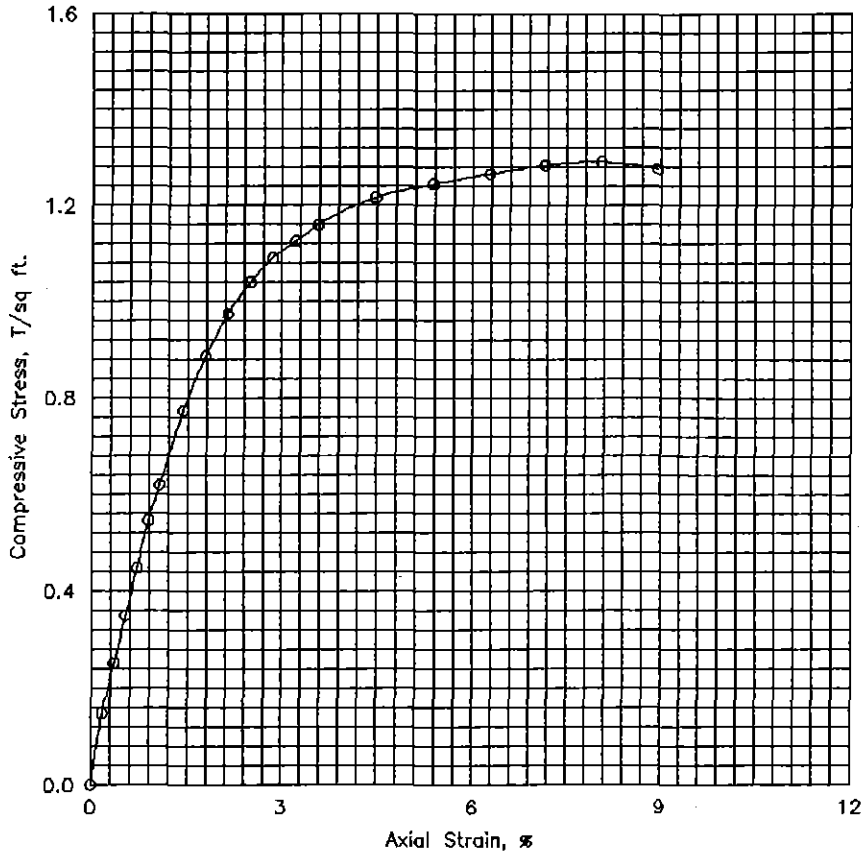
LL = 64 PL = PI =

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	42.0	13.0	.002	6.30	.149
.4	20.	.020	71.0	22.1	.004	6.31	.252
.6	30.	.030	99.0	30.7	.005	6.32	.350
.8	40.	.040	127.0	39.4	.007	6.34	.448
.9	50.	.050	155.0	48.1	.009	6.35	.546
1.1	60.	.060	176.0	54.7	.011	6.36	.619
1.4	80.	.080	221.0	68.6	.014	6.38	.774
1.8	100.	.100	254.0	78.9	.018	6.40	.887
2.1	120.	.120	280.0	87.0	.021	6.43	.974
2.4	140.	.140	300.0	93.2	.025	6.45	1.040
2.7	160.	.160	316.0	98.1	.029	6.48	1.091
3.0	180.	.180	327.0	101.6	.032	6.50	1.125
3.4	200.	.200	338.0	105.0	.036	6.52	1.159
4.2	250.	.250	358.0	111.2	.045	6.58	1.216
5.0	300.	.300	370.0	114.9	.054	6.65	1.245
5.8	350.	.350	380.0	118.0	.063	6.71	1.266
6.7	400.	.400	389.0	120.8	.071	6.77	1.284
7.4	450.	.450	395.0	122.7	.080	6.84	1.291
8.3	500.	.500	394.0	122.4	.089	6.91	1.276

Job No. 14G634

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	31.8 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	89.7			
Time to failure, min		t_f	7.45			
Unconfined compressive strength, T/sq ft		q_u	1.29			
Undrained shear strength, T/sq ft		S_u	.65			
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/mica & Blocky structure

LL	PL	PI	G_s
64			

Remarks

Project Brazos Island Harbor Project	
Brownsville Shipchannel	
Area near Brownsville, Texas	
Boring No. 93-308	Sample No. 3
Depth 4-6 ft El	Date 8/5/93
UNCONFINED COMPRESSION TEST REPORT	

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G634 DATE 8/5/93

PROJECT Brazos Island Harbor Project
Brownsville Shipchannel

AREA near Brownsville, Texas

BORING NO. 93-308 SAMPLE NO. 6 DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown, Clay, Stiff, w/mica & Blocky structure

Tare No.	P-222	Height	5.595 in.
Tare plus Wet Specimen	571.32 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	445.59 gm	Initial Area	6.290 sq in.
Water Weight	125.73 gm	Volume	35.194 cu in.
Tare Weight	42.98 gm	Volume of Solids	cu in.
Wet Specimen	1085.72 gm	Void Ratio	
Dry Specimen	827.35 gm	Saturation	%
Water Content	31.23 %	Dry Density	89.6 lb/cu ft

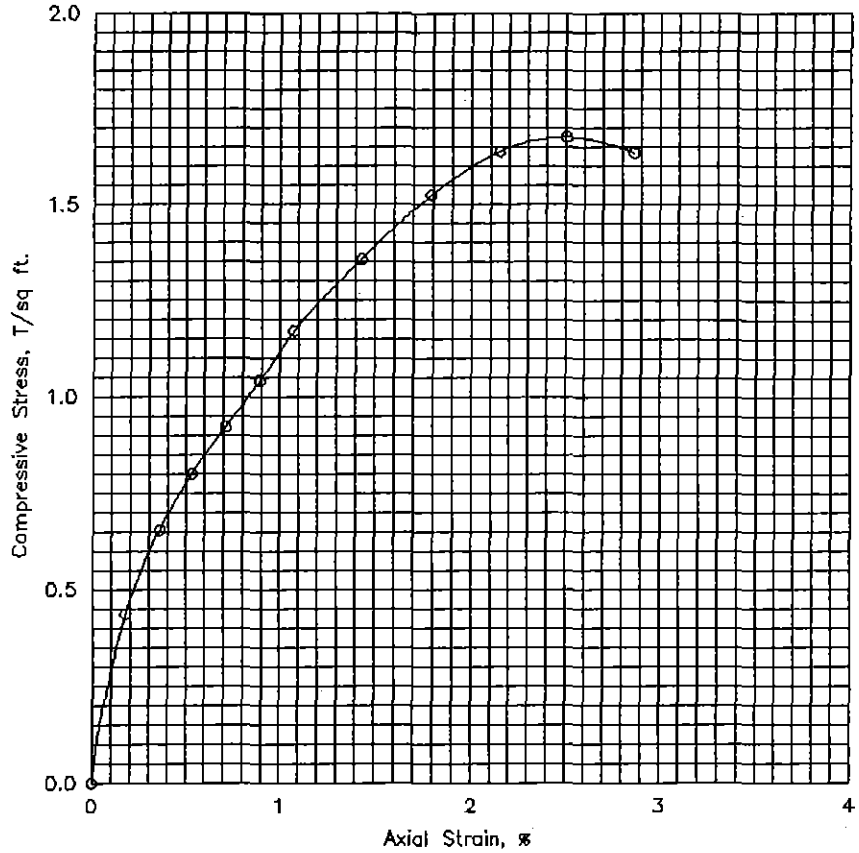
Specific Gravity of Solids
LL = 64 PL = 26 PI = 38

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	50.0	38.3	.002	6.30	.438
.3	20.	.020	75.0	57.4	.004	6.31	.655
.5	30.	.030	92.0	70.5	.005	6.32	.802
.7	40.	.040	106.0	81.2	.007	6.34	.923
.9	50.	.050	120.0	91.9	.009	6.35	1.043
1.1	60.	.060	135.0	103.4	.011	6.36	1.171
1.4	80.	.080	157.0	120.3	.014	6.38	1.357
1.7	100.	.100	177.0	135.6	.018	6.40	1.524
2.0	120.	.120	191.0	146.3	.021	6.43	1.639
2.3	140.	.140	196.0	150.1	.025	6.45	1.676
2.7	160.	.160	192.0	147.1	.029	6.48	1.635

Job No. 14G634

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	31.2 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	89.6			
Time to failure, min		t_f	2.35			
Unconfined compressive strength, T/sq ft		q_u	1.68			
Undrained shear strength, T/sq ft		S_u	.84			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.830			
Initial specimen height, in.		H_o	5.595			

Classification Brown, Clay, Stiff, w/mica & Blocky structure

LL	64	PL	26	PI	38	G_s	

Remarks

Project	Brazos Island Harbor Project
	Brownsville Shipchannel
Area	near Brownsville, Texas
Boring No. 93-308	Sample No. 6
Depth El 10-12 ft	Date 8/5/93
	UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

July - 7 93

B.I.H. DISPOSAL AREA NO. 7

	CORE BORING	COORDINATES X	Y	N.G. ELEV.
1	93-287	2383453.79	111575.35	16.58
2	93-288	2383436.80	111066.77	11.95
3	93-289	2383374.07	110464.25	12.20
4	93-290	2382897.16	110196.68	12.09
5	93-291	2382591.22	109981.03	12.07
6	93-292	2382291.49	109638.88	12.96
7	93-293	2381679.22	108909.68	12.04
8 *	93-294			
9	93-295	2379514.51	108372.33	10.17
10	93-296	2378761.80	107960.82	10.07
11	93-297	2378293.91	107778.32	9.86
12	93-298	2377829.21	107589.17	9.80
13	93-299	2377365.46	107404.67	9.91
14	93-300	2376904.99	107220.19	9.8
15	93-301	2376438.60	107038.62	9.75
16	93-302	2375977.69	106850.65	9.66
17 *	93-303			
18	93-304	2375768.65	107744.19	9.92
19	93-305	2376232.67	107932.15	10.1
20	93-306	2376693.94	108120.23	10.28
21	93-307	2377157.54	108305.60	10.32
22	93-308	2377622.55	108490.28	10.51
23	93-309	2378086.61	108679.32	10.18
24	93-310	2378551.34	108868.16	9.99