

U.S. ARMY CORPS OF ENGINEERS

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DEPTH, FEET	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>19162</u> DATE: BEGIN <u>03-08-91</u> PAGE <u>1 12</u>				
				JOB NO. <u>196446</u> COMPLETE <u>03-08-91</u> Thin Walled Tube				
PROJECT <u>CHANNEL TO VICTORIA</u>				☒ 3" ☐ 6"				
LOCATION <u>VICTORIA CHANNEL</u>				ELEVATION OF HOLE _____				
MANUFACTURER'S DESIGNATION OF DRILL RIG <u>F-36</u>				GROUNDWATER: DEPTH <u>10</u> ft., ELEV. _____ ft., at end of Drilling				
WEATHER <u>SUNNY & CLEAR</u>				DRILLER <u>ROBERT TANKERSLEY</u> LOGGER <u>JOHN A. GENTRY</u>				
				COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	X 1	1 1/2		LIGHT GRAY	SAND	LOOSE		-w/CLAY LAYERS (FILL) 0'-10'
	X 2	1 1/2		"	"	"		
5	X 3	2 1/4		"	"	MEDIUM DENSE		-w/ SHELL FRAGMENTS 4'-10'
	4	1.5		"	"	STIFF		Pert. on clay layers
	5	1.5		"	"	"		
10	6	2.0		GRAY	CLAY	VERY STIFF		
	7	1.25		"	"	STIFF		-w/SAND LAYERS
15	X 8	3 1/3		GRAY	SAND	LOOSE		
	X 9	2 1/4		"	"	Very Loose		w/SHELL FRAGMENT
20	10	3.75		LIGHT GRAY	CLAY	Very STIFF		-w/ SAND SEAM LAYERS AT TAN 20 1/3 - 28'
	11	3.75		"	"	"		
25	12	3.75		"	"	"		
	13	3.25		"	"	"		
30	X 14	2 1/6		LIGHT GRAY	SAND	MEDIUM DENSE		
	X 15	18 1/2 / 32		LIGHT GRAY	"	VERY DENSE		COARSE - w/ GRAVEL 33 1/2

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Project : Channel enlargement channel to Victoria, Victoria, Texas

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-62

El. 12.8' 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 (%)	P L (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0.5-2		3	Gray,Sand,Loose,Silty,w/roots	SP-SM						97.8	76.5	20.0		6.9		
2	2.5-4		4	Gray,Sand,Loose,Silty	S M												
3	4.5-6		8	Gray,Sand,Loose,Silty,w/shell fragments	S M												
4	6-8			Gray,Sand,Medium dense,Silty,w/clay pockets and shell fragments	S M	19.2	101.8	121.3			79.5	70.0	56.2*		19.1		
5	8-10			Gray,Sand,Medium dense,Silty,w/clay pockets and shell fragments	S M	22.4											
6	10-12	1.25		Dark gray,Clay,Stiff	CH	50.2	72.1	108.3									
7	12-14	0.75		Dark gray,Clay,Medium stiff,w/calcareous nodules	CH	30.6											
8	14.5-16		6	Gray,Sand,Loose,Silty,w/shell fragments	S M						100.0	99.5	99.4		15.8		
9	18.5-20		2	Gray,Sand,Very loose,Silty,w/shell fragments	S M												
10	20.5-22	3.00		Olive gray&yellowish brown,Clay,w/sand seams and sand pockets	CH	21.1											
11	22-24	3.50		Olive gray&yellowish brown,Clay,w/calcareous nodules and sand pockets	CH	21.6											
12	24-26	4.00		Olive gray,Clay,Very stiff,w/blocky structure	CH	23.1	103.8	127.8	58	22	100.0	99.9	99.4		92.0		.86
13	26-28	3.25		Olive gray&yellowish brown,Clay,Very stiff,w/calcareous nodules and slickensided	CH	32.3											
14	28.5-30		12	Gray&brown,Sand,Medium dense,Silty	S M												
15	33.5-35		64	Gray&brown,Sand,Very dense,Silty,w/gravel	S M												
16	38.5-40		19	Gray&yellowish brown,Sand,Medium dense,w/calcareous nodules	SP-SM						92.4	82.9	46.9		11.0		

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 5/1/91

PROJECT CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA, TEXAS

LOG NO. 91-62

SAMPLE NO. 12

DEPTH 24-26 ft

SPECIMEN NO. 1

CLASSIFICATION

Olive gray, Clay, Very stiff, w/ blocky structures

Tare No.	P-23	Height	5.595 in.
Tare plus Wet Specimen	825.09 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	679.19 gm	Initial Area	6.290 sq in.
Water Weight	145.90 gm	Volume	35.194 cu in.
Tare Weight	42.68 gm	Volume of Solids	cu in.
Wet Specimen	1180.55 gm	Void Ratio	
Dry Specimen	960.41 gm	Saturation	%
Water Content	22.92 %	Dry Density	104.0 lb/cu ft
Specific Gravity of Solids			
LL = 58	PL = 22	PI = 36	

Proving Ring No. 10170

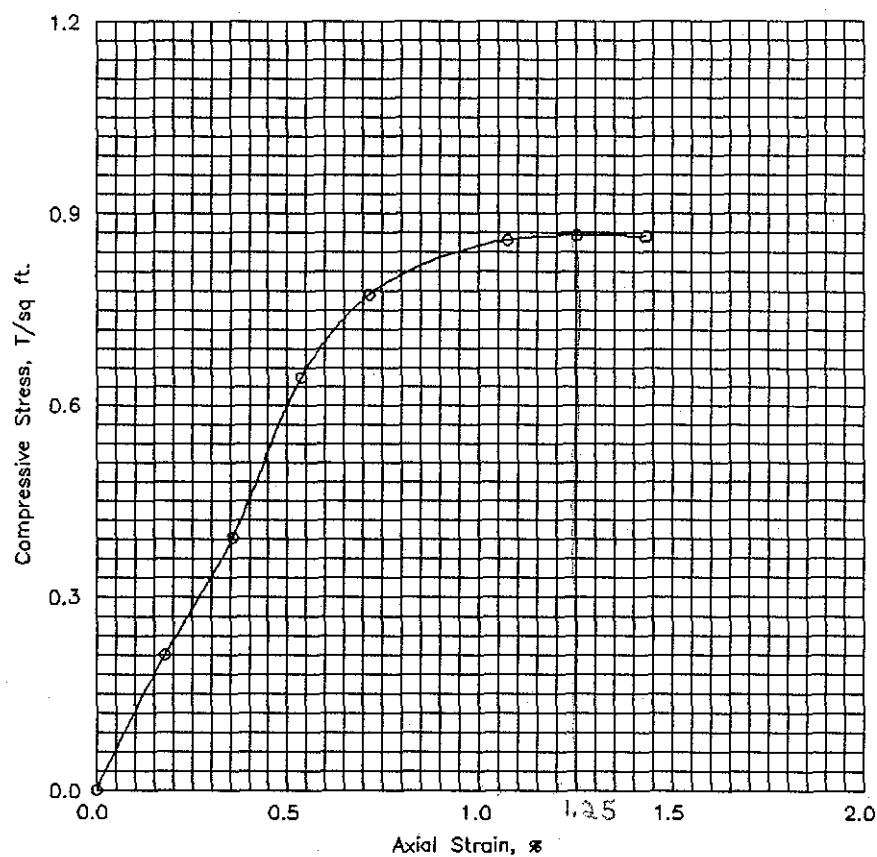
Proving Ring Constant, K = .766 lbs/div.

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
.4	10.	.010	24.0	18.4	.002	6.30	.210
.6	20.	.020	45.0	34.5	.004	6.31	.393
.8	30.	.030	74.0	56.7	.005	6.32	.645
1.0	40.	.040	89.0	68.2	.007	6.34	.775
1.3	60.	.060	99.0	75.8	.011	6.36	.859
1.5	70.	.070	100.0	76.6	.013	6.37	.866
1.7	80.	.080	100.0	76.6	.014	6.38	.864

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	22.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	104.0		
Time to failure, min		t_f	1.50		
Unconfined compressive strength, T/sq ft		q_u	.87		
Undrained shear strength, T/sq ft		S_u	.43		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Olive gray, Clay, Very stiff, w/ blocky structures					
LL	58	PL	22	PI	36
				G_s	
Remarks		Project CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA			
		Area Victoria, Texas			
		Boring No. 91-62		Sample No. 12	
		Depth 24-26 ft		Date 5/1/91	
		UNCONFINED COMPRESSION TEST REPORT			

ENG FORM 3659
1 JUN 65

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PLATE XI-2

PLATE