

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.		PEN./TORVANE		SPT.-BLOW COUNT		BORING NO. <u>92-35</u> DATE: BEGIN <u>3-22-92</u> PAGE <u>1 / 1</u> JOB NO. <u>146535</u> COMPLETE <u>3-22-92</u> Thin Walled Tube PROJECT <u>Brownsville Disp. Area #4</u> ☒ 3" ☐ 6" LOCATION <u>" Ship Channel</u> ELEVATION OF HOLE _____ MANUFACTURER'S DESIGNATION OF DRILL RIG <u>ARDCO - C-1000</u> GROUNDWATER: DEPTH <u>5'</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>Cloudy - Warm - Windy</u> DRILLER <u>D. Mitchell</u> LOGGER <u>J. Beeg</u>				
		COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS						
0	1	2.5	TAN	clay	very stiff							
	2	1.25	"	"	stiff							
5	3	1.25	Gray TAN	"	soft							
	4	0.5	"	"	Med stiff							
	5	0.5	"	"	"	Sand						
10	6	0.5	"	"	"	"						
	7	1.0	"	"	stiff	"						
15	8	1.75	Gray	clay	Stiff	"	u/sa s.m.s.					
	9	0.25	"	"	soft	"						
	10	0.25	"	"	"	"	u/sa s.m.s.					
20	11	0.25	"	"	"	Silt						
	12	0.25	"	"	"	Silt						
25	13	0.25	"	"	"	"						
	14	0.25	"	"	"	Sand						
	15	0.25	Gray TAN	"	soft	"						
30									Bottom of 92-35, 30'			
35												

Project : Disposal Areas Nos.2 and 4 for Brownsville Ship Channel
Brownsville, Texas
Contract No. DACW64-92-D-0001 Delivery order No. 0008

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 92-35

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)	LL (%)	P L (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0-2	2.50		Brown,Clay,Very stiff,w/shell fragments	CH	34.5											
2	2-4	1.75		Brown,Clay,Stiff,w/sand pockets and mica	CH	34.7	85.0	114.5	62	25							
3	4-6	1.25		Brown,Clay,Stiff,w/sand pockets	CH	32.9											
4	6-8	0.50		Brown,Clay,Medium stiff,w/sand pockets	CH	33.1											
5	8-10	0.50		Brown,Clay,Medium stiff,w/sand pockets	CH	33.0	88.0	117.0	55	24	100.0	99.4	98.1	97.1	96.6		0.65
6	10-12	0.50		Brown,Clay,Medium stiff,w/sand pockets	CH	35.0											
7	12-14	0.50		Brown,Clay,Medium stiff,w/sand pockets	CH	33.0											
8	14-16	1.00		Brown,Clay,Stiff,w/sand pockets	CH	36.7	84.0	114.8	56	24							
9	16-18	1.00		Brown,Clay,Stiff,w/sand pockets	CH	40.6											
10	18-20	1.25		Brown,Clay,Stiff,w/sand pockets	CH	37.7											
11	20-22	0.00		Brown,Clay,Very soft,Silty,w/sand seams	CL	35.9	84.0	114.2	45	21	100.0	99.4	98.9	97.4	97.0		0.11
12	22-24	0.00		Brown,Clay,Very soft,Silty,w/sand seams& sand pocket	CL	32.9											
13	24-26	0.00		Brown,Clay,Very soft,Sandy,w/sand pockets	CL	32.3											
14	26-28	0.00		Brown,Clay,Very soft,Sandy,w/sand pockets	CL	28.4											
15	28-30	0.00		Brown,Clay,Very soft,Sandy,w/sand pockets	CL	27.4											

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. 14G538

DATE 4/9/92

PROJECT Disposal Areas Nos.2 and 4 for Brownsvill Ship Channel, Brown

BORING NO. 92-35

SAMPLE NO. 5

DEPTH 8-10 ft

SPECIMEN NO. 1

CLASSIFICATION

Brown, Clay, Medium stiff, w/sand pockets

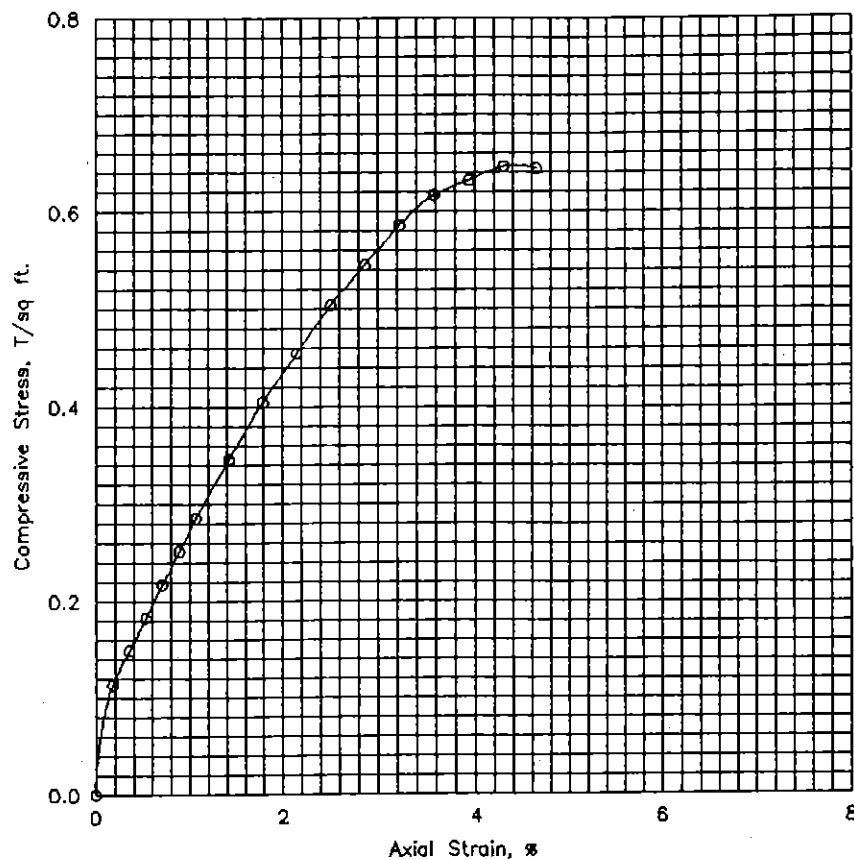
Tare No.	GE3	Height	5.595 in.
Tare plus Wet Specimen	552.99 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	426.42 gm	Initial Area	6.290 sq in.
Water Weight	126.57 gm	Volume	35.194 cu in.
Tare Weight	42.57 gm	Volume of Solids	cu in.
Wet Specimen	1080.50 gm	Void Ratio	
Dry Specimen	812.57 gm	Saturation	%
Water Content	32.97 %	Dry Density	88.0 lb/cu ft
Specific Gravity of Solids			
LL = 55	PL = 24	PI = 31	

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	13.0	10.0	.002	6.30	.114
.3	20.	.020	17.0	13.0	.004	6.31	.149
.5	30.	.030	21.0	16.1	.005	6.32	.183
.7	40.	.040	25.0	19.1	.007	6.34	.218
.9	50.	.050	29.0	22.2	.009	6.35	.252
1.0	60.	.060	33.0	25.3	.011	6.36	.286
1.3	80.	.080	40.0	30.6	.014	6.38	.346
1.7	100.	.100	47.0	36.0	.018	6.40	.405
2.0	120.	.120	53.0	40.6	.021	6.43	.455
2.3	140.	.140	59.0	45.2	.025	6.45	.504
2.6	160.	.160	64.0	49.0	.029	6.48	.545
2.9	180.	.180	69.0	52.9	.032	6.50	.586
3.2	200.	.200	73.0	55.9	.036	6.52	.617
3.5	220.	.220	75.0	57.4	.039	6.55	.632
3.8	240.	.240	77.0	59.0	.043	6.57	.646
4.1	260.	.260	77.0	59.0	.046	6.60	.644

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	33.0 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	88.0		
Time to failure, min		t_f	3.78		
Unconfined compressive strength, T/sq ft		q_u	.65		
Undrained shear strength, T/sq ft		S_u	.32		
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/sand pockets					
LL	55	PL	24	PI	31
Remarks		Project Disposal Areas Nos. 2 and 4 for Brownsville			
		Area Ship Channel, Brownsville, Texas			
		Boring No. 92-35		Sample No. 5	
		Depth 8-10 ft		Date 4/9/92	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G538

DATE 4/9/92

PROJECT Disposal Areas Nos.2 and 4 for Brownsvill Ship Channel, Brown

LORING NO. 92-35

SAMPLE NO. 11

DEPTH 20-22 ft

SPECIMEN NO. 1

CLASSIFICATION

Brown, Clay, Very soft, Silty, w/sand seams

Tare No.	P28	Height	5.595 in.
Tare plus Wet Specimen	503.54 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	381.90 gm	Initial Area	6.290 sq in.
Water Weight	121.64 gm	Volume	35.194 cu in.
Tare Weight	42.88 gm	Volume of Solids	cu in.
Wet Specimen	1055.06 gm	Void Ratio	
Dry Specimen	776.47 gm	Saturation	%
Water Content	35.88 %	Dry Density	84.0 lb/cu ft
Specific Gravity of Solids			
LL = 45	PL = 21	PI = 24	

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	3.0	2.3	.002	6.30	.026
.3	20.	.020	5.0	3.8	.004	6.31	.044
.5	30.	.030	7.0	5.4	.005	6.32	.061
.7	40.	.040	9.0	6.9	.007	6.34	.078
.9	50.	.050	10.0	7.7	.009	6.35	.087
1.0	60.	.060	11.0	8.4	.011	6.36	.095
1.3	80.	.080	12.0	9.2	.014	6.38	.104
1.6	100.	.100	13.0	10.0	.018	6.40	.112
1.9	120.	.120	13.0	10.0	.021	6.43	.112

