

JOB NO. 14G783-4

DATE 8/23/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-90

SAMPLE NO. 17

DEPTH 32-34 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Soft, Sandy, w/shell fragments

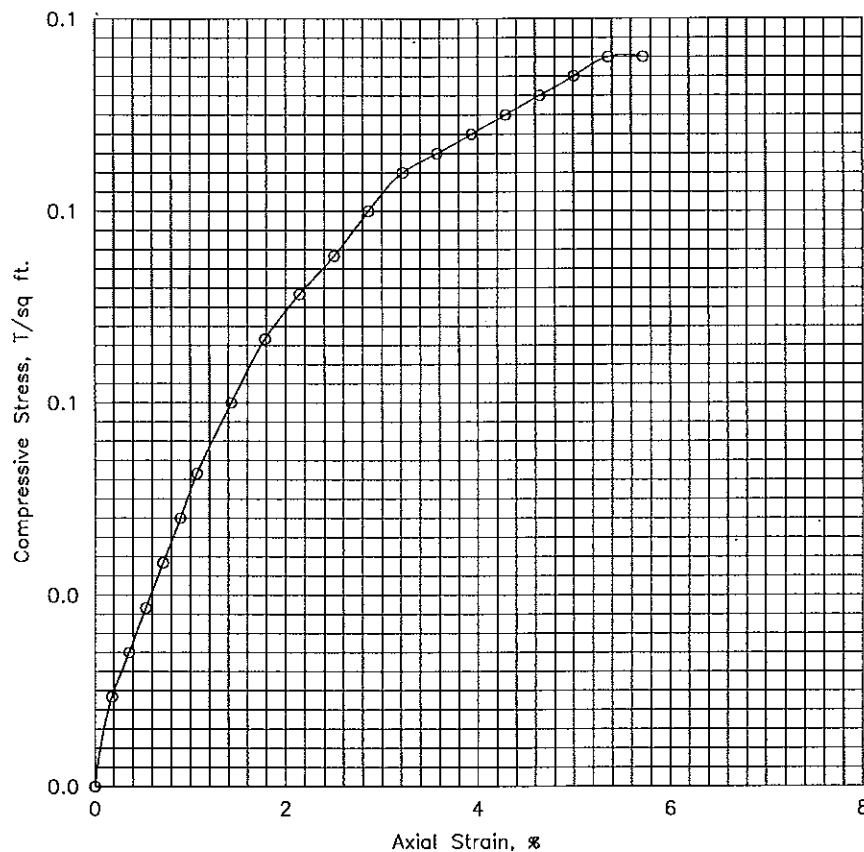
Tare No.	67F	Height	5.595 in.
Tare plus Wet Specimen	120.95 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	99.73 gm	Initial Area	6.290 sq in.
Water Weight	21.22 gm	Volume	35.194 cu in.
Tare Weight	32.51 gm	Volume of Solids	cu in.
Wet Specimen	1103.54 gm	Void Ratio	
Dry Specimen	838.76 gm	Saturation	%
Water Content	31.57 %	Dry Density	90.8 lb/cu ft
Specific Gravity of Solids			
LL = 34	PL = 15	PI = 19	

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
.1	10.	.010	9.0	2.8	.002	6.30	.032
.3	20.	.020	20.0	6.2	.004	6.31	.071
.4	30.	.030	26.0	8.1	.005	6.32	.092
.5	40.	.040	30.0	9.3	.007	6.34	.106
.6	50.	.050	33.0	10.2	.009	6.35	.116
.8	60.	.060	38.0	11.8	.011	6.36	.134
.9	80.	.080	42.0	13.0	.014	6.38	.147
1.5	100.	.100	46.0	14.3	.018	6.40	.161
1.8	120.	.120	50.0	15.5	.021	6.43	.174
2.1	140.	.140	53.0	16.5	.025	6.45	.184
2.4	160.	.160	57.0	17.7	.029	6.48	.197
2.8	180.	.180	60.0	18.6	.032	6.50	.206
3.1	200.	.200	63.0	19.6	.036	6.52	.216
3.4	220.	.220	66.0	20.5	.039	6.55	.225
3.7	240.	.240	68.0	21.1	.043	6.57	.231
4.1	260.	.260	71.0	22.1	.046	6.60	.241
4.4	280.	.280	72.5	22.5	.050	6.62	.245
4.7	300.	.300	74.0	23.0	.054	6.65	.249
5.0	320.	.320	76.0	23.6	.057	6.67	.255
5.4	340.	.340	78.0	24.2	.061	6.70	.260
5.7	360.	.360	80.0	24.8	.064	6.72	.266
6.0	380.	.380	81.0	25.2	.068	6.75	.268
6.3	400.	.400	82.0	25.5	.071	6.77	.271
7.1	450.	.450	84.0	26.1	.080	6.84	.275
7.9	500.	.500	86.0	26.7	.089	6.91	.278

Failure Sketches



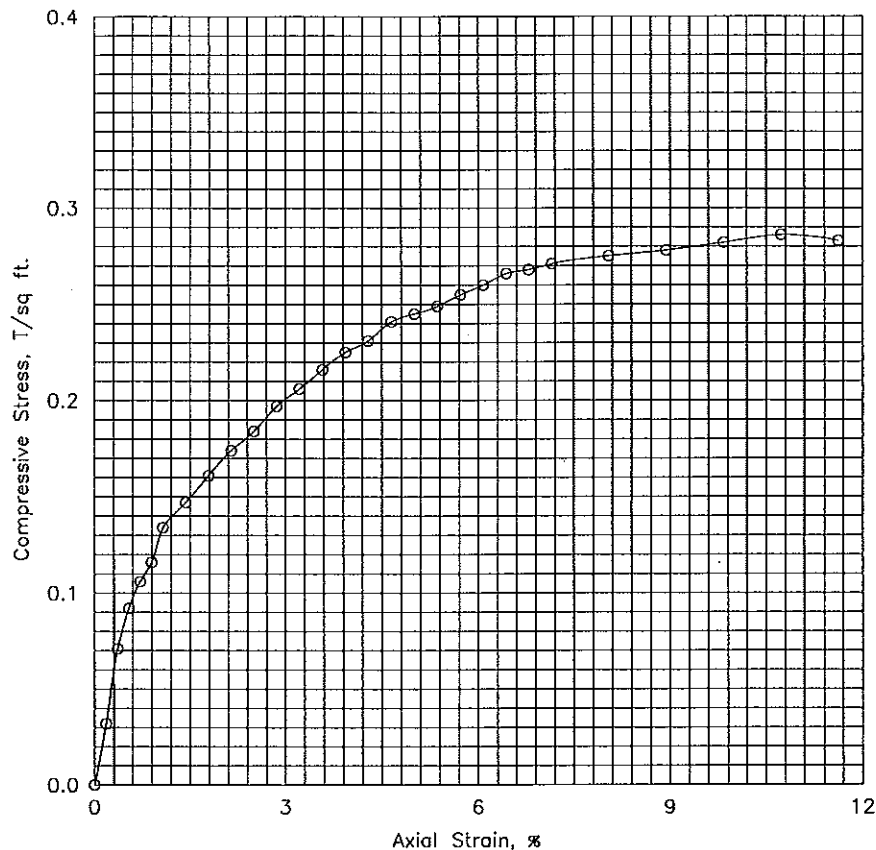
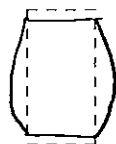
☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	26.9 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	97.9		
Time to failure, min		t_f	4.90		
Unconfined compressive strength, T/sq ft		q_u	.11		
Undrained shear strength, T/sq ft		S_u	.06		
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, Sandy, w/shell fragments					
LL	69	PL	24	PI	45
		G_s			
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-90		Sample No. 13	
		Depth 24-26 ft		Date 8/22/94	
		UNCONFINED COMPRESSION TEST REPORT			

8.7	550.	.550	88.0	27.3	.098	6.98	.282
9.8	600.	.600	90.0	28.0	.107	7.05	.286
10.4	650.	.650	90.0	28.0	.116	7.12	.283

Job No. 14G783-4

Failure Sketches



□ Controlled stress
⊗ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	31.6 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	90.8		
Time to failure, min		t_f	9.77		
Unconfined compressive strength, T/sq ft		q_u	.29		
Undrained shear strength, T/sq ft		S_u	.14		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Soft, Sandy, w/shell fragments					
LL	34	PL	15	PI	19
				G_s	
Remarks		Project Houston--Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-90		Sample No. 17	
		Depth 32-34 ft		Date 8/23/94	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G783-4

DATE 8/22/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-90

SAMPLE NO. 3

DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Soft, Sandy, w/shell fragments

Tare No.	34-A	Height	5.595 in.
Tare plus Wet Specimen	106.83 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	88.95 gm	Initial Area	6.290 sq in.
Water Weight	17.88 gm	Volume	35.194 cu in.
Tare Weight	26.67 gm	Volume of Solids	cu in.
Wet Specimen	1114.02 gm	Void Ratio	
Dry Specimen	865.53 gm	Saturation	%
Water Content	28.71 %	Dry Density	93.7 lb/cu ft
Specific Gravity of Solids			
LL = 33	PL = 15	PI = 18	

Proving Ring No. 17015

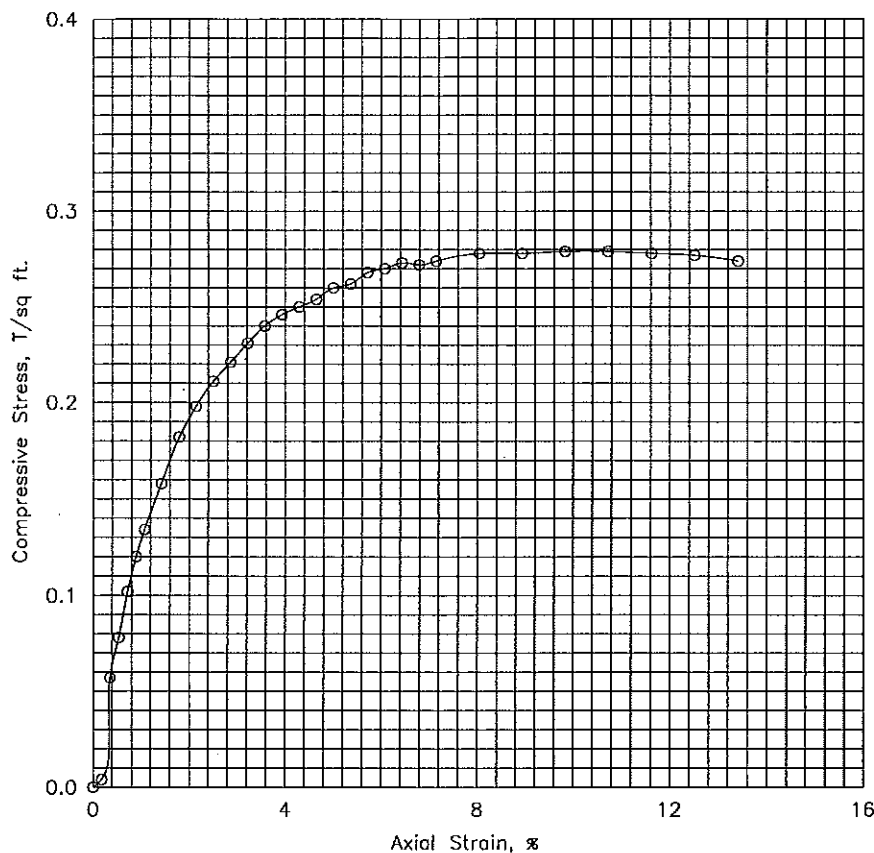
Proving Ring Constant, K = .311 lbs/div.

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	1.0	.3	.002	6.30	.004
.3	20.	.020	16.0	5.0	.004	6.31	.057
.5	30.	.030	22.0	6.8	.005	6.32	.078
.7	40.	.040	29.0	9.0	.007	6.34	.102
.8	50.	.050	34.0	10.6	.009	6.35	.120
1.0	60.	.060	38.0	11.8	.011	6.36	.134
1.3	80.	.080	45.0	14.0	.014	6.38	.158
1.7	100.	.100	52.0	16.2	.018	6.40	.182
2.0	120.	.120	57.0	17.7	.021	6.43	.198
2.3	140.	.140	61.0	18.9	.025	6.45	.211
2.7	160.	.160	64.0	19.9	.029	6.48	.221
3.0	180.	.180	67.0	20.8	.032	6.50	.231
3.3	200.	.200	70.0	21.7	.036	6.52	.240
3.6	220.	.220	72.0	22.4	.039	6.55	.246
4.0	240.	.240	73.5	22.8	.043	6.57	.250
4.3	260.	.260	75.0	23.3	.046	6.60	.254
4.6	280.	.280	77.0	23.9	.050	6.62	.260
5.0	300.	.300	78.0	24.2	.054	6.65	.262
5.3	320.	.320	80.0	24.8	.057	6.67	.268
5.6	340.	.340	81.0	25.2	.061	6.70	.270
5.9	360.	.360	82.0	25.5	.064	6.72	.273
6.3	380.	.380	82.0	25.5	.068	6.75	.272
6.6	400.	.400	83.0	25.8	.071	6.77	.274
7.3	450.	.450	85.0	26.4	.080	6.84	.278
8.2	500.	.500	86.0	26.7	.089	6.91	.278

8.9	550.	.550	87.0	27.0	.098	6.98	.279
9.8	600.	.600	88.0	27.3	.107	7.05	.279
10.7	650.	.650	88.5	27.5	.116	7.12	.278
11.4	700.	.700	89.0	27.6	.125	7.19	.277
12.2	750.	.750	89.0	27.6	.134	7.26	.274

Job No. 14G783-4

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	28.7 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	93.7		
Time to failure, min		t_f	9.77		
Unconfined compressive strength, T/sq ft		q_u	.28		
Undrained shear strength, T/sq ft		S_u	.14		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Soft, Sandy, w/shell fragments					
LL	33	PL	15	PI	18
				G_s	
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-90		Sample No. 3	
		Depth 4-6 ft		Date 8/22/94	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G783-4

DATE 8/22/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-90

SAMPLE NO. 8

DEPTH 14-16 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft

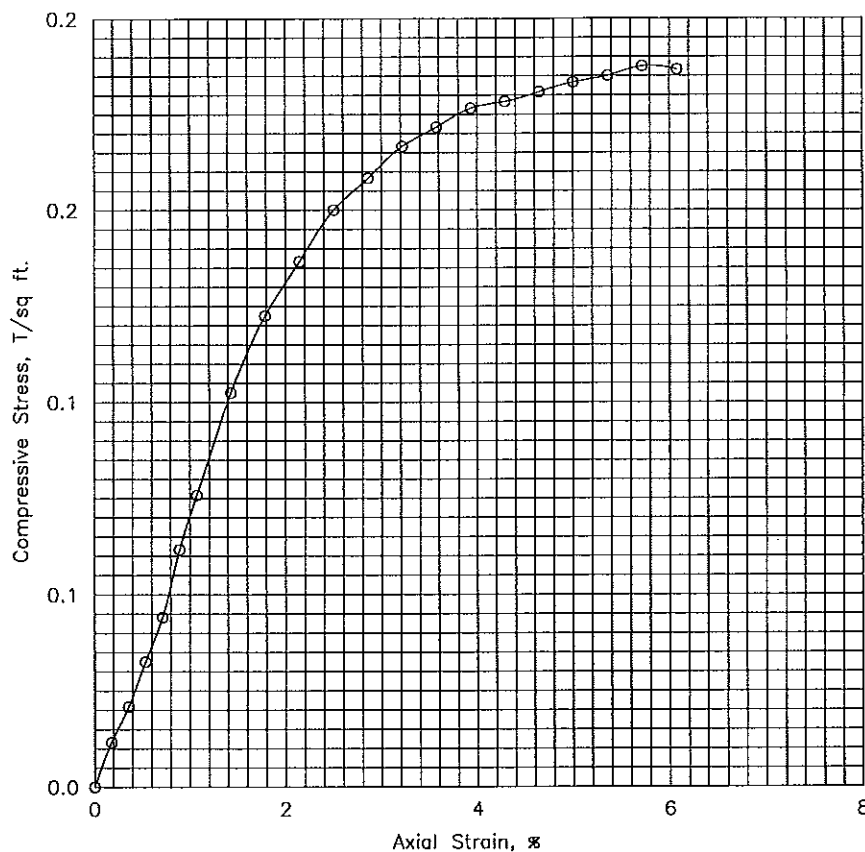
Tare No.	KL-29	Height	5.595 in.
Tare plus Wet Specimen	430.78 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	305.82 gm	Initial Area	6.290 sq in.
Water Weight	124.96 gm	Volume	35.194 cu in.
Tare Weight	42.41 gm	Volume of Solids	cu in.
Wet Specimen	995.26 gm	Void Ratio	
Dry Specimen	675.03 gm	Saturation	%
Water Content	47.44 %	Dry Density	73.1 lb/cu ft
Specific Gravity of Solids			
LL = 74	PL = 28	PI = 46	

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
.7	40.	.040	15.0	4.7	.007	6.34	.053
.9	50.	.050	21.0	6.5	.009	6.35	.074
1.0	60.	.060	26.0	8.1	.011	6.36	.091
1.4	80.	.080	35.0	10.9	.014	6.38	.123
1.7	100.	.100	42.0	13.0	.018	6.40	.147
2.1	120.	.120	47.0	14.6	.021	6.43	.164
2.3	140.	.140	52.0	16.2	.025	6.45	.180
2.7	160.	.160	55.0	17.1	.029	6.48	.190
3.0	180.	.180	58.0	18.0	.032	6.50	.200
3.3	200.	.200	60.0	18.6	.036	6.52	.206
3.6	220.	.220	62.0	19.3	.039	6.55	.212
4.0	240.	.240	63.0	19.6	.043	6.57	.214
4.3	260.	.260	64.0	19.9	.046	6.60	.217
4.6	280.	.280	65.0	20.2	.050	6.62	.220
4.9	300.	.300	66.0	20.5	.054	6.65	.222
5.3	320.	.320	67.0	20.8	.057	6.67	.225
5.7	340.	.340	67.0	20.8	.061	6.70	.224

Failure Sketches



□ Controlled stress
 ⊗ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	47.4 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	73.1		
Time to failure, min		t_f	5.30		
Unconfined compressive strength, T/sq ft		q_u	.22		
Undrained shear strength, T/sq ft		S_u	.11		
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					
LL	74	PL	28	PI	46
		G_s			
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-90		Sample No. 8	
		Depth 14-16 ft		Date 8/22/94	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G783-4

DATE 8/22/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-90

SAMPLE NO. 13

DEPTH 24-26 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, Sandy, w/shell fragments

Tare No.	T-2	Height	5.595 in.
Tare plus Wet Specimen	385.95 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	313.22 gm	Initial Area	6.290 sq in.
Water Weight	72.73 gm	Volume	35.194 cu in.
Tare Weight	42.78 gm	Volume of Solids	cu in.
Wet Specimen	1147.38 gm	Void Ratio	
Dry Specimen	904.21 gm	Saturation	%
Water Content	26.89 %	Dry Density	97.9 lb/cu ft
Specific Gravity of Solids			
LL = 69	PL = 24	PI = 45	

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	6.0	1.9	.004	6.31	.021
.5	30.	.030	8.0	2.5	.005	6.32	.028
.7	40.	.040	10.0	3.1	.007	6.34	.035
.8	50.	.050	12.0	3.7	.009	6.35	.042
1.0	60.	.060	14.0	4.3	.011	6.36	.049
1.3	80.	.080	17.0	5.3	.014	6.38	.060
1.5	100.	.100	20.0	6.2	.018	6.40	.070
2.0	120.	.120	22.0	6.8	.021	6.43	.077
2.3	140.	.140	24.0	7.5	.025	6.45	.083
2.6	160.	.160	26.0	8.1	.029	6.48	.090
2.9	180.	.180	28.0	8.7	.032	6.50	.096
3.3	200.	.200	29.0	9.0	.036	6.52	.099
3.6	220.	.220	30.0	9.3	.039	6.55	.102
3.9	240.	.240	31.0	9.6	.043	6.57	.105
4.2	260.	.260	32.0	9.9	.046	6.60	.108
4.6	280.	.280	33.0	10.2	.050	6.62	.111
4.9	300.	.300	34.0	10.6	.054	6.65	.114
5.2	320.	.320	34.0	10.6	.057	6.67	.114

JOB NO. 14G783-4

DATE 8/23/94

PROJECT Houston-Galveston Navigation
Channel

AREA Houston, Texas

BORING NO. 93-90

SAMPLE NO. 20

DEPTH 38-40 ft

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very soft, Sandy, w/shell fragments

Tare No.	K1-10	Height	5.595 in.
Tare plus Wet Specimen	476.67 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	390.80 gm	Initial Area	6.290 sq in.
Water Weight	85.87 gm	Volume	35.194 cu in.
Tare Weight	42.87 gm	Volume of Solids	cu in.
Wet Specimen	1183.31 gm	Void Ratio	
Dry Specimen	949.08 gm	Saturation	%
Water Content	24.68 %	Dry Density	102.7 lb/cu ft
Specific Gravity of Solids			
LL = 27	PL = 14	PI = 13	

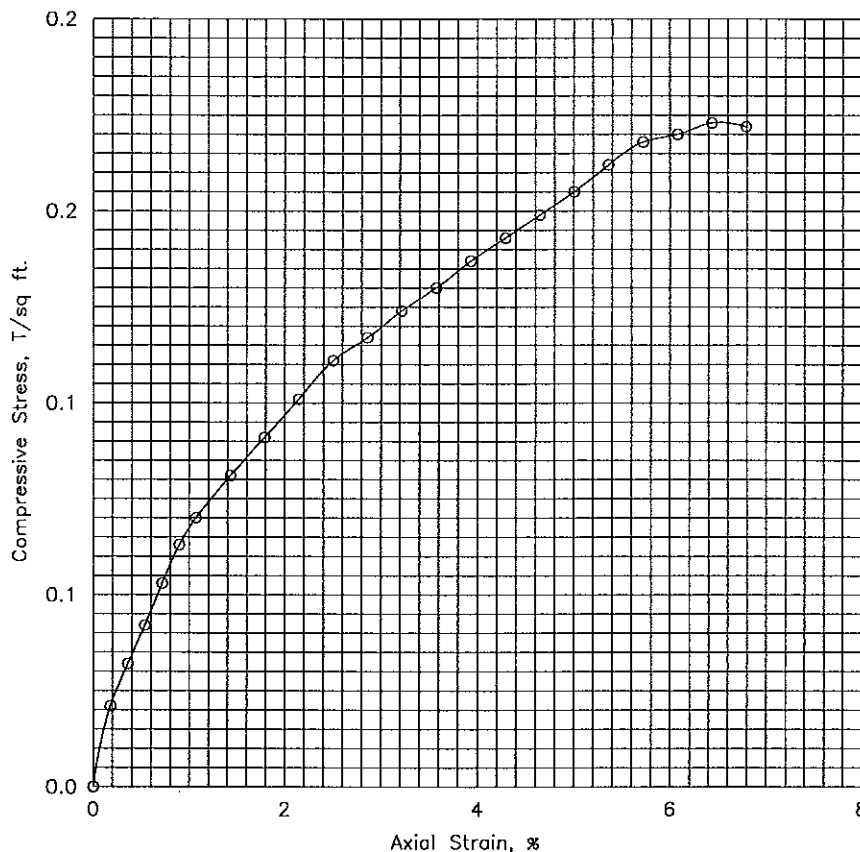
Proving Ring No. 17015

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	6.0	1.9	.002	6.30	.021
.4	20.	.020	9.0	2.8	.004	6.31	.032
.6	30.	.030	12.0	3.7	.005	6.32	.042
.7	40.	.040	15.0	4.7	.007	6.34	.053
.9	50.	.050	18.0	5.6	.009	6.35	.063
1.0	60.	.060	20.0	6.2	.011	6.36	.070
1.4	80.	.080	23.0	7.1	.014	6.38	.081
1.7	100.	.100	26.0	8.1	.018	6.40	.091
2.0	120.	.120	29.0	9.0	.021	6.43	.101
2.3	140.	.140	32.0	9.9	.025	6.45	.111
2.7	160.	.160	34.0	10.6	.029	6.48	.117
3.0	180.	.180	36.0	11.2	.032	6.50	.124
3.3	200.	.200	38.0	11.8	.036	6.52	.130
3.7	220.	.220	40.0	12.4	.039	6.55	.137
4.0	240.	.240	42.0	13.0	.043	6.57	.143
4.4	260.	.260	44.0	13.7	.046	6.60	.149
4.6	280.	.280	46.0	14.3	.050	6.62	.155
4.9	300.	.300	48.0	14.9	.054	6.65	.162
5.3	320.	.320	50.0	15.5	.057	6.67	.168
5.6	340.	.340	51.0	15.8	.061	6.70	.170
5.9	360.	.360	52.0	16.2	.064	6.72	.173
6.2	380.	.380	52.0	16.2	.068	6.75	.172

Job No. 14G783-4

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	24.7 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	102.7		
Time to failure, min		t_f	5.95		
Unconfined compressive strength, T/sq ft		q_u	.17		
Undrained shear strength, T/sq ft		S_u	.09		
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, Sandy, w/shell fragments					
LL	27	PL	14	PI	13
				G_s	
Remarks		Project Houston-Galveston Navigation			
		Channel			
		Area Houston, Texas			
		Boring No. 93-90		Sample No. 20	
		Depth 38-40 ft		Date 8/23/94	
		UNCONFINED COMPRESSION TEST REPORT			

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT. - BLOW COUNT	BORING NO. <u>93-90</u>	DATE: BEGIN <u>7-20-94</u>	PAGE <u>1 / 2</u>
					JOB NO. <u>946783-1</u>	COMPLETE <u>7-20-94</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>Arco K4X4, C-1000 Marsh Buggy</u>		
					GROUNDWATER: DEPTH <u>0</u> ft., ELEV. <u> </u> ft., at end of Drilling		
					WEATHER <u>SUNNY and Hot 98°</u> , <u>RAINING at Noon</u>		
					DRILLER <u>SCOTT</u>	LOGGER <u>WILLIE BARNES</u>	
			COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
	0	1	Gray	Sand	Dense	Silty	-W/shell fragments
		2	Gray	sand	Dense	Silty	
0.10	15	3	Dark Gray	Clay	V. soft	SILTY	
0.10	Q	4	Dark Gray	Clay	V. soft	SILTY	
0.10	CONC	5	Gray	clay	V. soft	SILTY	
0.1	R	6	Gray	clay	V. soft	SILTY	
		7	Gray	Sand	Medium Dense	Sandy	
0.1	15	8	Gray	Clay	Soft	Silty	
		9	Gray	Sand	Very loose	Silty fine	
0.1		10	Gray	Clay	Very Soft	Silty	
	20	11	Gray	Sand	Very loose	clay	
0.1		12	Gray	Clay	Very Soft	Sandy	
0.1	25	13	Gray	clay	Very Soft	Sandy	
0.1	CONC	14	Gray	clay	Very Soft	Sandy	
0.1		15	Gray	clay	Very soft	Sandy	
0.1	30	16	Gray	clay	Very Soft	Sandy	
0.1	V	17	Gray	clay	Very Soft	Sandy	
0.1	35	18	Gray	clay	Very Soft	Sandy	

Torvane Readings

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
BORING NO. <u>93-90</u> DATE: BEGIN <u>7-20-94</u> PAGE <u>2 / 2</u> JOB NO. <u>946783.1</u> COMPLETE <u>7-20-94</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>Arco K44, C-1000 Marsh Buggy</u> GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>Sunny and Hot 98°, Raining at Noon</u> DRILLER <u>Scott</u> LOGGER <u>Willie Borne</u>									
Torvane Reading									
0.10	35	19	0.00 0.02		Gray	clay	Very soft	Sandy	
0.15	40	20	0.00 0.03		Gray	clay	Very soft	Sandy	
									Torvane Multiplier 0.2
45 50 55 60 65 70									

Project: Galveston-Galveston Navigation Channel

SUMMARY OF LABORATORY TEST RESULTS

Contract No. DACW64-94-C-0040Boring No. 93-90

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 (%)	P L (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0 - 2			Gray,Sand,Dense,Silty,w/shell fragments	S M												
2	2-3.5		36	Gray,Sand,Dense,Silty,w/shell fragments	S M												
3	4 - 6	0.25		Gray,Clay,Soft,Sandy,w/shell fragments	C L	28.7	93.7	120.6	33	15	96.9*	96.5*	96.1*	87.7	53.5		0.28
4	6 - 8	0.00		Gray,Clay,Very soft,Silty <i>Q-TEST</i> <i>See SWD report 16162</i>	C L	33.7	84		31	12							Q=240
5	8 - 10	0.00		Gray,Clay,Very soft,Silty <i>CONSOL</i> <i>See SWD report 16162</i>	CH	59.4	68		58	16							
6	10 - 12	0.00		Gray,Clay,Very soft,Silty <i>FR</i> <i>See SWD report 16162</i>	CH	37.7	83		51	14							
7	12-13.5		10	Gray,Sand,Medium dense,Silty,w/shell fragments	S M												
8	14 - 16	0.00		Gray,Clay,Very soft	CH	47.4	73.1	107.8	74	28	100.0	99.9	99.7	99.4	98.8		0.22
9	16-17.5		W.O.H	Gray,Sand,Very loose,Silty	S M												
10	18 - 20	0.00		Gray,Clay,Very soft,Silty	C L	41.9											
11	20-21.5	0.00	W.O.H	Gray,Sand,Very loose,Silty	S M						100.0	99.8	98.8	68.9	30.2		
12	22 - 24	0.00		Gray,Clay,Very soft,w/shell fragments	CH	25.2											
13	24 - 26	0.00		Gray,Clay,Very soft,w/shell fragments	CH	26.9	97.9	124.2	69	24	98.8*	98.4*	98.0*	96.2	93.6		0.11
14	26 - 28	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments <i>CONSOL</i> <i>See SWD report 16162</i>	CL	39.4	82		45	15							
15	28 - 30	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	C L	40.7											
16	30 - 32	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	C L	52.2											
17	32 - 34	0.25		Gray,Clay,Soft,Sandy,w/shell fragments	C L	31.6	90.8	119.5	34	15	100.0	99.9	97.8	64.7	58.5		0.29
18	34 - 36	0.25		Gray,Clay,Soft,Sandy,w/shell fragments	C L	34.5											
19	36 - 38	0.00		Gray,Clay,Very soft,Sandy <i>CONSOL</i> <i>See SWD report 16162</i>	C L	44.2	75		57	16							
20	38 - 40	0.00		Gray,Clay,Very soft,Sandy,w/shell fragments	C L	24.7	102.7	128.1	27	14	99.9	99.8	97.6	64.9	58.9		0.17

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

Geotest Engineering, Inc.