

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>91-221</u>	DATE: BEGIN <u>12-3-91</u>	PAGE <u>1 / 1</u>
					JOB NO. <u>146532</u>	COMPLETE <u>12-3-91</u>	Thin Walled Tube
					PROJECT <u>Victoria Channel</u>	☒ 3" ☐ 6"	
					LOCATION <u>" "</u>	<u>WEST BANK-SPA #790+00</u>	
					ELEVATION OF HOLE		
					MANUFACTURER'S DESIGNATION OF DRILL RIG <u>mayhem 200</u>		
					GROUNDWATER: DEPTH <u>1'6"</u> ft., ELEV. <u>"</u> ft., at end of Drilling		
					WEATHER <u>Clear. Cool - Windy</u>		
					DRILLER <u>S. Ward</u>	LOGGER <u>J. Berg</u>	
		COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS	
0							
	1.5	GRAY	Clay	Med Stiff			w/roots
	2.75	"	"	med Stiff			
5	3.75	"	"	"			
	4.5	"	"	"			
	5.5	"	"	"			
10	6.25	"	"	Soft	Silt		w/shell frag.
	7.25	"	"	"	Silt		w/shell "
JAR 15	8.0H	"	Silt	VERY loose	Clay		Si. Cl. at 14' w/shell frag
JAR 20	9.125/1	"	"	"	"		w/shell frag
25	10.25	"	clay	VERY STIFF			w/calc nod. Cl. at 24'
	11.5	"	"	hard			w/calc. nod
	12.5	TAN GRAY	"	"			w/calc. nod
30							Bottom of 91.221
							30'
35							

JOB NO. 14G536

DATE 2/27/92

PROJECT Channel to Victoria. Victoria, Texas

BORING NO. 91-221

SAMPLE NO. 3

DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Soft, w/sand seams

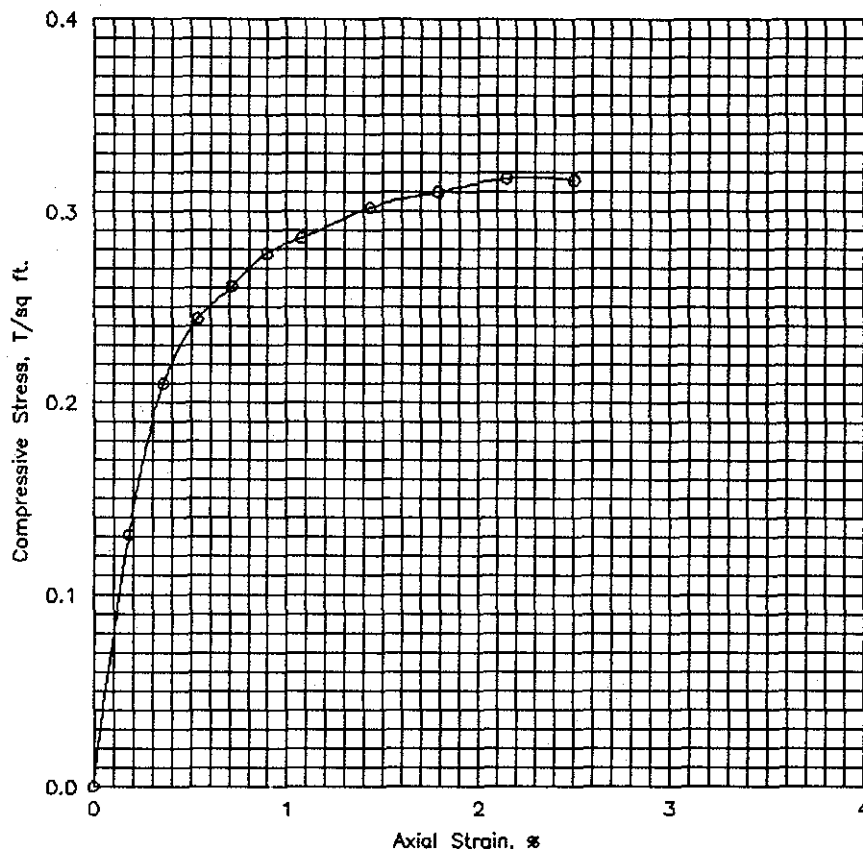
Tare No.	P-218	Height	5.595 in.
Tare plus Wet Specimen	468.94 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	360.13 gm	Initial Area	6.290 sq in.
Water Weight	108.81 gm	Volume	35.194 cu in.
Tare Weight	42.44 gm	Volume of Solids	cu in.
Wet Specimen	1065.06 gm	Void Ratio	
Dry Specimen	793.34 gm	Saturation	%
Water Content	34.25 %	Dry Density	85.9 lb/cu ft
Specific Gravity of Solids			
LL = 55	PL = 21	PI = 34	

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
.3	20.	.020	24.0	18.4	.004	6.31	.210
.6	30.	.030	28.0	21.4	.005	6.32	.244
.7	40.	.040	30.0	23.0	.007	6.34	.261
.9	50.	.050	32.0	24.5	.009	6.35	.278
1.0	60.	.060	33.0	25.3	.011	6.36	.286
1.4	80.	.080	35.0	26.8	.014	6.38	.302
1.7	100.	.100	36.0	27.6	.018	6.40	.310
2.0	120.	.120	37.0	28.3	.021	6.43	.317
2.3	140.	.140	37.0	28.3	.025	6.45	.316

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	34.3 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	85.9		
Time to failure, min		t_f	1.97		
Unconfined compressive strength, T/sq ft		q_u	.32		
Undrained shear strength, T/sq ft		S_u	.16		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Soft, w/sand seams					
LL	55	PL	21	PI	34
				G_s	
Remarks		Project Channel to Victoria			
		Area Victoria, Texas			
		Boring No. 91-221		Sample No. 3	
		Depth 4-6 ft		Date 2/27/92	
		Et			
UNCONFINED COMPRESSION TEST REPORT					

JOB NO. 14G536

DATE 2/27/92

PROJECT Channel to Victoria. Victoria, Texas

BORING NO. 91-221

SAMPLE NO. 6

DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, Sandy, w/calcareous nodules & shell fragments

Tare No.	P-418	Height	5.595 in.
Tare plus Wet Specimen	418.48 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	324.27 gm	Initial Area	6.290 sq in.
Water Weight	94.21 gm	Volume	35.194 cu in.
Tare Weight	42.63 gm	Volume of Solids	cu in.
Wet Specimen	1085.60 gm	Void Ratio	
Dry Specimen	813.48 gm	Saturation	%
Water Content	33.45 %	Dry Density	88.1 lb/cu ft
Specific Gravity of Solids			
LL = 40	PL = 18	PI = 22	

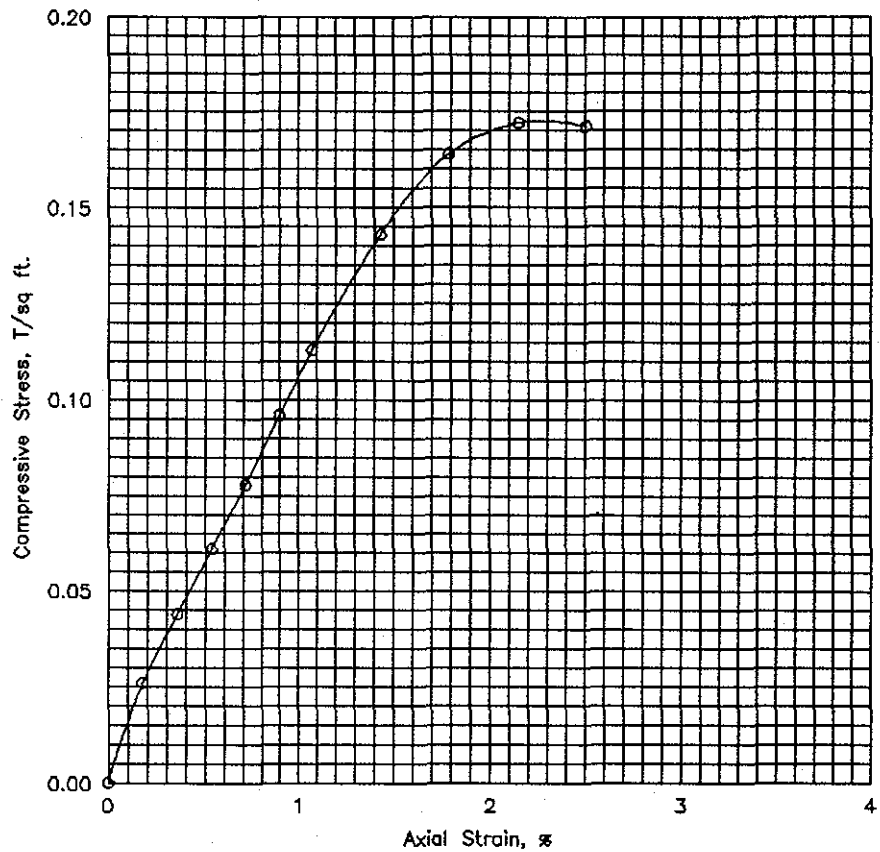
Proving Ring No. 10170

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
.8	50.	.050	11.0	8.4	.009	6.35	.096
1.0	60.	.060	13.0	10.0	.011	6.36	.113
1.3	80.	.080	16.5	12.6	.014	6.38	.143
1.7	100.	.100	19.0	14.6	.018	6.40	.164
2.0	120.	.120	20.0	15.3	.021	6.43	.172
2.3	140.	.140	20.0	15.3	.025	6.45	.171

Job No. 146536

Failure Sketches



- ☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	33.5 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	88.1		
Time to failure, min		t_f	1.97		
Unconfined compressive strength, T/sq ft		q_u	.17		
Undrained shear strength, T/sq ft		S_u	.09		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Very soft, Sandy, w/calcareous nodules & shell fragments					
LL	40	PL	18	PI	22
		G_s			
Remarks		Project Channel to Victoria			
		Area Victoria, Texas			
		Boring No. 91-221		Sample No. 6	
		Depth 10-12 ft		Date 2/27/92	
		EI			
UNCONFINED COMPRESSION TEST REPORT					

Project : Channel to Victoria . Victoria, Texas
 Contract No. DACW64-92-D-0001 Delivery order No. 0006

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-221

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	1.00		Gray,Clay,Stiff,w/roots & shell fragments	CH	33.4										0.50	
2	2-4	1.00		Gray,Clay,Stiff	CH	31.1										0.50	
3	4-6	0.25		Gray,Clay,Soft,w/sand seams	CH	34.3	85.9	115.3	55	21	100.0	99.9	99.6	97.5	95.8	0.11	0.32
4	6-8	0.25		Gray & dark gray,Clay,Soft	CH	35.9										0.12	
5	8-10	1.00		Gray,Clay,Stiff,w/silt pockets	CH	30.1										0.50	
6	10-12	0.00		Gray,Clay,Very soft,Sandy,w/calcareous nodules & shell fragments	CL	33.5	88.1	117.6	40	18	100.0	97.8*	95.6	85.7	59.4	0.08	0.17
7	12-14	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	CL	36.0										0.08	
8	14.5-16		W.O.H	Gray,Silt,Very loose,Sandy,w/shell fragments	M L						98.6*	94.8*	91.8	76.1	52.3		
9	19.5-21		1	Gray,Silt,Very loose,Sandy,w/shell fragments	M L												
10	24-26	2.50		Olive gray,Clay,Very stiff,Silty,w/calcareous nodules	CL	21.0											
11	26-28	2.50		Olive gray,Clay,Very stiff,Silty,w/calcareous nodules	CL	21.7	106.0	129.0	49	21							
12	28-30	3.50		Yellowish brown & gray,Clay,Very stiff,w/calcareous nodules,slickensided	CH	28.9											

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 Shell fragments

Geotest Engineering, Inc.