BKM

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 9465 DATE: BEGIN 03-09-91 PAGE 1 / 1
JOB NO. 14G446 COMPLETE — Thin Walled Tube
PROJECT CHANNEL TO VICTORIA ☑ 3" ☐ 6"
LOCATION VICTORIA CHANNEL
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG F-31
GROUNDWATER: DEPTH 0 ft., ELEV. ft., at end of Drilling
WEATHER SUNNY & CLEAR
DRILLER ROBERT TANKERSLEY LOGGER JOHN A. GENTRY

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0		1	0.5	GRAY	CLAY	Medium Stiff		w/ROOT 0'-6'
		2	0.75	"	"	MEDIUM STIFF		
5		3	0.75	"	"	"		
		4	1.0	LIGHT GRAY*	"	STIFF		*TAN
		5	0.75	"	"	MEDIUM STIFF		-w/SAND LAYERS 8'
10		6	0.5	GRAY	"	"		
		7	1.0	"	"	STIFF		
15		8	0	GRAY	CLAY	VERY SOFT	VERY SANDY	-w/SHELL FRAGMENTS 14'-19'
		9	0	"	"	"	"	
		10	0.5	"	"	Medium stiff	"	
20		11	1.75	LIGHT GRAY*	CLAY	STIFF		*TAN
		12	1.75	"	"	"		-w/SAND PARTICIES 22'-26'
25		13	2.0	"	"	very stiff		
		14	1.5	GRAY	"	stiff		
		15	0.5	"	"	Medium stiff		-w/SAND 28'-33'
30		16	0.5	"	"	"		
		17	0.75	"	"	"		
35		18	1.25	"	"	stiff		BOTTOM OF 9465

GEOTEST ENGINEERING, INC.

Project : Channel enlargement channel to victoria,Victoria,Texas

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-65 El. 6.2' 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)	L L (%)	P L (%)	Mechanical Analysis % Passing #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0-2	0.50		Gray,Clay,Medium stiff,w/roots	CH	51.0											
2	2-4	1.00		Gray,Clay,Stiff,w/roots	CH	39.9	78.1	109.3									
3	4-6	1.00		Gray,Clay,Stiff	CH	28.4											
4	6-8	0.75		Gray&yellowish brown,Clay,Medium stiff,w/sand seams and shell fragments	CH	48.3	70.6	104.7	83	30	99.9	99.7	99.1		90.4		.12
5	8-10	0.50		Gray&yellowish brown,Clay,Medium stiff,w/sand seams and shell fragments	CH	50.4											
6	10-12	0.50		Gray,Clay,Medium stiff	CH	46.2											
7	12-14	0.25		Gray,Clay,Soft,w/sand pockets and shell fragme-nts	CH	49.2											
8	14-16	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	CL	31.7										0.20 .40	
9	16-18	0.25		Gray,Clay,Sand,Loose,Clayey,w/shell fragments	SC	33.7					100.0	99.8	99.2		45.0	0.10 .20	
10	18-20	0.75		Olive gray&yellowish brown,Clay,Medium stiff,w/ sand pockets and shell fragments	CH	55.8										0.50 1.00	
11	20-22	1.25		Olive gray,Clay,Stiff,Slickensided	CH	57.0											
12	22-24	1.50		Olive gray&yellowish brown,Clay,Stiff	CH	38.3											
13	24-26	2.00		Olive gray&yellowish brown,Clay,Very stiff	CH	29.9	91.7	119.1	62	24	99.8	99.5	98.7		92.1		1.64
14	26-28	2.00		Olive gray,Clay,Very stiff	CH	50.3											
15	28-30	0.00		Gray,Clay,Very soft	CH	52.6											
16	30-32	0.25		Gray,Clay,Soft,w/sand pockets and shell fragmen-ts	CH	41.3											
17	32-34	0.75		Gray,Clay,Medium stiff,w/shell fragments	CH	44.4											

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

Project : Channel enlargement channel to victoria, Victoria,Texas

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-65

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)	L L (%)	P L (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
18	34-36	1.25		Gray,Clay,Stiff,w/calcareous nodules	CH	49.3	71.8	107.2	99	34	99.5	97.5	91.4		77.9		

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

JOB NO. 14G459 DATE 5/1/91

PROJECT CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA, TEXAS

BORING NO. 91-65 SAMPLE NO. 4 DEPTH 6-8 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray & yellowish brown, Clay, Medium stiff, w/ sand seams & shell fragments

Tare No.	P-1	Height	5.595 in.
Tare plus Wet Specimen	596.11 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	415.92 gm	Initial Area	6.290 sq in.
Water Weight	180.19 gm	Volume	35.194 cu in.
Tare Weight	42.58 gm	Volume of Solids	cu in.
Wet Specimen	966.90 gm	Void Ratio	
Dry Specimen	652.15 gm	Saturation	%
Water Content	48.26 %	Dry Density	70.6 lb/cu ft

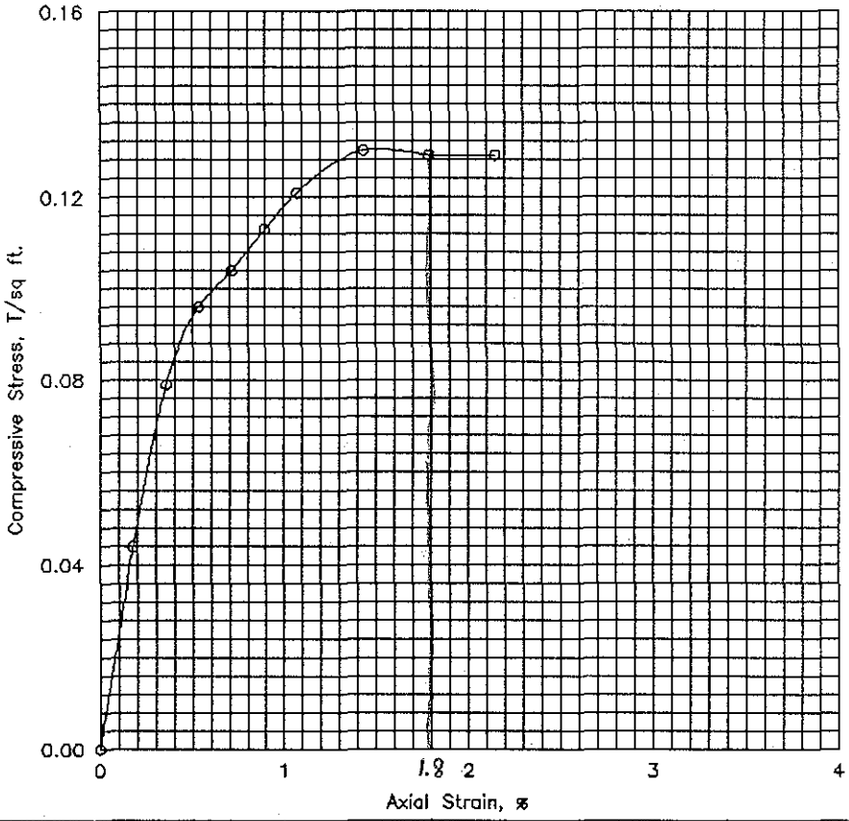
Specific Gravity of Solids
LL = 83 PL = 30 PI = 53

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
.4	20.	.020	9.0	6.9	.004	6.31	.079
.5	30.	.030	11.0	8.4	.005	6.32	.096
.7	40.	.040	12.0	9.2	.007	6.34	.104
.9	50.	.050	13.0	10.0	.009	6.35	.113
1.0	60.	.060	14.0	10.7	.011	6.36	.121
1.4	80.	.080	15.0	11.5	.014	6.38	.130
1.6	100.	.100	15.0	11.5	.018	6.40	.129
2.0	120.	.120	15.0	11.5	.021	6.43	.129

Job No. 14G459

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	48.3 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	70.6			
Time to failure, min		t_f	1.35			
Unconfined compressive strength, T/sq ft		q_u	.13			
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 & yellowish brown, Clay, Medium stiff, w/ sand seams & shell fragments

LL	83	PL	30	PI	53	G_s	

Remarks

Project CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA

Area Victoria, Texas

Boring No. 91-65 | Sample No. 4

Depth El 6-8 ft | Date 5/1/91

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G459 DATE 5/1/91

PROJECT CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA, TEXAS

BORING NO. 91-65 SAMPLE NO. 13 DEPTH 24-26 ft

SPECIMEN NO. 1

CLASSIFICATION
Olive gray & yellowish brown, Clay, very stiff

Tare No.	P-7	Height	5.595 in.
Tare plus Wet Specimen	692.50 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	542.86 gm	Initial Area	6.290 sq in.
Water Weight	149.64 gm	Volume	35.194 cu in.
Tare Weight	42.53 gm	Volume of Solids	cu in.
Wet Specimen	1100.53 gm	Void Ratio	
Dry Specimen	847.16 gm	Saturation	%
Water Content	29.91 %	Dry Density	91.7 lb/cu ft

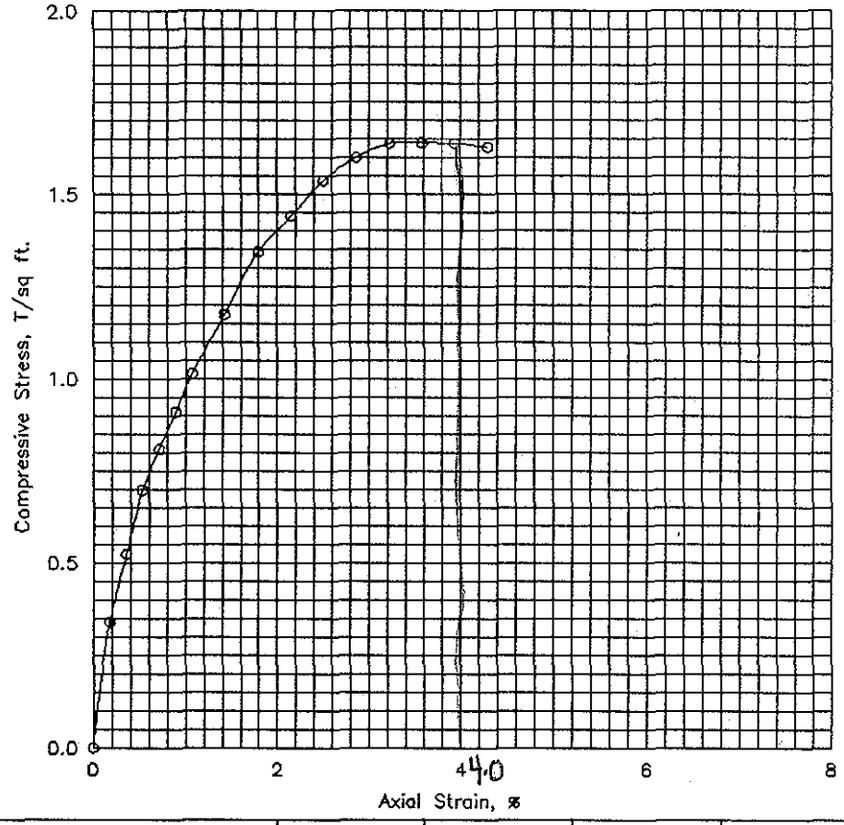
Specific Gravity of Solids
LL = 62 PL = 24 PI = 38

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	39.0	29.9	.002	6.30	.341
.5	20.	.020	60.0	46.0	.004	6.31	.524
.7	30.	.030	80.0	61.3	.005	6.32	.698
.9	40.	.040	93.0	71.2	.007	6.34	.810
1.0	50.	.050	105.0	80.4	.009	6.35	.912
1.3	60.	.060	117.0	89.6	.011	6.36	1.015
1.6	80.	.080	136.0	104.2	.014	6.38	1.175
2.0	100.	.100	156.0	119.5	.018	6.40	1.343
2.2	120.	.120	168.0	128.7	.021	6.43	1.441
2.6	140.	.140	180.0	137.9	.025	6.45	1.539
2.9	160.	.160	188.0	144.0	.029	6.48	1.601
3.3	180.	.180	193.0	147.8	.032	6.50	1.638
3.5	200.	.200	194.0	148.6	.036	6.52	1.640
3.9	220.	.220	194.5	149.0	.039	6.55	1.638
4.2	240.	.240	194.0	148.6	.043	6.57	1.628

Job No. 14G459

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	29.9 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	91.7			
Time to failure, min		t_f	3.53			
Unconfined compressive strength, T/sq ft		q_u	1.64			
Undrained shear strength, T/sq ft		S_u	.82			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Olive gray & yellowish brown, Clay, very stiff

LL	PL	PI	G_s
62	24	38	

Remarks

Project CHANNEL ENLARGEMENT, CHANNEL TO VICTORIA

Area Victoria, Texas

Boring No. 91-65 | Sample No. 13

Depth El 24-26 ft | Date 5/1/91

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Geotest Engineering, Inc.

PLATE