

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>91-290</u> DATE: BEGIN <u>12/29/91</u> PAGE <u>1 1 1</u> JOB NO. <u>14C-531</u> COMPLETE <u>12/29/91</u> Thin Walled Tube PROJECT <u>GIWW</u> ☒ 3" ☐ 6" LOCATION <u>Sargent Leach sta 212+50</u> ELEVATION OF HOLE _____ MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Failing CFD 2</u> GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>Heavy Warm</u> DRILLER <u>A. Garcia</u> LOGGER <u>P. Crowell</u>				
		COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS			
0									
1	0.25	Tan	clay	soft	silt	Gray			
2	0.50	Tan	clay	Medium stiff	silt	Gray			
5	0.25	Gray	clay	soft	silt				
4	0.75	Gray	clay	Medium stiff	silt				
5	0.75	Gray	clay	"	silt	Tan			
10	0.75	Tan	clay	"	silt	Gray			
6	0.75	Tan	clay	"	silt	Gray			
7	1.5	Tan	clay	stiff	silt	Gray			
15	1.5	Tan	clay	stiff	silt	Gray			
9	2.0	Tan	clay	stiff	silt	Gray			
10	2.0	Tan	clay	stiff	silt	Gray			
20	1.5	Gray	clay	stiff	silt	Tan			
12	1.5	Gray	clay	stiff	silt	Tan			
25	2.0	Gray	clay	stiff	silt	Calc Nod			
						Bottom of 91-290 @ 26'			
30									
35									

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-289

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	0.50		Brown,Clay,Medium stiff	CH	27.8											
2	2-4	1.25		Gray,Clay,Stiff	CH	28.9											
3	4-6	1.50		Brown,Clay,Stiff,Silty	CH CL	25.8	97.1	122.1	47								
4	6-8	1.25		Dark brown,Clay,stiff,w/calcareous nodules	CH	28.3											
5	8-10	1.50		Dark brown,Clay,stiff,w/calcareous nodules	CH	27.0											
6	10-12	1.25		Dark brown,Clay,stiff,w/calcareous nodules	CH	39.2											
7	12-14	1.25		Dark brown,Clay,stiff,w/ferrous stains	CH	43.2	78.3	112.1	80								
8	14-16	1.25		Reddish brown,Clay,Stiff	CH	40.1											
9	16-18	0.75		Gray,Clay,Medium stiff	CH	40.2											
10	18-20	0.75		Red,Clay,Medium stiff,slickensided	CH	37.5											
11	20-22	1.75		Red,Clay,Stiff,slickensided	CH	35.6			82								
12	22-24	0.75		Brown,Clay,Medium stiff	CH	42.4											
13	24-26	1.00		Brown,Clay,Stiff	CH	48.7											

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

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Boring No. 91-290

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											#4	#10	#40	#100	#200		
1	0-2	0.50		Brown, Clay, Medium stiff, w/sand pockets	CH	32.6										0.25	
2	2-4	0.75		Gray & yellowish gray, Clay, Medium stiff, w/sand pockets	CH	49.4	73.1	109.2	62		100.0	99.9	99.9	98.7	95.8	0.35	
3	4-6	0.25 <i>0.75</i>		Gray, Clay, Soft, Silty <i>SWD</i>	CL	26.5	94		38	15					91	<i>C = 470</i>	
4	6-8	0.50		Gray, Clay, Medium stiff	CH	41.9										0.25	
5	8-10	0.50		Gray & yellowish brown, Clay, Medium stiff, w/ferrous nodules and blocky structure	CH	42.9	76.8	109.8	69	24	100.0	99.9	99.3	98.7	98.0	0.25	0.31
6	10-12	0.75 <i>0.75</i>		Tan & gray, Clay, Medium stiff, Silty <i>SWD</i>	CL CH	44.5	78		76	22					97		<i>C = 520</i>
7	12-14	1.25		Brown, Clay, Stiff, w/blocky structure, slickensided	CH	38.6											
8	14-16	1.25		Brown, Clay, Stiff, w/blocky structure	CH	33.5											
9	16-18	2.75		Brown, Clay, Very stiff, w/silt seams, slickensided	CH	34.0			62		100.0	100.0	99.9	99.8	99.7		
10	18-20	2.75		Brown, Clay, Very stiff, w/silt parting and silt seams	CH	34.5											
11	20-22	1.75		Olive gray, Clay, Stiff, w/ferrous nodules and ferrous stains	CH	31.8											
12	22-24	1.75		Olive gray, Clay, Stiff, w/ferrous nodules and ferrous stains	CH	26.3											
13	24-26	1.75		Olive gray, Clay, Stiff, w/calcareous nodules and ferrous stains	CH	29.1			65								

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JOB NO. 14G533

DATE 1/30/92

PROJECT Gulf Intracoastal Waterway near Sargent Beach, Texas

BORING NO. 91-290

SAMPLE NO. 5

DEPTH 8-10 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray&yellowish brown, Clay, Medium stiff, w/fe nod & blocky structure

Tare No.	P-225	Height	5.595 in.
Tare plus Wet Specimen	387.94 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	284.21 gm	Initial Area	6.290 sq in.
Water Weight	103.73 gm	Volume	35.194 cu in.
Tare Weight	42.52 gm	Volume of Solids	cu in.
Wet Specimen	1014.62 gm	Void Ratio	
Dry Specimen	709.93 gm	Saturation	%
Water Content	42.92 %	Dry Density	76.8 lb/cu ft
Specific Gravity of Solids			
LL = 69	PL = 24	PI = 45	

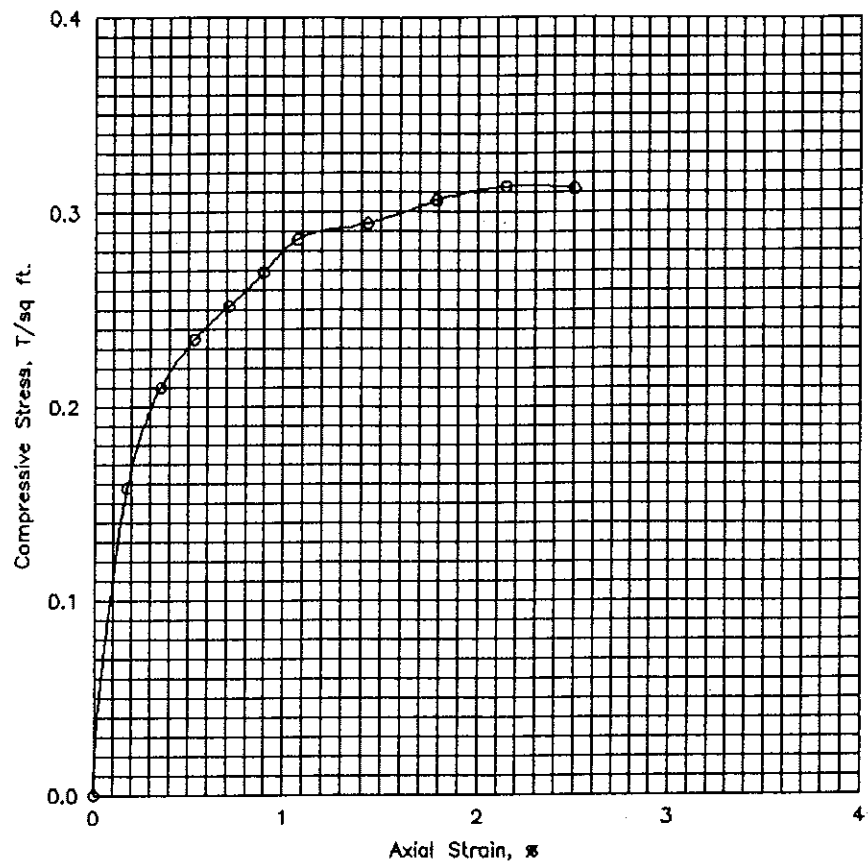
Proving Ring No. 10170

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	18.0	13.8	.002	6.30	.158
.3	20.	.020	24.0	18.4	.004	6.31	.210
.5	30.	.030	27.0	20.7	.005	6.32	.235
.7	40.	.040	29.0	22.2	.007	6.34	.252
.9	50.	.050	31.0	23.7	.009	6.35	.269
1.0	60.	.060	33.0	25.3	.011	6.36	.286
1.3	80.	.080	34.0	26.0	.014	6.38	.294
1.7	100.	.100	35.5	27.2	.018	6.40	.306
2.0	120.	.120	36.5	28.0	.021	6.43	.313
2.3	140.	.140	36.5	28.0	.025	6.45	.312

Job No. 14G533

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	42.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	76.8		
Time to failure, min		t_f	2.00		
Unconfined compressive strength, T/sq ft		q_u	.31		
Undrained shear strength, T/sq ft		S_u	.16		
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/ferrous nodules					
LL	69	PL	24	PI	45
				G_s	
Remarks		Project Gulf Intracoastal Waterway			
		Area Near Sargent Beach, Texas			
		Boring No. 91-290		Sample No. 5	
		Depth 8-10 ft		Date 1/30/92	
		UNCONFINED COMPRESSION TEST REPORT			