

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>91316</u> DATE: BEGIN <u>12-14-91</u> PAGE <u>112</u> JOB NO. <u>146531</u> COMPLETE <u>12-16-91</u> Thin Walled Tube PROJECT <u>GIWW</u> LOCATION <u>SARGENT BRANCH STA. 404+0</u> ELEVATION OF HOLE _____ MANUFACTURER'S DESIGNATION OF DRILL RIG <u>AROCO</u> GROUNDWATER: DEPTH <u>2</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>MOSTLY CLOUD, WINDY & COOL</u> DRILLER <u>Douglas Mitchell</u> LOGGER <u>John A. Hentley</u>				
		COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS		
0	1	0.25 BROWN	CLAY	SOFT	SANDY	-w/ROOTS 0'-1'		
	2	1.5 GRAY	CLAY	STIFF				
5	3	1.0 GRAY	CLAY	STIFF				
	4	0.75 BROWN	CLAY	MEDIUM STIFF		* & GRAY 6'-10'		
	5	0.5 BROWN	CLAY	MEDIUM STIFF		* - w/SAND LAYER 8'-10'		
10	6	0.5 GRAY	CLAY	MEDIUM STIFF		LOST CIRCULAT TO M/CRAWLED 10 FT HOLES		
	7	0.5 GRAY	CLAY	MEDIUM STIFF		-w/SHELL FRAGMENTS 10'-16'		
15	8	0.5 GRAY	CLAY	MEDIUM STIFF				
	9	1.0 GRAY	CLAY	STIFF		* & LIGHT BROWN 16'-22'		
	10	1.25 GRAY	CLAY	STIFF		SAMPLE 10 SHIRT! -w/FERROUS 18'-24'		
20	11	2.0 GRAY	CLAY	VERY STIFF				
	12	2.25 BROWN	CLAY	VERY STIFF		* & GRAY 22'-26'		
25	13	2.25 BROWN	CLAY	VERY STIFF				
	14	2.0 GRAY	CLAY	VERY STIFF		* BROWN 26'-28'		
	15	3.0 BROWN	CLAY	VERY STIFF		-w/CALCAREOUS & FERROUS 28'		
30	16	2.75 BROWN	CLAY	VERY STIFF		* & GRAY 28'-32'		
	17	2.25 GRAY	CLAY	VERY STIFF		* & BROWN 32'-34'		
35	18	4.5+ BROWN	CLAY	HARD		* & GRAY 34'		

	BORING NO.	<u>913186</u>		DATE: BEGIN	<u>12-14-97</u> PAGE <u>2 12</u>
	JOB NO.	<u>14G531</u>		COMPLETE	<u>12-16-97</u> /Thin Walled Tube
	PROJECT	<u>G.I.W.N.</u>		☒ 3"	☐ 6"
	LOCATION	<u>SARGENT BEACH STA. 404+00</u>			
	ELEVATION OF HOLE				
	MANUFACTURER'S DESIGNATION OF DRILL RIG	<u>ARDCO</u>			
	GROUNDWATER: DEPTH	<u>2</u>	ft., ELEV.		ft., at end of Drilling
	WEATHER	<u>MOSTLY CLOUDY</u>			
	DRILLER	<u>Douglas Mitchell</u>		LOGGER	<u>John A. Bentley</u>
	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
-35-	REDISH BROWN CLAY	HARD		*GRAY 34'- -w/CALCAREOUS + FERROUS 36' - 42'	
19	4.5'				
	REDISH BROWN CLAY	HARD			
20	4.5'				
-40-	REDISH BROWN CLAY	HARD			
21	4.5'				
	BROWN CLAY	STIFF			-w/SILT SEAMS 42'-46'
22	1.0'				
-45-	2.5'	BROWN CLAY	VERY STIFF		-w/SILT POCKETS 44'-46' -w/CALCAREOUS 44'-46'
23	2.5'				
	BROWN CLAY	VERY STIFF	SILTY		
24	2.5'				
-50-	2.0'	BROWN CLAY	VERY STIFF	SILTY	-w/SILT LAYER 48-50'
25	2.0'				
-55-					
-60-					
-65-					
-70-					

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-316

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	2.00		Brown,Clay,Very stiff,Sandy,w/roots & sand pockets	CL	28.4										0.90	
2	2-4	2.00		Brown & dark gray,Clay,very stiff,Sandy,w/sand seams and roots	CL	25.4			41							0.90	
3	4-6	0.75		Dark gray,Clay,Medium stiff,w/large sand pockets	CH	28.8										0.35	
4	6-8	0.75		Brown,Clay,Medium stiff,w/calcareous nodules	CH	27.4										0.35	
5	8-10	0.00		Gray,Clay,Very soft,w/ferrous nodules & silt pockets	CH	32.5										0.10	
6	10-12	0.00		Gray,Clay,Very soft,w/shell fragments & sand pockets	CH	55.5	68.0	105.7	62	23	100.0	99.7	99.2	95.8	93.9	0.09	0.16
7	12-14	0.50		Gray,Clay,Medium stiff,w/shell fragments	CH	43.6	77		55	17					83		
8	14-16	0.50		Brown,Clay,Medium stiff,w/shell fragments	CH	45.0										0.20	
9	16-18	1.25		Olive gray,Clay,Stiff,w/ferrous nodules,slickensided	CH	42.2											
10	18-20	1.75		Olive gray,Clay,Stiff,w/ferrous nodules,slickensided	CH	37.5			93								
11	20-22	2.00		Olive gray,Clay,Very stiff,w/calcareous&ferrous nodules,slickensided	CH	32.2											
12	22-24	3.75		Brown & gray,Clay,Very stiff,w/calcareous & ferrous nodules,slickensided	CH	27.5											
13	24-26	3.00		Brown & gray,Clay,Very stiff,w/calcareous nodules,slickensided	CH	34.4											
14	26-28	3.25		Brown & gray,Clay,Very stiff,w/calcareous nodules,slickensided	CH	35.0											
15	28-30	4.00		Brown & gray,Clay,Very stiff,w/calcareous nodules,slickensided	CH	27.9											
16	30-32	3.00		Brown & gray,Clay,Very stiff,w/calcareous nodules & ferrous stains,slickensided	CH	28.1			72		99.9	99.3	99.0	97.2	94.0		
17	32-34	3.25		Olive gray,Clay,Very stiff,w/calcareous nodules, slickensided	CH	23.5											

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

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

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 91-316

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	4.25		Brown & gray, Clay, Hard, slickensided	CH	22.9											
19	36-38	4.25		Brown, Clay, Hard, slickensided	CH	22.8											
20	38-40	4.5+		Brown, Clay, Hard, w/ferrous stains	CH	22.6			56								
21	40-42	4.5+		Brown, Clay, Hard, w/ferrous stains & silt seams	CH	22.0											
22	42-44	2.00		Yellowish brown, Clay, Very stiff, Silty, w/calcareous nodules	CL	19.4											
23	44-46	1.75		Yellowish brown, Clay, Stiff, Silty, w/calcareous nodules	CL	20.4											
24	46-48	2.00		Yellowish brown, Clay, Very stiff, Silty, w/calcareous nodules	CL	18.7											
25	48-50	2.25		Yellowish brown, Clay, Very stiff, Silty, w/calcareous nodules	CL	18.9			31								

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 Intracoastal Waterway near Sargent Beach, Texas

BORING NO. 91-316

SAMPLE NO. 6

DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, w/shell fragments & sand pockets

Tare No.	P-200	Height	5.595 in.
Tare plus Wet Specimen	401.74 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	273.40 gm	Initial Area	6.290 sq in.
Water Weight	128.34 gm	Volume	35.194 cu in.
Tare Weight	42.33 gm	Volume of Solids	cu in.
Wet Specimen	976.87 gm	Void Ratio	
Dry Specimen	628.04 gm	Saturation	%
Water Content	55.54 %	Dry Density	68.0 lb/cu ft
Specific Gravity of Solids			
LL = 62	PL = 23	PI = 39	

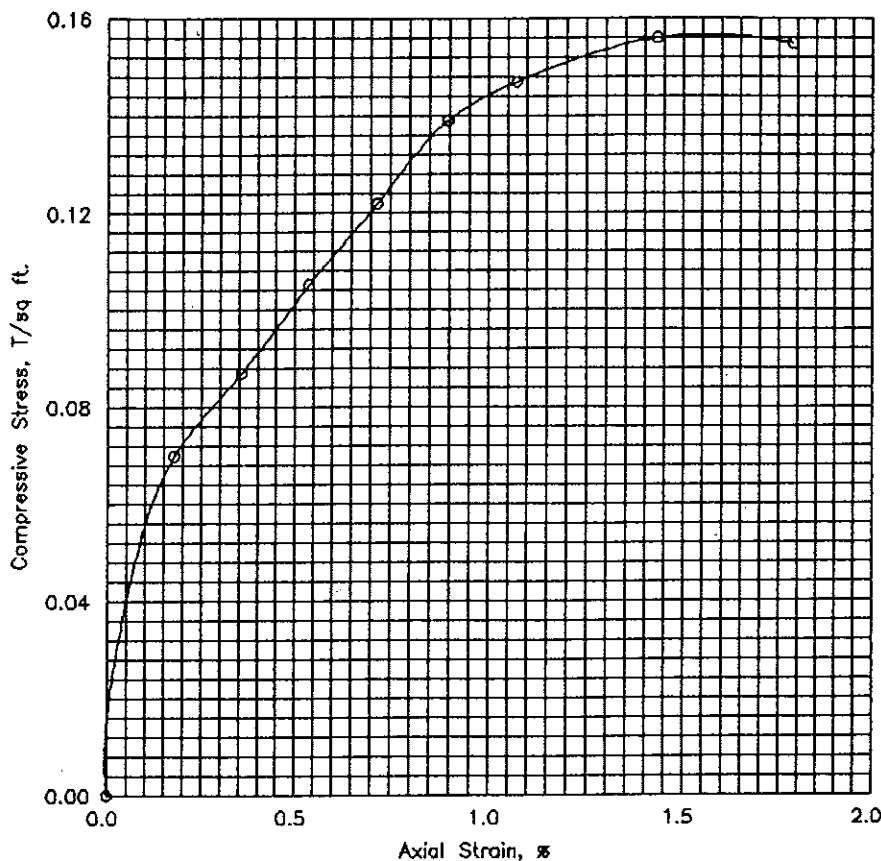
Proving Ring No. 10170

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	8.0	6.1	.002	6.30	.070
.3	20.	.020	10.0	7.7	.004	6.31	.087
.5	30.	.030	12.0	9.2	.005	6.32	.105
.7	40.	.040	14.0	10.7	.007	6.34	.122
.8	50.	.050	16.0	12.3	.009	6.35	.139
1.0	60.	.060	17.0	13.0	.011	6.36	.147
1.3	80.	.080	18.0	13.8	.014	6.38	.156
1.5	100.	.100	18.0	13.8	.018	6.40	.155

Job No. 14G533

Failure Sketches



- ☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	55.5 %		
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	68.0		
Time to failure, min		t_f	1.28		
Unconfined compressive strength, T/sq ft		q_u	.16		
Undrained shear strength, T/sq ft		S_u	.08		
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	62	PL	23	PI	39
Remarks		Project Gulf Intracoastal Waterway Area Near Sargent Beach, Texas Boring No. 91-316 Sample No. 6 Depth 10-12 ft Date 1/30/92 UNCONFINED COMPRESSION TEST REPORT			