U.S. ARMY CORPS OF ENGINEERS

BORING NO. 90-192 DATE: BEGIN 4-24-91 PAGE 1 / 1
JOB NO. 14437 COMPLETE 4-24-91 Thin Walled Tube
PROJECT Victoria Channel ☑ 3" ☐ 6"
LOCATION Sea Drift
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Failing-36
GROUNDWATER: DEPTH 6'2" ft., ELEV. ____ ft., at end of Drilling
WEATHER Clear, Warm
DRILLER D. Mitchell LOGGER T. Berg

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0		1	4.5+	Gray	Clay	hard		w/ Roots
		2	4.5+	"	"	"		
5		3	4.5+	GRAY TAN	"	"		
		4	4.5+	"	"	"	SAND	
		5	4.5+	Tan	"	"	"	
10		6	3.0	Tan	"	Very Stiff	"	w/ calc.
								SAND at 12'
Jar	X	7	5/8/11	Tan	SAND	Med. Dense		
15	X	8	6/9/12	"	"	"		
			3.0					
								Clay at 19'
Jar	X	9	5/7/9	Tan	Clay	Very Stiff	SAND	
20		10	3.5	Tan + Gray	"	"		w/ calc. Nods & Pockets
		11	3.0	"	"	"	"	w/ calc Nods.
		12	3.5	"	"	"	"	w/ " "
25								
								Re Hom 06 90-192 (26')
30								
35								

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 90-192

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)	L L (%)	P L (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0-2	4.5+		Gray,Clay,Hard,Sandy,w/roots	CL	9.5											
2	2-4	4.5+		Gray,Clay,Hard,Sandy,w/calcareous nodules	CL	13.0											
3	4-6	4.5+		Gray&yellowish brown,Clay,Hard,Sandy	CL	16.1	116.5	135.2	41	19							6.06
4	6-8	4.5+		Gray,Clay,Hard,Sandy	CL	10.8											
5	8-10	2.50		Gray,Clay,Very stiff,Sandy,w/calcareous nodules	CL	22.5											
6	10-12	3.00		Gray,Clay,Very stiff,Sandy,w/sand seams	~~SC~~ CL	11.6	119.3	133.1	25	13	100.0	100.0	100.0		50.1		1.49
7	12.5-14		19	Gray,Sand,Medium dense,Silty	S M						100.0	100.0	100.0		22.5		
8	14.5-16		21	Gray,Sand,Medium dense,Silty	S M												
9	18.5-20		16	Gray,Clay,Very stiff,Sandy,w/calcareous nodules	CL	23.3											
10	20-22	3.00		Gray,Clay,Very stiff,Sandy,w/large calcareous nodules	CL	14.3			30								
11	22-24	2.25		Gray,Clay,Very stiff,Sandy,w/calcareous nodules	CL	20.3											
12	24-26	1.25		Gray&yellowish brown,Clay,Stiff,Sandy,w/calcareous nodules	CL	17.8											

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 5/27/91

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

BORING NO. 90-192 SAMPLE NO. 3 DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray & yellowish brown, clay, hard, sandy

Tare No.	P-12	Height	5.595 in.
Tare plus Wet Specimen	570.15 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	497.15 gm	Initial Area	6.290 sq in.
Water Weight	73.00 gm	Volume	35.194 cu in.
Tare Weight	42.60 gm	Volume of Solids	cu in.
Wet Specimen	1249.22 gm	Void Ratio	
Dry Specimen	1076.36 gm	Saturation	%
Water Content	16.06 %	Dry Density	116.5 lb/cu ft

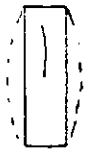
Specific Gravity of Solids
LL = 41 PL = 19 PI = 22

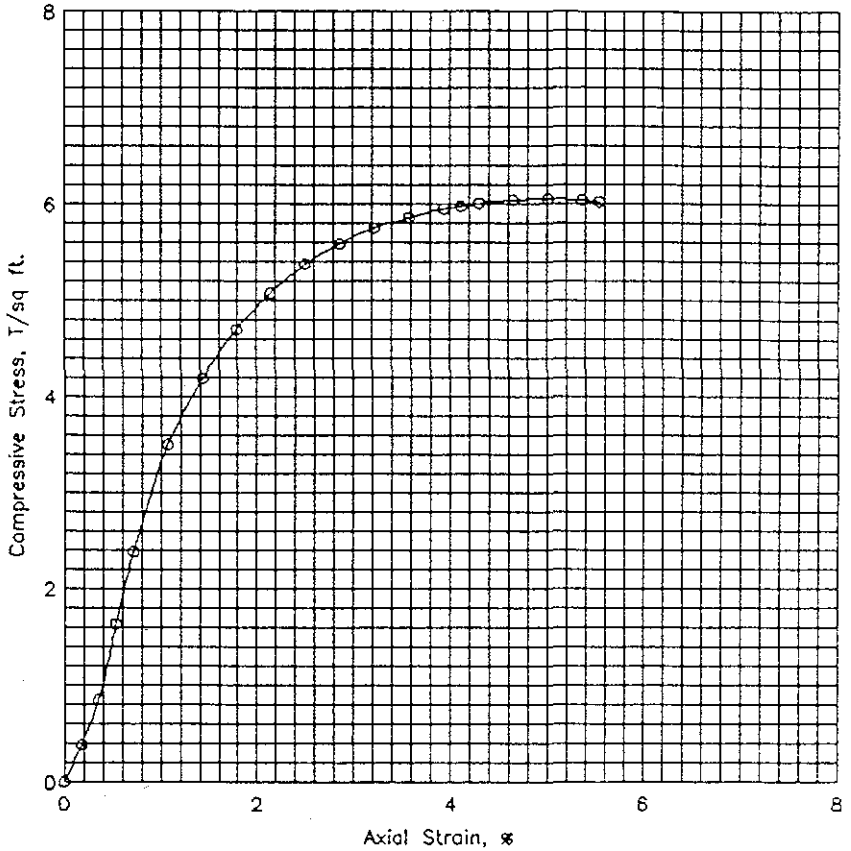
Proving Ring No. 10170
Proving Ring Constant, K = .766 lbs/div.

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	44.0	33.7	.002	6.30	.385
.5	20.	.020	97.0	74.3	.004	6.31	.847
.9	30.	.030	187.0	143.2	.005	6.32	1.631
1.1	40.	.040	274.0	209.9	.007	6.34	2.385
1.7	60.	.060	404.0	309.5	.011	6.36	3.504
2.1	80.	.080	485.0	371.5	.014	6.38	4.192
2.5	100.	.100	546.0	418.2	.018	6.40	4.702
2.9	120.	.120	592.0	453.5	.021	6.43	5.079
3.3	140.	.140	629.0	481.8	.025	6.45	5.377
3.7	160.	.160	656.0	502.5	.029	6.48	5.587
4.1	180.	.180	678.0	519.3	.032	6.50	5.753
4.4	200.	.200	693.0	530.8	.036	6.52	5.859
4.8	220.	.220	707.0	541.6	.039	6.55	5.955
4.9	230.	.230	711.0	544.6	.041	6.56	5.978
5.1	240.	.240	716.0	548.5	.043	6.57	6.009
5.4	260.	.260	723.0	553.8	.046	6.60	6.045
5.7	280.	.280	727.0	556.9	.050	6.62	6.055
6.0	300.	.300	728.0	557.6	.054	6.65	6.041
6.2	310.	.310	727.0	556.9	.055	6.66	6.021

Job No. 14G475

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	16.1 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	116.5			
Time to failure, min		t_f	5.70			
Unconfined compressive strength, T/sq ft		q_u	6.06			
Undrained shear strength, T/sq ft		S_u	3.03			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.830			
Initial specimen height, in.		H_o	5.595			

Classification Gray & yellowish brown, clay, hard, sandy

LL	PL	PI	G_s
41	19	22	

Remarks

Project DISPOSAL AREA B, CHANNEL TO VICTORIA

Area Near Seadrift, Texas

Boring No. 90-192 | Sample No. 3

Depth 4-6 ft | Date 5/27/91
El

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G475 DATE 5/27/91

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

BORING NO. 90-192 SAMPLE NO. 6 DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray, clay, very stiff, sandy, w/ sand seams

Tare No.	P-11	Height	5.595 in.
Tare plus Wet Specimen	438.23 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	397.17 gm	Initial Area	6.290 sq in.
Water Weight	41.06 gm	Volume	35.194 cu in.
Tare Weight	43.00 gm	Volume of Solids	cu in.
Wet Specimen	1129.80 gm	Void Ratio	
Dry Specimen	1012.43 gm	Saturation	%
Water Content	11.59 %	Dry Density	109.6 lb/cu ft

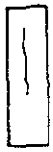
Specific Gravity of Solids
LL = 25 PL = 13 PI = 12

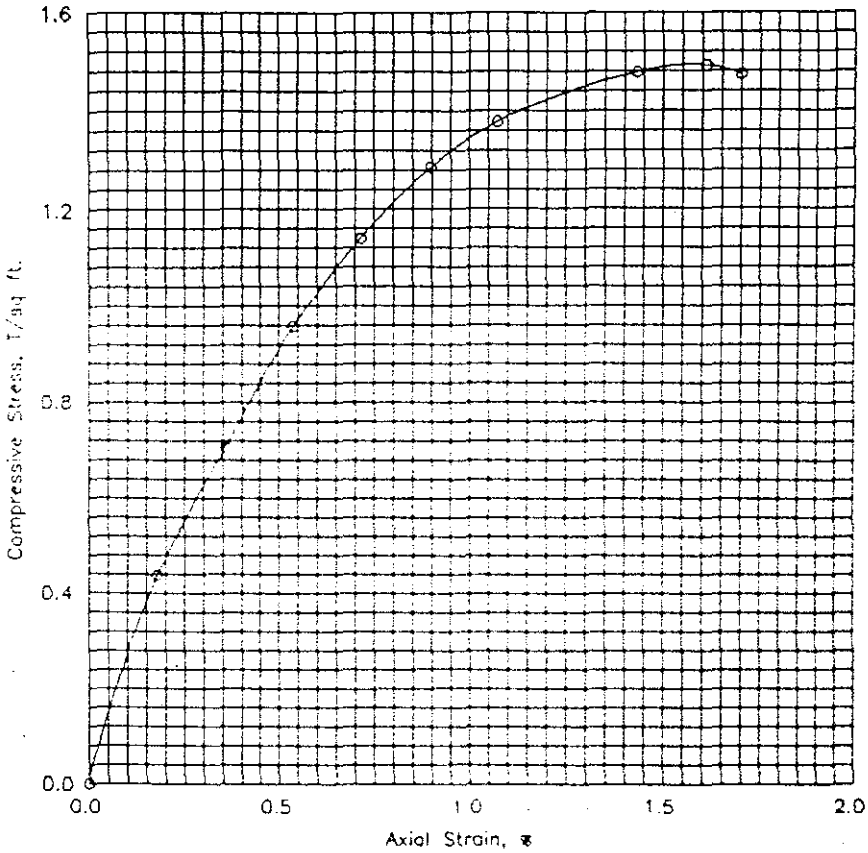
Proving Ring No. 10170
Proving Ring Constant, K = .766 lbs/div.

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
.6	20.	.020	81.0	62.0	.004	6.31	.708
.8	30.	.030	110.0	84.3	.005	6.32	.959
.9	40.	.040	131.0	100.3	.007	6.34	1.140
1.2	50.	.050	148.0	113.4	.009	6.35	1.286
1.4	60.	.060	159.0	121.8	.011	6.36	1.379
1.6	80.	.080	171.0	131.0	.014	6.38	1.478
1.7	90.	.090	173.0	132.5	.016	6.39	1.492
1.8	95.	.095	171.0	131.0	.017	6.40	1.474

Job No. 14G475

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No,			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	11.6 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	109.6			
Time to failure, min		t_f	1.73			
Unconfined compressive strength, T/sq ft		q_u	1.49			
Undrained shear strength, T/sq ft		S_u	.75			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.830			
Initial specimen height, in.		H_o	5.595			

Classification Gray, clay, very stiff, sandy, w/ sand seams

LL	PL	PI	G_s
25	13	12	

Remarks

Project DISPOSAL AREA B, CHANNEL TO VICTORIA

Area Near Seadrift, Texas

Boring No. 90-192 | Sample No. 6

Depth El 10-12 ft | Date 5/27/91

UNCONFINED COMPRESSION TEST REPORT

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PLATE XI-2