

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 91-228 DATE: BEGIN 12-11-91 PAGE 1 / 1
 JOB NO. 146532 COMPLETE 12-11-91 Thin Walled Tube
 PROJECT VICTORIA Channel ☒ 3" ☐ 6"
 LOCATION West Bank Sta 710+00
 ELEVATION OF HOLE _____
 MANUFACTURER'S DESIGNATION OF DRILL RIG Mayhew 200
 GROUNDWATER: DEPTH Surface ft., ELEV. _____ ft., at end of Drilling
 WEATHER Cool - Cloudy - 7-994
 DRILLER S. Ward LOGGER J. Berg

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	1.0	GRAY	clay	stiff		w/roots
	2	.75	GRAY	"	mod stiff	Silt	w/roots
5	3	.5	"	"	"	"	w/roots. Rather egg odor
	4	.25	"	"	soft	"	w/roots
	5	.25	"	"	"	"	
10	6	.25	"	"	"	"	w/shell frag
	7	.25	"	"	"	"	w/ " " "
15	8	.04	"	Silt	Very Loose	clay	w/shell - N.R. w/ barrel
20	9	.04	"	"	"	"	w/shell frag
25	10	1-12"	"	"	"	"	w/ " "
30	11	1/2"	"	"	"	"	w/shell frag
35							Bottom of 91-228 30'

JOB NO. 14G536

DATE 3/2/92

PROJECT Channel to Victoria. Victoria, Texas

BORING NO. 91-228

SAMPLE NO. 3

DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Soft, w/silt pkts shell fragments & organic material

Tare No.	P-228	Height	5.595 in.
Tare plus Wet Specimen	320.99 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	174.51 gm	Initial Area	6.290 sq in.
Water Weight	146.48 gm	Volume	35.194 cu in.
Tare Weight	42.40 gm	Volume of Solids	cu in.
Wet Specimen	825.78 gm	Void Ratio	
Dry Specimen	391.59 gm	Saturation	%
Water Content	110.88 %	Dry Density	42.4 lb/cu ft
Specific Gravity of Solids			
LL = 179	PL = 66	PI = 113	

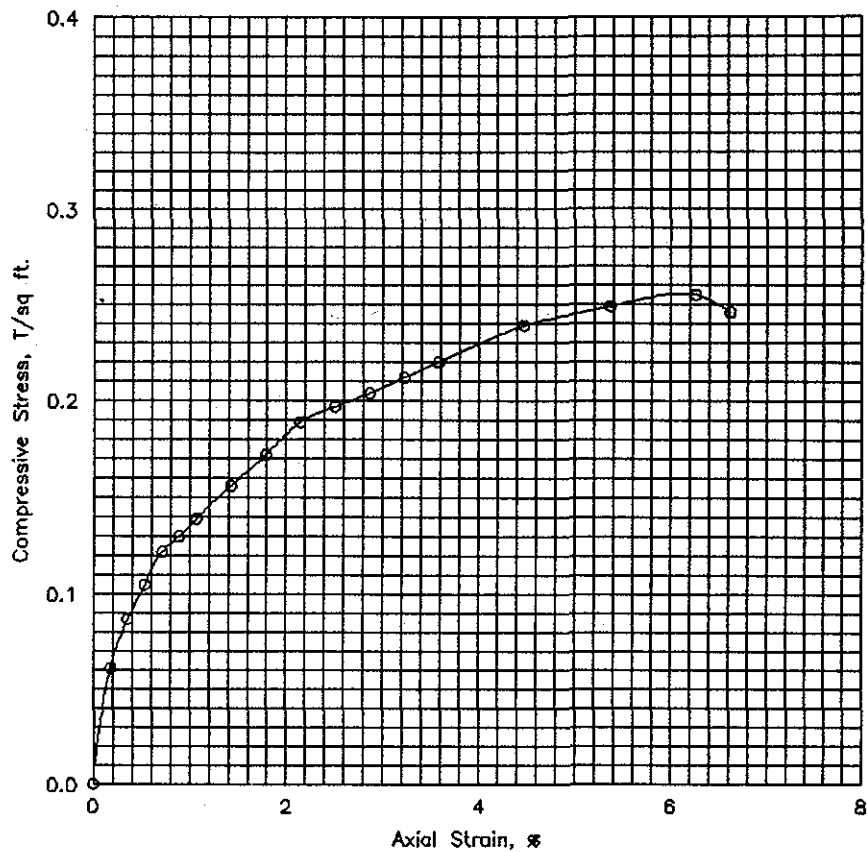
Proving Ring No. 10170

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	7.0	5.4	.002	6.30	.061
.3	20.	.020	10.0	7.7	.004	6.31	.087
.5	30.	.030	12.0	9.2	.005	6.32	.105
.7	40.	.040	14.0	10.7	.007	6.34	.122
.9	50.	.050	15.0	11.5	.009	6.35	.130
1.0	60.	.060	16.0	12.3	.011	6.36	.139
1.3	80.	.080	18.0	13.8	.014	6.38	.156
1.6	100.	.100	20.0	15.3	.018	6.40	.172
2.0	120.	.120	22.0	16.9	.021	6.43	.189
2.3	140.	.140	23.0	17.6	.025	6.45	.197
2.6	160.	.160	24.0	18.4	.029	6.48	.204
3.0	180.	.180	25.0	19.1	.032	6.50	.212
3.2	200.	.200	26.0	19.9	.036	6.52	.220
4.1	250.	.250	28.5	21.8	.045	6.58	.239
4.8	300.	.300	30.0	23.0	.054	6.65	.249
5.7	350.	.350	31.0	23.7	.063	6.71	.255
6.0	370.	.370	30.0	23.0	.066	6.74	.246

Job No. 14G536

Failure Sketches



- ☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	110.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	42.4		
Time to failure, min		t_f	5.67		
Unconfined compressive strength, T/sq ft		q_u	.25		
Undrained shear strength, T/sq ft		S_u	.13		
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/silt pkts shell fragments & organic material

LL	179	PL	66	PI	113	G_s
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Remarks	Project Channel to Victoria	
	Area Victoria, Texas	
	Boring No. 91-228	Sample No. 3
	Depth 4-6 ft	Date 3/2/92
	UNCONFINED COMPRESSION TEST REPORT	

JOB NO. 14G536

DATE 3/2/92

PROJECT Channel to Victoria. Victoria, Texas

BORING NO. 91-228

SAMPLE NO. 6

DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, Sandy, w/shell fragments

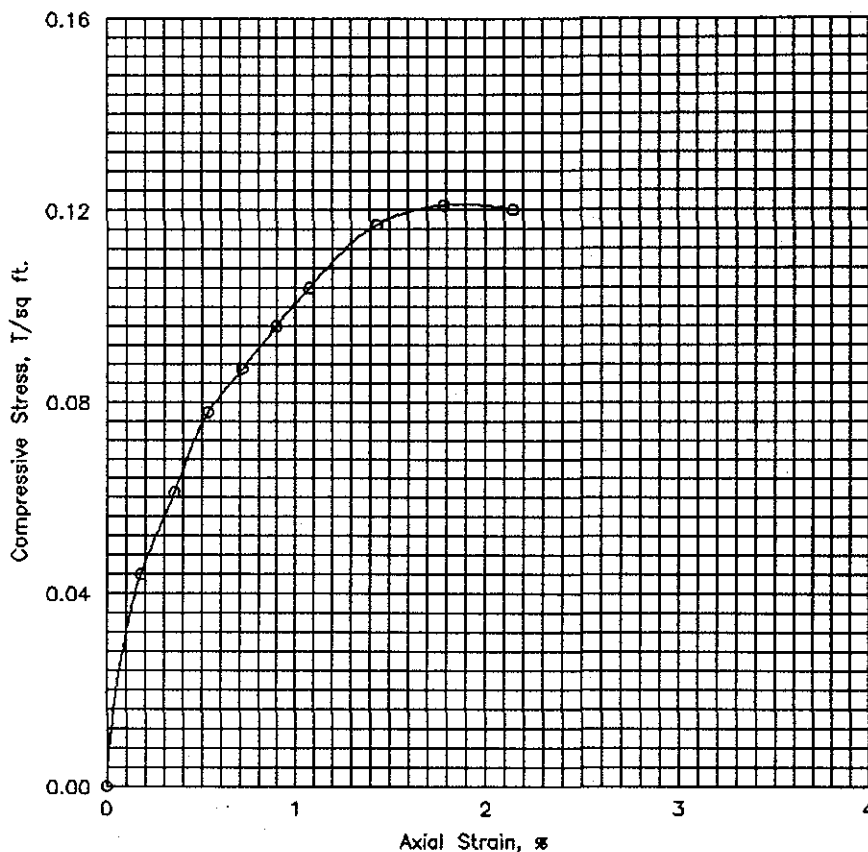
Tare No.	3	Height	5.595 in.
Tare plus Wet Specimen	450.70 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	349.79 gm	Initial Area	6.290 sq in.
Water Weight	100.91 gm	Volume	35.194 cu in.
Tare Weight	53.95 gm	Volume of Solids	cu in.
Wet Specimen	1080.95 gm	Void Ratio	
Dry Specimen	806.02 gm	Saturation	%
Water Content	34.11 %	Dry Density	87.2 lb/cu ft
Specific Gravity of Solids			
LL = 46	PL = 17	PI = 29	

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	5.0	3.8	.002	6.30	.044
.3	20.	.020	7.0	5.4	.004	6.31	.061
.5	30.	.030	9.0	6.9	.005	6.32	.078
.6	40.	.040	10.0	7.7	.007	6.34	.087
.8	50.	.050	11.0	8.4	.009	6.35	.096
1.0	60.	.060	12.0	9.2	.011	6.36	.104
1.3	80.	.080	13.5	10.3	.014	6.38	.117
1.6	100.	.100	14.0	10.7	.018	6.40	.121
2.0	120.	.120	14.0	10.7	.021	6.43	.120

Failure Sketches



Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	34.1 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_s	87.2		
Time to failure, min		t_f	1.62		
Unconfined compressive strength, T/sq ft		q_u	.12		
Undrained shear strength, T/sq ft		S_u	.06		
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/shell fragments					
LL	46	PL	17	PI	29
		G _s			
Remarks			Project Channel to Victoria		
			Area Victoria, Texas		
			Boring No. 91-228		Sample No. 6
			Depth 10-12 ft		Date 3/2/92
			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. 91-228

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,Sandy,w/shell fragments	CL	20.6										0.50	
2	2-4	0.50		Gray,Clay,Medium stiff,Silty,w/shell fragments	CL	42.4										0.25	
3	4- 6	0.25		Gray,Clay,Soft,w/silt pockets shell fragments and organic material	OH	110.9	42.4	89.4	179	66	100.0	100.0	99.5	98.9	97.7	0.13	0.26
4	6-8	0.25		Gray,Clay,Soft,w/organic material	OH	106.8										0.12	
5	8-10	0.25		Gray,Clay,Soft,w/shell fragments	CH	53.8										0.12	
6	10-12	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	CL	34.1	87.2	117.0	46	17	100.0	98.6	96.5	86.9	62.2	0.08	0.12
7	12-14	0.25		Gray,Clay,Soft,Sandy,w/shell fragments	CL	43.1										0.20	
8	14.5-16		W.O.H	Gray,Silt,Very loose,Sandy,w/shell fragments and clay seams	M L	44.6											
9	18.5-20		W.O.H	Gray,Silt,Very loose,Sandy,w/shell fragments and clay seams	M L	40.2			36	26	100.0	97.6	94.9	88.1	70.9		
10	23.5-25		1	Gray,Silt,Very loose,Sandy,w/shell fragments and clay seams	M L	37.6											
11	28.5-30		1/12"	Gray,Silt,Very loose,Sandy,w/shell fragments and clay seams	M L	37.3											

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.