

U.S. ARMY CORPS OF ENGINEERS

BORING NO. <u>90-196</u>		DATE: BEGIN <u>4-23-91</u>		PAGE <u>1 / 1</u>	
JOB NO. <u>146437</u>		COMPLETE <u>4-23-91</u>		Thin Walled Tube ☒ 3" ☐ 6"	
PROJECT <u>VICTORIA CHANNEL</u>					
LOCATION <u>SEA DRIFT</u>					
ELEVATION OF HOLE _____					
MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Failing-36</u>					
GROUNDWATER: DEPTH <u>6' 2"</u> ft., ELEV. _____ ft., at end of Drilling					
WEATHER <u>Cloudy, Cool</u>					
DRILLER <u>D. Mitchell</u>		LOGGER <u>J. Berg</u>			

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	2.0		Gray	Clay	very stiff		w/roots
	2	4.5		"	"	hard		
5	3	4.54		"	"	"		w/calc.
	4	1.5		Tan	"	stiff	Sand	
	5	4.54		"	"	hard	"	w/calc.
10	6	2.5		"	Clay	very stiff	Sand	w/calc nodules. 5 ft. at 12.5'
JAR	X 7	4 5/8		Tan	Sand	medium dense		
JAR	X 8	5 1/8		Tan	Sand	"		
JAR	X 9	2 1/4		Tan	Sand	"		
JAR	X 10	2 1/8		Tan	Sand	"		
Bottom of 90-196 (25')								

Project : Disposal Area B, Channel to Victoria near Seadrift, Texas

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 90-196

Contract No. DACW64-91-D-0001 Delivery Order No. 0013

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	4.5+		Dark gray, Clay, Hard, Sandy, w/roots	CL	17.8			43								
2	2-4	3.50		Dark gray, Clay, Very stiff, w/roots	CH	22.9											
3	4-6	3.50		Gray & dark gray, Clay, Very stiff, w/calcareous nodules	CH	21.3	105.8	128.4	50	22							3.20
4	6-8	1.50		Gray & yellowish brown, Clay, Stiff, Sandy	CH	20.2											
5	8-10	1.50		Yellowish brown, Clay, Stiff, Sandy, w/calcareous nodules	CL	21.7											
6	10-12	2.00		Yellowish brown, Clay, Very stiff, Silty, w/calcareous nodules and ferrous stains	CL	20.9	108.4	131.0	40	20	100.0	99.7	99.4		97.2		1.64
7	12.5-14		12	Gray, Sand, Medium dense, Silty	S M						99.7	99.3	99.1		47.6		
8	14.5-16		14	Gray, Sand, Medium dense, Silty	S M												
9	18.5-20		25	Gray, Sand, Medium dense, Silty	S M												
10	23.5-25		25	Gray & yellowish brown, Sand, Medium dense, Silty	S M												

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. 14G475

DATE 5/29/91

PROJECT DISPOSAL AREA B, CHANNEL TO VICTORIA, NEAR SEADRIFT, TX

E RING NO. 90-196

SAMPLE NO. 3

DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray & dark gray, clay, very stiff, w/ calcareous nodules

Tare No.	P-9	Height	5.595 in.
Tare plus Wet Specimen	684.81 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	571.89 gm	Initial Area	6.290 sq in.
Water Weight	112.92 gm	Volume	35.194 cu in.
Tare Weight	42.72 gm	Volume of Solids	cu in.
Wet Specimen	1186.23 gm	Void Ratio	
Dry Specimen	977.62 gm	Saturation	%
Water Content	21.34 %	Dry Density	105.8 lb/cu ft
Specific Gravity of Solids			
LL = 50	PL = 22	PI = 28	

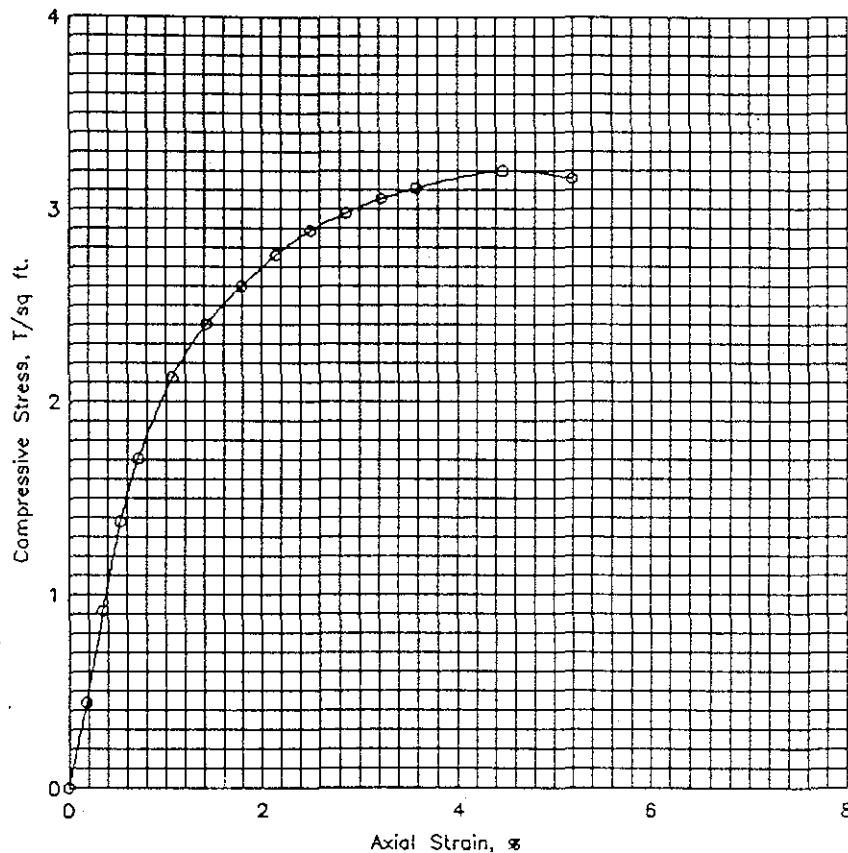
Proving Ring No. 10170

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	50.0	38.3	.002	6.30	.438
.5	20.	.020	105.0	80.4	.004	6.31	.917
.8	30.	.030	158.0	121.0	.005	6.32	1.378
1.0	40.	.040	196.0	150.1	.007	6.34	1.706
1.4	60.	.060	245.0	187.7	.011	6.36	2.125
1.8	80.	.080	278.0	212.9	.014	6.38	2.403
2.1	100.	.100	302.0	231.3	.018	6.40	2.601
2.5	120.	.120	322.0	246.7	.021	6.43	2.763
2.8	140.	.140	338.0	258.9	.025	6.45	2.889
3.2	160.	.160	350.0	268.1	.029	6.48	2.981
3.5	180.	.180	360.0	275.8	.032	6.50	3.055
3.8	200.	.200	368.0	281.9	.036	6.52	3.111
4.7	250.	.250	382.0	292.6	.045	6.58	3.200
5.3	290.	.290	380.0	291.1	.052	6.63	3.159

Job No. 14G475

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	21.3 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	105.8		
Time to failure, min		t_f	4.68		
Unconfined compressive strength, T/sq ft		q_u	3.20		
Undrained shear strength, T/sq ft		S_u	1.60		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray & dark gray, clay, very stiff, w/ calcareous nodules					
LL	50	PL	22	PI	28
				G_s	
Remarks		Project DISPOSAL AREA B, CHANNEL TO VICTORIA			
		Area Near Seadrift, Texas			
		Boring No. 90-196		Sample No. 3	
		Depth 4-6 ft		Date 5/29/91	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G475

DATE 5/29/91

PROJECT DISPOSAL AREA B, CHANNEL TO VICTORIA, NEAR SEADRIFT, TX

RING NO. 90-196

SAMPLE NO. 6

DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION

Yellowish brown, clay, very stiff, silty, w/ calcareous nodules & ferrous stains

Tare No.	P-2	Height	5.595 in.
Tare plus Wet Specimen	483.19 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	407.01 gm	Initial Area	6.290 sq in.
Water Weight	76.18 gm	Volume	35.194 cu in.
Tare Weight	42.90 gm	Volume of Solids	cu in.
Wet Specimen	1210.64 gm	Void Ratio	
Dry Specimen	1001.17 gm	Saturation	%
Water Content	20.92 %	Dry Density	108.4 lb/cu ft
Specific Gravity of Solids			
LL = 40	PL = 20	PI = 20	

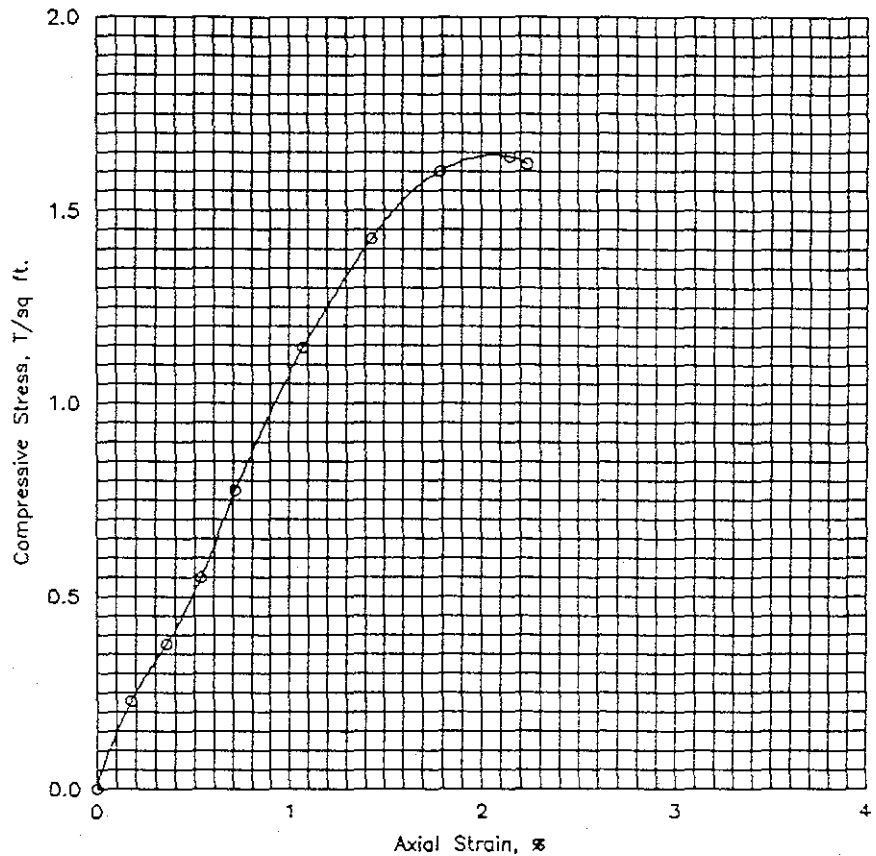
Proving Ring No. 10170

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
.3	10.	.010	26.0	19.9	.002	6.30	.222
.5	20.	.020	43.0	32.9	.004	6.31	.376
.7	30.	.030	63.0	48.3	.005	6.32	.549
.9	40.	.040	89.0	68.2	.007	6.34	.775
1.3	60.	.060	132.0	101.1	.011	6.36	1.145
1.7	80.	.080	165.0	126.4	.014	6.38	1.426
2.0	100.	.100	186.0	142.5	.018	6.40	1.602
2.3	120.	.120	191.0	146.3	.021	6.43	1.639
2.4	125.	.125	189.0	144.8	.022	6.43	1.620

Job No. 14G475

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	20.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	108.4		
Time to failure, min		t_f	2.32		
Unconfined compressive strength, T/sq ft		q_u	1.64		
Undrained shear strength, T/sq ft		S_u	.82		
Sensitivity ratio		S_x			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Yellowish brown, clay, very stiff, silty, w/ calcareous nodules & ferrous stains					
LL	40	PL	20	PI	20
Remarks		Project DISPOSAL AREA B, CHANNEL TO VICTORIA			
		Area Near Seadrift, Texas			
		Boring No. 90-196		Sample No. 6	
		Depth 10-12 ft		Date 5/29/91	
		UNCONFINED COMPRESSION TEST REPORT			