

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>91308</u>	DATE: BEGIN <u>12-07-91</u>	PAGE <u>1</u>
					JOB NO. <u>146531</u>	COMPLETE <u>12-07-91</u>	Thin Walled Tube
					PROJECT <u>GZWV</u>	☒ 3"	☐ 6"
					LOCATION <u>SARGENT BEACH STA 360 + 50</u>		
					ELEVATION OF HOLE		
					MANUFACTURER'S DESIGNATION OF DRILL RIG <u>ARDCO</u>		
					GROUNDWATER: DEPTH <u>3</u> ft., ELEV. <u>6.6</u> ft., at end of Drilling		
					WEATHER <u>MOSTLY CLOUDY</u>		
					DRILLER <u>Douglas Mitchell</u> LOGGER <u>John A. Healey</u>		
COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS			
0.25 BROWN	CLAY	SOFT	SANDY	- w/ SILT LAYER 0'-2'			
0.25 GRAY	CLAY	SOFT	SANDY	- w/ ROOT 2'-4'			
0.5 GRAY	CLAY	MEDIUM STIFF		- w/ ROOTS 4'-6'			
0 GRAY	CLAY	VERY SOFT		- w/ SHELL FRAGMENTS 6'-10'			
0.25 GRAY	CLAY	SOFT					
0.25 GRAY	CLAY	SOFT					
0.25 BROWN	CLAY	SOFT		* GRAY 12'-16'			
1.0 BROWN	CLAY	STIFF					
1.75 GRAY	CLAY	STIFF		* LIGHT BROWN 16'-18'			
2.75 LIGHT GRAY	CLAY	VERY STIFF		* REDISH BROWN 18'-20'			
2.5 BROWN	CLAY	VERY STIFF		- w/ CALCAREOUS + FERRUGINOUS 18'-20'			
2.0 LIGHT GRAY	CLAY	VERY STIFF		* LIGHT GRAY 20'-22'			
2.0 LIGHT GRAY	CLAY	VERY STIFF		* LIGHT BROWN 22'-24'			
2.0 LIGHT GRAY	CLAY	VERY STIFF		* REDISH BROWN 24'-26'			
2.25 LIGHT GRAY	CLAY	VERY STIFF		* BROWN			
4.0 REDISH BROWN	CLAY	VERY STIFF		* LIGHT GRAY 28'-30'			
4.5 REDISH BROWN	CLAY	HARD					
4.25 REDISH BROWN	CLAY	HARD					
4.5 REDISH BROWN	CLAY	HARD		SHORT SAMPLE			

U.S. ARMY CORPS OF ENGINEERS

BORING NO. <u>9/308</u>		DATE: BEGIN <u>12-07-91</u>		PAGE <u>2</u> / <u>2</u>			
JOB NO. <u>14G 531</u>		COMPLETE <u>12-07-91</u>		Thin Walled Tube			
PROJECT <u>CJWW</u>		☒ 3" ☐ 6"					
LOCATION <u>SARGENT BEACH STA. 360+50</u>							
ELEVATION OF HOLE _____							
MANUFACTURER'S DESIGNATION OF DRILL RIG <u>ARDCO</u>							
GROUNDWATER: DEPTH <u>3</u> ft., ELEV. _____ ft., at end of Drilling							
WEATHER <u>MOSTLY CLOUDY</u>							
DRILLER <u>Douglas Mitchell</u> LOGGER <u>John A. Gentry</u>							
DEPTH, FEET	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSIS- TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
35	19	4.5	REDISH BROWN	CLAY	HARD		* LIGHT GRAY
40	20	4.5	REDISH BROWN	CLAY	HARD		
	21	4.0	LIGHT GRAY	CLAY	Very stiff		* BROWN 40' / -w/ calcareous FERRUGINUS 40'-48'
	22	4.0	LIGHT GRAY	CLAY	11. 4.		
45	23	2.5	LIGHT GRAY	CLAY	VERY STIFF		
	24	2.25	LIGHT GRAY	CLAY	VERY STIFF		
50	25	1.25	BROWN	CLAY	STIFF		* LIGHT GRAY BELOW 48'
55							
60							
65							
70							

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-308

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	USC	M c (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	LL (%)	PL (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	qu (tsf)
											#4	#10	#40	#100	#200		
1	0-2	0.50		Gray, Clay, Medium stiff, Sandy, w/sand Layer	CL	24.2										0.12	
2	2-4	0.00		Gray, Clay, Very soft, w/sand pockets	CH	30.0										0.06	
3	4-6	0.50		Gray, Clay, Medium stiff, w/woods & sand pockets	CH	36.7	83.3	113.9	66	23	100.0	100.0	99.9	97.1	90.4	0.25	
4	6-8	0.00 C.25		Gray, Clay, Very soft, w/shell fragments SWD	CH	46.1	74	108.1	52	17					92		C = 230
5	8-10	0.00		Gray, Clay, Very soft, w/shell fragments & sand pockets	CH	49.1										0.09	
6	10-12	0.25		Gray, Clay, Soft, w/shell fragments & sand pockets	CH	52.8	68.6	104.8	63	26	100.0	99.6	99.1	96.2	92.1	0.10	0.14
7	12-14	0.25		Brown, Clay, Soft SWD	CH	53.3	67	102.7	62	20					97		C = 160
8	14-16	0.75		Brown, Clay, Medium stiff	CH	46.9											
9	16-18	1.50		Gray & yellowish brown, Clay, Stiff, w/ferrous stains	CH	29.7											
10	18-20	2.00		Yellowish brown, Clay, Very stiff, w/calcareous & ferrous nodules	CH	28.5	95.9	123.2	75		96.6*	95.2*	94.0	92.7	91.0		
11	20-22	2.25		Yellowish brown, Clay, Very stiff, w/calcareous nodules and ferrous stains	CH	24.4											
12	22-24	1.75		Olive gray, Clay, Stiff, w/ferrous nodules	CH	28.1											
13	24-26	2.25		Brown & yellowish gray, Clay, Very stiff, w/calcareous nodules	CH	29.1											
14	26-28	2.00		Yellowish gray, Clay, Very stiff, w/calcareous nodules & ferrous stains	CH	23.6	103.5	127.9	67		99.6	98.8	98.1	96.6	92.6		
15	28-30	3.75		Brown & gray, Clay, Very stiff, w/calcareous nodules and ferrous stains	CH	21.5											
16	30-32	2.00		Brown & gray, Clay, Very stiff, w/calcareous nodules	CH	24.9											
17	32-34	3.50		Brown, Clay, Very stiff, w/calcareous nodules	CH	23.0											

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

* : Material Retained are Calcareous Nodules

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-308

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		
18	34-36	4.5+		Brown & gray,Clay,Hard,w/silt parting	CH	23.9											
19	36-38	4.5+		Brown & gray,Clay,Hard,slickensided	CH	24.9											
20	38-40	4.5+		Brown & gray,Clay,Hard,slickensided	CH	28.4	95.1	122.1	74		100.0	100.0	99.8	99.7	99.6		
21	40-42	4.5+		Yellowish brown & gray,Clay,Hard,w/calcareous nodules	CH	21.2											
22	42-44	4.5+		Yellowish brown & gray,Clay,Hard,w/calcareous nodules	CH	21.3											
23	44-46	3.75		Yellowish brown,Clay,Very stiff,w/calcareous nodules	CH	19.8											
24	46-48	2.75		Yellowish brown,Clay,Very stiff,w/calcareous nodules	CH	20.9											
25	48-50	2.50		Yellowish brown,Clay,Very stiff	CH	21.2											

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 1/7/92

PROJECT Gulf Intracoastal Waterway near Sargent Beach, Texas

BORING NO. 91-308

SAMPLE NO. 6

DEPTH 10 - 12 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Soft, w/shell fragments & sand pockets

Tare No.	P-12	Height	5.595 in.
Tare plus Wet Specimen	519.17 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	354.54 gm	Initial Area	6.290 sq in.
Water Weight	164.63 gm	Volume	35.194 cu in.
Tare Weight	42.66 gm	Volume of Solids	cu in.
Wet Specimen	968.29 gm	Void Ratio	
Dry Specimen	633.75 gm	Saturation	%
Water Content	52.79 %	Dry Density	68.6 lb/cu ft
Specific Gravity of Solids			
LL = 63	PL = 26	PI = 37	

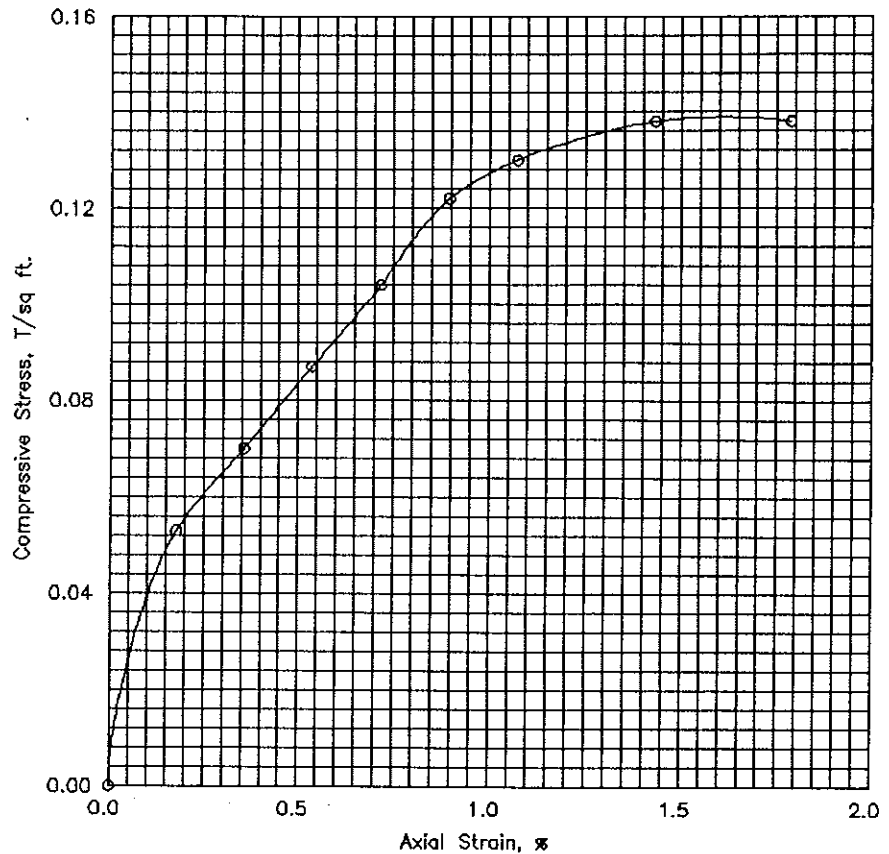
Proving Ring No. 10170

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	6.0	4.6	.002	6.30	.053
.3	20.	.020	8.0	6.1	.004	6.31	.070
.5	30.	.030	10.0	7.7	.005	6.32	.087
.6	40.	.040	12.0	9.2	.007	6.34	.104
.8	50.	.050	14.0	10.7	.009	6.35	.122
1.0	60.	.060	15.0	11.5	.011	6.36	.130
1.3	80.	.080	16.0	12.3	.014	6.38	.138
1.6	100.	.100	16.0	12.3	.018	6.40	.138

Job No. 14C533

Failure Sketches



- ☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	52.8 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	68.6		
Time to failure, min		t_f	1.28		
Unconfined compressive strength, T/sq ft		q_u	.14		
Undrained shear strength, T/sq ft		S_u	.07		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Soft, w/shell fragments & sand pockets					
LL	63	PL	26	PI	37
Remarks		Project Gulf Intracoastal Waterway Area Near Sargent Beach, Texas Boring No. 91-308 Sample No. 6 Depth 10 - 12 ft Date 1/7/92 EI			
UNCONFINED COMPRESSION TEST REPORT					