

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>91-56</u> DATE: BEGIN <u>03-10-91</u> PAGE <u>1/1</u>			JOB NO. <u>746-486</u> COMPLETE <u>Thin Walled Tube</u>	
			PROJECT <u>CHANNEL TO VICTORZA</u>			<input checked="" type="checkbox"/> 3"	<input type="checkbox"/> 6"
			LOCATION <u>VICTORZA CHANNEL</u>			ELEVATION OF HOLE _____	
			MANUFACTURER'S DESIGNATION OF DRILL RIG <u>F-36</u>			GROUNDWATER: DEPTH <u>2</u> ft., ELEV. _____ ft., at end of Drilling	
			WEATHER <u>SUNNY & CLEAR</u>			DRILLER <u>ROBERT TANNER</u> LOGGER <u>JOHN A. GENTRY</u>	
			COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	1.75	GRAY	CLAY	STIFF		-w/ROOTS 0'-2'
	2	1.25	LIGHT GRAY *	CLAY	STIFF	SANDY	*TAN
	3	1.0	"	"	"		
5	4	1.5	"	"	STIFF		-w/SAND LAYERS
	X5	1/4	LIGHT GRAY *	SILT	Very LOOSE	SANDY	*TAN - w/SHELL FRAGMENTS
	X6	1/4	LIGHT	CLAY	SOFT		-w/SHELL FRAGMENTS
	7	0	"	"	VERY SOFT		
	8	0.25	"	"	SOFT		
20	9	0.25	"	"	"		
	10	0.25	"	"	"		
	11	0.25	"	"	"		-w/SAND LAYERS
25	12	0	LIGHT GRAY *	CLAY	Very SOFT	VERY SANDY	*TAN
	13	4.5	LIGHT GRAY	CLAY	Hard		BELOW 27 1/2
30		4.5	"	"	Hard		
							BOTTOM 91.5L
35							

Project : Channel enlargement channel to Victoria, Victoria, Texas

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-56

El. 3.7' NGVD

Contract No. DACW64-91-D-0001 Delivery Order No.0009

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 (%)	PL (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0-2	1.00		Dark gray,Clay,Stiff	CH	32.0											
2	2-4	1.25		Yellowish brown,Clay,Stiff	CH	26.3											
3	4-6	1.50		Gray&yellowish brown,Clay,Stiff	CH	28.4											
4	6-8	1.50		Gray&yellowish brown,Clay,Stiff	CH	26.0	94.7	119.3	59	23	99.9	99.7	99.3		94.4		.52
5	8.5-10		2	Gray&yellowish brown,Silt,Very loose,Sandy,w/ shell fragments	M L						100.0	99.4	99.1		90.4		
6	13.5-15		2	Gray,Clay,soft,w/shell fragments	CH												
7	15-17	0.00		Gray,Clay,Very soft,w/shell fragments	CH	39.8											
8	17-19	0.00		Gray,Clay,Very soft,w/shell fragments	CH	39.1											0.15 .30
9	19-21	0.00		Gray,Clay,Very soft,w/shell fragments	CH	39.1											0.15 .30
10	21-23	0.25		Dark gray,Sand,Loose,Clayey,w/sand pockets and Shell fragments	SC	36.7	83.6	114.3	38	18	99.6	98.9	96.3*		49.3	0.10 .20	.12
11	23-25	0.25		Gray,Clay,Soft,Sandy,w/sand pockets and shell fragments	CL	37.8											0.10 .20
12	25-27	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	CL	26.7											0.05 .10
13	27-29	3.00		Gray&yellowish brown,Clay,Very stiff,Blocky structure	CH	26.6											
14	29-31	4.00		Gray&yellowish Brown,Clay,Very stiff,Blocky structure	CH	23.9	103.3	128.0	53	22	100.0	100.0	98.8		86.0		2.86

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 coarser than No.40 sieve are shell fragments

JOB NO. 14G459

DATE 4/30/91

PROJECT CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA, TEXAS

BOHNG NO. 91-56

SAMPLE NO. 4

DEPTH 6-8 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray & yellowish brown, Clay, Stiff

Tare No.	P-21	Height	5.595 in.
Tare plus Wet Specimen	867.91 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	697.60 gm	Initial Area	6.290 sq in.
Water Weight	170.31 gm	Volume	35.194 cu in.
Tare Weight	42.78 gm	Volume of Solids	cu in.
Wet Specimen	1102.18 gm	Void Ratio	
Dry Specimen	874.69 gm	Saturation	%
Water Content	26.01 %	Dry Density	94.7 lb/cu ft
Specific Gravity of Solids			
LL = 59	PL = 23	PI = 36	

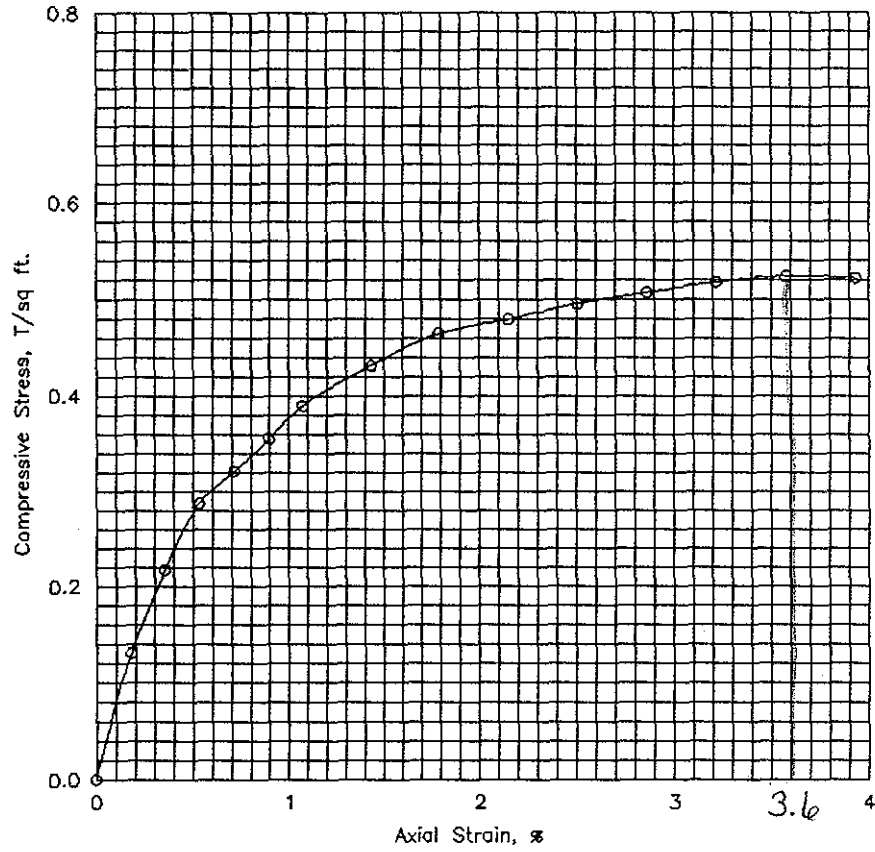
Proving Ring No. 10170

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
.3	10.	.010	15.0	11.5	.002	6.30	.131
.5	20.	.020	25.0	19.1	.004	6.31	.218
.7	30.	.030	33.0	25.3	.005	6.32	.288
.9	40.	.040	37.0	28.3	.007	6.34	.322
1.0	50.	.050	41.0	31.4	.009	6.35	.356
1.2	60.	.060	45.0	34.5	.011	6.36	.390
1.5	80.	.080	50.0	38.3	.014	6.38	.432
1.9	100.	.100	54.0	41.4	.018	6.40	.465
2.2	120.	.120	56.0	42.9	.021	6.43	.480
2.6	140.	.140	58.0	44.4	.025	6.45	.496
2.9	160.	.160	59.5	45.6	.029	6.48	.507
3.2	180.	.180	61.0	46.7	.032	6.50	.518
3.5	200.	.200	62.0	47.5	.036	6.52	.524
3.8	220.	.220	62.0	47.5	.039	6.55	.522

Job No. 140459

Failure Sketches



- Controlled stress
- Controlled strain

Test No.		1	
Type of Specimen		Undisturbed	
Initial	Water content	w_0	26.0 %
	Void ratio	e_0	
	Saturation	S_0	%
	Dry density, lb/cu ft	γ_d	94.7
Time to failure, min		t_f	3.53
Unconfined compressive strength, T/sq ft		q_u	.52
Undrained shear strength, T/sq ft		S_u	.26
Sensitivity ratio		S_t	
Initial specimen diameter, in.		D_0	2.830
Initial specimen height, in.		H_0	5.595
Classification Gray & yellowish brown, Clay, Stiff			
LL	59	PL	23
		PI	36
		G_s	
Remarks		Project CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA	
		Area Victoria, Texas	
		Boring No. 91-56	Sample No. 4
		Depth 6-8 ft	Date 4/30/91
		EI	
UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G459

DATE 3/18/91

PROJECT CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA, TEXAS

BOHNG NO. 91-56

SAMPLE NO. 10

DEPTH 21-23 ft

SPECIMEN NO. 1

CLASSIFICATION

Dark gray, Sand, Loose, Clayey, w/ sand pockets & shell fragments

Tare No.	P-26	Height	5.595 in.
Tare plus Wet Specimen	724.40 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	541.43 gm	Initial Area	6.290 sq in.
Water Weight	182.97 gm	Volume	35.194 cu in.
Tare Weight	42.61 gm	Volume of Solids	cu in.
Wet Specimen	1055.58 gm	Void Ratio	
Dry Specimen	772.30 gm	Saturation	%
Water Content	36.68 %	Dry Density	83.6 lb/cu ft
Specific Gravity of Solids			
LL = 38	PL = 18	PI = 20	

Proving Ring No. 10170

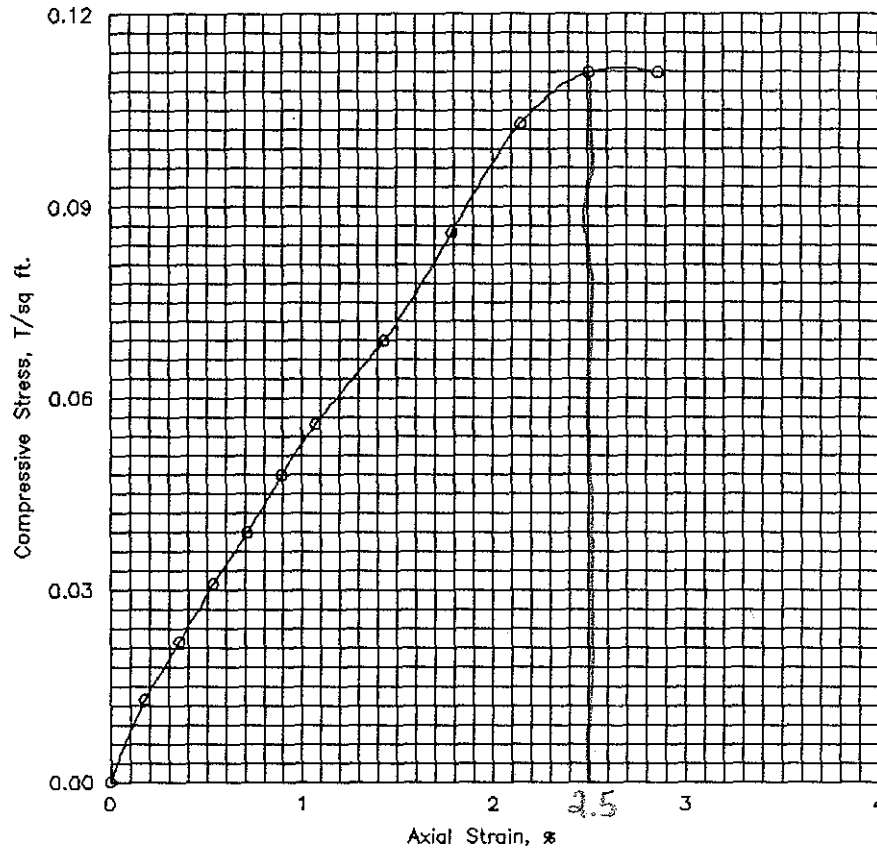
Proving Ring Constant, K = .766 lbs/div.

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	1.5	1.1	.002	6.30	.013
.4	20.	.020	2.5	1.9	.004	6.31	.022
.6	30.	.030	3.5	2.7	.005	6.32	.031
.7	40.	.040	4.5	3.4	.007	6.34	.039
.9	50.	.050	5.5	4.2	.009	6.35	.048
1.1	60.	.060	6.5	5.0	.011	6.36	.056
1.5	80.	.080	8.0	6.1	.014	6.38	.069
1.8	100.	.100	10.0	7.7	.018	6.40	.086
2.2	120.	.120	12.0	9.2	.021	6.43	.103
2.5	140.	.140	13.0	10.0	.025	6.45	.111
2.8	160.	.160	13.0	10.0	.029	6.48	.111

Job No. 14G459

EM 1110-2-1906
Appendix XI
30 Nov 70

Failure Sketches



Controlled stress
 Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	36.7 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	83.6		
Time to failure, min		t_f	2.48		
Unconfined compressive strength, T/sq ft		q_u	.11		
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 Dark gray, Sand, Loose, Clayey, w/ sand packets & shell fragments					
LL	38	PL	18	PI	20
Remarks		Project CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA			
		Area Victoria, Texas			
		Boring No. 91-56		Sample No. 10	
		Depth 21-23 ft		Date 3/18/91	
		UNCONFINED COMPRESSION TEST REPORT			

ENG FORM 3659
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Geotest Engineering, Inc.

PLATE XI-2

PLATE

JOB NO. 14G459

DATE 4/30/91

PROJECT CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA, TEXAS

BOHNG NO. 91-56

SAMPLE NO. 14

DEPTH 29-31

SPECIMEN NO. 1

CLASSIFICATION

Gray & yellowish brown, Clay, Very stiff, Blocky structures

Tare No.	P-30	Height	5.595 in.
Tare plus Wet Specimen	837.64 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	684.24 gm	Initial Area	6.290 sq in.
Water Weight	153.40 gm	Volume	35.194 cu in.
Tare Weight	42.93 gm	Volume of Solids	cu in.
Wet Specimen	1182.48 gm	Void Ratio	
Dry Specimen	954.23 gm	Saturation	%
Water Content	23.92 %	Dry Density	103.3 lb/cu ft
Specific Gravity of Solids			
LL = 53	PL = 22	PI = 31	

Proving Ring No. 10170

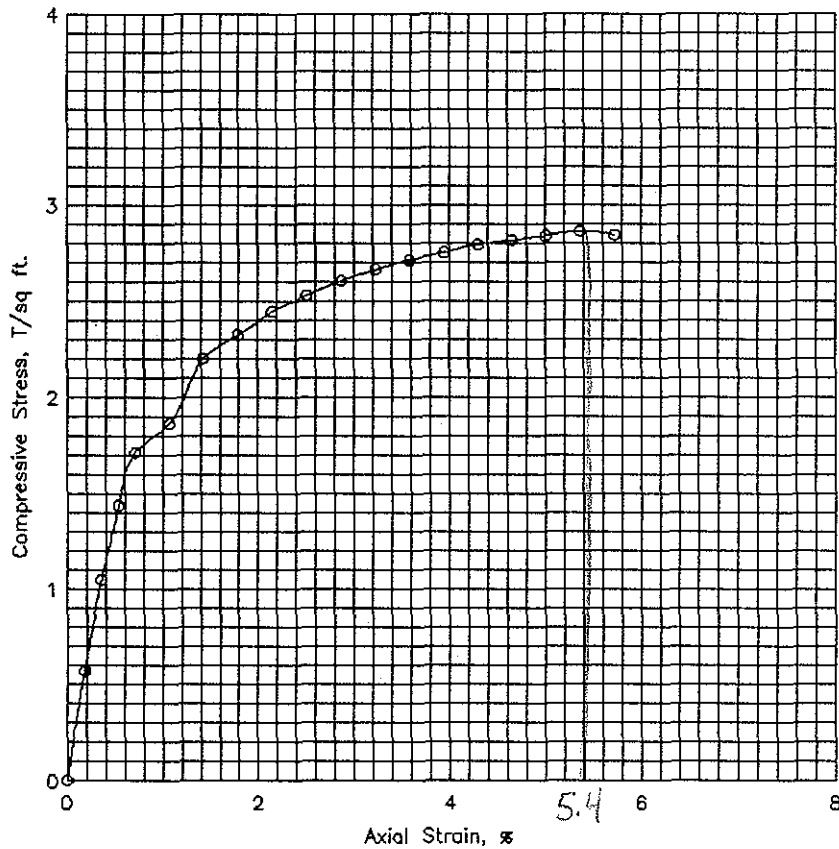
Proving Ring Constant, K = .766 lbs/div.

Elapsed Time in.	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
.3	10.	.010	65.0	49.8	.002	6.30	.569
.6	20.	.020	120.0	91.9	.004	6.31	1.048
.8	30.	.030	165.0	126.4	.005	6.32	1.439
1.0	40.	.040	197.0	150.9	.007	6.34	1.715
1.3	60.	.060	215.0	164.7	.011	6.36	1.865
1.8	80.	.080	255.0	195.3	.014	6.38	2.204
2.0	100.	.100	270.0	206.8	.018	6.40	2.325
2.4	120.	.120	285.0	218.3	.021	6.43	2.445
2.7	140.	.140	296.0	226.7	.025	6.45	2.530
3.1	160.	.160	306.0	234.4	.029	6.48	2.606
3.5	180.	.180	314.0	240.5	.032	6.50	2.665
3.8	200.	.200	321.0	245.9	.036	6.52	2.714
4.1	220.	.220	327.0	250.5	.039	6.55	2.754
4.4	240.	.240	333.0	255.1	.043	6.57	2.794
4.8	260.	.260	337.0	258.1	.046	6.60	2.817
5.1	280.	.280	341.0	261.2	.050	6.62	2.840
5.4	300.	.300	345.0	264.3	.054	6.65	2.863
5.7	320.	.320	344.0	263.5	.057	6.67	2.844

Job No. 146459

EM 1110-2-1906
Appendix XI
30 Nov 70

Failure Sketches



- Controlled stress
- Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	23.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	103.3		
Time to failure, min		t_f	5.38		
Unconfined compressive strength, T/sq ft		q_u	2.86		
Undrained shear strength, T/sq ft		S_u	1.43		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray & yellowish brown, Clay, Very stiff, Blocky structures					
LL	53	PL	22	PI	31
		G_s			
Remarks		Project CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA			
		Area Victoria, Texas			
		Boring No. 91-56		Sample No. 14	
		Depth El 29-31		Date 4/30/91	
UNCONFINED COMPRESSION TEST REPORT					