

**U.S. ARMY CORPS OF ENGINEERS**

BORING NO. 90-193 DATE: BEGIN 10/29/93 PAGE 1 / 1  
 JOB NO. 196439 COMPLETE 10/29/93 Thin Walled Tube  
 PROJECT Victoria Channel  3"  6"  
 LOCATION SEA DRIFT  
 ELEVATION OF HOLE \_\_\_\_\_  
 MANUFACTURER'S DESIGNATION OF DRILL RIG Fairing 76  
 GROUNDWATER: DEPTH 6'4" ft., ELEV. \_\_\_\_\_ ft., at end of Drilling  
 WEATHER Clear WARM  
 DRILLER D. Mitchell LOGGER J. Berg

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE SPT. - BLOW COUNT	COLOR	MATERIAL TYPE	CONSIS- TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1 4.5'		GRAY	clay	hard		w/roots
	2 4.5'		"	"	"		
5	3 3.5		"	"	very stiff		w/calc. nodules
	4 4.0		GRAY TAN	"	"	Sand	
	5 2.0		TAN	clay	"	"	w/calc.
10	6 2.5		TAN	"	"	"	w/calc.
	7 4 1/4		TAN	Sand	medium dense		Sand at 12.5'
15	8 5 1/2		TAN	Sand	"		
	9 3.0		GRAY TAN	clay	very stiff	Sand	w/calc. nodules.
20	10 1.5		"	"	stiff	"	w/ " "
	11 2.25		"	"	very stiff		w/ " "
25	12 2.5		"	"	"		
30							Bottom of 90-193 (26')
35							

JAR  
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Project : Disposal Area B, Channel to Victoria near Seadrift, Texas

**SUMMARY OF LABORATORY TEST RESULTS**

Boring No. 90-193

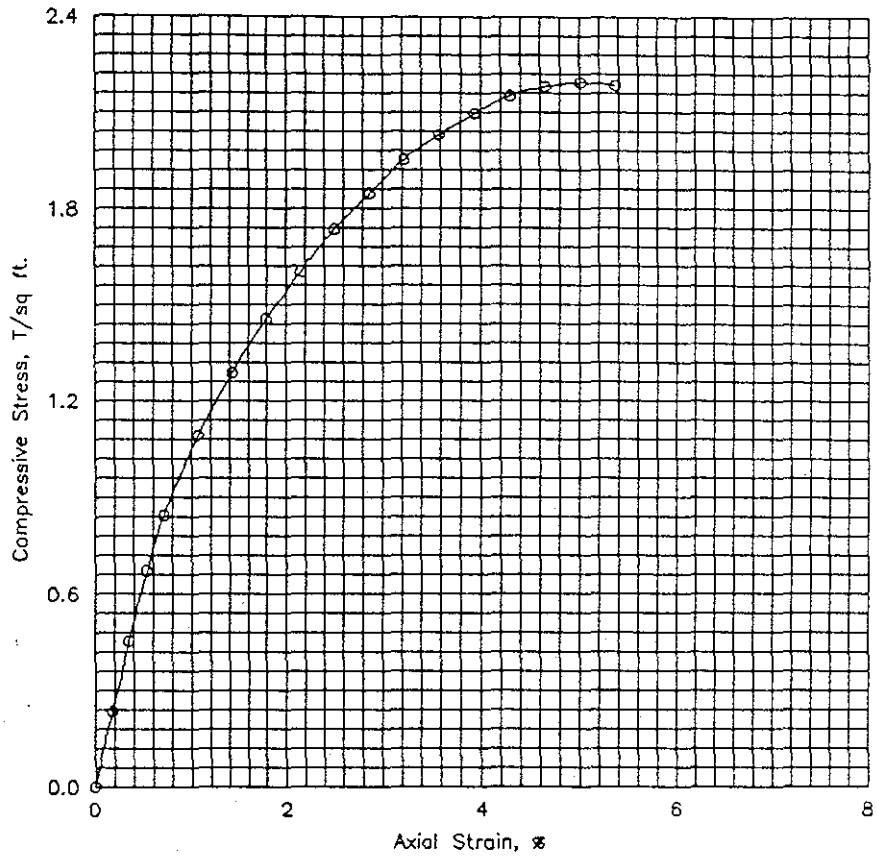
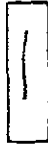
Contract No. DACW64-91-D-0001 Delivery Order No. 0013

S #	Depth (ft)	PP (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	4.5+		Dark gray, Clay, Hard, Sandy, w/roots	CL	16.2											
2	2-4	4.5+		Dark gray, Clay, Hard, Sandy	CL	19.1											
3	4-6	3.50		Yellowish brown, Clay, Very stiff, Silty, w/calcareous nodules	CL	17.7	111.7	131.5	40	19	99.4	98.5	98.5		77.3		2.19
4	6-8	4.5+		Yellowish brown, Clay, Hard, Sandy, w/calcareous nodules	CL	15.8											
5	8-10	3.00		Yellowish brown, Clay, Very stiff, Sandy, w/calcareous nodules	CL	18.2											
6	10-12	1.75		Yellowish brown, Clay, Stiff, Sandy, w/calcareous nodules	CL	18.9	104.3	124.0	31	14	100.0	100.0	100.0		61.6		0.41
7	12.5-14		15	Light brown, Sand, Medium dense, Silty	S M						100.0	100.0	100.0		29.1		
8	14.5-16		18	Yellowish brown, Sand, Medium Dense, Silty	S M												
9	18-20	2.50		Yellowish brown, Clay, Very stiff, Sandy, w/calcareous nodules	CL	18.6			31								
10	20-22	1.00		Yellowish Brown, Clay, Stiff, Sandy, w/calcareous nodules	CL	16.6											
11	22-24	2.50		Yellowish brown, Clay, Very, Stiff, Sandy, w/calcareous nodules	CL	19.7											
12	24-26	3.00		Yellowish brown & gray, Clay, Very stiff, Sandy, w/calcareous nodules	CL	19.9											

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. 14G475

Failure Sketches



- Controlled stress
- Controlled strain

Test No.		1	
Type of Specimen		Undisturbed	
Initial	Water content	$w_0$	17.7 %
	Void ratio	$e_0$	
	Saturation	$S_0$	%
	Dry density, lb/cu ft	$\gamma_d$	111.7
Time to failure, min		$t_f$	5.07
Unconfined compressive strength, T/sq ft		$q_u$	2.19
Undrained shear strength, T/sq ft		$S_u$	1.10
Sensitivity ratio		$S_t$	
Initial specimen diameter, in.		$D_0$	2.830
Initial specimen height, in.		$H_0$	5.595
Classification Yellowish brown, clay, very stiff, silty, w/ calcareous nodules			
LL	40	PL	19
		PI	21
		$G_s$	
Remarks		Project DISPOSAL AREA B, CHANNEL TO VICTORIA	
		Area Near Seadrift, Texas	
		Boring No. 90-193	Sample No. 3
		Depth 4-6 ft	Date 5/28/91
		UNCONFINED COMPRESSION TEST REPORT	

JOB NO. 14G475

DATE 5/28/91

PROJECT DISPOSAL AREA B, CHANNEL TO VICTORIA, NEAR SEADRIFT, TX

BOREHOLE NO. 90-193

SAMPLE NO. 6

DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION

Yellowish brown, clay, stiff, sandy, w/ calcareous nodules

Tare No.	P-30	Height	5.595 in.
Tare plus Wet Specimen	774.62 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	658.50 gm	Initial Area	6.290 sq in.
Water Weight	116.12 gm	Volume	35.194 cu in.
Tare Weight	42.93 gm	Volume of Solids	cu in.
Wet Specimen	1145.27 gm	Void Ratio	
Dry Specimen	963.51 gm	Saturation	%
Water Content	18.86 %	Dry Density	104.3 lb/cu ft
Specific Gravity of Solids			
LL = 31	PL = 14	PI = 17	

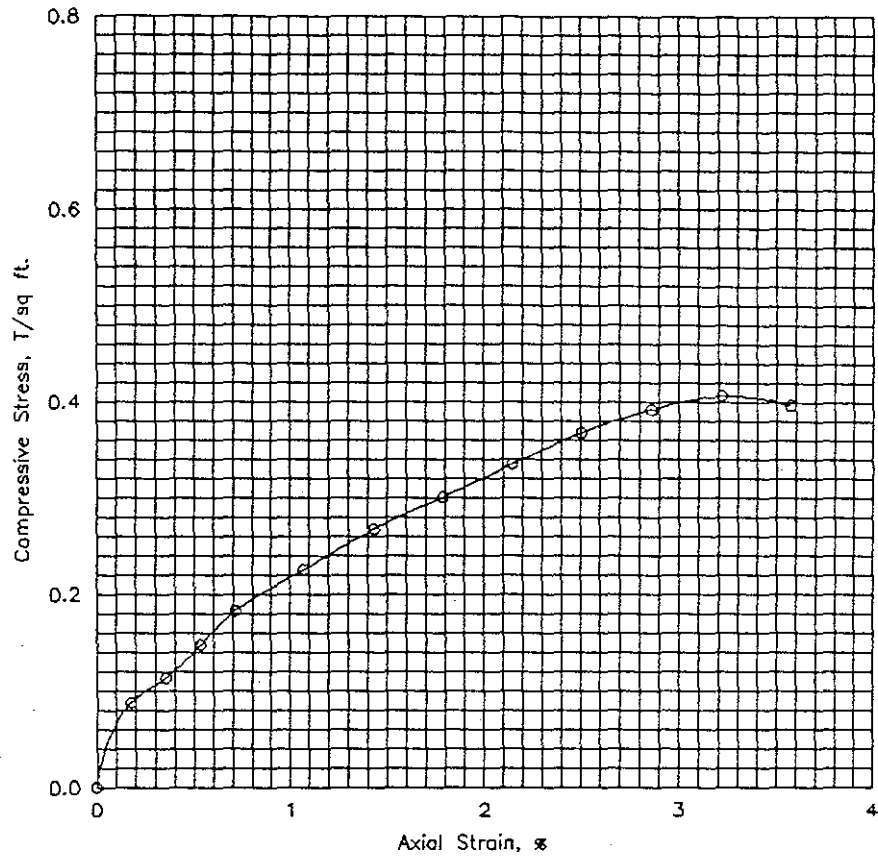
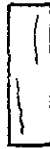
Proving Ring No. 10170

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
.3	10.	.010	10.0	7.7	.002	6.30	.088
.5	20.	.020	13.0	10.0	.004	6.31	.114
.7	30.	.030	17.0	13.0	.005	6.32	.148
.9	40.	.040	21.0	16.1	.007	6.34	.183
1.2	60.	.060	26.0	19.9	.011	6.36	.226
1.5	80.	.080	31.0	23.7	.014	6.38	.268
1.9	100.	.100	35.0	26.8	.018	6.40	.301
2.3	120.	.120	39.0	29.9	.021	6.43	.335
2.5	140.	.140	43.0	32.9	.025	6.45	.368
2.9	160.	.160	46.0	35.2	.029	6.48	.392
3.2	180.	.180	48.0	36.8	.032	6.50	.407
3.5	200.	.200	47.0	36.0	.036	6.52	.397

Job No. 14G475

Failure Sketches



Controlled stress  
 Controlled strain

Test No.		1	
Type of Specimen		Undisturbed	
Initial	Water content	$w_0$	18.9 %
	Void ratio	$e_0$	
	Saturation	$S_0$	%
	Dry density, lb/cu ft	$\gamma_d$	104.3
Time to failure, min		$t_f$	3.15
Unconfined compressive strength, T/sq ft		$q_u$	.41
Undrained shear strength, T/sq ft		$S_u$	.20
Sensitivity ratio		$S_t$	
Initial specimen diameter, in.		$D_0$	2.830
Initial specimen height, in.		$H_0$	5.595
Classification Yellowish brown, clay, stiff, sandy, w/ calcareous nodules			
LL	31	PL	14
		PI	17
		$G_s$	
Remarks		Project DISPOSAL AREA B, CHANNEL TO VICTORIA	
		Area Near Seadrift, Texas	
		Boring No. 90-193	Sample No. 6
		Depth 10-12 ft	Date 5/28/91
		UNCONFINED COMPRESSION TEST REPORT	