

U.S. ARMY CORPS OF ENGINEERS
GEOTECHNICAL BORING DATA

PROJECT NAME Colorado River lock

LOG OF BORING NO. 94-137

LOCATION/STATION Sta. No. 448+050

DATE/TIME STARTED 9-23-94 1:30 PM

DATE/TIME COMPLETED 9-23-94 3:30 PM

TIDE ELEVATION +3' MLT DATUM, TIME _____ LOCATION LT. BKN.# _____

WATER DEPTH 12' - 3' (deck) = 9'

DEPTH FROM WATER SURFACE
TO BOTTOM OF BORING 48'

WEATHER Sunny

DRILL RIG MANUFACTURE
MODEL NO. Failing 3600

DRILLER Dempsey Gearner
LOGGER H. Patel

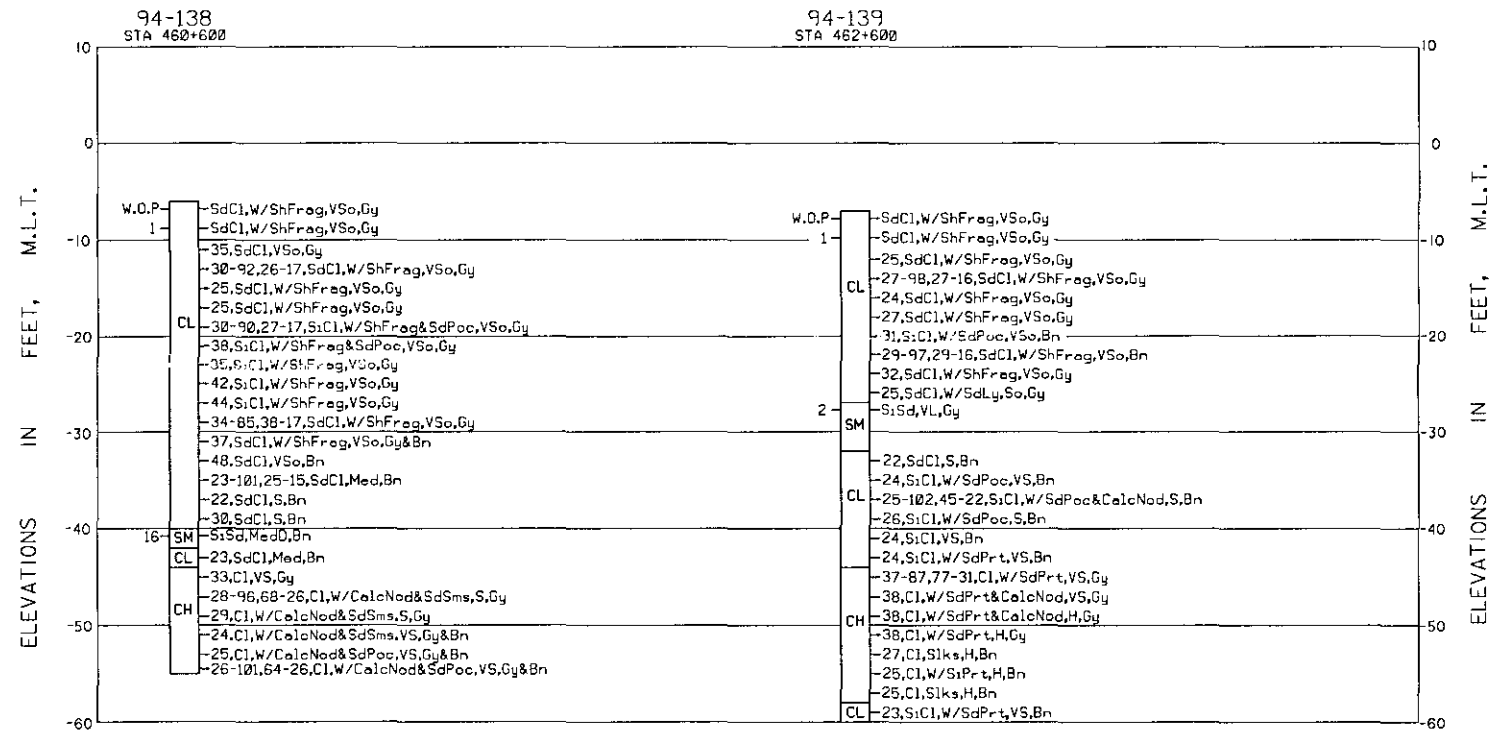
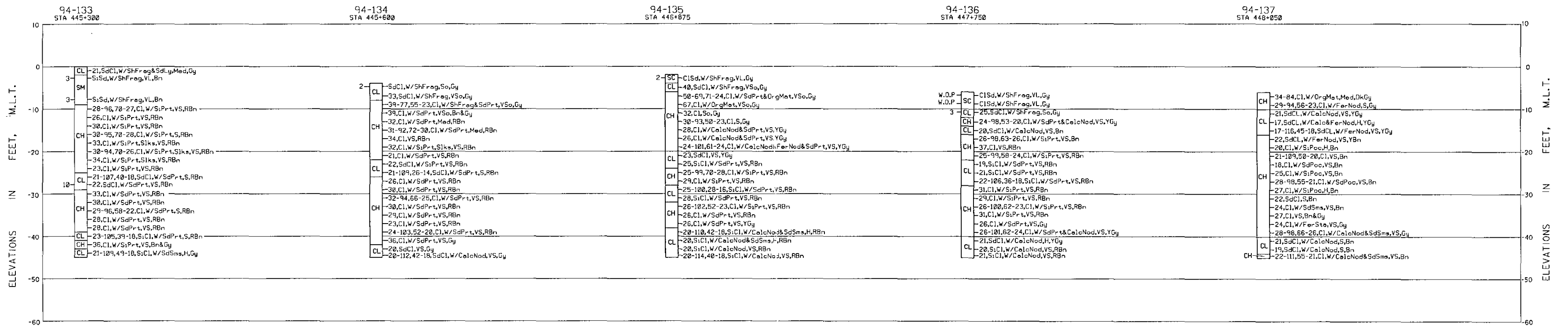
DRILLER'S/LOGGER'S COMMENTS _____

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET		SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO.	DATE: BEGIN	PAGE	JOB NO.	COMPLETE	Thin Walled Tube	PROJECT	LOCATION	ELEVATION OF HOLE	MANUFACTURER'S DESIGNATION OF DRILL RIG	GROUNDWATER: DEPTH	ELEV.	ft., at end of Drilling	WEATHER	DRILLER	LOGGER
					94-137	9-23-94	111	94 G790	9-23-94		Colorado River Lock	Sta. NO. 448+050	-6'	Failing 3600					Dempsey Gearner	H. Patel
					COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS											
0		1	0.5		Gray	clay	Medium stiff		With sand & shell fragments											
		2	1.0		Gray	clay	stiff		With soft sand pocket											
5		3	2.5		Gray	clay	Very stiff	Sandy	with cal. Nodules											
		4	4.0		Yellowish Gray	clay	Very stiff	Sandy	With traces of Ferrous Nodules											
		5	4.0		Yellowish Gray	clay	Very stiff	sandy	With Ferrous Nodules											
10		6	3.5		Brown & Gray	clay	Very stiff		With Ferrous nodules & sand partings											
		7	3.5		Brown	clay	Very stiff		With sand partings											
15		8	3.0		Brown	clay	Very stiff		With sand partings											
		9	2.75		Brown	clay	Very stiff		With sand partings											
		10	2.75		Brown	clay	Very stiff		With silt partings											
20		11	3.25		Brown	clay	Very stiff		With silt & sand partings											
		12	3.5		Brown	clay	Very stiff		With silt partings											
25		13	1.5		Brown	clay	stiff	Sandy	With sand layer											
		14	2.5		Brown	clay	Very stiff	Sandy	with clay seam											
		15	2.5		Gray	clay	Very stiff		With shell & sand partings											
30		16	3.5		Gray	clay	Very stiff		With sand partings											
		17	3.0		Gray	clay	Very stiff		With sand partings											
35		18	2.0		Brown	clay	Very stiff	Sandy	With cal. Nodd. & silt partings											

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>94-137</u> DATE: BEGIN <u>9-23-94</u> PAGE <u>2/2</u> JOB NO. <u>94G790</u> COMPLETE <u>9-23-94</u> Thin Walled Tube PROJECT <u>Colorado River Lock</u> ☒ 3" ☐ 6" LOCATION <u>Sta. No. 448+050</u> ELEVATION OF HOLE <u>- 6'</u> MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Failling 3600</u> GROUNDWATER: DEPTH _____ ft., ELEV. _____ ft., at end of Drilling WEATHER _____ DRILLER <u>Dempsey Gearner</u> LOGGER <u>H. Patel</u>						
				COLOR	MATERIAL TYPE	CONSIS- TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS		
-35-										
		19	2.0	Brown	clay	Very stiff	Sandy	With cal. Nodd & silt partings		
		20	2.5	Brown	clay	very stiff	Sandy	with clay layer @ bottom		
-40-										
-45-										
-50-										
-55-										
-60-										
-65-										
-70-										



VISUAL CLASSIFICATIONS:

Bn Brown(ish)	H Hard	O Olive	S Silty
Cac Calcareous	L Loose	Part Particle(s)	Sks Silken Sides
Cl Clay(ey)	Ly Layer(s)	Poc Pocket(s)	Sms Seams
D Dense	Lt Light	Prt Parting(s)	So Soft
Dcm Decomposed	Mat Material	R Red(dish)	Sta Stains
Dr Dark	Med Medium	S Stiff	V Very
Fer Ferrous	Nod Nodules	Sd Sandy	W With
Gy Gray(ish)	Org Organic	Sh Shelly	Y Yellow(ish)

LABORATORY CLASSIFICATIONS:

CH INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, LEAN CLAYS.
SC CLAYEY SANDS, SAND-CLAY MIXTURES.
SM SILTY SANDS, SAND-SILT MIXTURES.

NOTES:

1. SOILS HAVE BEEN CLASSIFIED IN ACCORDANCE WITH MILITARY STANDARD 6198 "UNIFIED SOIL CLASSIFICATION SYSTEM FOR ROADS, AIRFIELDS, EMBANKMENTS, AND FOUNDATIONS." CONSISTENCY OF SOILS SUCH AS SOFT, MEDIUM, HARD, LOOSE, DENSE, ETC., ARE RELATIVE TERMS BASED ON ESTIMATED UNDISTURBED SHEAR STRENGTH OF THE MATERIAL AS DETERMINED BY VISUAL CLASSIFICATION POCKET PENETROMETER TESTS AND PENETRATION RESISTANCE DURING SAMPLING.
2. FIGURES TO THE RIGHT OF BORING LOGS ARE WATER CONTENTS IN PERCENT OF THE DRY WEIGHT, DRY DENSITY, LIQUID LIMIT, PLASTIC LIMIT, AND BAR LINEAR SHRINKAGE. (MC-UDW), (LL-PL), (JBLS), FIGURES TO THE LEFT OF BORING LOGS ARE BLOWS PER FOOT OF PENETRATION FROM STANDARD PENETRATION TESTING.
3. BORINGS WERE DRILLED USING WET ROTARY DRILLING TECHNIQUES AND UNDISTURBED SAMPLES WERE RECOVERED WITH A 3-INCH DIAMETER THIN WALL SAMPLER WHERE COHESIVE MATERIALS WERE ENCOUNTERED. WHERE COHESIVE MATERIALS WERE ENCOUNTERED, DISTURBED SAMPLES WERE TAKEN WITH A SPLIT SPOON SAMPLER DURING PERFORMANCE OF STANDARD PENETRATION TESTING.
4. WATER TABLE LEVELS SHOWN ON BORING LOGS WERE DETERMINED AFTER DRILLING BORINGS BY MEASURING THE TOP OF FLUID LEVELS IN THE BORINGS. INASMUCH AS WET ROTARY DRILLING TECHNIQUES AND DRILLING MUD WERE USED TO DRILL THE HOLES, THE LEVEL OF DRILLING FLUIDS IN THE BORE HOLES MAY NOT HAVE STABILIZED TO THE LEVEL OF THE ACTUAL WATER TABLE. ADDITIONALLY, WATER TABLES IN THE FIELD ARE LIKELY TO FLUCTUATE DEPENDING ON WEATHER CONDITIONS, THEREFORE, SOME VARIATION SHOULD BE ANTICIPATED BETWEEN WATER TABLES INDICATED AND WATER TABLES ENCOUNTERED IN THE FIELD.

REVISION	DATE	DESCRIPTION	BY
OFFICE OF THE DISTRICT ENGINEER U.S. ARMY ENGINEER DISTRICT, GALVESTON CORPS OF ENGINEERS GALVESTON, TEXAS			
Colorado River Locks Boring logs			
DRAWN BY: J.G.		DESIGNED BY: X	
CHECKED BY: L.A.A.		SUBMITTED BY: X	
APPROVED: X		APPROVED: X	
CHIEF, X		CHIEF, ENGINEERING DIVISION	
1 - AS REQUIRED BY ENGINEER CIRCULAR NO. 1110-170		SCALE: AS SHOWN	SPEC. DATE: X
Prepared under the direction of Robert B. Gattlin, Col., C.E., District Engineer			
SHEET 1 OF 1 FILE NO. X			

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 - 2	0.75	Med	Dark gray, Clay, Medium stiff, w/organic material	C H	34.4	84.3	113.3									
2	2 - 4	1.25	S	Gray, Clay, Stiff, w/ferrous nodules	C H	29.4	93.9	121.6	56.0	23.0	100.0	99.7	99.1	97.6	92.7		1.01
3	4 - 6	3.00	VS	Yellowish gray, Clay, Very stiff, Sandy, w/calcareous nodules	C L	20.8											
4	6 - 8	4.50	H	Yellowish gray, Clay, Hard, Sandy, w/calcareous and ferrous nodules	C L	17.1											
5	8 - 10	3.25	VS	Yellowish gray, Clay, Very stiff, Sandy, w/ferrous nodules	C L	17.2	116.1	136.1	45.0	18.0	99.1	97.7	97.0	94.3	74.0		2.30
6	10 - 12	3.50	VS	Yellowish brown, Clay, Very stiff, w/ferrous nodules	C H	21.5											
7	12 - 14	4.50	H	Brown, Clay, Hard, w/silt pockets	C H	20.3											
8	14 - 16	2.75	VS	Brown, Clay, Very stiff	C H	20.9	109.0	131.8	50.0	20.0	100.0	100.0	100.0	96.9	92.8		
9	16 - 18	2.25	VS	Brown, Clay, Very stiff, w/sand pockets	C H	17.8											
10	18 - 20	4.00	VS	Brown, Clay, Very stiff, w/silt pockets	C H	24.5											
11	20 - 22	3.50	VS	Brown, Clay, Very stiff, w/sand pockets	C H	27.7	97.7	124.8	55.0	21.0	100.0	100.0	99.9	99.5	95.4		2.39
12	22 - 24	4.25	H	Brown, Clay, Hard, w/silt pockets	C H	27.4											
13	24 - 26	1.75	S	Brown, Clay, Stiff, Sandy	C L	21.5											
14	26 - 28	2.75	VS	Brown, Clay, Very stiff, w/sand seams	C H	24.3											
15	28 - 30	2.75	VS	Brown & gray, Clay, Very stiff	C H	27.2											
16	30 - 32	4.00	VS	Gray, Clay, Very stiff, w/ferrous stains	C H	24.7											
17	32 - 34	3.25	VS	Gray, Clay, Very stiff, w/calcareous nodules and sand seams	C H	27.5	97.7	124.6	66.0	26.0	100.0	99.8	99.5	98.7	93.0		2.30
18	34 - 36	1.75	S	Brown, Clay, Stiff, Sandy, w/calcareous nodules	C L	20.8											
19	36 - 38	1.75	S	Brown, Clay, Stiff, Sandy, w/calcareous nodules	C L	19.4											
20	38-39	2.75	VS	Brown, Clay, Very stiff, w/calcareous nodules and sand seams	C H	21.8	110.6	134.7	55.0	21.0	99.2	98.6	97.6	97.0	95.9		

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

JOB NO. 14G790

DATE 10/13/94

PROJECT Colorado River Locks

AREA GIWW at Colorado River, Texas

BORING NO. 94-137

SAMPLE NO. 2

DEPTH 2-4 ft.

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Stiff, w/ferrous nodules

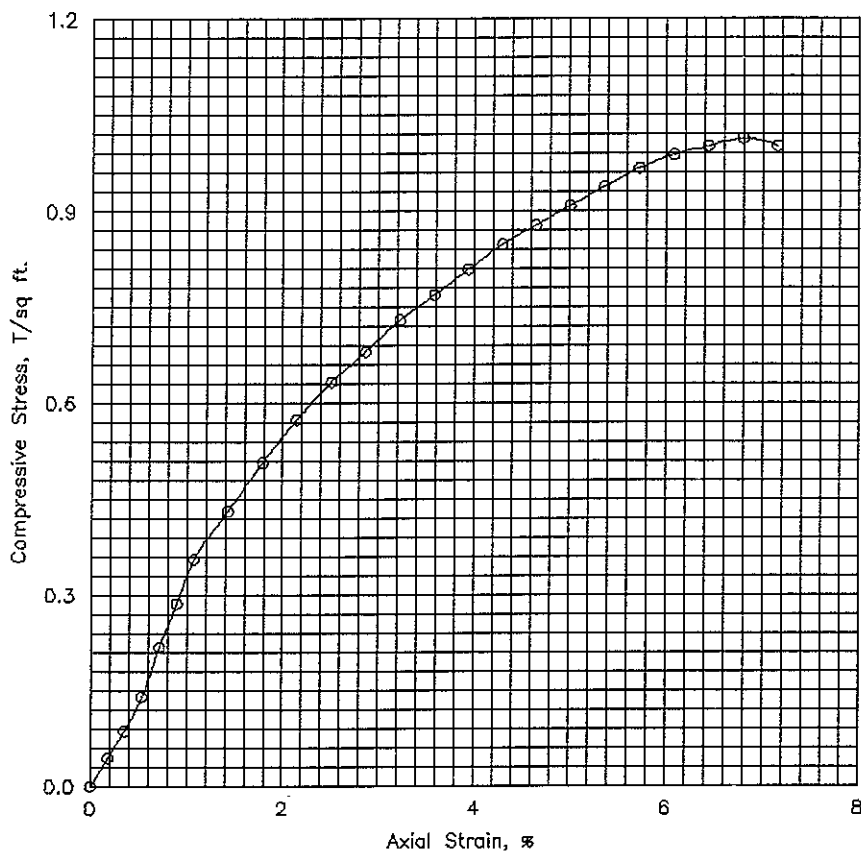
Tare No.	W-16	Height	5.595 in.
Tare plus Wet Specimen	494.00 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	391.36 gm	Initial Area	6.290 sq in.
Water Weight	102.64 gm	Volume	35.194 cu in.
Tare Weight	42.53 gm	Volume of Solids	cu in.
Wet Specimen	1123.11 gm	Void Ratio	
Dry Specimen	867.78 gm	Saturation	%
Water Content	29.42 %	Dry Density	93.9 lb/cu ft
Specific Gravity of Solids			
LL = 56	PL = 23	PI = 33	

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	5.0	3.8	.002	6.30	.044
.4	20.	.020	10.0	7.7	.004	6.31	.087
.6	30.	.030	16.0	12.3	.005	6.32	.140
.7	40.	.040	25.0	19.1	.007	6.34	.218
.9	50.	.050	33.0	25.3	.009	6.35	.287
1.1	60.	.060	41.0	31.4	.011	6.36	.356
1.4	80.	.080	50.0	38.3	.014	6.38	.432
1.8	100.	.100	59.0	45.2	.018	6.40	.508
2.1	120.	.120	67.0	51.3	.021	6.43	.575
2.4	140.	.140	74.0	56.7	.025	6.45	.633
2.8	160.	.160	80.0	61.3	.029	6.48	.681
3.1	180.	.180	86.0	65.9	.032	6.50	.730
3.4	200.	.200	91.0	69.7	.036	6.52	.769
3.7	220.	.220	96.0	73.5	.039	6.55	.809
4.1	240.	.240	101.0	77.4	.043	6.57	.848
4.4	260.	.260	105.0	80.4	.046	6.60	.878
4.7	280.	.280	109.0	83.5	.050	6.62	.908
5.1	300.	.300	113.0	86.6	.054	6.65	.938
5.3	320.	.320	117.0	89.6	.057	6.67	.967
5.7	340.	.340	120.0	91.9	.061	6.70	.988
6.0	360.	.360	122.0	93.5	.064	6.72	1.001
6.3	380.	.380	124.0	95.0	.068	6.75	1.013
6.6	400.	.400	123.0	94.2	.071	6.77	1.001

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	29.4 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	93.9		
Time to failure, min		t_f	6.32		
Unconfined compressive strength, T/sq ft		q_u	1.01		
Undrained shear strength, T/sq ft		S_u	.51		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Stiff, w/ferrous nodules					
LL	56	PL	23	PI	33
Remarks		Project Colorado River Locks Area GIWW at Colorado River, Texas Boring No. 94-137 Sample No. 2 Depth 2-4 ft. Date 10/13/94			
UNCONFINED COMPRESSION TEST REPORT					

JOB NO. 14G790

DATE 10/14/94

PROJECT Colorado River Locks

AREA GIWW at Colorado River, Texas

BORING NO. 94-137

SAMPLE NO. 5

DEPTH 8-10 ft.

SPECIMEN NO. 1

CLASSIFICATION

Yellowish gray, Clay, Very stiff, Sandy, w/ferrous nodules

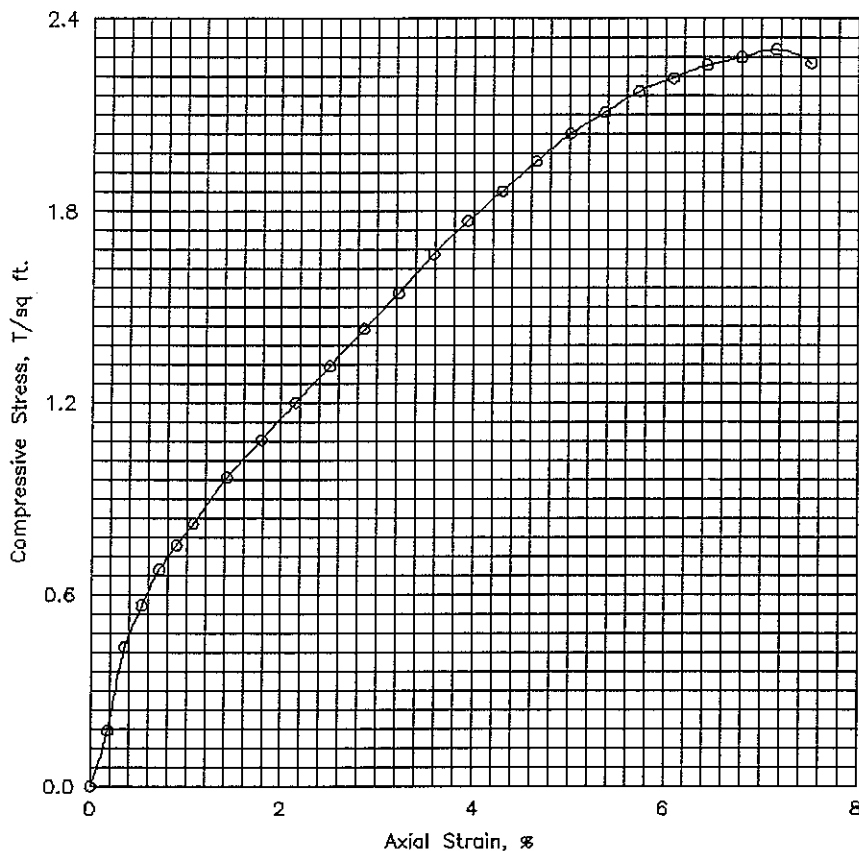
Tare No.	W-30	Height	5.595 in.
Tare plus Wet Specimen	462.47 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	400.85 gm	Initial Area	6.290 sq in.
Water Weight	61.62 gm	Volume	35.194 cu in.
Tare Weight	42.27 gm	Volume of Solids	cu in.
Wet Specimen	1257.33 gm	Void Ratio	
Dry Specimen	1072.95 gm	Saturation	%
Water Content	17.18 %	Dry Density	116.1 lb/cu ft
Specific Gravity of Solids			
LL = 45	PL = 18	PI = 27	

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	20.0	15.3	.002	6.30	.175
.4	20.	.020	50.0	38.3	.004	6.31	.437
.6	30.	.030	65.0	49.8	.005	6.32	.567
.8	40.	.040	78.0	59.7	.007	6.34	.679
1.0	50.	.050	87.0	66.6	.009	6.35	.756
1.2	60.	.060	95.0	72.8	.011	6.36	.824
1.5	80.	.080	112.0	85.8	.014	6.38	.968
1.9	100.	.100	126.0	96.5	.018	6.40	1.085
2.2	120.	.120	140.0	107.2	.021	6.43	1.201
2.5	140.	.140	154.0	118.0	.025	6.45	1.316
2.9	160.	.160	168.0	128.7	.029	6.48	1.431
3.3	180.	.180	182.0	139.4	.032	6.50	1.544
3.6	200.	.200	197.0	150.9	.036	6.52	1.666
3.9	220.	.220	210.0	160.9	.039	6.55	1.769
4.3	240.	.240	222.0	170.1	.043	6.57	1.863
4.6	260.	.260	234.0	179.2	.046	6.60	1.956
4.9	280.	.280	245.0	187.7	.050	6.62	2.041
5.3	300.	.300	254.0	194.6	.054	6.65	2.108
5.6	320.	.320	263.0	201.5	.057	6.67	2.174
5.9	340.	.340	269.0	206.1	.061	6.70	2.215
6.3	360.	.360	275.0	210.6	.064	6.72	2.256
6.6	380.	.380	279.0	213.7	.068	6.75	2.280
6.9	400.	.400	283.0	216.8	.071	6.77	2.304
7.8	420.	.420	279.0	213.7	.075	6.80	2.263

Failure Sketches


☐ Controlled stress

☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	17.2 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	116.1		
Time to failure, min		t_f	6.93		
Unconfined compressive strength, T/sq ft		q_u	2.30		
Undrained shear strength, T/sq ft		S_u	1.15		
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, Sandy, w/ferrous nodules					
LL	45	PL	18	PI	27
				G_s	
Remarks		Project Colorado River Locks			
		Area GIWW at Colorado River, Texas			
		Boring No. 94-137		Sample No. 5	
		Depth 8-10 ft.		Date 10/14/94	
		UNCONFINED COMPRESSION TEST REPORT			

JOB NO. 14G790

DATE 10/14/94

PROJECT Colorado River Locks

AREA GIWW at Colorado River, Texas

BORING NO. 94-137

SAMPLE NO. 11

DEPTH 20-22 ft.

SPECIMEN NO. 1

CLASSIFICATION

Brown, Clay, Very stiff, w/sand pockets

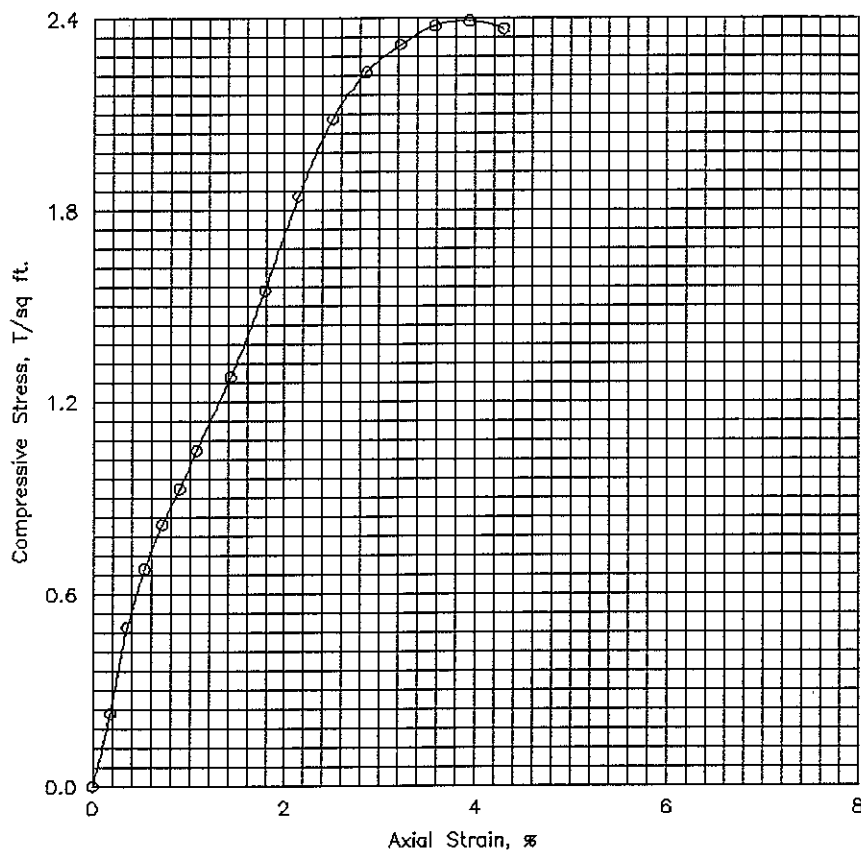
Tare No.	P-204	Height	5.595 in.
Tare plus Wet Specimen	512.07 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	410.27 gm	Initial Area	6.290 sq in.
Water Weight	101.80 gm	Volume	35.194 cu in.
Tare Weight	42.76 gm	Volume of Solids	cu in.
Wet Specimen	1152.54 gm	Void Ratio	
Dry Specimen	902.54 gm	Saturation	%
Water Content	27.70 %	Dry Density	97.7 lb/cu ft
Specific Gravity of Solids			
LL = 55	PL = 21	PI = 34	

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	26.0	19.9	.002	6.30	.228
.4	20.	.020	57.0	43.7	.004	6.31	.498
.6	30.	.030	78.0	59.7	.005	6.32	.680
.8	40.	.040	94.0	72.0	.007	6.34	.818
1.0	50.	.050	107.0	82.0	.009	6.35	.930
1.1	60.	.060	121.0	92.7	.011	6.36	1.050
1.5	80.	.080	148.0	113.4	.014	6.38	1.279
1.9	100.	.100	180.0	137.9	.018	6.40	1.550
2.2	120.	.120	215.0	164.7	.021	6.43	1.845
2.6	140.	.140	244.0	186.9	.025	6.45	2.086
2.9	160.	.160	262.0	200.7	.029	6.48	2.232
3.2	180.	.180	273.0	209.1	.032	6.50	2.317
3.5	200.	.200	281.0	215.2	.036	6.52	2.376
3.9	220.	.220	284.0	217.5	.039	6.55	2.392
4.2	240.	.240	282.0	216.0	.043	6.57	2.367

Failure Sketches



□ Controlled stress
 ⊗ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	27.7 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	97.7		
Time to failure, min		t_f	3.92		
Unconfined compressive strength, T/sq ft		q_u	2.39		
Undrained shear strength, T/sq ft		S_u	1.20		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Brown, Clay, Very stiff, w/sand pockets					
LL	55	PL	21	PI	34
Remarks		G _s			
		Project Colorado River Locks			
		Area GIWW at Colorado River, Texas			
		Boring No. 94-137		Sample No. 11	
		Depth 20-22 ft.		Date 10/14/94	
UNCONFINED COMPRESSION TEST REPORT					

JOB NO. 14G790

DATE 10/14/94

PROJECT Colorado River Locks

AREA GIWW at Colorado River, Texas

BORING NO. 94-137

SAMPLE NO. 17

DEPTH 32-34 ft.

SPECIMEN NO. 1

CLASSIFICATION

Gray, Clay, Very stiff, w/Calcareous nodules and sand seams

Tare No.	P-222	Height	5.595 in.
Tare plus Wet Specimen	534.47 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	428.27 gm	Initial Area	6.290 sq in.
Water Weight	106.20 gm	Volume	35.194 cu in.
Tare Weight	42.62 gm	Volume of Solids	cu in.
Wet Specimen	1151.66 gm	Void Ratio	
Dry Specimen	902.99 gm	Saturation	%
Water Content	27.54 %	Dry Density	97.7 lb/cu ft
Specific Gravity of Solids			
LL = 66	PL = 26	PI = 40	

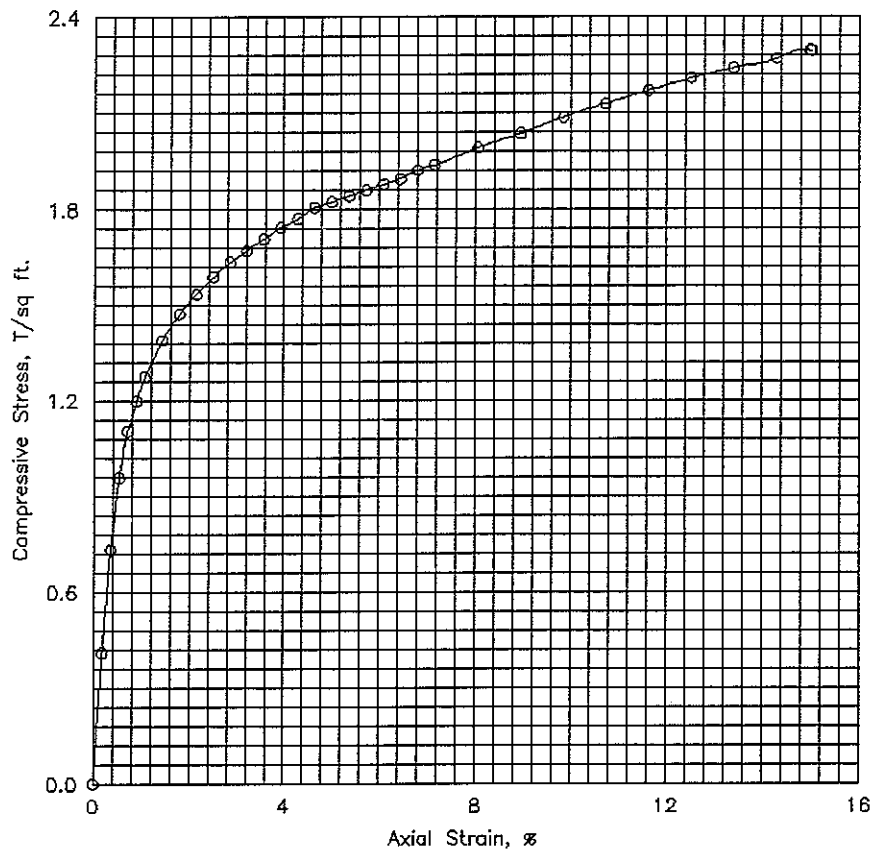
Proving Ring No. 10170

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	47.0	36.0	.002	6.30	.411
.4	20.	.020	84.0	64.3	.004	6.31	.734
.6	30.	.030	110.0	84.3	.005	6.32	.959
.7	40.	.040	127.0	97.3	.007	6.34	1.106
.9	50.	.050	138.0	105.7	.009	6.35	1.199
1.1	60.	.060	147.0	112.6	.011	6.36	1.275
1.4	80.	.080	161.0	123.3	.014	6.38	1.391
1.8	100.	.100	171.0	131.0	.018	6.40	1.473
2.1	120.	.120	179.0	137.1	.021	6.43	1.536
2.4	140.	.140	186.0	142.5	.025	6.45	1.590
2.8	160.	.160	192.0	147.1	.029	6.48	1.635
3.1	180.	.180	197.0	150.9	.032	6.50	1.672
3.4	200.	.200	202.0	154.7	.036	6.52	1.708
3.7	220.	.220	207.0	158.6	.039	6.55	1.744
4.1	240.	.240	211.0	161.6	.043	6.57	1.771
4.4	260.	.260	216.0	165.5	.046	6.60	1.806
4.7	280.	.280	219.0	167.8	.050	6.62	1.824
5.0	300.	.300	222.0	170.1	.054	6.65	1.842
5.4	320.	.320	225.0	172.3	.057	6.67	1.860
5.7	340.	.340	228.0	174.6	.061	6.70	1.878
6.0	360.	.360	231.0	176.9	.064	6.72	1.895
6.4	380.	.380	235.0	180.0	.068	6.75	1.921
6.7	400.	.400	238.0	182.3	.071	6.77	1.938
7.5	450.	.450	247.0	189.2	.080	6.84	1.992
8.3	500.	.500	255.0	195.3	.089	6.91	2.036
9.1	550.	.550	264.0	202.2	.098	6.98	2.087

10.0	600.	.600	272.0	208.4	.107	7.05	2.129
10.9	650.	.650	280.0	214.5	.116	7.12	2.170
11.8	700.	.700	288.0	220.6	.125	7.19	2.209
12.5	750.	.750	295.0	226.0	.134	7.26	2.240
13.4	800.	.800	302.0	231.3	.143	7.34	2.269
14.2	839.	.839	308.0	235.9	.150	7.40	2.296
14.2	840.	.840	308.0	235.9	.150	7.40	2.295

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	27.5 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	97.7		
Time to failure, min		t_f	14.18		
Unconfined compressive strength, T/sq ft		q_u	2.30		
Undrained shear strength, T/sq ft		S_u	1.15		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Gray, Clay, Very stiff, w/Calcareous nodules and sand seams					
LL	66	PL	26	PI	40
Remarks		Project Colorado River Locks Area GIWW at Colorado River, Texas Boring No. 94-137 Sample No. 17 Depth 32-34 ft. Date 10/14/94 El			
UNCONFINED COMPRESSION TEST REPORT					