U.S. ARMY CORPS OF ENGINEERS

BORING NO. 95-162 DATE: BEGIN 6-1-95 PAGE 1 / 1
JOB NO. 94G799-15 COMPLETE 6-1-95 Thin Walled Tube
PROJECT Channel to Victoria ■ 3" □ 6"
LOCATION Disposal Area No. 2
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Ardco K4X4, C-1000, Marsh Buggy
GROUNDWATER: DEPTH 0 ft., ELEV. ____ ft., at end of Drilling
WEATHER Sunny & Hot
DRILLER Scott Gregurek LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	J	1		Dk. Gray	Sand	Loose	Silty	-w/clay sms & roots
		2	4.5+	Yellowish gray	clay	Hard	Sandy	-w/sa sms & Fest
5		3	4.5+	Yellowish gray	clay	Hard	Sandy	-w/Fest
		4	2.75	Yellowish Brown	clay	Very stiff	Sandy	-w/calc nod
	J	5		Light Brown	Sand	M. Dense	Silty	-w/calc nod
10	X	6	8 11 17	Light Brown	Sand	M. Dense	Silty	encounter water @ 11½' -start wet Rotary @ 11½'
15	X	7	10 17 21	Light Brown	Sand	Dense	Silty	
20	X	8	13 19 23	Light Brown	Sand	Dense	Silty	
25		9	2.50	Yellowish gray	clay	Very stiff	Sandy	-w/calc nod
								J: Jar-Sample
30								
35								

Project: Channel to Victoria
Seadrift, Texas
Contract No. DACW64-94-D-0015 Delivery order No. 0018

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 95-162

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	Mc (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	PL (%)	Mechanical Analysis % Passing #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0 - 2			Silty Sand,w/clay seams & roots,Loose,Dark gra	S M												
2	2 - 4	4.50+		Clay,w/ferrous stains & sand seams,Hard, Yellowish gray	C H	15.9			60.0	22.0							
3	4 - 6	4.50+		Sandy Clay,w/ferrous stains,Hard,Yellowish gray	C L	13.5											
4	6 - 8	2.75		Sandy Clay,w/calcareous nodules,Very stiff, Yellowish gray	C L	15.0	111.9	128.7	41.0	17.0	100.0	99.9	99.6	79.7	72.0		2.47
5	8 - 10			Silty Sand,w/calcareous nodules,Medium dense,Light brown	S M												
6	10-11.5		28	Silty Sand,Medium dense,Light brown	S M												
7	15-16.5		38	Silty Sand,Dense,Light brown	SP-SM						100.0	100.0	99.6	31.3	8.5		
8	20-21.5		42	Silty Sand,Dense,Light brown	S M												
9	24-26	2.50		Sandy Clay,w/calcareous nodules,Very stiff, Yellowish gray	C L	14.8	118.9	136.5	29.0	16.0	99.6	99.3	94.6	80.1	55.7		2.39

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classifcation, M c : Moisture Content
q u : Uncogined Compressive Strength, W O H : Weight of hammer, W O P : Weight of Pipe

JOB NO. 94G799-18 DATE 6/9/95

PROJECT Channel to Victoria

AREA Seadrift, Texas

BORING NO. 95-162 SAMPLE NO. 4 DEPTH 6-8 ft

SPECIMEN NO. 1

CLASSIFICATION
Sandy Clay,w/Calcareous nodules,Very stiff,Yellowish gray

Tare No.	Hp-42	Height	5.595 in.
Tare plus Wet Specimen	329.65 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	292.38 gm	Initial Area	6.290 sq in.
Water Weight	37.27 gm	Volume	35.194 cu in.
Tare Weight	43.34 gm	Volume of Solids	cu in.
Wet Specimen	1188.11 gm	Void Ratio	
Dry Specimen	1033.45 gm	Saturation	%
Water Content	14.97 %	Dry Density	111.9 lb/cu ft
Specific Gravity of Solids			

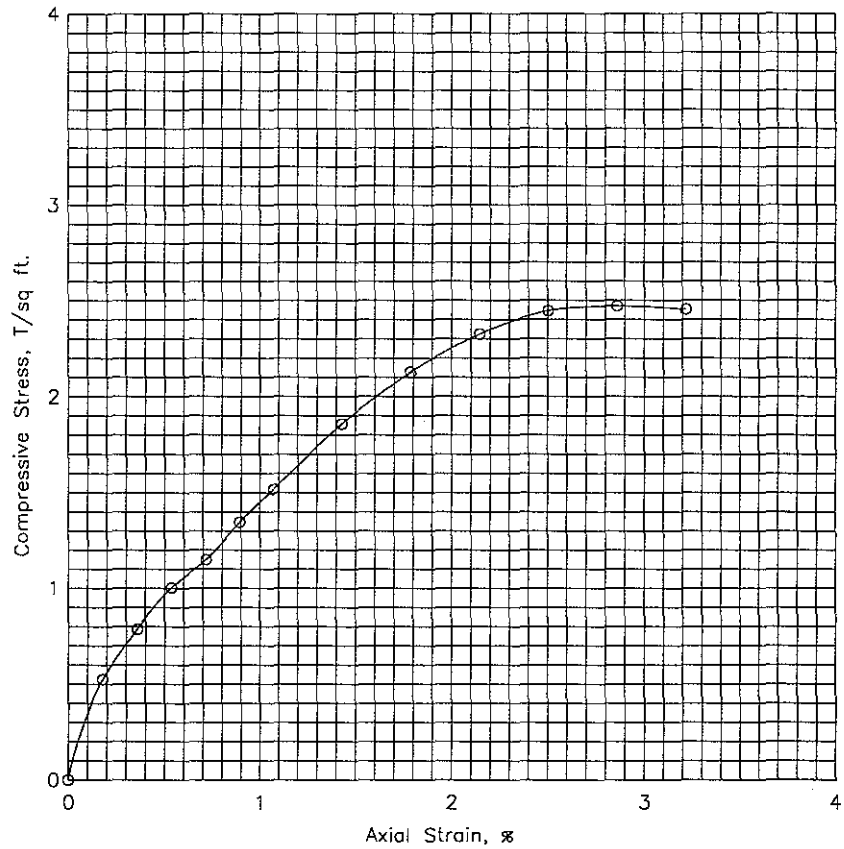
LL = 41 PL = 17 PI = 24

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	60.0	46.0	.002	6.30	.525
.3	20.	.020	90.0	68.9	.004	6.31	.786
.5	30.	.030	115.0	88.1	.005	6.32	1.003
.7	40.	.040	132.0	101.1	.007	6.34	1.149
.9	50.	.050	155.0	118.7	.009	6.35	1.347
1.0	60.	.060	175.0	134.0	.011	6.36	1.518
1.4	80.	.080	215.0	164.7	.014	6.38	1.858
1.7	100.	.100	247.0	189.2	.018	6.40	2.127
2.0	120.	.120	271.0	207.6	.021	6.43	2.325
2.3	140.	.140	286.0	219.1	.025	6.45	2.445
2.7	160.	.160	290.0	222.1	.029	6.48	2.470
3.0	180.	.180	289.0	221.4	.032	6.50	2.452

Job No. 94G799-18

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	15.0 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	111.9			
Time to failure, min		t_f	2.65			
Unconfined compressive strength, T/sq ft		q_u	2.47			
Undrained shear strength, T/sq ft		S_u	1.23			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Sandy Clay,w/Calcareous nodules,Very stiff,Yellowish gray

LL	41	PL	17	PI	24	G_s	

Remarks

Project Channel to Victoria

Area Seadrift, Texas

Boring No. 95-162 | Sample No. 4

Depth El 6-8 ft | Date 6/9/95

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 94G799-18 DATE 6/9/95

PROJECT Channel to Victoria

AREA Seadrift, Texas

BORING NO. 95-162 SAMPLE NO. 9 DEPTH 24-26 ft

SPECIMEN NO. 1

CLASSIFICATION
Sandy Clay,w/Calcareous nodules,Very stiff,Yellowish gray

Tare No.	Hp-13	Height	5.595 in.
Tare plus Wet Specimen	584.52 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	514.76 gm	Initial Area	6.290 sq in.
Water Weight	69.76 gm	Volume	35.194 cu in.
Tare Weight	43.16 gm	Volume of Solids	cu in.
Wet Specimen	1261.22 gm	Void Ratio	
Dry Specimen	1098.70 gm	Saturation	%
Water Content	14.79 %	Dry Density	118.9 lb/cu ft
Specific Gravity of Solids			

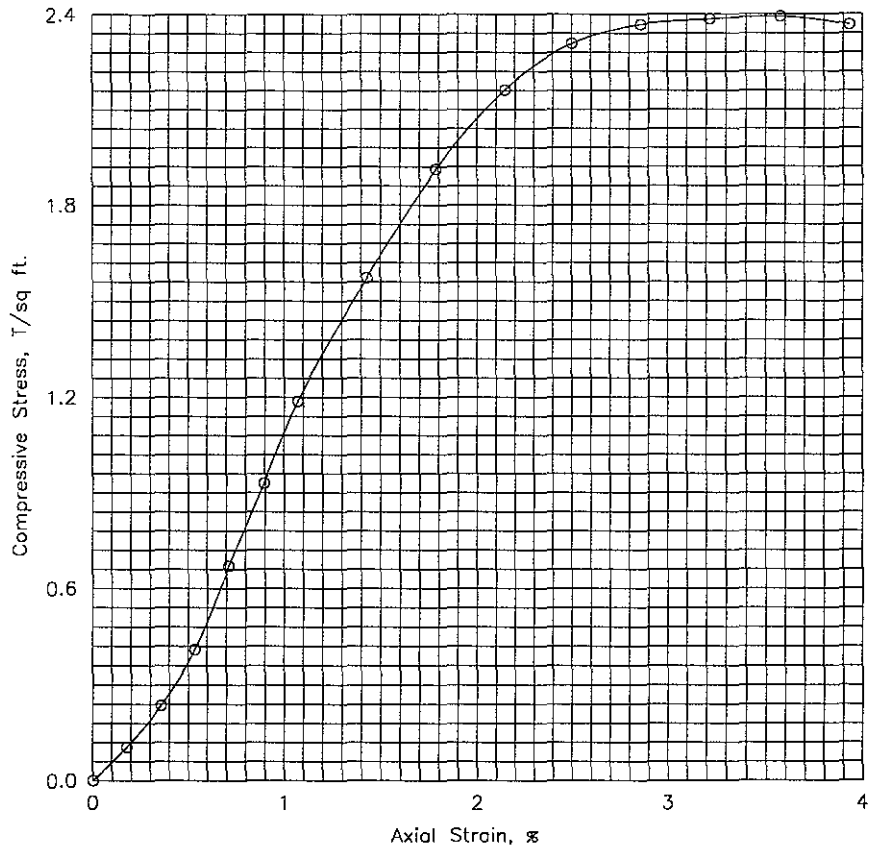
LL = 29 PL = 16 PI = 13

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	12.0	9.2	.002	6.30	.105
.4	20.	.020	27.0	20.7	.004	6.31	.236
.6	30.	.030	47.0	36.0	.005	6.32	.410
.7	40.	.040	77.0	59.0	.007	6.34	.670
.9	50.	.050	107.0	82.0	.009	6.35	.930
1.1	60.	.060	137.0	104.9	.011	6.36	1.188
1.4	80.	.080	182.0	139.4	.014	6.38	1.573
1.7	100.	.100	222.0	170.1	.018	6.40	1.912
2.0	120.	.120	252.0	193.0	.021	6.43	2.162
2.4	140.	.140	270.0	206.8	.025	6.45	2.308
2.7	160.	.160	278.0	212.9	.029	6.48	2.368
3.0	180.	.180	281.0	215.2	.032	6.50	2.385
3.3	200.	.200	283.0	216.8	.036	6.52	2.393
3.7	220.	.220	281.0	215.2	.039	6.55	2.367

Job No. 94G799-18

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	14.8 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	118.9			
Time to failure, min		t_f	3.33			
Unconfined compressive strength, T/sq ft		q_u	2.39			
Undrained shear strength, T/sq ft		S_u	1.20			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Sandy Clay,w/Calcareous nodules,Very stiff,Yellowish gray

LL	29	PL	16	PI	13	G_s	

Remarks

Project Channel to Victoria

Area Seadrift, Texas

Boring No. 95-162 | Sample No. 9

Depth El 24-26 ft | Date 6/9/95

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE