

REVIEWED BY LAADATE 3/13/95REVIEWED BY gpcDATE 2/14/95

SUMMARY OF QUESTIONABLE
ERRONEOUS OR MISSING DATA
FOR

CONTRACT NO. DACW64-94-C-0040

PROJECT: SOILS TESTING, HOUSTON-GALVESTON NAVIGATION CHANNEL

BORING NO.	SAMPLE NO.	COMMENTS ON DRILLING RESULTS
93-82	5, 7	Torvane results given, samples sent to SWD → TORVANE WERE DONE IN THE FIELD
93-83	7, 11, 13 23	Torvane results given, samples sent to SWD Unconfined results recorded on lab summary sheet as .97 on test report sheet as .98
93-85	27	MC ordered, not performed
93-88	6	PP results not given, Unconfined results lab summary sheet as .12 on test report as .11
93-89	2	Blow counts indicate loose instead of very loose ✓
93-93	4	PP (.25) indicates soft instead of medium ✓
93-96	4	Unconfined results recorded on lab summary as .15 on test ✓ report .36
	18	Blow counts given, not recorded on field logs

Corrected on my copy 10

JOB NO. 14G783-4

DATE 8/29/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-89

SAMPLE NO. 6

DEPTH 19-21 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, w/ sand pockets

Tare No.	TI	Height	5.595 in.
Tare plus Wet Specimen	339.08 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	228.35 gm	Initial Area	6.290 sq in.
Water Weight	110.73 gm	Volume	35.194 cu in.
Tare Weight	42.58 gm	Volume of Solids	cu in.
Wet Specimen	963.80 gm	Void Ratio	
Dry Specimen	603.86 gm	Saturation	%
Water Content	59.61 %	Dry Density	65.4 lb/cu ft
Specific Gravity of Solids			
LL = 84	PL = 26	PI = 58	

Proving Ring No. 17015

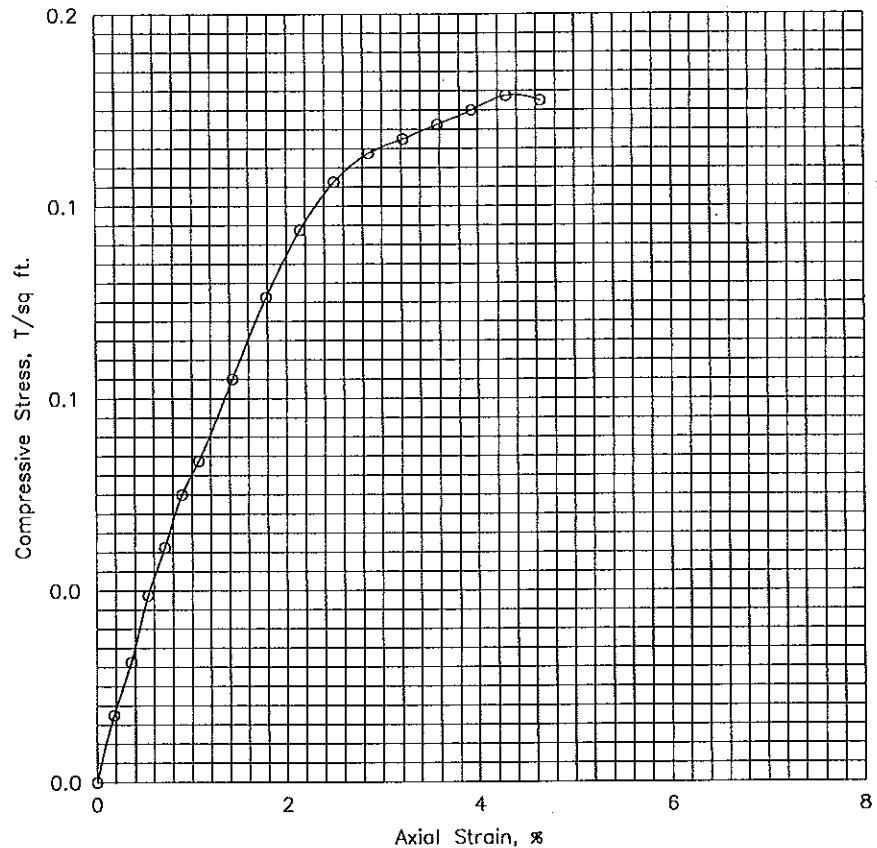
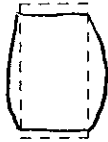
Proving Ring Constant, K = .311 lbs/div.

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	4.0	1.2	.002	6.30	.014
.3	20.	.020	7.0	2.2	.004	6.31	.025
.5	30.	.030	11.0	3.4	.005	6.32	.039
.6	40.	.040	14.0	4.3	.007	6.34	.049
.8	50.	.050	17.0	5.3	.009	6.35	.060
1.0	60.	.060	19.0	5.9	.011	6.36	.067
1.3	80.	.080	24.0	7.5	.014	6.38	.084
1.6	100.	.100	29.0	9.0	.018	6.40	.101
2.0	120.	.120	33.0	10.2	.021	6.43	.115
2.3	140.	.140	36.0	11.2	.025	6.45	.125
2.6	160.	.160	38.0	11.8	.029	6.48	.131
3.0	180.	.180	39.0	12.1	.032	6.50	.134
3.3	200.	.200	40.0	12.4	.036	6.52	.137
3.6	220.	.220	41.0	12.7	.039	6.55	.140
3.9	240.	.240	42.0	13.0	.043	6.57	.143
4.2	260.	.260	42.0	13.0	.046	6.60	.142

30 Nov 70

Job No. 14G783-4

Failure Sketches



- ☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	59.6 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	65.4		
Time to failure, min		t_f	3.93		
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, Very soft, w/ sand pockets

LL	84	PL	26	PI	58	G_s	
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Remarks	Project Houston—Galveston Navigation		
	Channel		
	Area Houston, Texas		
	Boring No. 93—89		Sample No. 6
	Depth 19—21 ft		Date 8/29/94
	UNCONFINED COMPRESSION TEST REPORT		

JOB NO. 14G783-4

DATE 8/29/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-89

SAMPLE NO. 9

DEPTH 28-30 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, Silty

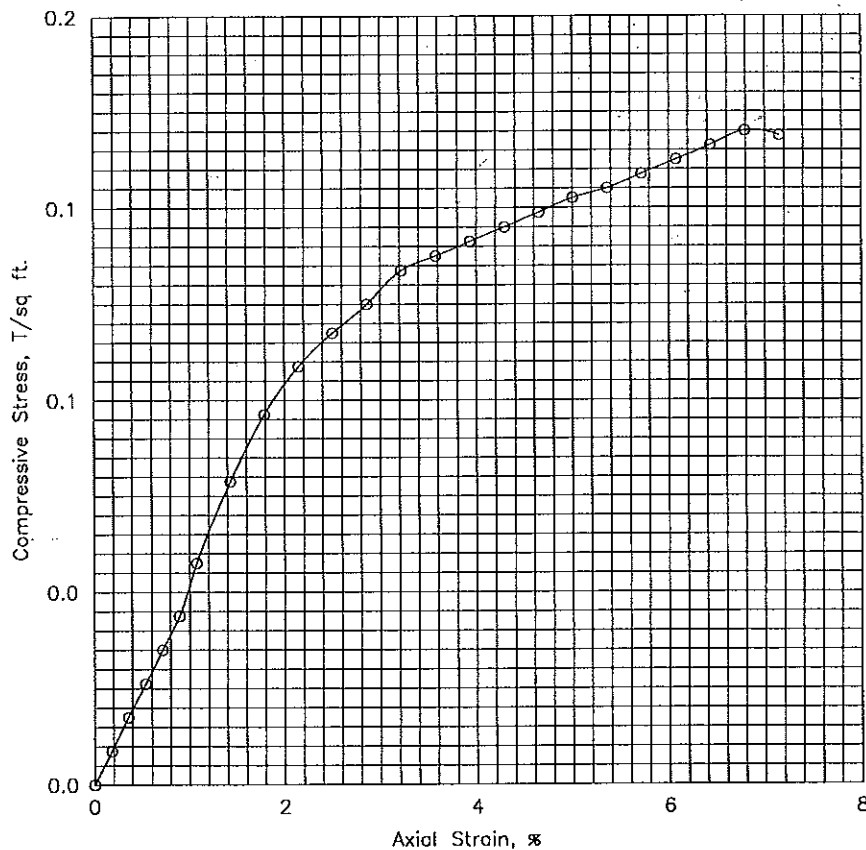
Tare No.	IM-I	Height	5.595 in.
Tare plus Wet Specimen	376.85 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	285.39 gm	Initial Area	6.290 sq in.
Water Weight	91.46 gm	Volume	35.194 cu in.
Tare Weight	42.49 gm	Volume of Solids	cu in.
Wet Specimen	1080.96 gm	Void Ratio	
Dry Specimen	785.28 gm	Saturation	%
Water Content	37.65 %	Dry Density	85.0 lb/cu ft
Specific Gravity of Solids			
LL = 41	PL = 17	PI = 24	

Proving Ring No. 17015

Proving Ring Constant, K = .311 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	2.0	.6	.002	6.30	.007
.3	20.	.020	4.0	1.2	.004	6.31	.014
.5	30.	.030	6.0	1.9	.005	6.32	.021
.6	40.	.040	8.0	2.5	.007	6.34	.028
.8	50.	.050	10.0	3.1	.009	6.35	.035
1.0	60.	.060	13.0	4.0	.011	6.36	.046
1.4	80.	.080	18.0	5.6	.014	6.38	.063
1.7	100.	.100	22.0	6.8	.018	6.40	.077
2.0	120.	.120	25.0	7.8	.021	6.43	.087
2.3	140.	.140	27.0	8.4	.025	6.45	.094
2.7	160.	.160	29.0	9.0	.029	6.48	.100
3.0	180.	.180	31.0	9.6	.032	6.50	.107
3.3	200.	.200	32.0	9.9	.036	6.52	.110
3.6	220.	.220	33.0	10.2	.039	6.55	.113
4.0	240.	.240	34.0	10.6	.043	6.57	.116
4.3	260.	.260	35.0	10.9	.046	6.60	.119
4.6	280.	.280	36.0	11.2	.050	6.62	.122
4.9	300.	.300	37.0	11.5	.054	6.65	.124
5.3	320.	.320	38.0	11.8	.057	6.67	.127
5.6	340.	.340	39.0	12.1	.061	6.70	.130
5.9	360.	.360	40.0	12.4	.064	6.72	.133
6.2	380.	.380	41.0	12.7	.068	6.75	.136
6.6	400.	.400	41.0	12.7	.071	6.77	.135

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	37.7 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	85.0		
Time to failure, min		t_f	6.22		
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, Very soft, Silty					
LL	41	PL	17	PI	24
G _s					
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-89		Sample No. 9	
		Depth 28-30 ft		Date 8/29/94	
		UNCONFINED COMPRESSION TEST REPORT			

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>93-89</u>	DATE: BEGIN <u>7-21-94</u>	PAGE <u>112</u>
					JOB NO. <u>946783-1</u>	COMPLETE <u>7-21-94</u>	Thin Walled Tube
					PROJECT <u>HOUSTON-GALVESTON Navigation Channel</u>	☒ 3"	☐ 6"
					LOCATION <u>DJS POSAL AREA 15</u>		
					ELEVATION OF HOLE _____		
					MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Arco K4X4, C-1000 Marsh Buggy</u>		
					GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____ ft., at end of Drilling		
					WEATHER <u>SUNNY & HOT</u>		
					DRILLER <u>SCOTT GREGURAK</u>	LOGGER <u>JOHN A CENTRY</u>	
		COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS	
0		LIGHT BROWN	SAND	LOOSE	SILTY	FINE 0' - 17'	
		LIGHT BROWN	SAND	LOOSE	SILTY		
5		LIGHT BROWN	SAND	MEDIUM DENSE	SILTY		
		LIGHT BROWN	SAND	MEDIUM DENSE	SILTY		
10							
		GRAY	SAND	VERY LOOSE	SILTY	-w/ CLAY SEMS	
15		GRAY	SAND	VERY LOOSE	SILTY	clay at 17'	
0.05		GRAY	CLAY	VERY SOFT			
0.05		GRAY	CLAY	VERY SOFT			
0.05		GRAY	CLAY	VERY		-w/ SAND LAYER 25-25.5	
25		GRAY	SAND	LOOSE	SILTY	FINE 23' - 28' -w/ SHELL FRAGMENTS 23-23.5 CLAY AT 28'	
0.50		GRAY	CLAY	VERY SOFT			
0.5		GRAY	CLAY	VERY SOFT		-w/ shell fragments	
35		GRAY	SAND	Medium Dense	SILTY	CLAY AT 35'	

Torvane Reading

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSIS- TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
BORING NO. <u>9389</u> DATE: BEGIN <u>7-21-94</u> PAGE <u>2 12</u> JOB NO. <u>946783.1</u> COMPLETE <u>7-21-94</u> Thin Walled Tube PROJECT <u>Houston-Galveston Navigation Channel</u> ☒ 3" ☐ 6" LOCATION <u>DISPOSAL AREA 15</u> ELEVATION OF HOLE _____ MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Ardeo K444, C-1000 Marsh Buggy</u> GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____, ft., at end of Drilling WEATHER <u>SUNNY & HOT</u> DRILLER <u>SCOTT GREGURAK</u> LOGGER <u>JOHN A. GENTRI</u>								
-35-		12	0/11	GRAY	CLAY	VERY SOFT		
-37.5-		13	0/07	GRAY	CLAY	VERY SOFT		
-40-		14	0/007	GRAY	CLAY	VERY SOFT		
-45-								
-50-								
-55-								
-60-								
-65-								
-70-								

Torvane Reading

0.55

0.35

0.35

Torvane Multiplier 0.2

Project: Port of Galveston Navigation Channel

SUMMARY OF LABORATORY TEST RESULTS

Contract No. DACW64-94-C-0040Boring No. 93-89

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			Brown,Sand,Very loose,Silty,w/shell fragments	S M												
2	2-3.5		7	Brown,Sand,Very loose,Silty,w/shell fragments	S M						95.3*	95.2*	94.9*	73.1	39.3		
3	7-8.5		21	Brown,Sand,Medium dense,Silty,w/shell fragments	S M												
4	12-13.5		W.O.H	Gray,Sand,Very loose,Silty,w/shell fragments	S M												
5	17-19	0.00		Gray,Clay,Very soft,w/sand pockets	C H	65.1											
6	19-21	0.00		Gray,Clay,Very soft,w/sand pockets	C H	59.6	65.4	104.3	84	26	100.0	100.0	100.0	99.6	98.8		0.14
7	21-23	0.00		Gray,Clay,Very soft,w/sand pockets	C H	26.1											
8	23-24.5		5	Gray,Sand,Loose,Silty,w/shell fragments	S M						97.7*	96.4*	95.8*	81.4	28.2		
9	28-30	0.00		Gray,Clay,Very soft,Silty	CL	37.7	85.0	117.0	41	17	100.0	100.0	99.8	99.5	98.6		0.14
10	30-32	0.00		Gray,Clay,Very soft,Silty,w/shell fragments	CL	41.0											
11	32-33.5		13	Gray,Sand,Medium dense,Silty	S M												
12	35-37	0.00		Gray,Clay,Very soft	C H	51.0											
13	37-39	0.00		Gray,Clay,Very soft	C H	39.8											
14	39-41	0.00		Gray,Clay,Very soft	C H	33.7											

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content

q u : Uncogined Compressive Strength, W O H : Weight of hammer, W O P : Weight of Pipe

*: Material retained are shell fragments