

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
93-101	2	Test order on sample 4 performed on sample 2
93-103	5	Unconfined results given as 28 on lab summary, 27 given on test report
93-105	2	footnote(*) states that material retained are shell fragments, classification does not include this description
93-112	7	footnote(*) states that material retained are shell fragments, classification does not include this description
93-113	5	Mech Ana does not suggest SP-SM, amount passing not between 5-12
93-115	5	footnote(*) states that material retained are shell fragments, classification does not include this description
93-117	13	Blow counts indicate med dense instead of loose

(corrected on my copies)

JJA 2/17/95
JB 3/13/95

JOB NO. 94G783-4

DATE 9/2/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-103

SAMPLE NO. 5

DEPTH 14-16 ft

SPECIMEN NO. 1

CLASSIFICATION

Yellowish gray, Clay, Soft, w/ shell fragments

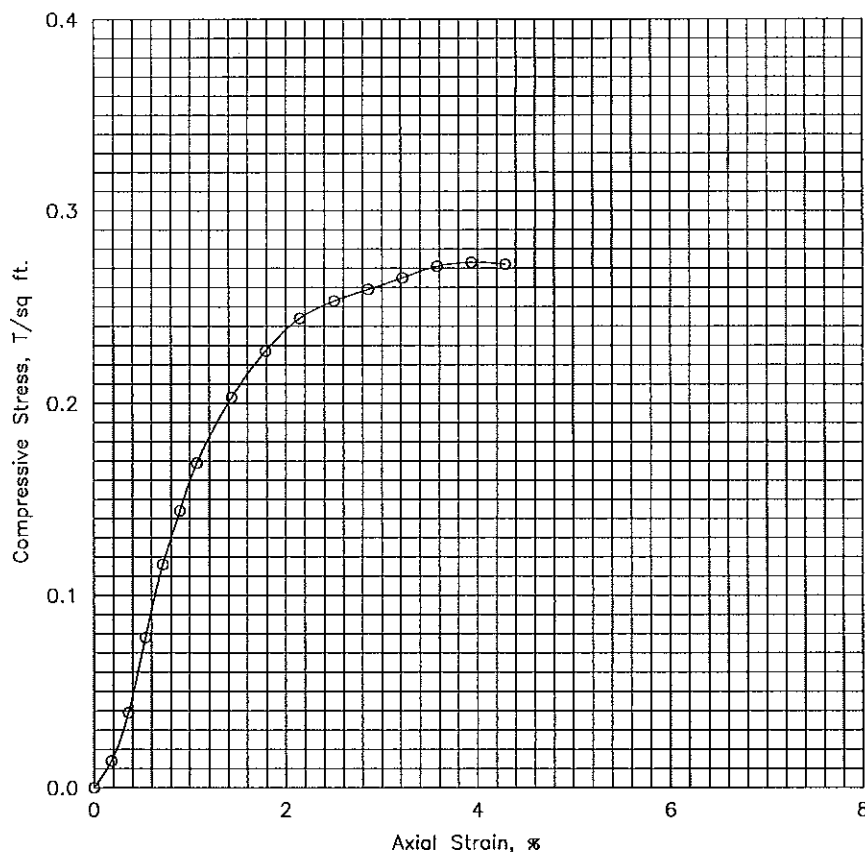
Tare No.	P-11	Height	5.595 in.
Tare plus Wet Specimen	275.80 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	197.16 gm	Initial Area	6.290 sq in.
Water Weight	78.64 gm	Volume	35.194 cu in.
Tare Weight	42.67 gm	Volume of Solids	cu in.
Wet Specimen	1008.70 gm	Void Ratio	
Dry Specimen	668.44 gm	Saturation	%
Water Content	50.90 %	Dry Density	72.4 lb/cu ft
Specific Gravity of Solids			
LL = 98	PL = 33	PI = 65	

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
.4	20.	.020	11.0	3.4	.004	6.31	.039
.5	30.	.030	22.0	6.8	.005	6.32	.078
.7	40.	.040	33.0	10.2	.007	6.34	.116
.9	50.	.050	41.0	12.7	.009	6.35	.144
1.1	60.	.060	48.0	14.9	.011	6.36	.169
1.5	80.	.080	58.0	18.0	.014	6.38	.203
1.9	100.	.100	65.0	20.2	.018	6.40	.227
2.2	120.	.120	70.0	21.7	.021	6.43	.244
2.6	140.	.140	73.0	22.7	.025	6.45	.253
2.9	160.	.160	75.0	23.3	.029	6.48	.259
3.2	180.	.180	77.0	23.9	.032	6.50	.265
3.6	200.	.200	79.0	24.5	.036	6.52	.271
3.9	220.	.220	80.0	24.8	.039	6.55	.273
4.2	240.	.240	80.0	24.8	.043	6.57	.272

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	50.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	72.4		
Time to failure, min		t_f	3.87		
Unconfined compressive strength, T/sq ft		q_u	.27		
Undrained shear strength, T/sq ft		S_u	.14		
Sensitivity ratio		S_l			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Yellowish gray, Clay, Soft, w/ shell fragments					
LL	98	PL	33	PI	65
				C_u	
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-103		Sample No. 5	
		Depth 14-16 ft		Date 9/2/94	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 94G783-4

DATE 9/2/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-103

SAMPLE NO. 8

DEPTH 23-25 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, w/ sand pockets

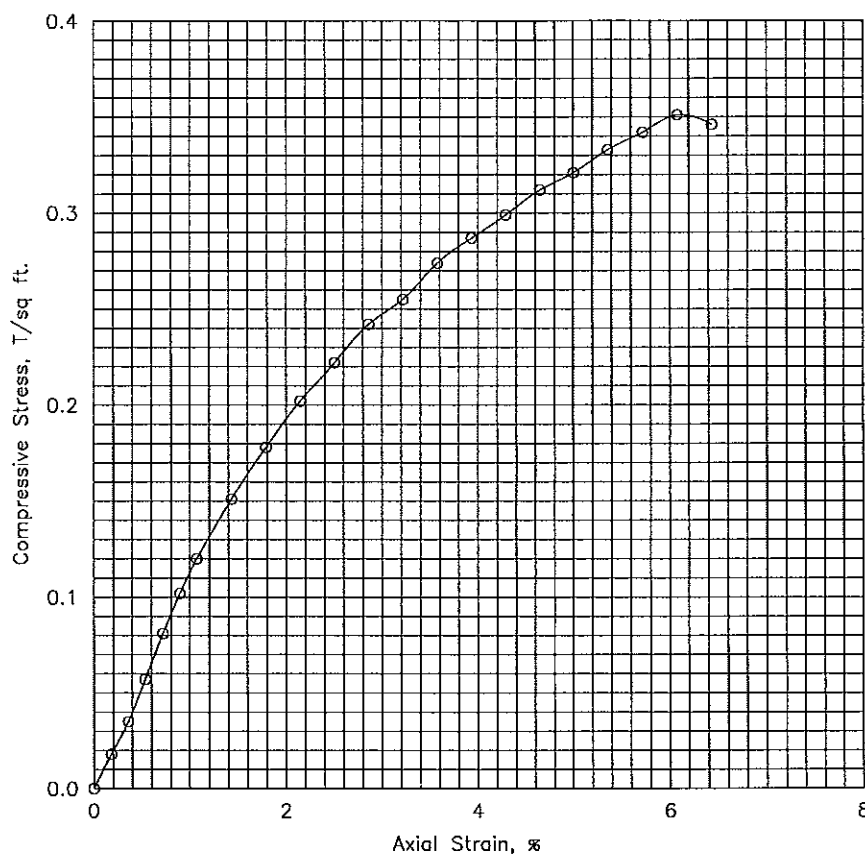
Tare No.	KL-35	Height	5.595 in.
Tare plus Wet Specimen	348.23 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	254.30 gm	Initial Area	6.290 sq in.
Water Weight	93.93 gm	Volume	35.194 cu in.
Tare Weight	42.73 gm	Volume of Solids	cu in.
Wet Specimen	1040.71 gm	Void Ratio	
Dry Specimen	720.73 gm	Saturation	%
Water Content	44.40 %	Dry Density	78.0 lb/cu ft
Specific Gravity of Solids			
LL = 59	PL = 22	PI = 37	

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	5.0	1.6	.002	6.30	.018
.3	20.	.020	10.0	3.1	.004	6.31	.035
.5	30.	.030	16.0	5.0	.005	6.32	.057
.8	40.	.040	23.0	7.1	.007	6.34	.081
.9	50.	.050	29.0	9.0	.009	6.35	.102
1.1	60.	.060	34.0	10.6	.011	6.36	.120
1.4	80.	.080	43.0	13.4	.014	6.38	.151
1.8	100.	.100	51.0	15.8	.018	6.40	.178
2.1	120.	.120	58.0	18.0	.021	6.43	.202
2.5	140.	.140	64.0	19.9	.025	6.45	.222
2.8	160.	.160	70.0	21.7	.029	6.48	.242
3.1	180.	.180	74.0	23.0	.032	6.50	.255
3.4	200.	.200	80.0	24.8	.036	6.52	.274
3.8	220.	.220	84.0	26.1	.039	6.55	.287
4.1	240.	.240	88.0	27.3	.043	6.57	.299
4.4	260.	.260	92.0	28.6	.046	6.60	.312
4.8	280.	.280	95.0	29.5	.050	6.62	.321
5.1	300.	.300	99.0	30.7	.054	6.65	.333
5.4	320.	.320	102.0	31.7	.057	6.67	.342
5.8	340.	.340	105.0	32.6	.061	6.70	.351
6.1	360.	.360	104.0	32.3	.064	6.72	.346

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	44.4 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	78.0		
Time to failure, min		t_f	5.78		
Unconfined compressive strength, T/sq ft		q_u	.35		
Undrained shear strength, T/sq ft		S_u	.18		
Sensitivity ratio		S_l			
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	59	PL	22	PI	37
		C_u			
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-103		Sample No. 8	
		Depth 23-25 ft		Date 9/2/94	
		UNCONFINED COMPRESSION TEST REPORT			

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. 93-103	DATE: BEGIN 8-3-93	PAGE 1 / 2
					JOB NO. 946783-1	COMPLETE 8-2-93 Thin Walled Tube	
					PROJECT HOUSTON-GALVESTON Navigation Channel	3" ☐ 6" ☐	
					LOCATION Disposal Area # 16		
					ELEVATION OF HOLE		
					MANUFACTURER'S DESIGNATION OF DRILL RIG Arco K4X4, C-1000 March Buggy		
					GROUNDWATER: DEPTH 0 ft., ELEV. ft., at end of Drilling		
					WEATHER 90° Cloudy 30% Rain		
					DRILLER David Gresham	LOGGER Willis Boras	
Torvane Reading			COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	X	1	10/16 12	Light Brown	Sand	DENSE	Silty w/ shell fragments
5	X	2	13/13 20	Light Brown	Sand	DENSE	Silty - w/ shell fragments
10	X	3	4/10 12	Gray	Sand	MEDIUM DENSE	Silty clay AT 12'
		4	0.75	Brown	Clay	MEDIUM STIFF	
15		5	0.75	Brown	Clay	MEDIUM STIFF	- w/ shell fragments 14'-16'
		6	0.75	Dark Gray	Clay	MEDIUM STIFF	Sand AT Bottom of Sample
20	X	7	2/4 7	Gray	Sand	MEDIUM DENSE	Silty clay AT 23'
0.1		8	0.00 0.02	Gray	Clay	VERY SOFT	Silty
0.1		9	0.00 0.02	Gray	Clay	VERY SOFT	Silty Sand AT Bottom of Sample
	X	10	3/3 5	Gray	SAND	LOOSE	Silty clay AT 29'
0.1		11	0.00 0.02	Gray	Clay	VERY SOFT	Silty
0.1		12	0.00 0.02	Gray	Clay	VERY SOFT	Sandy
35	X	13	3/3 6	Gray	Sand	LOOSE	Silty

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>93-103</u> DATE: BEGIN <u>8-3-94</u> PAGE <u>2 / 2</u> JOB NO. <u>946783.1</u> COMPLETE <u>8-3-94</u> Thin Walled Tube PROJECT <u>Houston-Galveston Navigation channel</u> ☒ 3" ☐ 6" LOCATION <u>DISPOSAL AREA # 16</u> ELEVATION OF HOLE _____ MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Ardea K44, C-1000 Marsh Buggy</u> GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>90° Cloudy 30% Rain</u> DRILLER <u>David</u> LOGGER <u>Willie Barnes</u>				
						COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
-35-										
-40-	X	14	4/5/94	Gray	Sand	Medium Dense	SILTY			
	X	15	3/6/94	Gray	Sand	Medium Dense	SILTY			
-45-										
-50-										
-55-										
-60-										
-65-										
-70-										

Project: Houston-Galveston Navigation Channel**SUMMARY OF LABORATORY TEST RESULTS**Contract No. DACW64-94-C-0040Boring No. 93-103

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	Mc (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	PL (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0-1.5		38	Gray,Sand,Dense,Silty,w/shell fragments	S M												
2	5-6.5		33	Gray,Sand,Dense,Silty,w/shell fragments	SP-SM						99.0*	92.4*	90.3*	54.9	7.8		
3	10-11.5		22	Gray,Sand,Medium dense,Silty	S M												
4	12-14	0.75		Brown,Clay,Medium stiff	C H	45.0											
5	14-16	0.25		Yellowish gray,Clay,Soft,w/shell fragments	C H	50.9	72.4	109.2	98.0	33.0	98.6*	96.9*	96.0*	95.4	94.0		0.28
6	16-18	0.25		Yellowish gray,Clay,Soft,w/shell fragments	C H	58.8											
7	18-19.5		11	Gray,Sand,Medium dense,Silty	S M												
8	23-25	0.25		Gray,Clay,Soft,w/sand pockets	C H	44.4	78.0	112.7	59.0	22.0	100.0	99.8	99.7	93.8	92.1		0.35
9	25-27	0.25		Gray,Clay,Soft,w/sand pockets	C H	45.4											
10	27-28.5		8	Gray,Sand,Loose,Silty,w/shell fragments	S M						98.7*	96.5*	95.5*	80.8	38.5		
11	29-31	0.00		Gray,Clay,Very soft,Sandy	C L	37.3											
12	31-33	0.00		Gray,Clay,Very soft,Sandy	C L	22.2											
13	33-34.5		9	Gray,Sand,Loose,Silty	S M												
14	38-39.5		12	Gray,Sand,Medium dense,Silty	S M												
15	39.5-41		15	Gray,Sand,Medium dense,Silty	S M												

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