

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	SAMPLE NO.	PEN. / TORVANE SPT. - BLOW COUNT	BORING NO. <u>94-11</u>	DATE: BEGIN <u>3/17/94</u>	PAGE <u>1 / 2</u>
					JOB NO. <u>146727-B</u>	COMPLETE <u>3/17/94</u>	Thin Walled Tube
					PROJECT <u>Wallisville Lake, Trinity River & Tributaries</u>	☒ 3"	☐ 6"
					LOCATION <u>near Wallisville, TX</u>		
					ELEVATION OF HOLE		
					MANUFACTURER'S DESIGNATION OF DRILL RIG <u>FALLING 36</u>		
					GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____ ft., at end of Drilling		
					WEATHER <u>SUNNY, WARM</u>		
					DRILLER <u>RANDY GEARIN</u>	LOGGER <u>PETER R. GEARIN</u>	
		COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS	
0	1	1.0	Clay	stiff			
	2	0.75	Yellowish Brown	clay m. stiff			
5	3	3.0	Yellowish Brown	clay v. stiff			calc neds
	4	2.0	Yellowish Brown	clay v. stiff			calc neds
	5	2.25	Yellowish Brown	clay v. stiff			calc neds, trace sand
10	6	1.75	Yellowish Brown	clay v. stiff			sls (small) (sample fractured along sls upon extrusion)
	7	2.75	Yellowish Brown	clay v. stiff			calc neds, ferr neds
15	8	2.75	Yellowish Brown	clay v. stiff			calc neds
	9	2.5	Yellowish Brown	clay v. stiff			sls - sample dropped in field
	10	2.5	Yellowish Brown	clay v. stiff			calc neds (v. small)
20	11	2.5	Yellowish Brown	clay v. stiff			encounter water @ 20'
	12	2.5	Yellowish Brown	clay v. stiff			short sample
25	13	2.0	Yellowish Brown	clay v. stiff			sls (sample fractured along sls upon extrusion)
	14	3.5	Yellowish Brown	clay v. stiff			sls
	15	3.0	Yellowish Brown	clay v. stiff			ferrous neds
30	16	2.5	Yellowish Brown	clay v. stiff			calc neds, ferr neds
	17	3.0	Yellowish Brown	clay v. stiff			calc neds (large)
35	18	3.0	Reddish Brown	clay v. stiff			calc neds

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>94-11</u> DATE: BEGIN <u>3/17/94</u> PAGE <u>2</u> / <u>2</u> JOB NO. <u>146727-6</u> COMPLETE <u>3/17/94</u> Thin Walled Tube PROJECT <u>Wallisville Lake, Trinity River & Tributaries</u> ☒ 3" ☐ 6" LOCATION <u>Near Wallisville, TX</u> ELEVATION OF HOLE _____ MANUFACTURER'S DESIGNATION OF DRILL RIG <u>tailings 36</u> GROUNDWATER: DEPTH <u>0</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>Clear</u> DRILLER <u>PANDY BEARD</u> LOGGER <u>PETER KOSMOSKI</u>				
				COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
35		19	4.0	Reddish Brown	clay	V. stiff	sand	w/cale nod.
		20	4.5	Reddish Brown	clay	Hard	sand	w/cale nod.
40								** water level at end of Drilling
45								
50								
55								
60								
65								
70								

JOB NO. 14G727-12

DATE 4/8/94

PROJECT Lake Wallisville, Trinity River
and Tributaries,

AREA near Wallisville, Texas

BORING NO. 94-11

SAMPLE NO. 3

DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION

Yellowish gray, Clay, Stiff, w/calcareous nodules

Tare No.	IM-1	Height	5.595 in.
Tare plus Wet Specimen	618.95 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	524.90 gm	Initial Area	6.290 sq in.
Water Weight	94.05 gm	Volume	35.194 cu in.
Tare Weight	42.46 gm	Volume of Solids	cu in.
Wet Specimen	1194.08 gm	Void Ratio	
Dry Specimen	999.27 gm	Saturation	%
Water Content	19.49 %	Dry Density	108.2 lb/cu ft
Specific Gravity of Solids			
LL = 51	PL =	PI =	

Proving Ring No. 10170

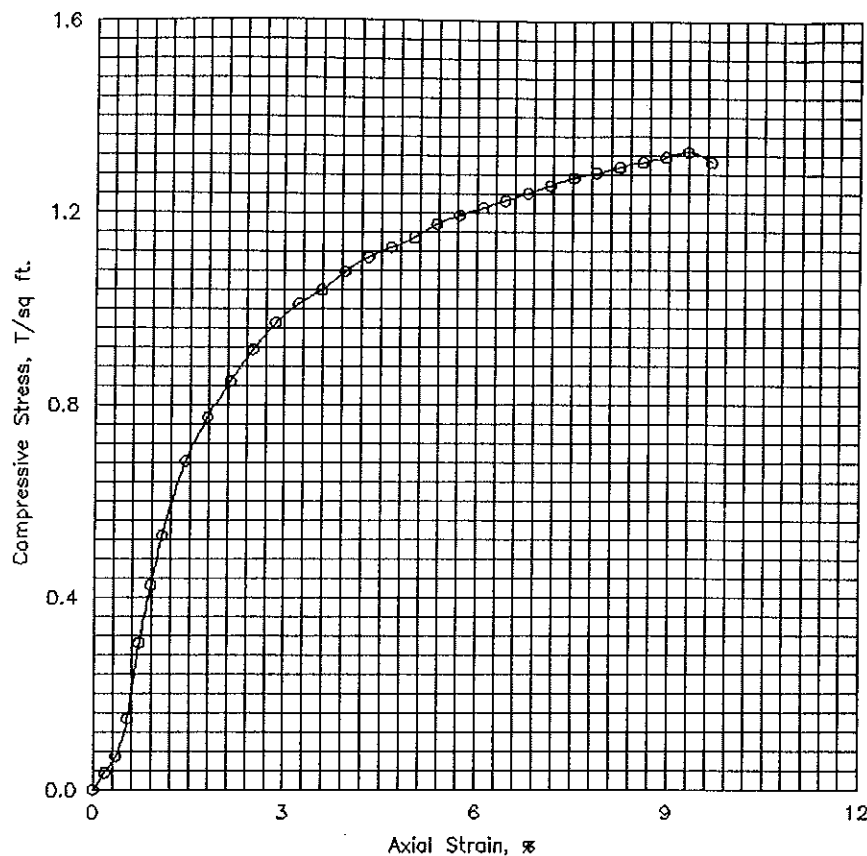
Proving Ring Constant, K = .766 lbs/div.

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	4.0	3.1	.002	6.30	.035
.4	20.	.020	8.0	6.1	.004	6.31	.070
.6	30.	.030	17.0	13.0	.005	6.32	.148
.8	40.	.040	35.0	26.8	.007	6.34	.305
.9	50.	.050	49.0	37.5	.009	6.35	.426
1.1	60.	.060	61.0	46.7	.011	6.36	.529
1.4	80.	.080	79.0	60.5	.014	6.38	.683
1.8	100.	.100	90.0	68.9	.018	6.40	.775
2.1	120.	.120	99.0	75.8	.021	6.43	.849
2.5	140.	.140	107.0	82.0	.025	6.45	.915
2.8	160.	.160	114.0	87.3	.029	6.48	.971
3.2	180.	.180	119.0	91.2	.032	6.50	1.010
3.5	200.	.200	123.0	94.2	.036	6.52	1.040
3.8	220.	.220	128.0	98.0	.039	6.55	1.078
4.1	240.	.240	132.0	101.1	.043	6.57	1.108
4.4	260.	.260	135.0	103.4	.046	6.60	1.129
4.8	280.	.280	138.0	105.7	.050	6.62	1.149
5.1	300.	.300	142.0	108.8	.054	6.65	1.178
5.4	320.	.320	144.5	110.7	.057	6.67	1.195
5.7	340.	.340	147.0	112.6	.061	6.70	1.211
6.1	360.	.360	149.5	114.5	.064	6.72	1.226
6.4	380.	.380	152.0	116.4	.068	6.75	1.242
6.7	400.	.400	154.5	118.3	.071	6.77	1.258
7.0	420.	.420	157.0	120.3	.075	6.80	1.273
7.3	440.	.440	159.0	121.8	.079	6.83	1.284

7.7	460.	.460	161.0	123.3	.082	6.85	1.296
8.0	480.	.480	163.0	124.9	.086	6.88	1.307
8.3	500.	.500	165.0	126.4	.089	6.91	1.317
8.7	520.	.520	167.0	127.9	.093	6.93	1.328
9.0	540.	.540	165.0	126.4	.097	6.96	1.307

Job No. 14G727-12

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	19.5 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	108.2		
Time to failure, min		t_f	8.67		
Unconfined compressive strength, T/sq ft		q_u	1.33		
Undrained shear strength, T/sq ft		S_u	.66		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		

Classification Yellowish gray, Clay, Stiff, w/calcareous nodules

LL	51	PL		PI		G_s	
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Remarks	Project Lake Wallisville,Trinity River	
	and Tributaries,	
	Area near Wallisville, Texas	
	Boring No. 94-11	Sample No. 3
	Depth 4-6 ft	Date 4/8/94
	UNCONFINED COMPRESSION TEST REPORT	

JOB NO. 14G727-12

DATE 4/8/94

PROJECT Lake Wallisville, Trinity River
and Tributaries,

AREA near Wallisville, Texas

BORING NO. 94-11

SAMPLE NO. 6

DEPTH 10-12 ft

SPECIMEN NO. 1

CLASSIFICATION

Olive gray, Clay, Very stiff, w/calcareous nodules

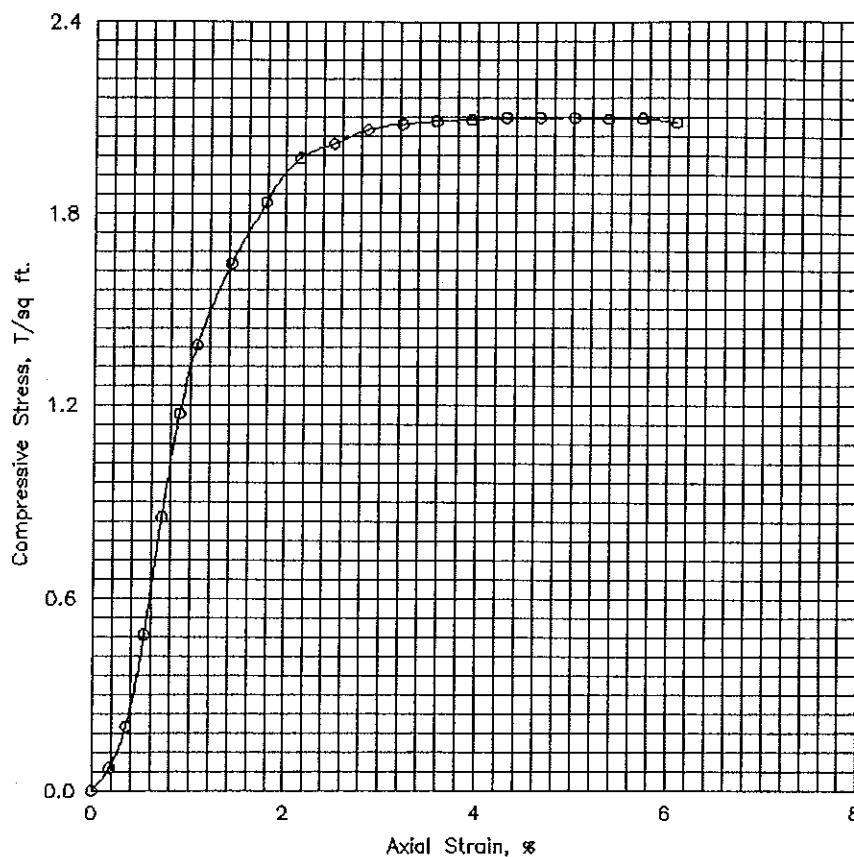
Tare No.	W-6	Height	5.595 in.
Tare plus Wet Specimen	656.12 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	540.54 gm	Initial Area	6.290 sq in.
Water Weight	115.58 gm	Volume	35.194 cu in.
Tare Weight	42.52 gm	Volume of Solids	cu in.
Wet Specimen	1180.29 gm	Void Ratio	
Dry Specimen	957.97 gm	Saturation	%
Water Content	23.21 %	Dry Density	103.7 lb/cu ft
Specific Gravity of Solids			
LL = 57	PL =	PI =	

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
.4	20.	.020	23.0	17.6	.004	6.31	.201
.6	30.	.030	56.0	42.9	.005	6.32	.488
.8	40.	.040	98.0	75.1	.007	6.34	.853
.9	50.	.050	135.0	103.4	.009	6.35	1.173
1.1	60.	.060	160.0	122.6	.011	6.36	1.388
1.5	80.	.080	190.0	145.5	.014	6.38	1.642
1.9	100.	.100	213.0	163.2	.018	6.40	1.834
2.2	120.	.120	230.0	176.2	.021	6.43	1.973
2.5	140.	.140	236.0	180.8	.025	6.45	2.017
2.8	160.	.160	242.0	185.4	.029	6.48	2.061
3.2	180.	.180	245.0	187.7	.032	6.50	2.079
3.6	200.	.200	247.0	189.2	.036	6.52	2.088
3.8	220.	.220	248.5	190.4	.039	6.55	2.093
4.2	240.	.240	250.0	191.5	.043	6.57	2.098
4.5	260.	.260	251.0	192.3	.046	6.60	2.098
4.8	280.	.280	252.0	193.0	.050	6.62	2.099
5.1	300.	.300	252.5	193.4	.054	6.65	2.095
5.4	320.	.320	253.5	194.2	.057	6.67	2.096
5.8	340.	.340	253.0	193.8	.061	6.70	2.083

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	23.2 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	103.7		
Time to failure, min		t_f	5.42		
Unconfined compressive strength, T/sq ft		q_u	2.10		
Undrained shear strength, T/sq ft		S_u	1.05		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Olive gray, Clay, Very stiff, w/calcareous nodules					
LL	57	PL		PI	G_s
Remarks			Project Lake Wallisville, Trinity River		
			and Tributaries,		
			Area near Wallisville, Texas		
			Boring No. 94-11	Sample No. 6	
			Depth 10-12 ft	Date 4/8/94	
			UNCONFINED COMPRESSION TEST REPORT		

JOB NO. 14G727-12

DATE 4/8/94

PROJECT Lake Wallisville, Trinity River
and Tributaries,

AREA near Wallisville, Texas

BORING NO. 94-11

SAMPLE NO. 9

DEPTH 16-18 ft

SPECIMEN NO. 1

CLASSIFICATION

Yellowish gray, Clay, Very stiff

Tare No.	K1-18	Height	5.595 in.
Tare plus Wet Specimen	670.19 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	530.64 gm	Initial Area	6.290 sq in.
Water Weight	139.55 gm	Volume	35.194 cu in.
Tare Weight	42.49 gm	Volume of Solids	cu in.
Wet Specimen	1133.74 gm	Void Ratio	
Dry Specimen	881.69 gm	Saturation	%
Water Content	28.59 %	Dry Density	95.4 lb/cu ft
Specific Gravity of Solids			
LL = 77	PL =	PI =	

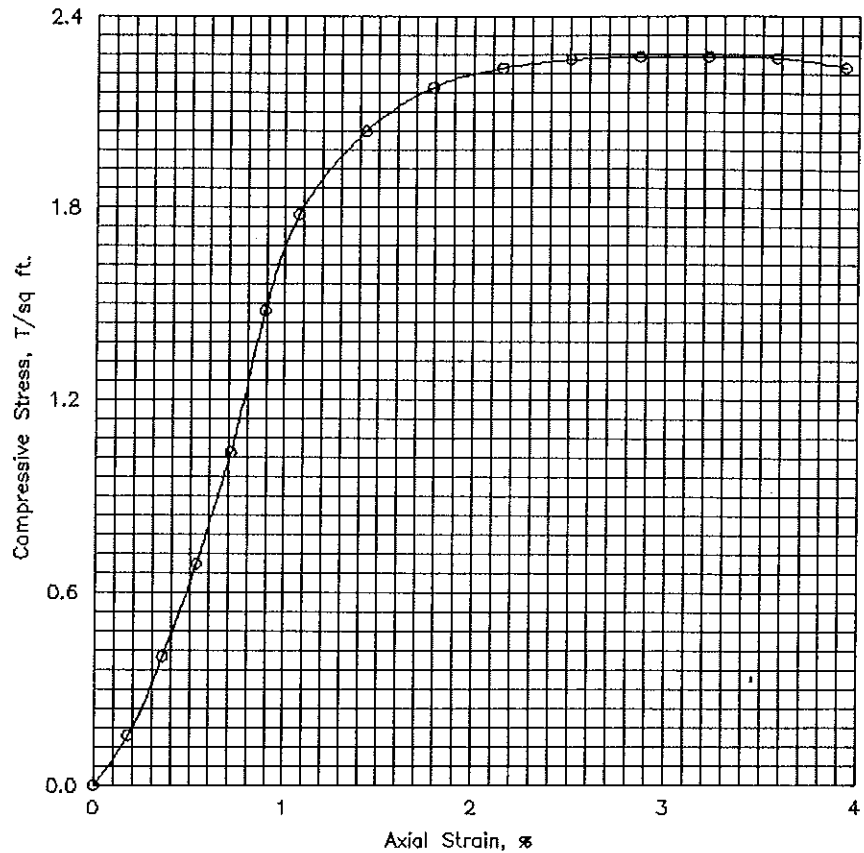
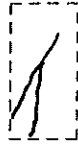
Proving Ring No. 10170

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	18.0	13.8	.002	6.30	.158
.3	20.	.020	46.0	35.2	.004	6.31	.402
.5	30.	.030	79.0	60.5	.005	6.32	.689
.7	40.	.040	119.0	91.2	.007	6.34	1.036
.9	50.	.050	170.0	130.2	.009	6.35	1.477
1.0	60.	.060	205.0	157.0	.011	6.36	1.778
1.4	80.	.080	236.0	180.8	.014	6.38	2.040
1.6	100.	.100	253.0	193.8	.018	6.40	2.179
2.0	120.	.120	261.0	199.9	.021	6.43	2.239
2.3	140.	.140	265.0	203.0	.025	6.45	2.265
2.6	160.	.160	267.0	204.5	.029	6.48	2.274
3.0	180.	.180	268.0	205.3	.032	6.50	2.274
3.3	200.	.200	268.5	205.7	.036	6.52	2.270
3.6	220.	.220	266.0	203.8	.039	6.55	2.241

Job No. 14G727-12

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	28.6 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	95.4		
Time to failure, min		t_f	2.95		
Unconfined compressive strength, T/sq ft		q_u	2.27		
Undrained shear strength, T/sq ft		S_u	1.14		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Yellowish gray, Clay, Very stiff					
LL	77	PL		PI	G_c
Remarks		Project Lake Wallisville, Trinity River			
		and Tributaries,			
		Area near Wallisville, Texas			
		Boring No.	94-11	Sample No.	9
		Depth	16-18 ft	Date	4/8/94
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G727-12

DATE 4/8/94

PROJECT Lake Wallisville, Trinity River
and Tributaries,

AREA near Wallisville, Texas

BORING NO. 94-11

SAMPLE NO. 12

DEPTH 22-24 ft

SPECIMEN NO. 1

CLASSIFICATION

Yellowish gray, Clay, Very stiff, w/calcareous nodules & ferrous stains

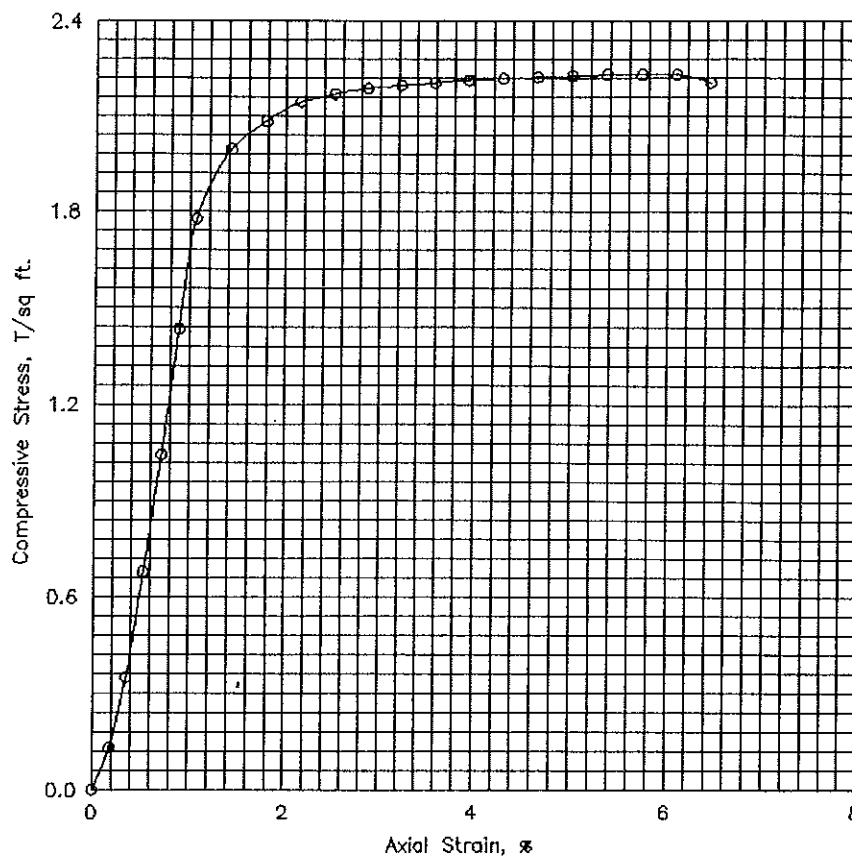
Tare No.	P200	Height	5.595 in.
Tare plus Wet Specimen	659.98 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	536.55 gm	Initial Area	6.290 sq in.
Water Weight	123.43 gm	Volume	35.194 cu in.
Tare Weight	42.43 gm	Volume of Solids	cu in.
Wet Specimen	1171.17 gm	Void Ratio	
Dry Specimen	937.09 gm	Saturation	%
Water Content	24.98 %	Dry Density	101.4 lb/cu ft
Specific Gravity of Solids			
LL = 65	PL =	PI =	

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	15.0	11.5	.002	6.30	.131
.3	20.	.020	40.0	30.6	.004	6.31	.349
.5	30.	.030	78.0	59.7	.005	6.32	.680
.7	40.	.040	120.0	91.9	.007	6.34	1.045
.9	50.	.050	165.0	126.4	.009	6.35	1.434
1.0	60.	.060	205.0	157.0	.011	6.36	1.778
1.4	80.	.080	231.0	176.9	.014	6.38	1.996
1.7	100.	.100	242.0	185.4	.018	6.40	2.084
2.0	120.	.120	250.0	191.5	.021	6.43	2.145
2.3	140.	.140	254.0	194.6	.025	6.45	2.171
2.6	160.	.160	257.0	196.9	.029	6.48	2.189
2.9	180.	.180	259.0	198.4	.032	6.50	2.198
3.2	200.	.200	261.0	199.9	.036	6.52	2.207
3.5	220.	.220	263.0	201.5	.039	6.55	2.215
3.9	240.	.240	264.5	202.6	.043	6.57	2.220
4.2	260.	.260	266.0	203.8	.046	6.60	2.224
4.5	280.	.280	267.5	204.9	.050	6.62	2.228
4.8	300.	.300	269.0	206.1	.054	6.65	2.232
5.1	320.	.320	270.0	206.8	.057	6.67	2.232
5.4	340.	.340	271.0	207.6	.061	6.70	2.232
5.8	360.	.360	269.0	206.1	.064	6.72	2.207

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	25.0 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	101.4		
Time to failure, min		t_f	4.83		
Unconfined compressive strength, T/sq ft		q_u	2.23		
Undrained shear strength, T/sq ft		S_u	1.12		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Yellowish gray, Clay, Very stiff, w/calcareous nodules & ferrous stains					
LL	65	PL		PI	C_u
Remarks		Project Lake Wallisville, Trinity River			
		and Tributaries,			
		Area near Wallisville, Texas			
		Boring No. 94-11		Sample No. 12	
		Depth 22-24 ft		Date 4/8/94	
UNCONFINED COMPRESSION TEST REPORT					