U.S. ARMY CORPS OF ENGINEERS

BORING NO. 91-291 DATE: BEGIN 12/29/91 PAGE 1 / 1
JOB NO. 14G531 COMPLETE 12/29/91 Thin Walled Tube
PROJECT GIWW ☑ 3" ☐ 6"
LOCATION Sargent Beach Sta 222+50
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Failing CFP 2
GROUNDWATER: DEPTH 0 ft., ELEV. ft., at end of Drilling
WEATHER Warm / Hazy
DRILLER P. Cearca LOGGER P. Crosswell

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0								
	1		0.75	Gray	Clay	Medium stiff	Silt	Tan
	2		0.50	Gray	Clay	"	Silt	Roots
5	3		0.50	Gray	Clay	"	Silt	Tan
	4		0.25	Gray	Clay	Soft	Silt	Tan
10	5		1.0	Tan	Clay	Stiff	Silt	Gray
	6		1.0	Tan	Clay	Stiff	Silt	Gray
	7		1.0	Tan	Clay	Stiff	Silt	Gray
15	8		1.5	Tan	Clay	Stiff	Silt	Gray
	9		1.5	Tan	Clay	Stiff	Silt	Gray T calc. Nod
	10		2.5	Gray	Clay	V. Stiff	Silt	W/ calc. Nod
20	11		2.5	Gray	Clay	V. Stiff	Silt	W/ calc. Nod
	12		2.5	Gray	Clay	V. Stiff	Silt	W/ calc Nod
25	13		3.0	Tan	Clay	V. Stiff	Silt	W/ calc, Nod
								Bottom of 91-291 @ 26
30								
35								

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. 91-291

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	1.00		Gray & brown,Clay,Stiff	CH	32.7										0.50	
2	2-4	0.75		Gray,Clay,Medium stiff	CH	28.9										0.35	
3	4-6	0.75		Gray,Clay,Medium stiff,w/sand parting	CH	27.9	95.1	121.7	62	22	100.0	96.7	96.3	95.6	95.3	0.35	0.48
4	6-8	0.25 ~~-.5~~		Gray & tan,Clay,Soft,Silty SWD	CL	~~29.1~~	93		44	17					92	~~0.35~~	
5	8-10	1.00		Gray & brown,Clay,Stiff	CH	44.0											
6	10-12	1.00		Gray & brown,Clay,Stiff	CH	43.4	76.4	109.6	79								
7	12-14	1.25		Brown,Clay,Stiff	CH	38.3											
8	14-16	1.50		Brown,Clay,Stiff	CH	37.3											
9	16-18	1.50		Brown & gray,Clay,Stiff,w/calcareous nodules	CH	33.5											
10	18-20	2.50		Gray,Clay,Very stiff,w/calcareous nodules	CH	23.7											
11	20-22	2.75		Gray,Clay,Very stiff,w/calcareous nodules	CH	21.5			63								
12	22-24	2.75		Gray,Clay,Very stiff,w/calcareous nodules	CH	21.9											
13	24-26	2.75		Yellowish brown,Clay,Very stiff,w/calcareous nodules	CH	28.0											

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 1/30/92

PROJECT Gulf Intracostal Waterway near Sargent Beach, Texas

BORING NO. 91-291 SAMPLE NO. 3 DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray,Clay,Medium stiff,w/sand parting

Tare No.	P-228	Height	5.595 in.
Tare plus Wet Specimen	447.60 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	359.23 gm	Initial Area	6.290 sq in.
Water Weight	88.37 gm	Volume	35.194 cu in.
Tare Weight	42.59 gm	Volume of Solids	cu in.
Wet Specimen	1124.26 gm	Void Ratio	
Dry Specimen	878.96 gm	Saturation	%
Water Content	27.91 %	Dry Density	95.1 lb/cu ft

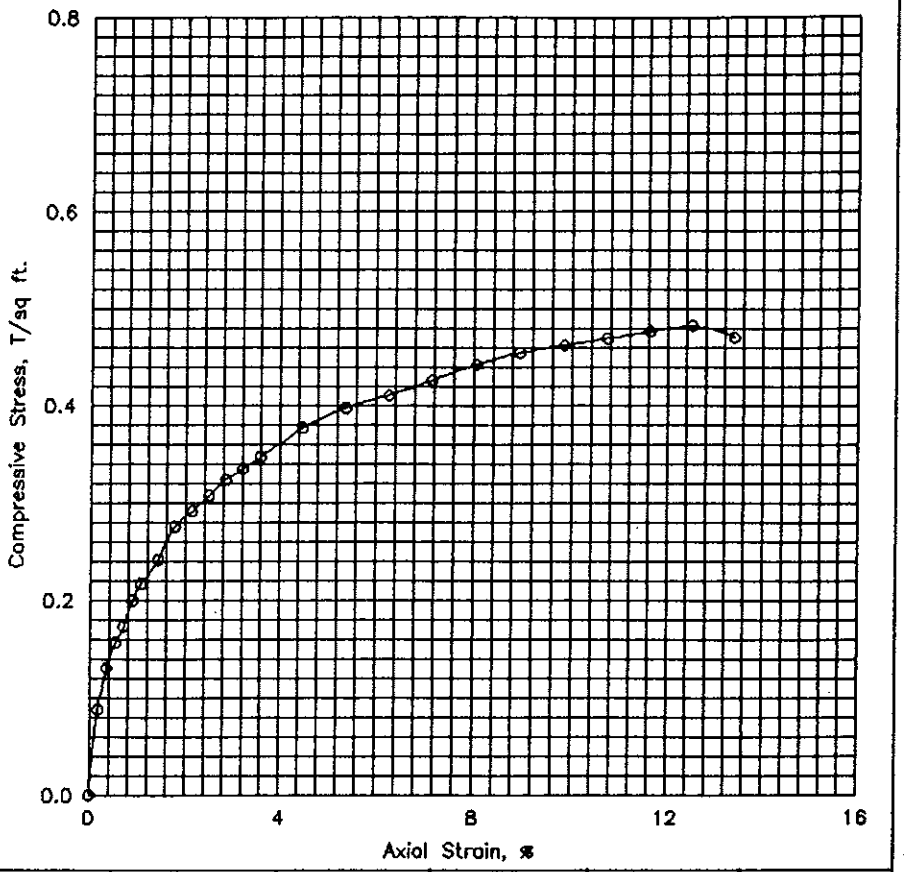
Specific Gravity of Solids
LL = 62 PL = 22 PI = 40

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	10.0	7.7	.002	6.30	.088
.4	20.	.020	15.0	11.5	.004	6.31	.131
.6	30.	.030	18.0	13.8	.005	6.32	.157
.7	40.	.040	20.0	15.3	.007	6.34	.174
.9	50.	.050	23.0	17.6	.009	6.35	.200
1.0	60.	.060	25.0	19.1	.011	6.36	.217
1.4	80.	.080	28.0	21.4	.014	6.38	.242
1.7	100.	.100	32.0	24.5	.018	6.40	.276
2.0	120.	.120	34.0	26.0	.021	6.43	.292
2.3	140.	.140	36.0	27.6	.025	6.45	.308
2.7	160.	.160	38.0	29.1	.029	6.48	.324
3.0	180.	.180	39.5	30.3	.032	6.50	.335
3.3	200.	.200	41.0	31.4	.036	6.52	.347
4.1	250.	.250	45.0	34.5	.045	6.58	.377
4.9	300.	.300	48.0	36.8	.054	6.65	.398
5.7	350.	.350	50.0	38.3	.063	6.71	.411
6.6	400.	.400	52.5	40.2	.071	6.77	.427
7.4	450.	.450	55.0	42.1	.080	6.84	.443
8.2	500.	.500	57.0	43.7	.089	6.91	.455
9.0	550.	.550	58.5	44.8	.098	6.98	.463
9.8	600.	.600	60.0	46.0	.107	7.05	.470
10.6	650.	.650	61.5	47.1	.116	7.12	.477
11.4	700.	.700	63.0	48.3	.125	7.19	.483
12.2	750.	.750	62.0	47.5	.134	7.26	.471

Job No. 146533

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	27.9 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	95.1			
Time to failure, min		t_f	11.42			
Unconfined compressive strength, T/sq ft		q_u	.48			
Undrained shear strength, T/sq ft		S_u	.24			
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/sand parting

LL	62	PL	22	PI	40	G_s	

Remarks

Project Gulf Intracostal Waterway

Area Near Sargent Beach, Texas

Boring No. 91-291 | Sample No. 3

Depth El 4-6 ft | Date 1/30/92

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Geotest Engineering, Inc.

PLATE