E1463

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 91-279 DATE: BEGIN 1/3/91 PAGE 1 / 2
JOB NO. 146531 COMPLETE 1/3/91 Thin Walled Tube ☒ 3" ☐ 6"
PROJECT C-I W/W
LOCATION Saigent Creek sta 98+00
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Failing CFD 2
GROUNDWATER: DEPTH 0 ft., ELEV. ft., at end of Drilling
WEATHER cool clear
DRILLER D. Curran LOGGER D. Crowell

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	X	2/3/4	Tan	Sand	loose		
5	2	X	6/5/14	Gray	Sand	M/Dense	Shell	w/wood Fill
	3		0.00	Gray	Clay	V.Soft	silt	w/wood & Sand
10	4		0.25	Tan	Clay	Soft	Silt	Gray w/wood
	5		0.25	Tan	Clay	Sft	Silt	w/Sand Seams
15	6	X	1/1/1	Tan	Sand	V. loose	silt	w/Clay & Shell & wood
	7		0.25	Gray	Clay	V.Soft	silt	w/organic layers 19 Ft
20	8		0.25	Gray	Clay	V.Soft	silt	w/Sand Seams
Jar	9		0.00	Gray	Clay	V.Soft	silt	w/Sand Seams Shell Frg (Jar Sample)
25	10	X	1/1/1	gray	Clay	V.Soft	silt	w/Shell Frg wood Sand Seams
	11		1.0	Tan	Clay	Stiff	silt	w/sand Seams
30	12		1.0	Gray	Clay	Stiff	silt	Tan
	13		0.50	Tan	Clay	M/stiff	silt	Gray
	14		0.25	Tan	Clay	Soft	Silt	
Jar 35	15		0.00	Tan	Clay	V.soft	Silt	Gray (Jar Sample)

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 91-279 DATE: BEGIN 1/3/91 PAGE 2 12
JOB NO. 146531 COMPLETE 1/3/91 Thin Walled Tube ☒ 3" ☐ 6"
PROJECT GIWW
LOCATION Sargent Beach sta 98+00
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG CFD 2
GROUNDWATER: DEPTH 0 ft., ELEV. ____ ft., at end of Drilling
WEATHER clear cool
DRILLER D Crean LOGGER D. Crowell

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
35								
			0.50	Tan	clay	M/stiff	silt	
	16							
			0.25	Tan	clay	soft	silt	Gray
40	11							
			0.00	Tan	clay	V.soft	silt	Jar Sample
	18							
			W.O.P	Tan	Clay	soft	silt	Gray Jar Sample
	9							
45								
	20		0.00	Tan	Clay	V.soft	silt	w/shell
			0.25	Tan	Clay	Soft	silt	Gray
	21							
			0.25	Tan	Clay	Soft	silt	Clay
50	22							
								Bottom of 91-279 @ 50'
								W.O.P: Weight of Pipe
55								
60								
65								
70								

GEOTEST ENGINEERING, INC.

Project : Gulf Intracoastal Waterway, near Sargent Beach, Texas
Contract No. DACW64-92-D-0001 Delivery No. 0005

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-279

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	0.5-2		7	Gray,Sand,Loose,Silty	S M												
2	5.5-7		19	Gray & dark gray,Sand,Medium dense,Silty,w/ shell fragments	S M						98.5*	97.4*	96.3*	60.1	10.6		
3	8-10	0.00 →	<.25-.5	Gray,Clay,Very soft,Silty,w/wood and sand SWD	CL	38.2	81	111.9	44	16					86		c= 340
4	10-12	0.50		Gray,Clay,Medium stiff,w/silt pockets & blocky structure	CH	62.1	63.9	103.6	77	28	100.0	100.0	99.6	99.3	98.8	0.25	0.41
5	12-14	0.25 <.25		Gray,Clay,Soft,Silty,w/sand seams SWD	~~CL~~ CH	60.8	63	101	75	25					89		c= 340
6	14.5-16		2	Gray,Sand,Very loose,Silty	S M						99.4	98.8	97.9	69.2	20.6		
7	18-20	0.50		Gray,Clay,Medium stiff,w/silt seams and silt parting	CH	43.9										0.25	
8	20-22	0.25 <.25		Gray,Clay,Soft,Silty,w/sand seams SWD	CL	27.9	82	104.8	30	22					72		19.5°
9	22-24	0.75		Gray,Clay,Medium stiff,w/silt parting and sand pockets Jar Sample	CH	41.1 ?										0.35	
10	24.5-26	0.25	2	Gray,Clay,Soft,Sandy	CL	42.3 X											
11	26-28	1.00 1-1.5		Tan,Clay,Stiff,Silty,w/sand seams SWD	CL	31.8	92	121	45	17					97		c= 670 +/-
12	28-30	0.75		Brown,Clay,Medium stiff,w/ferrous stains and silt pockets	CH	57.5			61							0.35	
13	30-32	0.75		Brown,Clay,Medium stiff,w/ferrous stains and silt pockets	CH	44.6										0.35	
14	32-34	0.50		Brown,Clay,Medium stiff,w/ferrous stains and silt pockets and blocky structure	CH	54.1	68.4	105.4	73	29	100.0	100.0	99.9	99.5	99.4	0.25	0.35
15	34-36	0.50		Brown,Clay,Medium stiff,w/shell fragments and silt pockets and blocky structure Jar Sample	CH	50.1 ?											
16	36-38	1.50		Brown & dark gray,Clay,Stiff,slickensided	CH	41.5										0.75	
17	38-40	0.25 -.5		Tan & gray,Clay,Soft,silty SWD	~~CL~~ CH	45	79	114	50	19					94		c= 350

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 Retained are Shell fragments

Project : Gulf Intracoastal Waterway, near Sargent Beach, Texas
Contract No. DACW64-92-D-0001 Delivery No. 0005

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-279

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	40-42	0.25		Brown,Clay,soft,w/silt pockets Jar Sample	CH	32.0	90.4	119.3	54	21							
19	42-44	0.25		Brown,Clay,soft,w/silt pockets Jar Sample	CH	48.7											
20	44-46	0.25		Brown,Clay,soft,w/shell fragments	CH	54.5										0.14	
21	46-48	0.50		Brown,Clay,Medium stiff,w/ferrous stains and shell fragments	CH	62.6										0.25	
22	48-50	0.50		Brown,Clay,Medium stiff,w/ferrous stains and shell fragments	CH	66.4	60.5	100.6								0.25	

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. 14G533 DATE 1/27/92

PROJECT Gulf Intracostal Waterway near Sargent Beach, Texas

BORING NO. 91-279 SAMPLE NO. 4 DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray,Clay,Medium stiff,w/silt pockets & blocky structure

Tare No.	P-218	Height	5.595 in.
Tare plus Wet Specimen	477.34 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	310.81 gm	Initial Area	6.290 sq in.
Water Weight	166.53 gm	Volume	35.194 cu in.
Tare Weight	42.49 gm	Volume of Solids	cu in.
Wet Specimen	957.19 gm	Void Ratio	
Dry Specimen	590.62 gm	Saturation	%
Water Content	62.06 %	Dry Density	63.9 lb/cu ft

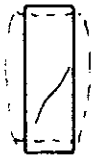
Specific Gravity of Solids
LL = 77 PL = 28 PI = 49

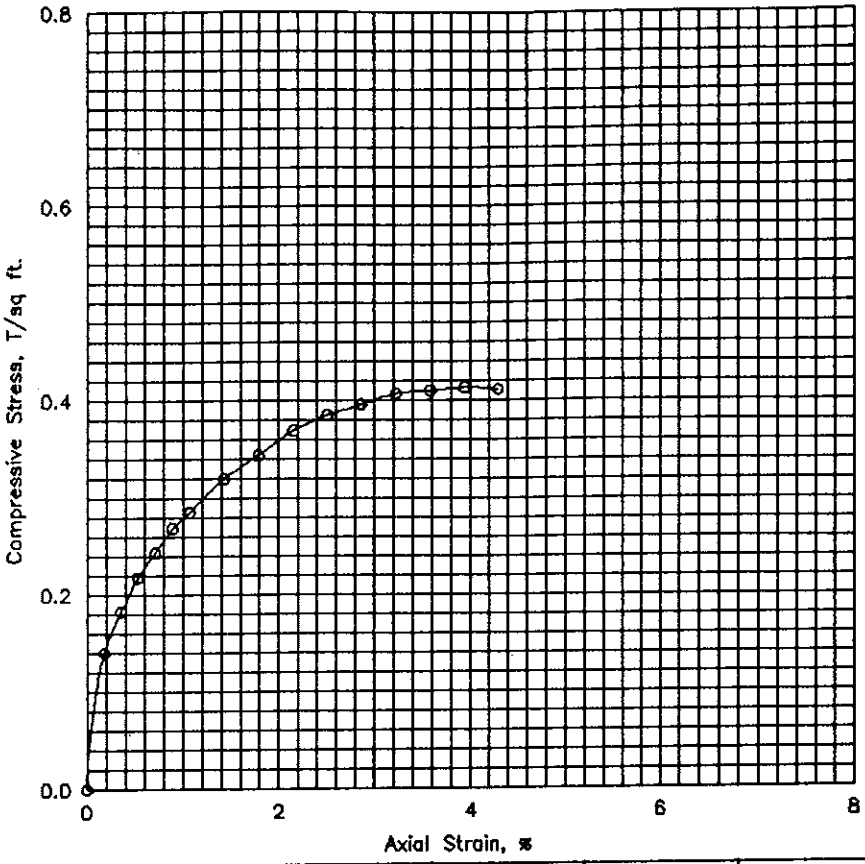
Proving Ring No. 10170
Proving Ring Constant, K = .766 lbs/div.

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	16.0	12.3	.002	6.30	.140
.4	20.	.020	21.0	16.1	.004	6.31	.183
.6	30.	.030	25.0	19.1	.005	6.32	.218
.8	40.	.040	28.0	21.4	.007	6.34	.244
.9	50.	.050	31.0	23.7	.009	6.35	.269
1.1	60.	.060	33.0	25.3	.011	6.36	.286
1.4	80.	.080	37.0	28.3	.014	6.38	.320
1.7	100.	.100	40.0	30.6	.018	6.40	.344
2.1	120.	.120	43.0	32.9	.021	6.43	.369
2.4	140.	.140	45.0	34.5	.025	6.45	.385
2.7	160.	.160	46.5	35.6	.029	6.48	.396
3.0	180.	.180	48.0	36.8	.032	6.50	.407
3.4	200.	.200	48.5	37.2	.036	6.52	.410
3.7	220.	.220	49.0	37.5	.039	6.55	.413
4.0	240.	.240	49.0	37.5	.043	6.57	.411

Job No. 146533

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	62.1 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	63.9			
Time to failure, min		t_f	3.68			
Unconfined compressive strength, T/sq ft		q_u	.41			
Undrained shear strength, T/sq ft		S_u	.21			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Gray,Clay,Medium stiff,w/silt pockets & blocky structure

LL	PL	PI	G_s
77	28	49	

Remarks

Project Gulf Intracostal Waterway

Area Near Sargent Beach, Texas

Boring No. 91-279 | Sample No. 4

Depth El 10-12 ft | Date 1/27/92

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G533 DATE 1/23/92

PROJECT Gulf Intracostal Waterway near Sargent Beach, Texas

BORING NO. 91-279 SAMPLE NO. 14 DEPTH 32-34 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown,Clay,Medium stiff,w/ferrous stains&silt pockets&blocky structure

Tare No.	P-20	Height	5.595 in.
Tare plus Wet Specimen	622.54 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	418.83 gm	Initial Area	6.290 sq in.
Water Weight	203.71 gm	Volume	35.194 cu in.
Tare Weight	42.54 gm	Volume of Solids	cu in.
Wet Specimen	974.03 gm	Void Ratio	
Dry Specimen	631.93 gm	Saturation	%
Water Content	54.14 %	Dry Density	68.4 lb/cu ft

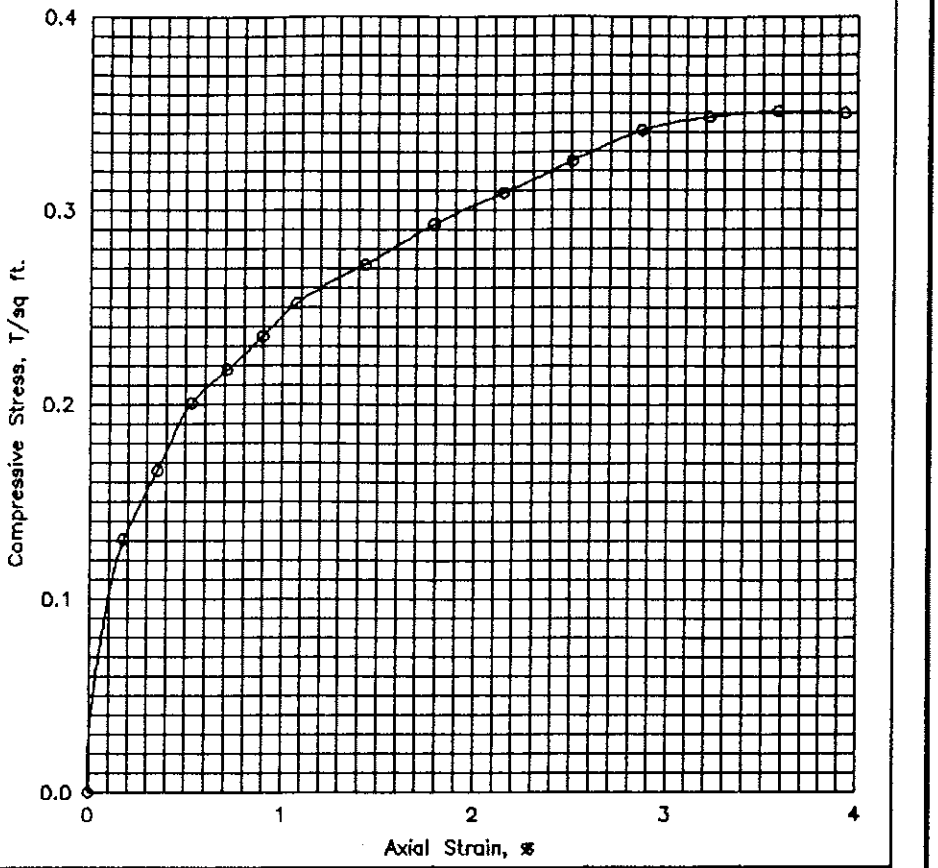
Specific Gravity of Solids
LL = 73 PL = 29 PI = 44

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	15.0	11.5	.002	6.30	.131
.3	20.	.020	19.0	14.6	.004	6.31	.166
.5	30.	.030	23.0	17.6	.005	6.32	.201
.7	40.	.040	25.0	19.1	.007	6.34	.218
.9	50.	.050	27.0	20.7	.009	6.35	.235
1.0	60.	.060	29.0	22.2	.011	6.36	.252
1.4	80.	.080	31.5	24.1	.014	6.38	.272
1.7	100.	.100	34.0	26.0	.018	6.40	.293
2.0	120.	.120	36.0	27.6	.021	6.43	.309
2.4	140.	.140	38.0	29.1	.025	6.45	.325
2.7	160.	.160	40.0	30.6	.029	6.48	.341
3.0	180.	.180	41.0	31.4	.032	6.50	.348
3.3	200.	.200	41.5	31.8	.036	6.52	.351
3.7	220.	.220	41.5	31.8	.039	6.55	.350

Job No. 14G533

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	54.1 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	68.4			
Time to failure, min		t_f	3.30			
Unconfined compressive strength, T/sq ft		q_u	.35			
Undrained shear strength, T/sq ft		S_u	.18			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Brown,Clay,Medium stiff,w/ferrous stains&silt pockets&blocky structure

LL	PL	PI	G_s
73	29	44	

Remarks

Project Gulf Intracostal Waterway

Area Near Sargent Beach, Texas

Boring No. 91-279 | Sample No. 14

Depth El 32-34 ft | Date 1/23/92

UNCONFINED COMPRESSION TEST REPORT

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PLATE XI-2