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Woodward-Clyde Consultants

17 September 1981
81C217-4

ENCLOSURE 1

Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Attention: Dr. T.R. Thiruvengadam
Section Head - Civil Engineering
Mail Code P-14-400

Subject: Additional Test Results
Foundation Sand - Baffle Dike
Soil Boring and Testing Program
Midland Plant-Units 1 and 2

Gentlemen:

On 1 July 1981, we issued a report presenting test results for fill and foundation materials from the Perimeter and Baffle Dike Areas. No engineering property testing of the foundation sand, however, had been authorized, performed, or reported. Dr. A.J. Hendron, Jr. subsequently requested that a series of isotropically consolidated-undrained triaxial compression tests with pore water pressure measurements ($\overline{CIU}$) be performed on samples of foundation sand from the Baffle Dike. Authorization to perform this additional testing was obtained verbally from Isham, Lincoln and Beale and was verbally confirmed by Mr. Ramanujam.

Strength testing of foundation sand from Baffle Dike boring COE-7 consisted of performing a series of four $\overline{CIU}$ triaxial tests at confining pressures of 0.5, 1, 2, and 3 ksf. Preliminary test results were transmitted to CPCo and Dr. Hendron at the ASLB hearings in Midland. The test results presented herein are complete, have been checked, and supersede the preliminary test results previously issued.

8205130239 820503
PDR ADOCK 05000329
A PDR

Test results are presented in both tabular and graphical formats in the same manner that similar data were included in our previously referenced report of 1 July 1981. To aid in correlating these additional test results with those previously presented, the tables and figures are numbered so as to coincide (insofar as practicable) with those previously used.

Index property test results and other pertinent data are listed for foundation sand samples S-19 through S-23 from boring COE-7 in Table B-7 (6/6). The tube densities reported in the table were calculated assuming the sample diameter was equal to that of the inside diameter of the sampling tube. Where two densities are reported, the larger value was calculated assuming the sample diameter was equal to that of the inside diameter of the cutting edge of the tube.

Particle-size distribution data for selected sieve sizes are summarized in Table B-7 (6/6); complete particle-size distribution curves and descriptions for 8 specimens of foundation sand are presented on Fig. C-7 (7, 8, 9/9).

Results of the $\overline{CIU}$ triaxial test series on foundation sand are summarized in Table E-6. $\overline{CIU}$ test results are presented graphically in a series of three plots (a, b, c) on Fig. E-6. Stress-strain characteristics are presented on the first figure (a), and include deviator stress, obliquity (principal stress ratio), and A-factor plotted vs axial strain. A sketch of the specimen at test completion is also included. Stress paths are presented in p-q diagrams on the second figure (b). On the third figure (c), Mohr circles are plotted on a Mohr-Coulomb diagram of shear stress vs effective normal stress.

As shown in Table E-6, failure characteristics have been summarized for the condition when cavitation occurred within the sample and for the condition of peak obliquity. These conditions are noted by small arrows on the

stress-strain characteristics plot ("a" figure). The condition of peak obliquity is noted by a solid (filled in) symbol on the p-q diagram ("b" figure). Mohr circles are plotted on the "c" figure only for the condition of peak obliquity.

The strength envelope plotted on the p-q diagram ("b" figure) is that determined as an average of the strength envelopes for all tests. The envelope for each test was determined as a straight line between the data point for the condition of peak obliquity (i.e., solid symbol) and the origin (i.e., assumes cohesion to be zero). The slope ($\bar{\alpha}$) of the average strength envelope on the p-q diagram was then mathematically converted to the slope ($\bar{\phi}$) of the strength envelope of the Mohr-Coulomb diagram ("c" figure).

Detailed supporting data for the $\overline{CIU}$ triaxial tests are presented in boring/sample-number order in Appendix H. These supporting data include copies of the original laboratory data sheet used for set up and take down of triaxial tests (front of form WCC L-202) and the summary calculation sheet for traixial tests (back of form WCC L-202). Copies of the computer listing of the recorded test data (piston displacement, piston load, and pore water pressure) are also presented, followed by the printout of computed test results.

If you have any questions regarding these additional test results, please call.

Very truly yours,

Larry M. Campbell

Larry M. Campbell
Project Manager

LMC:pf
Enclosure

cc: Mr. N. Ramanujam (2 copied)
Mr. T.C. Cooke/D.E. Sibbald
Dr. S.S. Afifi, Bechtel
Mr. A.J. Boos, Bechtel
Dr. R.B. Peck
Dr. A.J. Hendron, Jr.
Dr. H.M. Horn, WCC
Mr. D.M. Hendron, WCC
Mr. R.S. Ladd, WCC

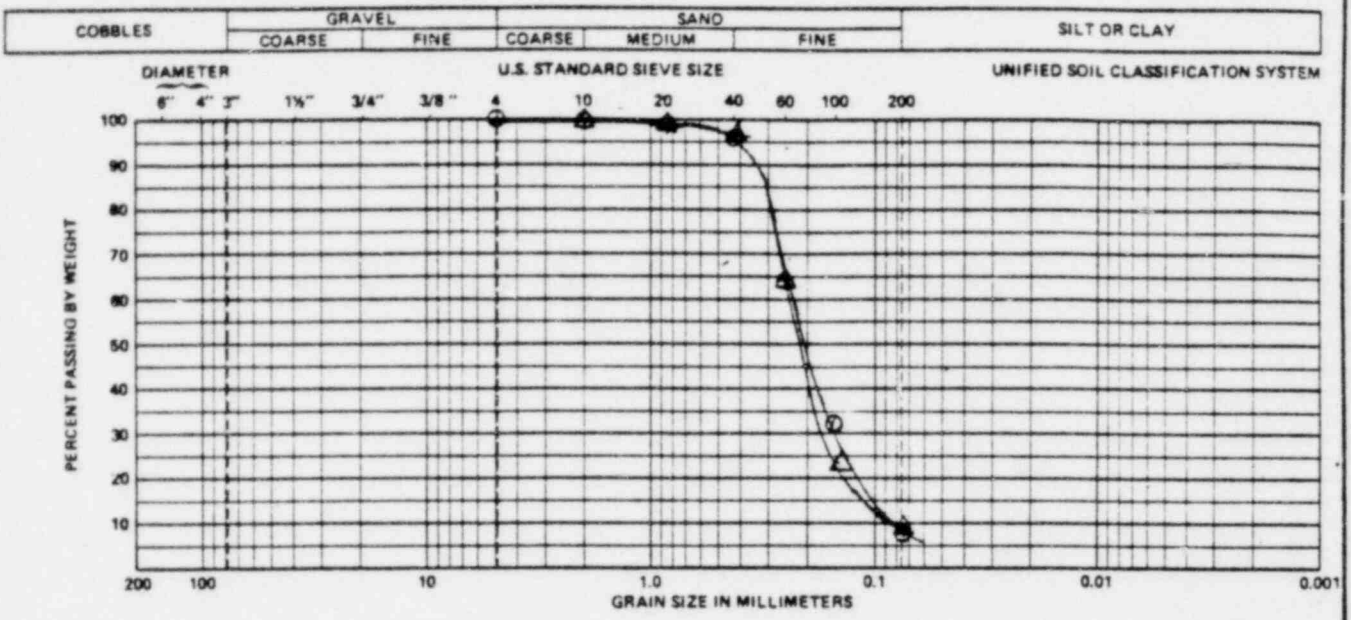
BIC4055T3 (BIC217) Prepared by [illegible] Reviewed by _____ Checked by [illegible] 1 Sept 81

BORING NO. COE-7 GROUND SURFACE ELEV. (ft.) 631.5 Sheet 1 of 1

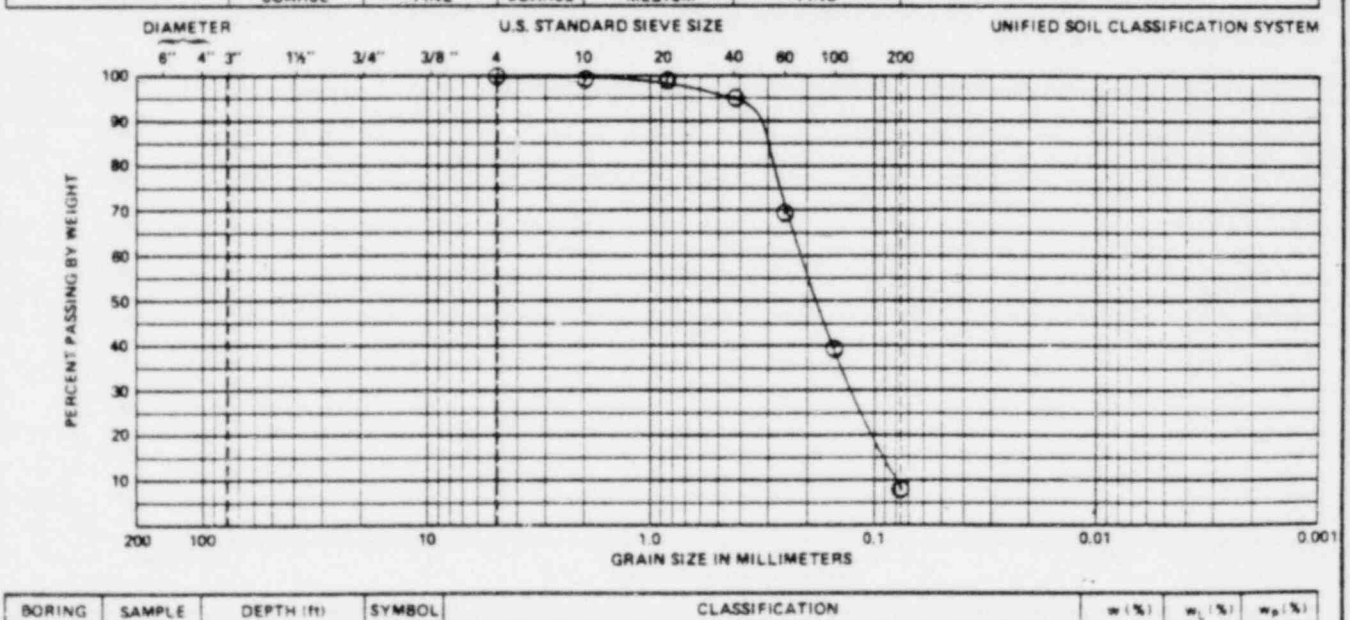
Sample No.	Section No.	Depth ft.	Tube Type	Tube Rec. ft	Tube γ_t lb/ft³	Section USCS Symbol	Section ω %	Section γ_t lb/ft³	Section γ_d lb/ft³	Ave. PP t/ft²	ω %	ω_L %	PI %	% Passing Sieve # 4	% Passing Sieve # 10	% Passing Sieve # 40	% Passing Sieve # 200	G_s	Type Eng. Prop. Test
S-19		35.9-38.4	PS	1.40	130.2														
	A	36.0				SP-SM	11.2							100	100	97	10		
	B	36.3																	
	C	36.6																	
	D	36.9				SP-SM	15.7	126.0	108.9			Non-plastic		100	100	95	8		$\overline{CIU}$
	E	37.2																2.65	
S-20		38.4-40.9	PS	1.35	126.0 128.7														
	A	38.8					10.8												
	B	39.5				SP-SM	15.0	124.6	108.3			Non-plastic		100	100	95	9		$\overline{CIU}$
	C	39.8																2.65	
S-21		40.9-43.4	PS	1.05	126.4 130.0														
	A	41.4				SP-SM	14.6	123.4	107.6					100	100	96	8		
	B	41.9					17.8												
S-22		43.4-45.9	PS	1.60	130.9 135.7														
	A	43.5					14.2												
		43.6				CL	20.2					45	27	100	100	95	56		
	B	43.9					13.2												
	C	44.5				SP-SM	17.5	126.9	108.0					100	100	91	11		$\overline{CIU}$
	D	44.8																2.66	
S-23		45.9-48.4	PS	1.48	125.4														
	A	46.1				SP-SM								99	99	89	5		
	B	46.3					13.2												
	C	47.1				SP-SM	14.8	120.6	105.0					100	100	99	6		$\overline{CIU}$
	D	47.4																2.66	

MIDLAND PLANT UNITS 1 and 2 - CONSUMERS POWER CO.
LAB TESTING SUMMARY: BAFFLE DIKE - FOUNDATION SAND
Table B-7 (6/6)

PARTICLE-SIZE DISTRIBUTION



BORING	SAMPLE	DEPTH (ft)	SYMBOL	CLASSIFICATION	w (%)	w_L (%)	w_p (%)
COE-7	S-19D	36.9	⊙	SP-SM, gray and brown, f. SAND, tr. c. to m. sand, tr. silt - CW spec.	15.7	Non-plastic	
COE-7	S-19A	36.0	△	SP-SM, gray and brown, f. SAND, tr. m. sand, tr. silt	11.2	Non-Plastic	



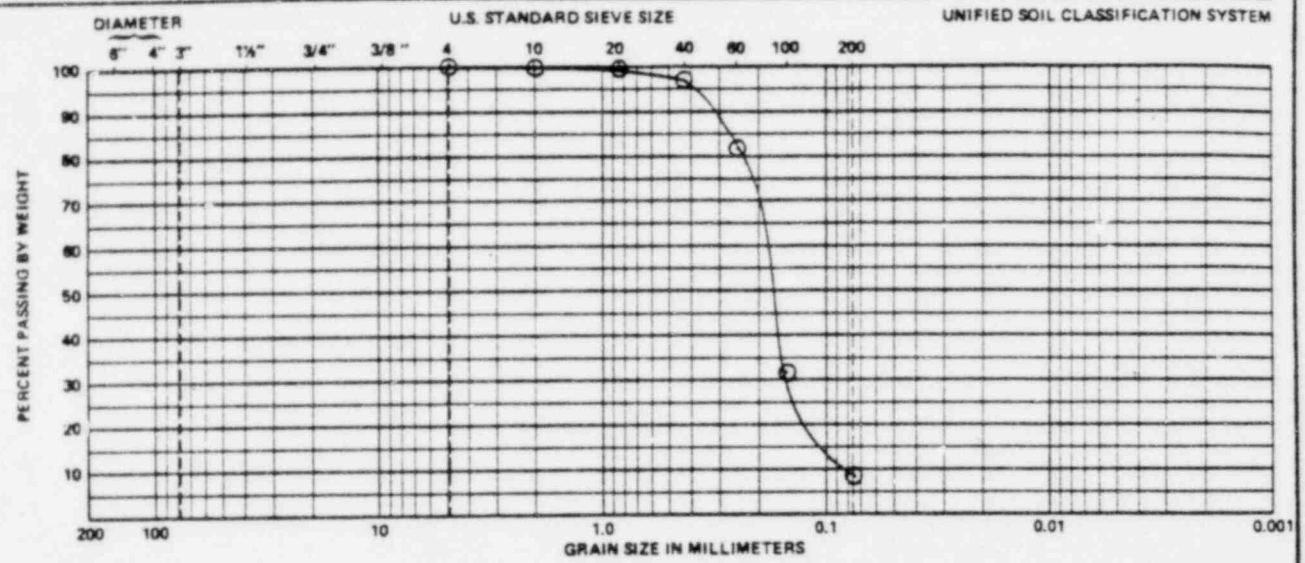
BORING	SAMPLE	DEPTH (ft)	SYMBOL	CLASSIFICATION	w (%)	w_L (%)	w_p (%)
COE 7	S-20B	39.5	⊙	SP-SM, brown and gray-brown f. SAND, tr. c to m. sand, tr. silt - CW spec.	15.0	Non-plastic	

PROJECT NO. 4355.6 DRAWN BY RDP REVIEWED BY WCC (LR-101 (8/80)) / checked by JAE 09/17/91

Fig. C-7 (7/9)

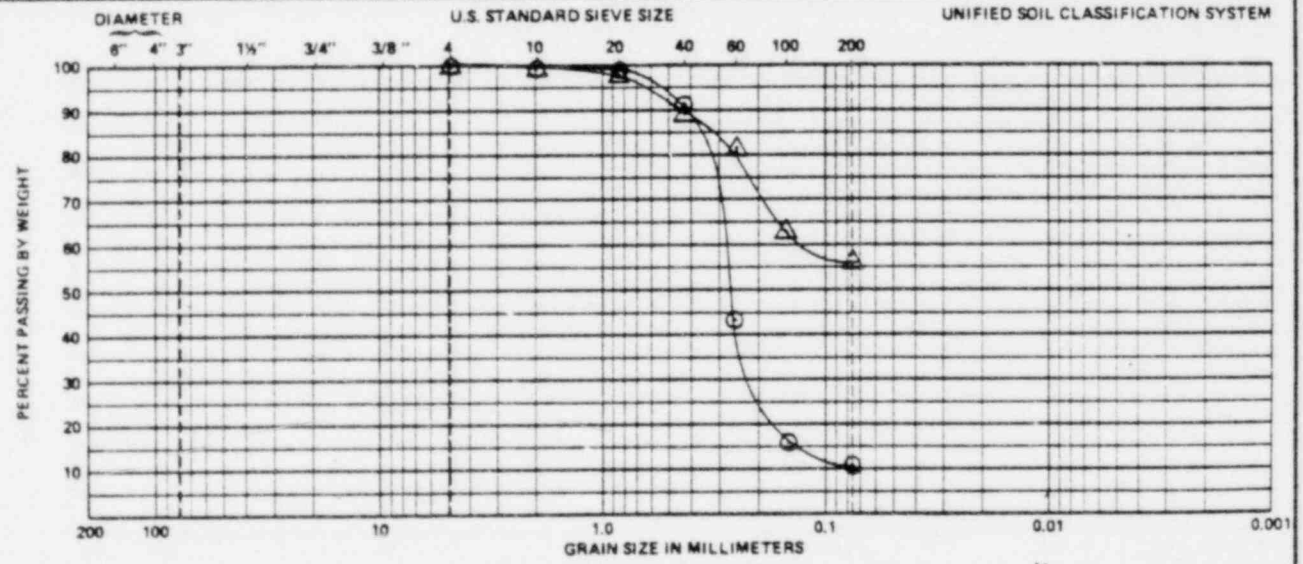
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (ft)	SYMBOL	CLASSIFICATION	w (%)	w_L (%)	w_p (%)
COE-7	S-21A	41.4	○	SP-SM, gray, f. SAND, tr. c to m sand, tr. silt	14.6	Non-plastic	

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

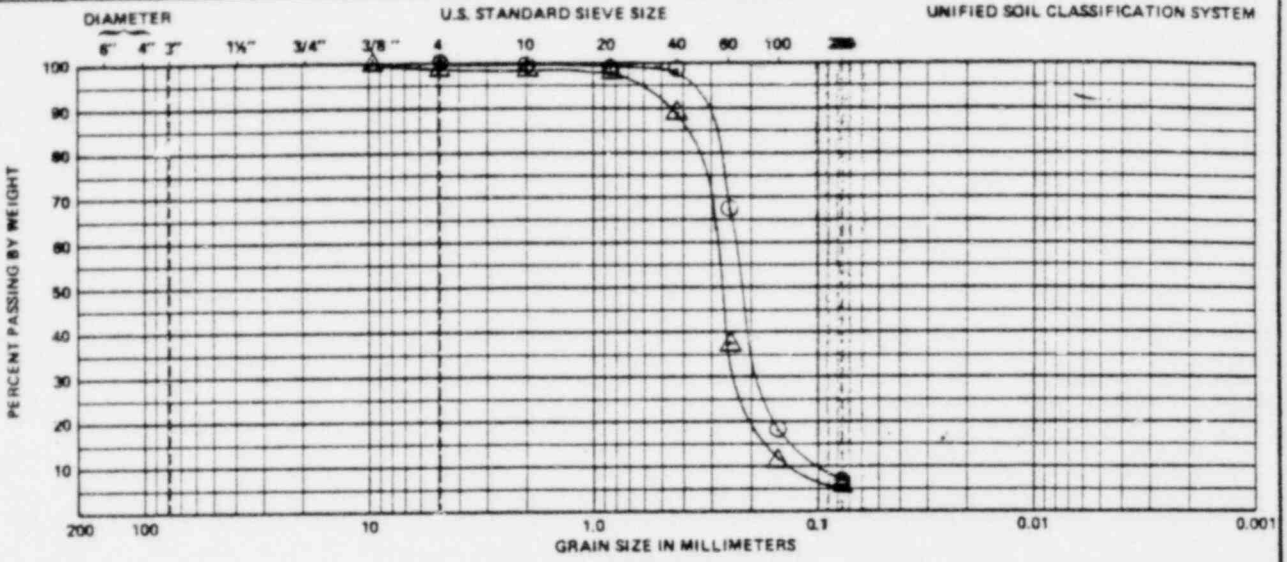


BORING	SAMPLE	DEPTH (ft)	SYMBOL	CLASSIFICATION	w (%)	w_L (%)	w_p (%)
COE 7	S-22C	44.5	○	SP-SM, tan and gray, f. SAND, tr. c. to m. sand, tr. silt – CW spec	17.5	Non-plastic	
COE 7	S-22A$_2$	49.6	△	CL dk gray to black, f. sandy, plastic, silty CLAY, tr. c to m. sand	20.2	45	18

Fig. C-7 (8/9)

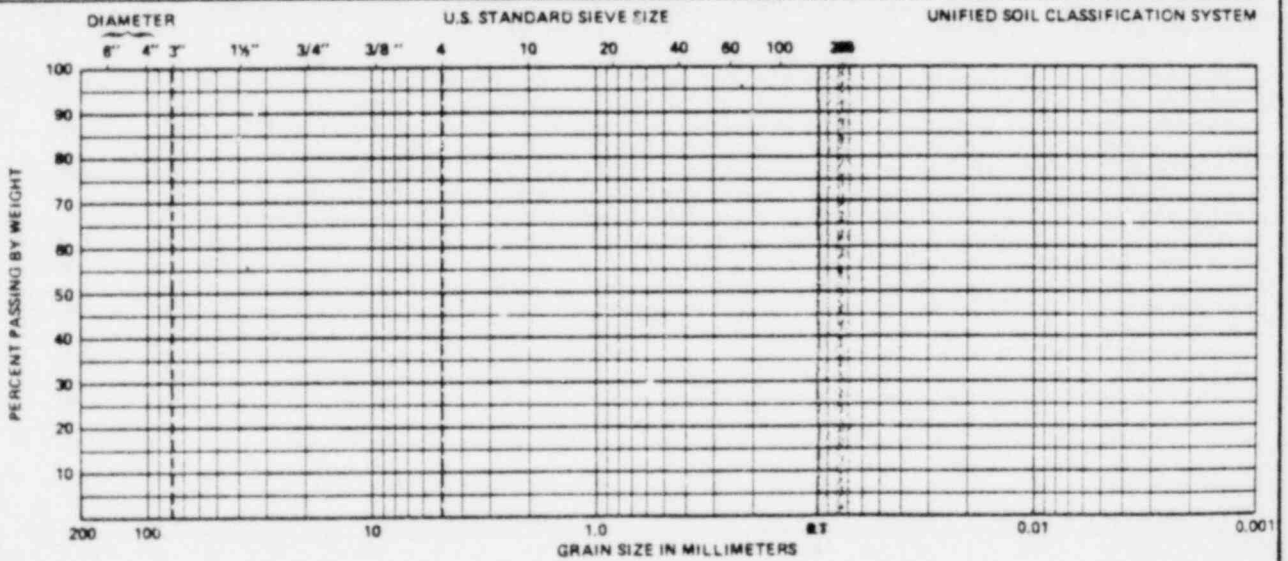
PARTICLE-SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (ft)	SYMBOL	CLASSIFICATION	w (%)	w_L (%)	w_p (%)
COE 7	S-23C	47.1	○	SP-SM, gray and brown f. SAND, tr. m. sand, tr. silt - CID Spec.	14.8	Non-plastic	
COE 7	S-23A	46.1	△	SP-SM, gray and brown, f. SAND, tr. f. gravel to m. sand, tr. silt.	—		

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



BORING	SAMPLE	DEPTH (ft)	SYMBOL	CLASSIFICATION	w (%)	w_L (%)	w_p (%)

Fig C-7 (9/9)

BLC 6200 T3 (BLC 217) Prepared by [illegible] Reviewed by RSL Checked by TWS 8 Sept 81

Series - Test No.	Boring No. COE-	Sample / Section No. S-	Depth Elev. ft.	USCS Symbol	Ø	Limits LL PI %	Percent Passing Sieve No. # 200	w_c %	γ_m lb/ft³	γ_d lb/ft³	S %	Type Test	Spec. Dia. in.	σ_{3c} kg/cm²	$K_c = \frac{\sigma_{3c}}{\sigma_{1c}}$	ε_{ac} %	$\dot{\varepsilon}_a$ %/hr	At Peak Deviator Stress® / At Peak Obliquity: ε_a %	$\frac{\sigma_1-\sigma_3}{2}$ kg/cm²	$\frac{\sigma_1+\sigma_3}{2}$ kg/cm²	σ_1/σ_3	A	$\frac{S_u}{\sigma_{3c}}$	$\bar{\phi}$ for c=0 degrees		Remarks
U-1	7	23C	477 / 584.4	SP-SM	2.66 Assumed	Non-plastic	100 / 6	14.8 / 21.1	120.6 / 128.6	105.0 / 106.2	68 / 100	$\overline{CIU}$	2.9	0.516	1.021	0.28 / 1.10	1 / 4.01	6.21 / 2.11	24.265	39.979	4.089 / 4.483	-0.313 / -0.213	— / —	— / 39.4		B = 99.5%
U-2	7	22C	445 / 587.0	SP-SM	2.66 Assumed	Non-plastic	100 / 11	17.5 / 19.9	126.9 / 130.0	108.0 / 108.5	87 / 100	$\overline{CIU}$	2.9	1.012	1.015	0.29 / 0.43	1 / 3.96	10.4 / 1.84	18.644 / 2.560	34.309 / 4.319	3.380 / 3.911	-0.374 / -0.148	— / —	— / 36.4		B = 95.4%
U-3	7	20B	392 / 592.0	SP-SM	2.65 Assumed	Non-plastic	100 / 9	15.0 / 19.5	126.6 / 130.2	108.3 / 108.9	76 / 100	$\overline{CIU}$	2.9	2.012	1.007	0.37 / 0.56	1 / 3.93	5.21 / 2.10	28.526 / 9.583	45.328 / 13.269	4.897 / 4.664	-0.259 / -0.156	— / —	— / 40.8		B = 96.4%
U-4	7	19.0	360.9 / 594.6	SP-SM	2.65 Assumed	Non-plastic	100 / 8	13.7 / 18.9	126.0 / 130.8	108.9 / 110.0	81 / 100	$\overline{CIU}$	2.9	3.007	1.004	0.67 / 1.00	1 / 3.96	4.32 / 2.49	30.697 / 12.104	48.716 / 15.206	4.392 / 4.622	-0.246 / -0.152	— / —	— / 40.1		B = 99.7%

DESCRIPTIONS OF MATERIALS TESTED

U-1 SP-SM, gray and brown f. SAND, tr. cl. sand, tr. silt

U-2 SP-SM, tan and gray, f. SAND, tr. c to cl. sand, tr. silt

U-3 SP-SM brown and gray brown f. SAND, tr. c to cl. sand, tr. silt

U-4 SP-SM, brown and gray, f. SAND, tr. c to cl. sand, tr. silt

STRENGTH ENVELOPE SUMMARY

Test Series	$\bar{\phi}$ degrees	$\bar{c}$ kg/cm²	$\bar{\alpha}$ degrees	$\bar{a}$ kg/cm²	Correlation Coefficient
1	39.0	(0)	32.2	(0)	—
	$\bar{c}$ assumed to be zero (0)				

MIDLAND PLANT UNITS 1 and 2
CONSUMERS POWER CO.
$\overline{CIU}$ - TRIAXIAL TEST SERIES
BAFFLE DIKE
FOUNDATION SAND

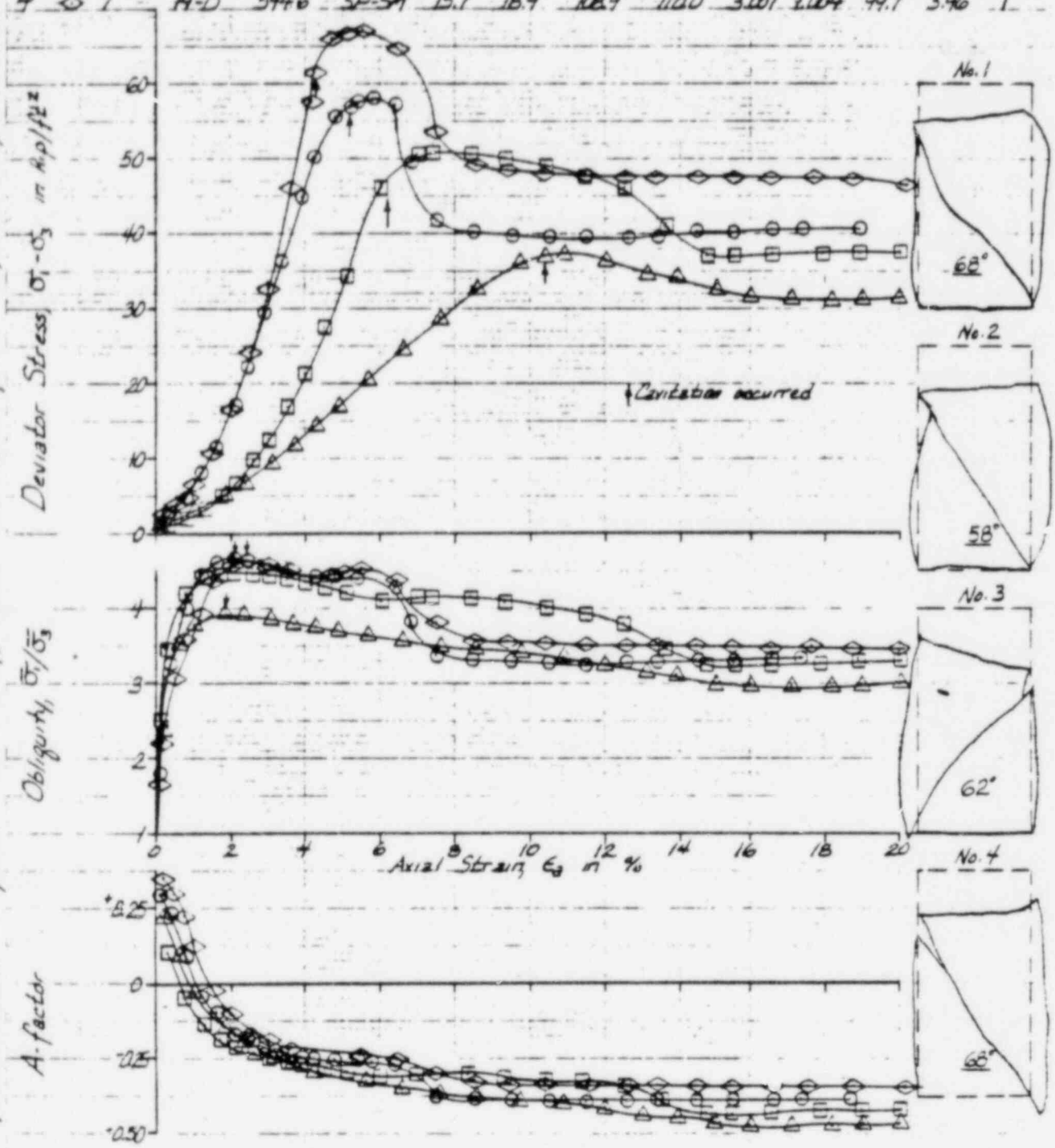
® Correlation assumed within sample prior to reaching peak deviator stress. Data presented are for those stresses at which consolidation occurred.

Table E-6

Test No.	Symbol	Boring No. COE-	Sample No.	Elev. ft.	USCS Symbol	ω_o %	ω_c %	γ_{d_o} lb/ft³	γ_{d_c} lb/ft³	$\bar{\sigma}_{vc}$ kip/ft²	K_c	B-factor	$\dot{\epsilon}$ %/hr	t_c days
1	□	7	23-C	584.4	SP-SM	14.8	21.1	105.0	106.2	0.516	1.021	99.5	4.01	1
2	△	7	22-C	587.0	SP-SM	17.5	19.9	108.0	108.5	1.012	1.015	95.4	3.96	1
3	○	7	20-B	592.0	SP-SM	15.0	19.5	108.3	108.9	2.012	1.007	96.4	3.93	1
4	◇	7	19-D	594.6	SP-SM	15.7	18.9	108.9	110.0	3.007	1.004	99.7	3.96	1

Specimens 2.9 in dia by 6.0 in ht. with top, bottom and radial (filter strips) drainage boundaries

BIC 4055 73 Drawn by LTF Reviewed by KSL Checked by JJS 8 Sept 81



MIDLAND PLANT UNITS 1 and 2 - CONSUMERS POWER CO.
$\overline{CIU}$ - TRIAXIAL TEST SERIES - STRESS/STRAIN CHARACTERISTICS
AREA: BAFFLE DIKE - FOUNDATION SAND

Fig. E-6a

BIC #05573 Drawn by [illegible] Reviewed by KSL Checked by JWS 8 Sept 81

Test No.	Symbol	Boring No. COE-	Sample No.	Elev. ft.	$\bar{\sigma}_c$ kip/ft²
1	⊡	7	23-C	584.4	0.516
2	△	7	22-C	587.0	1.012
3	⊙	7	20-B	592.0	2.012
4	◇	7	19-D	594.6	3.007

Note: Solid symbols for conditions at peak obliquity

ϕ = 32.2°

$\bar{a}$ assumed to be zero

Shear Stress, $q = (\sigma_1 - \sigma_3)/2$ in kip/ft²

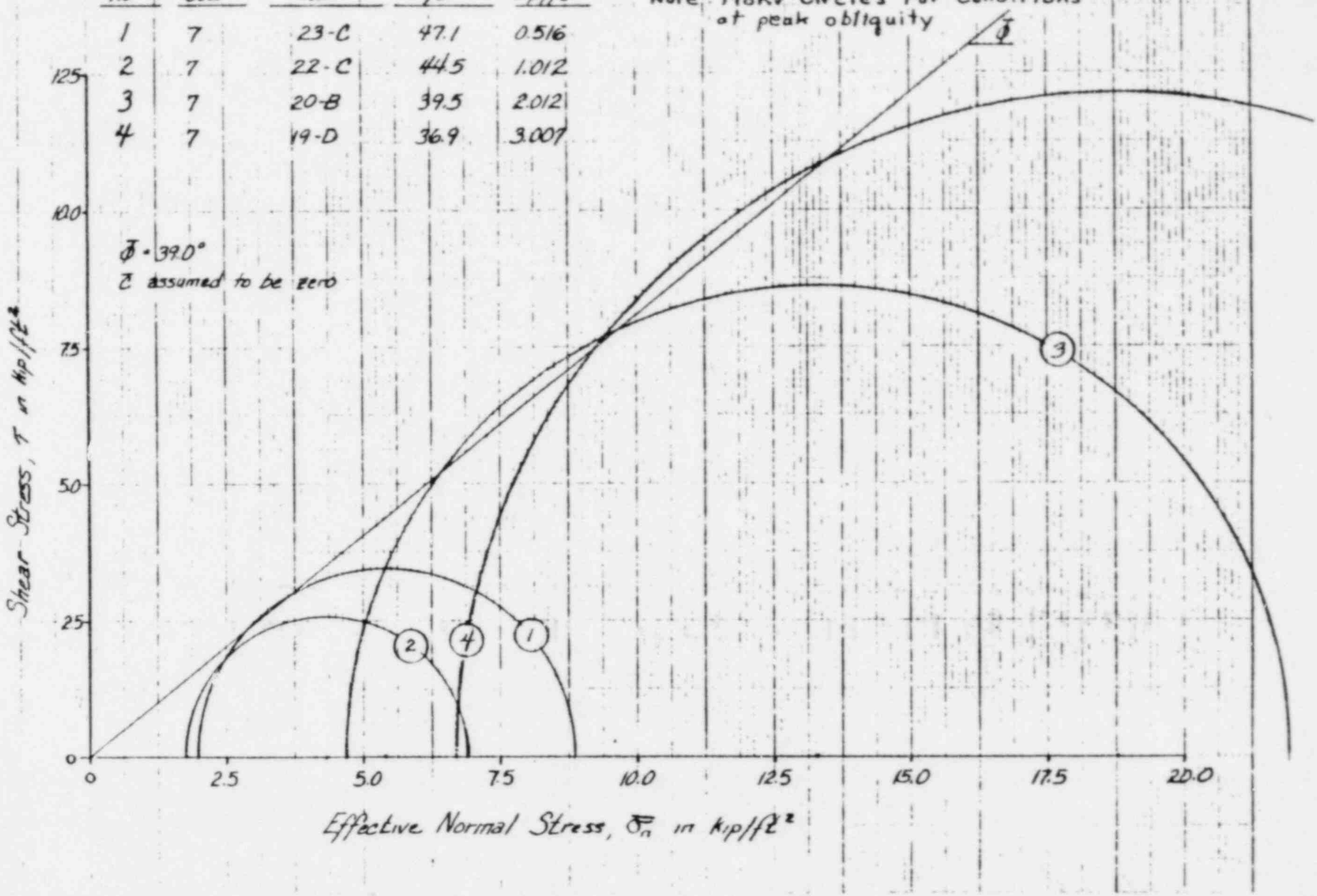
Average Effective Stress, $\bar{p} = (\bar{\sigma}_1 + \bar{\sigma}_3)/2$ in kip/ft²

MIDLAND PLANT UNITS 1 and 2 - CONSUMERS POWER CO.
CIU - TRIAXIAL TEST - STRESS PATHS
AREA: BAFFLE DIKE - FOUNDATION SAND

Fig. E-46

81C4055-T3 Drawn by [illegible] Reviewed by [illegible] Checked by [illegible] 8 Sept 81

Test No.	Boring No. COE-	Sample No.	Depth ft	$\bar{\sigma}_{vc}$ kip/ft²
1	7	23-C	47.1	0.516
2	7	22-C	44.5	1.012
3	7	20-B	39.5	2.012
4	7	19-D	36.9	3.007



MIDLAND PLANT UNITS 1 and 2 - CONSUMERS POWER CO.
CIU - TRIAXIAL TEST SERIES - STRENGTH ENVELOPE
AREA: BAFFLE DIKE - FOUNDATION SAND

Fig. E-6c

WCC
L-202
(1.80)

TRIAXIAL TEST (Set Up / Take Down)

Proj. No SIC4035T-3 Proj. Eng: ER Cell No 4-2 Piston dia.: ☐ 3/8"; ☒ 1/2"

Type Test CIU-C File No T-274

Loading Conditions:	☐ Dynamic ☒ Static	☒ Undrained ☐ Drained	☒ Compression ☐ Extension
	☒ Constant cell pressure ☐ Variable cell pressure		
Type Consolidation:	☒ Isotropic ☐ Anisotropic	☐ K_o stress path ☐ 45° Stress path	Piston Screwed in: ☐ Yes; ☒ No

☒ Undisturbed ☐ Reconstituted ☐ Impact ☐ Constant Effort

Boring No COE-7 Composite No ____ ☐ Static ____ layers; ____ lb {Hammer / Tamp}

Sample No S-19 Specimen No D ☐ Kneading ____ Blows - Tamps / layer

Depth (ft) 36.9 Remarks #077 ☐ Tamping ☐ Undercompaction

☐ Ends capped with Castone; ☐ Geomarine Sample ☐ Other ____ layers; ____ Uni (%)

Water Content				Final
Location	Top	Bot		Ave
Container No	LA21C	LA21		BR
Wgt Container + Wet Soil (gm)	89.40	140.40		1840.0
Wgt Container + Dry Soil (gm)	84.21	123.62		1635.80
Wgt. Container (gm)	34.57	34.11		553.22
Wgt Dry Soil (gm)	49.64	89.51	Dis	1082.58
WATER CONTENT (%)	10.46	18.75	14.60	18.86

☐ See attached data sheet(s) for additional water contents

Specimen Weight

Wet + Stone (etc): 1386.3 gm

Stone (etc): 131.25 gm

Wet Initial: 1255.05 gm

Wet Final: ____ gm

Excess Oven Dry - Dish No 581

Wgt Dish + Dry Soil 150.45 gm

Wgt. Dish 47.98 gm

Wgt. Excess Dry Soil 2.47 gm

Dimensions of Specimen — Height (in) / Diameter (in) or ____

	Initial (L_o)	Final (L_f)		Initial	Final	$D_{ave} = (D_1 + 2D_m + D_3)/4$
1	5.945		1-T	2.838	2.925	
2	5.950		2-M	2.8515	3.384	*
3	5.945		3-B	2.8675	3.324	
4	5.9407		1'-T	2.832		
5	5.7416		2'-M	2.852		*
Ave	5.9444		3-B	2.865		
			Ave	2.851	3.2545	

ΔL_c = ____ in

ΔL_f = ____ in

$\Sigma \Delta L$ = ____ in

$L_o - L_f$ = ____ in

$A_o = \pi D^2/4 = 6.3829$ in²

$V_o = 1h^2 \cdot 16.387 / 1000 = 621.865$ cm³

Area $3.545420^2 = 57.7608$ 10^{-3} ft²

Membrane { Thickness = .025 in; Circumference (L_m) = 8.8725 in; Diam = C_m/π = 2.8264 in }

Filter Paper: Top + bottom: ☐ Yes; ☒ No

Filter Strips: ☐ Yes; ☒ No

____ Vertical at ¼" - Whatman #54 or ____

____ Spiral at ¼" - Whatman #1 or ____

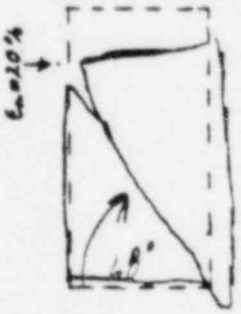
Wgt top cap = ____ gm, ____ 10^{-3} lbs

Wgt (cap, dial + piston) = ____ gm, ____ 10^{-3} lbs

Preliminary

γ_{co} = 125.00 lb/ft³ γ_{do} = 109.94 lb/ft³

Failure Sketch



Final Visual Classification. ☐ See more detailed sketch on attached sheet; ☐ Photo Taken

Other Remarks: $\bar{\sigma}_c$ = 3 ksf

Preliminary Cal. by ____ Reviewed by ____

☐ Trimmed by ____ Set up by ____ Taken down by ____

☐ Reconstituted Date ____ Date 8/3/81 Date 8/7/81

See back for Summary Calculations

TRIAXIAL TEST SUMMARY CALCULATIONS T-274

Type Test: CIU-C ☒ Undisturbed ☐ Reconstituted - Specimen

☐ Dynamic / Hz or ____ ☐ Sinusoidal or ____ ☒ Static 3.26 %/hr

Consolidation History Units: tsf or KSF	Max. Induced Pore Pressure Uncorr.	Corr. #	☒ Preshear/perm. ☐ Pre cy-loading Uncorr.	Corr. #	Preshear after Cy-loading Uncorr.	Corr. #
$\bar{\sigma}_{cell}$		—	17.3995	—		—
$u_{...}$		—	14.400	—		—
$\bar{\sigma}_v$			—	3.0136		
$\bar{\sigma}_h$			2.9995	3.0005		
$\bar{\sigma}_p = (\bar{\sigma}_v + \bar{\sigma}_h)/2$			—	3.0071		
$K_c = \bar{\sigma}_v / \bar{\sigma}_h$			1.00	1.0044		
OCR			1.00	1.00		
Consol. Time	☐ Overnight ____ days ____ hours		☒ Overnight ____ days ____ hours		☐ Overnight ____ days ____ hours	

Corrected for effects of membrane, filter strips, etc.

H_o = 5.9444 in
A_o = 6.3839 in²
V_o = 621.865 cm³
Dso/Dom = 1.0087
G_s = 2.647 ☒ Assumed ☐ Measured from S-198
B_g = 3.27 %
Area Corr. Factors: C
Undrained = 1.262
$C = \frac{1}{\varepsilon_{ag}}(1 - A_c/A_{om})$
Drained = ____
$C = \frac{1}{\varepsilon_{ag}}\left[1 - \frac{A_c(1+\varepsilon_{vc})}{A_{om}}\right]$

Calculate Wgt. of Dry Soil	By Initial Water Content	By Final Water Content	By Total Oven-dried Specimen
w_1 (%)			
w_2 (%)			
w_{ave} (%)	14.60	18.86	
Wgt. Wet Soil, Wet (gm)	1255.05	(1293.69)	
Partial Wgt Dry Soil (gm)	ΔV_T (cm³) during test		1089.58
Wgt Excess Oven-dry Soil	Corr. Wet Wgt. $W_o = W_T + \Delta V_T$		8.47
Total Wgt Oven Dry Soil, W_s (gm)	1095.16	(1085.05)	1085.05
W_s used:		= 1085.05 gm	

Variations in Height and Volume During Consolidation	During Initial Consol. with out back-Pressure	During Back-Pressuring ΔV_b = vol in	After Backpressuring $\bar{\sigma}_h$ (psi) From 2.6 To 5.2	$\bar{\sigma}_h$ (psi) From 2.6 To 80.52	$\bar{\sigma}_h$ (psi) From ____ To ____
Sign Convention: (-) ΔH in, (+) ΔV out (-) ΔL up, (+) ΔL down					
ΔL (in)	0.0212	0.0100	0.0018	0.0652	
ΔV_m (cm³)	(16.78)	—	1.37	(5.31)	
$-\Delta V_a = \pm 3V_o(\Delta H/H_o)$	6.653	3.138	0.565		
$R = \Delta V_m/\Delta V_a$	Rused = 2.425	2.425			
Corrected $\Delta V_a = R \cdot \Delta V_a$	(16.134)	(7.610)			
Circle Selected Value:	ΔV_1	ΔV_2	ΔV_3	ΔV_4	ΔV_5

ΔL_{cy} = ____ in $\Delta V_{rebound} = \bar{\sigma}_{max} \to \bar{\sigma}_{test}$ = ____ cm³

ΔV_T (during drained loading) = ____ cm³

Calculation of ΔV_c During Consolidation by Different Procedures	ΔV_c by W_g change $= W_o - W_s - (\Delta V_b + \Delta V_T)$	ΔV_c by recorded/calculated volume changes + Σ selected ΔV
	$\Delta W_{g.} = -34.64$ gm	$\Delta V_c = \Delta V_1 + \Delta V_2 + \Delta V$
	$\Sigma(\Delta V_b + \Delta V_T) =$ ____ cm³	$= 16.134 + 7.610 + 5.31$
	$\therefore \Delta V_c =$ ____ cm³	$= 29.054$ cm³

ΔV_c assuming S = 100% $V_F = (W_F - W_s)W_o/\gamma_w$

Undrained: $\Delta V_c = V_o - V_F$; w_o = 18.86 %; V_F = 615.666 cm³

Drained: $\Delta V_c = V_o - (V_F + \Delta V_T)$; $V_F + \Delta V_T$ = ____ cm³

$\therefore \Delta V_c$ = 6.199 cm³

Conclusions:

ΔV_c used (ave ✓ values) = 6.199 cm³ $\therefore V_c$ = 615.666 cm³; ΔL_c = 0.0400 in; $\therefore L_c$ = 5.9044 in

$A_c = V_c/L_c$ (cm²/in)/16.387 = 6.3631 in² $\therefore$ 44.1880 $\times 10^{-3}$ ft²

ε_{ac} = 0.67 %; ε_v = 1.00 %; $1-\varepsilon_v$ = ____ E_{ag} = 0.1862; ε_{vc} = ____ # not in percent

At max. induced pore pressure: $\Delta V_{max} = \Delta V_c - \Delta V_{rebound}$ = ____ cm³; ΔL_{max} = ____ in

Summary	Height (in)	Area (ft² or $\times 10^{-3}$)	Volume (cm³)	Water Content (%)	Total or Dry Density (lb/ft³)	Saturation (%)		
Initial	5.9444	44.3326	621.865	15.67	125.00 108.93	80.6		
After Consol.	5.9044	44.1880	615.666	18.86	130.78 110.03	100.0		

Psi × 0.0072 = tsf

w for S < 100% = $G_s \cdot \gamma_w - \gamma_d / G_s \cdot \gamma_d = G_s \cdot \gamma_w - \gamma_w / (G_s - \gamma_w)$ γ_w @ 20°C (tsf) = 62.32 lb/ft³ × 0.0982 gm/cm³ (S.M.) = 64.2 (lb/ft³)

$S = w \cdot G_s \cdot \gamma_d / (G_s \cdot \gamma_w - \gamma_d) = w \cdot G_s \cdot \gamma_s / (G_s \cdot \gamma_w (1+w) - \gamma_s)$

Calculated by ____ Reviewed by ____

A.TRIAX

THIS IS A CIU TEST. IT HAS BEEN
CALCULATED BY COMPUTER PROGRAM NO. C-T-1R.6 USING FILE NO. T-274

PROJ. NO.	81C4055T3	REVIEWED BY:
BORING NO.	COE-7	DATE: 1/4/81
SAMPLE NO.	S-19	INPUT DATA CHECKED BY:
SPECIMEN NO.	D	
DEPTH(FT.)	36.9	TEST NO. ID-077

ISOTROPIC	TYPE OF CONSOLIDATION
UNDRAINED	DRAINAGE CONDITIONS DURING LOADING
COMPRESSION	MODE OF LOADING
CONSTANT	CELL PRESSURE DURING LOADING
5.9444	INITIAL HEIGHT OF SPECIMEN IN INCHES
2.8510	INITIAL DIAMETER OF SPECIMEN IN INCHES
621.86	INITIAL VOLUME OF SPECIMEN IN CU.CM.
.5000	PISTON DIAMETER IN INCHES
.5100	WEIGHT OF TOP CAP ONLY IN TONS*10**-3
1.2700	WEIGHT OF TOP CAP + PISTON + DIAL IN TONS*10**-3
1.5950	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3
NO	WAS PISTON IN CONTACT WITH SPECIMEN DURING CONSOLIDATION?
.0250	MEMBRANE THICKNESS IN INCHES
2.8264	MEMBRANE DIAMETER IN INCHES
0.0000	FILTER STRIP CORRECTION CONSTANT AT 2% AXIAL STRAIN IN TONS ** 10-3
1.2620	RIGHT CYLINDER DISTORTION FACTOR

PRE-SHEAR CONDITIONS:

8.6998	CELL PRESSURE IN TSF
7.2000	BACK PRESSURE IN TSF
.0400	AXIAL DEFORMATION DURING CONSOL. IN INCHES
6.20	VOLUME CHANGE DURING CONSOL. IN CU. CM.
12.3675	MEASURED AXIAL LOAD PRIOR TO STATIC LOADING FROM FIRST LINE OF LOADING DATA IN TONS*10**-3

EFFECTIVE STRESSES CORRECTED FOR MEMBRANE AND FILTER STRIPS, ETC:

AXIAL	=	3.0136	KSF
LATERAL	=	3.0005	KSF
MEAN	=	3.0049	KSF
PBAR	=	3.0071	KSF
LATERAL/AXIAL	=	.9957	
AXIAL/LATERAL	=	1.0044	
OCR	=	1.000	

12.3675	PISTON DRAG CORRECTION IN TONS *10**-3
2000	FILE NUMBER FOR LOAD CELL OR PROVING RING
1000	FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000	FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE	FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES	IS DATA NORMALIZATION REQUIRED?

[illegible] TO PRESHEAR STRESSES

12.3675 PISTON DRAG CORRECTION IN TONS *10**-3
2000 FILE NUMBER FOR LOAD CELL OR PROVING RING
1000 FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000 FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES IS DATA NOMALIZATION REQUIRED?
DATA NORMALIZED TO PRESHEAR STRESSES
WITH NORM = P-BAR OF 3.0071 KSF

AXIAL STRAIN %	DEVIATOR STRESS KSF	OBLIQUITY	DELTA-U KSF	A-FACTOR	Q KSF	P-BAR KSF	SECANT MODULUS KSF	TANGENT MODULUS KSF	DEVIATOR NORM	DELTA-U NORM	Q NORM	P-BAR NORM	SECANT NORM
0.0000	.0131	1.0044	0.0000	0.0000	.0066	3.0071	0.000	0.000	.0044	0.0000	.0022	1.0000	0.0000
.0076	.2141	1.0722	.0360	.1791	.1070	3.0716	2637.078	2871.994	.0712	.0120	.0356	1.0214	876.9581
.0159	.4719	1.1617	.0820	.1787	.2360	3.1545	2881.990	2538.191	.1569	.0273	.0785	1.0490	958.4036
.0242	.6354	1.2203	.1160	.1864	.3177	3.2022	2569.309	1928.895	.2113	.0386	.1056	1.0649	854.4218
.0332	.8049	1.2842	.1680	.2122	.4024	3.2350	2385.164	1750.945	.2677	.0559	.1338	1.0758	793.1843
.0437	.9743	1.3539	.2240	.2330	.4872	3.2637	2199.742	1454.274	.3240	.0745	.1620	1.0853	731.5226
.0544	1.1125	1.4089	.2800	.2547	.5562	3.2768	2022.172	1257.715	.3700	.0931	.1850	1.0897	672.4716
.0693	1.2944	1.4902	.3600	.2810	.6472	3.2877	1849.675	1273.064	.4304	.1197	.2152	1.0933	615.1079
.0830	1.4762	1.5747	.4320	.2953	.7381	3.3066	1763.054	1107.427	.4909	.1437	.2455	1.0998	586.3024
.1055	1.6765	1.6775	.5260	.3162	.8383	3.3128	1576.497	944.266	.5575	.1749	.2788	1.1017	524.2628
.1243	1.8644	1.7786	.6060	.3273	.9322	3.3267	1489.218	913.696	.6200	.2015	.3100	1.1063	495.2381
.1440	2.0271	1.8728	.6780	.3368	1.0135	3.3361	1398.986	804.160	.6741	.2255	.3371	1.1094	465.2318
.1704	2.2332	1.9976	.7620	.3432	1.1166	3.3552	1303.044	702.880	.7427	.2534	.3713	1.1158	433.3261
.2222	2.5574	2.2187	.9020	.3545	1.2787	3.3772	1145.014	573.779	.8505	.3000	.4252	1.1231	380.7737
.2532	2.7192	2.3365	.9660	.3570	1.3596	3.3941	1068.762	481.574	.9043	.3212	.4521	1.1287	355.4159
.2855	2.8619	2.4450	1.0200	.3580	1.4309	3.4115	997.653	430.866	.9517	.3392	.4759	1.1345	331.7688
.3194	3.0044	2.5514	1.0640	.3557	1.5022	3.4387	936.466	402.185	.9991	.3538	.4996	1.1435	311.4212
.3533	3.1344	2.6509	1.1020	.3531	1.5672	3.4657	883.470	426.557	1.0423	.3665	.5212	1.1525	293.7971
.3850	3.2830	2.7532	1.1280	.3450	1.6415	3.5141	849.404	411.193	1.0918	.3751	.5459	1.1686	282.4688
.4182	3.4002	2.8354	1.1480	.3389	1.7001	3.5526	809.996	391.834	1.1307	.3818	.5654	1.1814	269.3636
.4483	3.5300	2.9200	1.1620	.3304	1.7650	3.6036	784.489	415.665	1.1739	.3864	.5870	1.1984	260.8813
.4837	3.6719	3.0059	1.1700	.3198	1.8359	3.6665	756.400	420.371	1.2211	.3891	.6105	1.2193	251.5401
.5145	3.8075	3.0845	1.1740	.3094	1.9038	3.7303	737.451	433.483	1.2662	.3904	.6331	1.2405	245.2386
.5477	3.9492	3.1621	1.1740	.2983	1.9746	3.8012	718.627	413.250	1.3133	.3904	.6567	1.2641	238.9790
.5801	4.0785	3.2231	1.1660	.2868	2.0392	3.8738	700.838	427.132	1.3563	.3878	.6782	1.2882	233.0632
.6139	4.2325	3.2996	1.1600	.2749	2.1162	3.9568	687.254	435.639	1.4075	.3858	.7038	1.3158	228.5459
.6449	4.3616	3.3544	1.1480	.2640	2.1808	4.0334	674.250	459.857	1.4505	.3818	.7252	1.3413	224.2213
.6780	4.5278	3.4205	1.1300	.2503	2.2639	4.1345	665.911	509.676	1.5057	.3758	.7529	1.3749	221.4482
.7435	4.8662	3.5470	1.0900	.2246	2.4331	4.3437	652.721	504.078	1.6182	.3625	.8091	1.4445	217.0618
.8084	5.1852	3.6394	1.0360	.2003	2.5926	4.5572	639.814	533.329	1.7243	.3445	.8622	1.5155	212.7695
.8746	5.5659	3.7437	.9720	.1750	2.7829	4.8115	634.890	605.810	1.8509	.3232	.9255	1.6001	211.1322
.9373	5.9649	3.8396	.9000	.1512	2.9825	5.0831	635.020	642.281	1.9836	.2993	.9918	1.6904	211.1754
1.0035	6.3939	3.9241	.8140	.1276	3.1969	5.3835	635.859	668.309	2.1263	.2707	1.0631	1.7903	211.4543
1.0684	6.8407	3.9995	.7200	.1054	3.4204	5.7010	639.078	708.458	2.2749	.2394	1.1374	1.8959	212.5251
1.1346	7.3228	4.0735	.6180	.0845	3.6614	6.0440	644.270	767.598	2.4352	.2055	1.2176	2.0099	214.2515
1.2626	8.3563	4.1936	.3840	.0460	4.1782	6.7948	660.790	856.186	2.7789	.1277	1.3894	2.2596	219.7451
1.3907	9.5154	4.3009	.1180	.0124	4.7577	7.6403	683.293	940.461	3.1643	.0392	1.5822	2.5408	227.2285
1.5211	10.7878	4.3853	-.1860	-.0173	5.3939	8.5806	708.365	1031.116	3.5875	-.0619	1.7937	2.8535	235.5661
1.6430	12.1127	4.4503	-.5100	-.0422	6.0564	9.5670	736.430	1123.764	4.0281	-.1696	2.0140	3.1815	244.8993
1.7666	13.4488	4.5096	-.8640	-.0638	6.7241	10.6388	766.145	1224.428	4.5054	-.2873	2.2527	3.5379	254.7808
1.8857	15.0015	4.5480	-1.2580	-.0830	7.5008	11.7918	799.084	1309.881	5.0164	-.4187	2.5077	3.9218	268.1349
2.0070	16.6868	4.5742	-1.6680	-.1000	8.3434	13.0121	830.786	1384.902	5.5492	-.5547	2.7746	4.3272	276.2774
2.1274	18.4281	4.6001	-2.1180	-.1150	9.2141	14.3328	865.612	1478.275	6.1283	-.7043	3.0641	4.7664	287.8587
2.2480	20.2496	4.6129	-2.6040	-.1287	10.1248	15.7296	900.206	1545.995	6.7340	-.8660	3.3670	5.2309	299.3629
2.3716	22.2049	4.6183	-3.1360	-.1413	11.1024	17.2392	935.722	1659.922	7.3842	-1.0429	3.6921	5.7329	311.1737
2.4868	24.2069	4.6223	-3.6820	-.1522	12.1035	18.7843	972.894	1759.447	8.0500	-1.2244	4.0250	6.2474	323.5352
2.6028	26.2726	4.6204	-4.2560	-.1621	13.1363	20.3931	1008.893	1785.312	8.7369	-1.4153	4.3685	6.7817	335.5066
2.7249	28.4585	4.6166	-4.8680	-.1711	14.2293	22.0981	1043.901	1828.947	9.4639	-1.6188	4.7319	7.3487	347.1485
2.8401	30.6097	4.6033	-5.4940	-.1796	15.3048	23.7997	1077.311	1863.967	10.1792	-1.8270	5.0896	7.9146	358.2589
2.9637	32.9095	4.5916	-6.1620	-.1873	16.4547	25.6176	1109.968	1915.613	10.9440	-2.0492	5.4720	8.5191	369.1190
3.0813	35.2263	4.5810	-6.8360	-.1941	17.6131	27.4501	1142.817	1963.526	11.7145	-2.2733	5.8572	9.1285	380.0428
3.2613	38.7477	4.5565	-7.8940	-.2038	19.3738	30.2688	1187.705	1984.881	12.8855	-2.6251	6.4428	10.0659	394.9704
3.4413	42.3732	4.5338	-8.9906	-.2123	21.1866	33.1782	1230.923	2049.424	14.0912	-2.9898	7.0456	11.0334	409.3424
3.6190	47.0774	4.5051	-10.1450	-.2202	23.0388	36.1848	1272.854	2131.557	15.3231	-3.3737	7.6615	12.0332	423.2865
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	2	1											
.2222	2.5574	2.2187	.9020	.3545	1.2787	3.3772	1145.014	573.779	.8505	.3000	.4252	1.1231	380.7737
.2532	2.7192	2.3365	.9660	.3570	1.3596	3.3941	1068.762	481.574	.9043	.3212	.4521	1.1287	355.4159
.2855	2.8619	2.4450	1.0200	.3580	1.4309	3.4115	997.653	430.866	.9517	.3392	.4759	1.1345	331.7688
.3194	3.0044	2.5514	1.0640	.3557	1.5022	3.4387	936.466	402.185	.9991	.3538	.4996	1.1435	311.4212
.3533	3.1344	2.6509	1.1020	.3531	1.5672	3.4657	883.470	426.557	1.0423	.3665	.5212	1.1525	293.7971
.3850	3.2830	2.7532	1.1280	.3450	1.6415	3.5141	849.404	411.193	1.0918	.3751	.5459	1.1686	282.4688
.4182	3.4002	2.8354	1.1480	.3389	1.7001	3.5526	809.996	391.834	1.1307	.3818	.5654	1.1814	269.3636
.4483	3.5300	2.9200	1.1620	.3304	1.7650	3.6036	784.489	415.665	1.1739	.3864	.5870	1.1984	260.8813
.4837	3.6719	3.0059	1.1700	.3198	1.8359	3.6665	756.400	420.371	1.2211	.3891	.6105	1.2193	251.5401
.5145	3.8075	3.0845	1.1740	.3094	1.9038	3.7303	737.451	433.483	1.2662	.3904	.6331	1.2405	245.2386
.5477	3.9492	3.1621	1.1740	.2983	1.9746	3.8012	718.627	413.250	1.3133	.3904	.6567	1.2641	238.9790
.5801	4.0785	3.2231	1.1660	.2868	2.0392	3.8738	700.833	427.132	1.3563	.3878	.6782	1.2882	233.0632
.6139	4.2325	3.2996	1.1600	.2749	2.1162	3.9568	687.254	435.639	1.4075	.3858	.7038	1.3158	228.5459
.6449	4.3618	3.3544	1.1480	.2640	2.1808	4.0334	674.250	459.857	1.4505	.3818	.7252	1.3413	224.2213
.6780	4.5278	3.4205	1.1300	.2503	2.2639	4.1345	665.911	509.676	1.5057	.3758	.7529	1.3749	221.4482
.7435	4.8662	3.5470	1.0900	.2246	2.4331	4.3437	652.721	504.078	1.6162	.3625	.8091	1.4445	217.0618
.8084	5.1852	3.6394	1.0360	.2003	2.5926	4.5572	639.814	533.329	1.7243	.3445	.8622	1.5155	212.7695
.8746	5.5659	3.7437	.9720	.1750	2.7829	4.8115	634.890	605.810	1.8509	.3232	.9255	1.6001	211.1322
.9373	5.9649	3.8396	.9000	.1512	2.9825	5.0831	635.020	642.281	1.9836	.2993	.9918	1.6904	211.1754
1.0035	6.3939	3.9241	.8140	.1276	3.1969	5.3835	635.859	668.309	2.1263	.2707	1.0631	1.7903	211.4543
1.0684	6.8407	3.9995	.7200	.1054	3.4204	5.7010	639.078	708.458	2.2749	.2394	1.1374	1.8959	212.5251
1.1346	7.3228	4.0735	.6180	.0845	3.6614	6.0440	644.270	767.590	2.4352	.2055	1.2176	2.0099	214.2515
1.2626	8.3563	4.1936	.3840	.0460	4.1782	6.7948	660.790	856.186	2.7789	.1277	1.3894	2.2596	219.7451
1.3907	9.5154	4.3009	.1180	.0124	4.7577	7.6403	683.293	940.461	3.1643	.0392	1.5822	2.5408	227.2285
1.5211	10.7878	4.3853	-.1860	-.0173	5.3939	8.5806	708.365	1031.116	3.5875	-.0619	1.7937	2.8535	235.5661
1.6430	12.1127	4.4503	-.5100	-.0422	6.0564	9.5670	736.430	1123.764	4.0281	-.1696	2.0140	3.1815	244.8993
1.7666	13.5482	4.5056	-.8640	-.0638	6.7741	10.6388	766.145	1224.428	4.5054	-.2873	2.2527	3.5379	254.7808
1.8857	15.0815	4.5480	-1.2500	-.0830	7.5408	11.7915	799.081	1305.801	5.0154	-.4157	2.5077	3.9212	265.7349
2.0070	16.6868	4.5742	-1.6680	-.1000	8.3434	13.0121	830.786	1384.902	5.5492	-.5547	2.7746	4.3272	276.2774
2.1274	18.4281	4.6001	-2.1180	-.1150	9.2141	14.3328	865.612	1478.275	6.1283	-.7043	3.0641	4.7664	287.8587
2.2480	20.2496	4.6129	-2.6040	-.1287	10.1248	15.7296	900.206	1545.995	6.7340	-.8660	3.3670	5.2309	299.3629
2.3716	22.2049	4.6183	-3.1360	-.1413	11.1024	17.2392	935.722	1659.922	7.3842	-1.0429	3.6921	5.7329	311.1737
2.4868	24.2069	4.6223	-3.6820	-.1522	12.1035	18.7863	972.894	1759.447	8.0500	-1.2244	4.0250	6.2474	323.5352
2.6028	26.2726	4.6204	-4.2560	-.1621	13.1363	20.3931	1008.893	1785.312	8.7369	-1.4153	4.3685	6.7817	335.5066
2.7249	28.4585	4.6166	-4.8680	-.1711	14.2293	22.0981	1043.901	1828.947	9.4639	-1.6188	4.7319	7.3487	347.1485
2.8401	30.6097	4.6033	-5.4940	-.1796	15.3048	23.7997	1077.311	1863.967	10.1792	-1.8270	5.0896	7.9146	358.2589
2.9637	32.9095	4.5916	-6.1620	-.1873	16.4547	25.6176	1109.968	1915.613	10.9440	-2.0492	5.4720	8.5191	369.1190
3.0813	35.2263	4.5810	-6.8360	-.1941	17.6131	27.4501	1142.817	1963.526	11.7145	-2.2733	5.8572	9.1285	380.0428
3.2613	38.7477	4.5565	-7.8940	-.2038	19.3738	30.2688	1187.705	1984.881	12.8855	-2.6251	6.4428	10.0659	394.9704
3.4413	42.3732	4.5336	-8.9906	-.2123	21.1866	33.1782	1230.923	2049.424	14.0912	-2.9898	7.0456	11.0334	409.3424
3.6190	46.0776	4.5051	-10.1450	-.2202	23.0388	36.1848	1272.854	2131.557	15.3231	-3.3737	7.6615	12.0332	423.2865
3.7909	49.8218	4.4751	-11.3356	-.2276	24.9109	39.2476	1313.902	2171.730	16.5682	-3.7696	8.2841	13.0518	436.9372
3.9657	53.6066	4.4460	-12.5550	-.2343	26.8033	42.3594	1351.431	2159.796	17.8268	-4.1752	8.9134	14.0866	449.4174
4.1464	57.4995	4.4158	-13.8322	-.2406	28.7498	45.5831	1386.418	2152.981	19.1214	-4.5999	9.5607	15.1586	461.0523
4.3227	61.2933	4.3920	-15.0685	-.2459	30.6466	48.7163	1417.634	1928.092	20.3830	-5.0110	10.1915	16.2006	471.4331
4.5102	64.4889	4.3968	-15.9842	-.2479	32.2444	51.2299	1429.556	1250.433	21.4457	-5.3155	10.7229	17.0365	475.3976
4.7024	66.0199	4.4437	-16.1698	-.2450	33.0099	52.1810	1403.675	551.539	21.9549	-5.3773	10.9774	17.3528	466.7910
4.9050	66.6410	4.4831	-16.1312	-.2421	33.3205	52.4531	1358.370	233.458	22.1614	-5.3644	11.0807	17.4432	451.7250
5.1016	66.9562	4.5089	-16.0806	-.2402	33.4781	52.5601	1312.192	113.972	22.2662	-5.3476	11.1331	17.4788	436.3685
5.2983	67.0892	4.5216	-16.0492	-.2393	33.5446	52.5953	1266.004	46.357	22.3105	-5.3371	11.1552	17.4905	421.0087
5.5039	67.1407	4.5274	-16.0324	-.2388	33.5704	52.6043	1219.646	-2.215	22.3276	-5.3316	11.1638	17.4935	405.5922
5.6986	67.0833	4.5257	-16.0252	-.2389	33.5416	52.5684	1176.952	-73.831	22.3085	-5.3292	11.1542	17.4816	391.3946
5.9002	66.8451	4.5132	-16.0252	-.2398	33.4226	52.4494	1132.712	-141.210	22.2293	-5.3292	11.1146	17.4420	376.6825
6.1000	66.5169	4.4946	-16.0324	-.2411	33.2584	52.2926	1090.221	-230.404	22.1201	-5.3316	11.0601	17.3899	362.5520
6.3067	65.9041	4.4611	-16.0396	-.2434	32.9520	51.9935	1044.785	-494.901	21.9164	-5.3340	10.9582	17.2904	347.4426
6.5082	64.5069	4.3860	-16.0492	-.2489	32.2534	51.3045	990.963	-1019.867	21.4517	-5.3371	10.7259	17.0613	329.5438
6.7216	61.6335	4.2347	-16.0516	-.2605	30.8167	49.8703	916.752	-1462.788	20.4962	-5.3379	10.2481	16.5843	304.8651
6.9350	58.2637	4.0579	-16.0516	-.2756	29.1319	48.1855	839.952	-1302.659	19.3756	-5.3379	9.6878	16.0241	279.3253
7.1332	56.2301	3.9511	-16.0516	-.2856	28.1151	47.1688	788.109	-864.242	18.6993	-5.3379	9.3496	15.6860	262.0851
7.3381	54.7910	3.8763	-16.0468	-.2930	27.3955	46.4445	746.488	-705.227	18.2207	-5.3364	9.1104	15.4451	248.2440
7.5464	53.3157	3.7996	-16.0420	-.3010	26.6578	45.7022	706.331	-772.362	17.7301	-5.3348	8.8650	15.1982	234.8897
7.7513	51.6014	3.7099	-16.0396	-.3110	25.8007	44.8427	665.541	-724.810	17.1600	-5.3340	8.5800	14.9124	221.3250
7.9580	50.3346	3.6443	-16.0324	-.3186	25.1673	44.2022	632.341	-456.228	16.7387	-5.3316	8.3694	14.6994	210.2845
8.1612	49.7262	3.6130	-16.0276	-.3224	24.8631	43.8933	609.139	-246.468	16.5364	-5.3300	8.2682	14.5987	202.5687
8.3577	49.3459	3.5933	-16.0252	-.3249	24.6729	43.7008	590.269	-137.570	16.4099	-5.3292	8.2050	14.5327	198.2937
8.5609	49.1801	3.5853	-16.0204	-.3259	24.5901	43.6132	574.320	-112.837	16.3548	-5.3276	8.1774	14.5035	190.9897
8.7608	48.8921	3.5704	-16.0180	-.3278	24.4460	43.4669	557.931	-102.178	16.2590	-5.3268	8.1295	14.4549	185.5396

8.[illegible]	49.[illegible]	3.[illegible]	-16.	-.	24	43	59	-13	1[illegible]	[illegible] 2	0	1 [illegible]7	2937	
8.5609	49.1801	3.5[illegible]	-16.0204	-.3259	24.5901	43.6132	574.320	-112.837	16.3548	-5.3276	8.1774	14.5035	190.9897	
8.7608	48.8921	3.5704	-16.0180	-.3278	24.4460	43.4669	557.931	-102.178	16.2590	-5.3268	8.1295	14.4549	185.5396	
9.0961	48.6901	3.5608	-16.0108	-.3290	24.3450	43.3589	535.141	-41.772	16.1918	-5.3244	8.0959	14.4190	177.9608	
9.3671	48.6269	3.5571	-16.0132	-.3295	24.3135	43.3299	518.986	-45.865	16.1708	-5.3252	8.0854	14.4093	172.5883	
9.6381	48.4415	3.5477	-16.0108	-.3307	24.2208	43.2349	502.470	-60.275	16.1092	-5.3244	8.0546	14.3777	167.0961	
9.9057	48.3020	3.5406	-16.0084	-.3316	24.1510	43.1629	487.488	-28.821	16.0628	-5.3236	8.0314	14.3538	162.1137	
10.1750	48.2672	3.5402	-16.0058	-.3316	24.1436	43.1530	474.440	-16.526	16.0579	-5.3227	8.0289	14.3505	157.7747	
10.4375	48.2149	3.5360	-16.0084	-.3322	24.1074	43.1196	461.815	-42.595	16.0338	-5.3236	8.0169	14.3394	153.5761	
10.7135	48.0557	3.5279	-16.0058	-.3332	24.0279	43.0376	448.429	-28.942	15.9809	-5.3227	7.9904	14.3121	149.1248	
10.9828	48.0551	3.5279	-16.0058	-.3332	24.0275	43.0375	437.428	-11.747	15.9807	-5.3227	7.9903	14.3121	145.4664	
11.2487	47.9932	3.5246	-16.0058	-.3337	23.9966	43.0067	426.538	-10.846	15.9601	-5.3227	7.9801	14.3019	141.8450	
11.5129	47.9974	3.5251	-16.0034	-.3336	23.9987	43.0068	416.786	-5.649	15.9615	-5.3219	7.9807	14.3018	138.6017	
11.7771	47.9634	3.5233	-16.0034	-.3338	23.9817	42.9898	407.147	-37.491	15.9502	-5.3219	7.9751	14.2962	135.3964	
12.0447	47.7972	3.5145	-16.0034	-.3350	23.8986	42.9068	396.721	-24.837	15.8949	-5.3219	7.9475	14.2686	131.9293	
12.3090	47.8300	3.5163	-16.0034	-.3348	23.9150	42.9235	388.473	16.797	15.9058	-5.3219	7.9529	14.2742	129.1863	
12.5732	47.8859	3.5192	-16.0034	-.3344	23.9430	42.9516	380.754	17.982	15.9244	-5.3219	7.9622	14.2835	126.6194	
12.8391	47.9253	3.5212	-16.0034	-.3341	23.9627	42.9715	373.175	-18.766	15.9375	-5.3219	7.9688	14.2901	124.0991	
13.1101	47.7835	3.5134	-16.0058	-.3352	23.8917	42.9031	364.380	-3.600	15.8904	-5.3227	7.9452	14.2674	121.1741	
13.3878	47.9089	3.5203	-16.0034	-.3342	23.9544	42.9637	357.756	19.547	15.9321	-5.3219	7.9660	14.2875	118.9716	
13.6503	47.8930	3.5194	-16.0034	-.3344	23.9465	42.9559	350.760	-25.884	15.9268	-5.3219	7.9634	14.2850	116.6449	
13.9196	47.7699	3.5126	-16.0058	-.3353	23.8849	42.8970	343.090	-34.791	15.8858	-5.3227	7.9429	14.2654	114.0942	
14.1889	47.7056	3.5092	-16.0058	-.3357	23.8528	42.8651	336.125	5.119	15.8645	-5.3227	7.9322	14.2547	111.7781	
14.4531	47.7957	3.5139	-16.0058	-.3351	23.8979	42.9104	330.604	-14.419	15.8944	-5.3227	7.9472	14.2698	109.9421	
14.7156	47.6305	3.5052	-16.0058	-.3363	23.8152	42.8280	323.583	-35.080	15.8395	-5.3227	7.9197	14.2424	107.6074	
14.9866	47.6109	3.5041	-16.0058	-.3364	23.8055	42.8184	317.602	-20.293	15.8330	-5.3227	7.9165	14.2392	105.6183	
15.2661	47.5177	3.4988	-16.0084	-.3371	23.7568	42.7747	311.177	3.866	15.8020	-5.3236	7.9010	14.2247	103.4818	
15.5269	47.6249	3.5045	-16.0084	-.3364	23.8124	42.8285	306.641	23.955	15.8376	-5.3236	7.9188	14.2426	101.9731	
15.7877	47.6426	3.5054	-16.0084	-.3363	23.8213	42.8376	301.687	-14.008	15.8435	-5.3236	7.9218	14.2456	100.3258	
16.0536	47.5500	3.5005	-16.0084	-.3369	23.7750	42.7916	296.113	-46.604	15.8127	-5.3236	7.9064	14.2303	98.4723	
16.3331	47.3869	3.4912	-16.0132	-.3382	23.6934	42.7151	290.048	-45.189	15.7585	-5.3252	7.8792	14.2049	96.4552	
16.5905	47.3045	3.4868	-16.0132	-.3388	23.6523	42.6741	285.051	22.532	15.7311	-5.3252	7.8655	14.1913	94.7935	
16.8513	47.5055	3.4977	-16.0108	-.3373	23.7527	42.7725	281.832	49.649	15.7979	-5.3244	7.8990	14.2240	93.7229	
17.1240	47.5661	3.5005	-16.0132	-.3369	23.7831	42.8055	277.698	1.818	15.8181	-5.3252	7.9090	14.2349	92.3483	
17.3899	47.5167	3.4979	-16.0132	-.3373	23.7583	42.7810	273.167	.375	15.8016	-5.3252	7.9008	14.2268	90.8416	
17.6609	47.5691	3.5003	-16.0156	-.3370	23.7846	42.8100	269.273	-25.088	15.8191	-5.3260	7.9095	14.2364	89.5465	
17.9370	47.3772	3.4899	-16.0180	-.3384	23.6886	42.7167	264.058	-43.054	15.7552	-5.3268	7.8776	14.2054	87.8124	
18.[illegible]46	47.3328	3.4872	-16.0204	-.3388	23.6664	42.6972	259.933	-5.684	15.7405	-5.3276	7.8702	14.1989	86.4406	
18.4857	47.3474	3.4882	-16.0180	-.3386	23.6737	42.7024	256.059	-21.017	15.7454	-5.3268	7.8727	14.2007	85.1523	
18.7567	47.2194	3.4814	-16.0180	-.3395	23.6097	42.6388	251.677	-43.190	15.7028	-5.3268	7.8514	14.1795	83.6951	
19.0395	47.1087	3.4753	-16.0204	-.3404	23.5544	42.5861	247.357	-53.604	15.6660	-5.3276	7.8330	14.1620	82.2584	
19.2953	46.9346	3.4661	-16.0204	-.3417	23.4673	42.4994	243.176	-71.893	15.6081	-5.3276	7.8040	14.1331	80.8681	
19.5663	46.7295	3.4549	-16.0228	-.3432	23.3647	42.3995	238.760	-56.416	15.5398	-5.3284	7.7699	14.0999	79.3994	
19.8423	46.6270	3.4495	-16.0228	-.3440	23.3135	42.3486	234.922	-28.997	15.5058	-5.3284	7.7529	14.0830	78.1230	
20.1150	46.5701	3.4465	-16.0228	-.3444	23.2850	42.3205	231.454	1387.950	15.4868	-5.3284	7.7434	14.0737	76.9698	STOP

A.BASIC RESPRT

CDOS 16K BASIC, VERSION 5.4

1	DATA FILE IDENT. NO.	T-274
2	PROJECT NO.	81C4055T3
3	BORING NO.	COE-7
4	SAMPLE NO.	S-19
5	SPECIMEN NO.	D
6	DEPTH	36.9
7	TEST NO.	ID-077
8	FILE # FOR LOAD CELL OR PROVING RING	2000
9	FILE # FOR PORE PRESSURE CONST.	1000
10	FILE # FOR CELL PRESSURE CONST	2000
11	FILE # FOR PISTON FRICTION CORRECTION	NONE
12	TYPE OF CONSOLIDATION	I
13	DRAINAGE CONDITIONS DURING LOADING	U
14	MODE OF LOADING	C
15	CELL PRESSURE DURING LOADING	C
16	INITIAL HEIGHT OF SPECIMEN IN INCHES	5.9444
17	INITIAL DIAMETER OF SPECIMEN IN INCHES	2.851
18	INITIAL VOLUME OF SPECIMEN IN CU. CM.	621.865
19	PISTON DIAMETER IN INCHES	.5
20	WEIGHT OF TOP CAP ONLY IN TONS*10**-3	0.51
21	WEIGHT OF TOP CAP + PISTON +DIAL IN TONS*10**-3	1.27
22	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3	1.595
23	WAS PISTON INTACT DURING CONSOL	NO
24	MEMBRANE THICKNESS IN INCHES	.025
25	MEMBRANE DIAMETER IN INCHES	2.8264
26	FILTER STRIP CORRECTION CONSTANT	0.0
27	RIGHT CYLINDER DISTORTION FACTOR	1.262
28	DOES SPECIMEN HAVE AN INDUCED OCR	NO
29	CELL PRESSURE IN TSF	0.0
30	BACK PRESSURE IN TSF	0.0
31	AXIAL DEFORMATION DURING CONSOL. IN INCHES	0.0
32	VOLUME CHANGE DURING CONSOL. IN CU. CM.	0.0
33	APPLIED AXIAL LOAD IN TONS*10**-3	0.0
34	PRE SHEAR CONDITION - CELL PRESSURE IN TSF	8.6998
35	BACK PRESSURE IN TSF	7.200
36	AXIAL DEFORMATION IN INCHES	.040
37	VOLUME CHANGE IN CU. CM.	6.199
38	PISTON DRAG CORRECTION IN TONS*10**-3	12.3675
39	SPECIMEN CYCLICLY LOADED BEFORE SHEARING	NO
40	SPECIMEN RECONSOLIDATED DURING CYCLIC LOADING	NO
41	SUM OF VOLUME CHANGES DURING RECONSOLIDATION IN CU. CM.	0.0
42	PORE PRESSURE IN TSF	0.0
43	TOTAL CHANGE IN HT DURING CYCLIC LOADING IN INCHES	0.0
44	OUTPUT UNITS REQUIRED	KSF
45	DATA NORMALIZATION SELECTION	2.0
46	RESULT FILE DESIRED	0.0

DIS (in.)	LOAD (lbs)	PORE PRESSURE (tsf)
.00533.	24.735.	7.233
.00578.	33.62.	7.251
.00627.	45.02.	7.274
.00676.	52.25.	7.291
.00729.	59.75.	7.317
.00791.	67.25.	7.345
.00854.	73.37.	7.373
.00942.	81.43.	7.413
.01023.	89.49.	7.449
.01156.	98.38.	7.496
.01267.	106.72.	7.536
.01383.	113.95.	7.572
.01539.	123.12.	7.614

.0	3[illegible]	7.[illegible]
.00627.	45.02.	7.274
.00676.	52.25.	7.291
.00729.	59.75.	7.317
.00791.	67.25.	7.345
.00854.	73.37.	7.373
.00942.	81.43.	7.413
.01023.	89.49.	7.449
.01156.	98.38.	7.496
.01267.	106.72.	7.536
.01383.	113.95.	7.572
.01539.	123.12.	7.614
.01845.	137.57.	7.684
.02028.	144.86.	7.716
.02219.	151.19.	7.743
.02419.	157.58.	7.765
.02619.	163.42.	7.784
.02806.	170.09.	7.797
.03002.	175.37.	7.807
.03180.	181.21.	7.814
.03389.	187.60.	7.818
.03571.	193.71.	7.820
.03767.	200.10.	7.820
.03958.	205.94.	7.816
.04158.	212.89.	7.813
.04341.	218.73.	7.807
.04536.	226.23.	7.798
.04923.	241.52.	7.778
.05306.	255.97.	7.751
.05697.	273.20.	7.719
.06067.	291.27.	7.683
.06458.	310.72.	7.640
.06841.	331.0.	7.593
.07232.	352.9.	7.542
.07988.	399.9.	7.425
.08744.	452.7.	7.292
.09514.	510.8.	7.140
.10234.	571.4.	6.978
.10964.	637.2.	6.801
.11667.	707.6.	6.608
.12383.	781.5.	6.399
.13094.	861.8.	6.174
.13806.	946.0.	5.931
.14536.	1036.6.	5.665
.15216.	1129.5.	5.392
.15901.	1225.6.	5.105
.16622.	1327.6.	4.799
.17302.	1428.2.	4.486
.18032.	1536.1.	4.152
.18726.	1645.0.	3.815
.19789.	1811.2.	3.286
.20852.	1983.0.	2.7377
.21901.	2159.2.	2.1605
.22916.	2337.9.	1.5652
.23948.	2519.4.	0.9555
.25015.	2707.0.	.31691
.26056.	2890.7.	-.20125
.27163.	3047.7.	-0.7891
.28298.	3127.5.	-0.8519
.29494.	3165.3.	-0.8326
.30655.	3188.6.	-0.8073
.31816.	3203.4.	-0.7916
0.3303.	3214.8.	-0.7832
0.3418.	3220.6.	-0.7796
0.3537.	3218.1.	-0.7796
0.3655.	3211.2.	-0.7832
0.3777.	3190.9.	-0.7868
0.3896.	3132.5.	-0.7916

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.3[illegible]      3[illegible]      0.80[illegible]
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0.3655, 3211.2,-0.7832
0.3777, 3190.9,-0.7868
0.3896, 3132.5,-0.7916
0.4022, 3003.0,-0.7928
0.4148, 2848.7,-0.7928
0.4265, 2757.8,-0.7928
0.4386, 2695.6,-0.7904
0.4509, 2631.4,-0.7880
0.4630, 2555.0,-0.7868
0.4752, 2500.2,-0.7832
0.4872, 2477.4,-0.7808
0.4988, 2465.5,-0.7796
0.5108, 2464.4,-0.7772
0.5226, 2457.1,-0.7760
0.5424, 2458.8,-0.7724
0.5584, 2465.2,-0.7736
0.5744, 2465.5,-0.7724
0.5902, 2468.0,-0.7712
0.6061, 2476.9,-0.7699
0.6216, 2482.7,-0.7712
0.6379, 2484.6,-0.7699
0.6538, 2494.4,-0.7699
0.6695, 2501.0,-0.7699
0.6851, 2511.0,-0.7687
0.7007, 2519.1,-0.7687
0.7165, 2520.5,-0.7687
0.7321, 2532.2,-0.7687
0.7477, 2545.2,-0.7687
0.7634, 2557.5,-0.7687
0.7794, 2560.5,-0.7699
0.7958, 2578.0,-0.7687
0.8113, 2587.5,-0.7687
0.8272, 2591.6,-0.7699
0.8431, 2598.9,-0.7699
0.8587, 2614.4,-0.7699
0.8742, 2616.1,-0.7699
0.8[illegible], 2621.1,-0.7[illegible]
0.9067, 2632.5,-0.7712
0.9221, 2649.2,-0.7712
0.9375, 2661.1,-0.7712
0.9532, 2667.2,-0.7712
0.9697, 2670.0,-0.7736
0.9849, 2676.4,-0.7736
1.0003, 2698.9,-0.7724
1.0164, 2714.2,-0.7736
1.0321, 2723.1,-0.7736
1.0481, 2738.1,-0.7748
1.0644, 2739.5,-0.7760
1.0802, 2749.0,-0.7772
1.0968, 2762.6,-0.7760
1.1128, 2767.6,-0.7760
1.1295, 2774.2,-0.7772
1.1446, 2775.9,-0.7772
1.1606, 2776.5,-0.7784
1.1769, 2783.4,-0.7784
1.1930, 2792.9,-0.7784
-999.,0.0,0.0
```

0³

WCC
L-202
(1.180)

TRIAXIAL TEST (Set Up / Take Down)

Proj. No. 81C4055T3 Proj. Eng. [illegible] Cell No. H-8 Piston dia.: ☐ 3/8"; ☒ 1/2"

Type Test CIU-C File No. T-275

Loading Conditions: ☐ Dynamic ☐ Static	☒ Undrained ☐ Drained	☒ Compression ☐ Extension	☐ Constant Cell pressure ☐ Variable cell pressure

Type Consolidation: ☐ Isotropic ☐ Anisotropic ☐ K_o stress path ☐ 45° Stress path	Piston Screwed in: ☐ Yes; ☒ No

☒ Undisturbed	☐ Reconstituted	☐ Impact	☐ Constant Effort
Boring No. COC-7	Composite No.	☐ Static	___ layers; ___ lb {Hammer Tamp
Sample No. S-20	Specimen No. B	☐ Kneading	___ Blows-Tamps/layer
Depth (ft) 39.5	Remarks ID# 078	☐ Tamping	☐ Undercompaction
☐ Endocapped with Castone; ☐ Geomarine Sample		☐ Other	___ layers; ___ Uni (%)

Water Content				Final
Location	Top	Bul. [illegible]		Ave
Container No.	[illegible]06	~~32.77~~		
Wgt. Container + Wet Soil (gm)	1[illegible]25	116.31		2209.6
Wgt. Container + Dry Soil (gm)	1[illegible].61	103.83		1997.4
Wgt. Container (gm)	40.14	32.77		911.11
Wgt. Dry Soil (gm)	66.47	71.06	ave	1086.29
WATER CONTENT (%)	9.99	17.62	13.80	19.53

☐ See attached data sheet(s) for additional water contents

Specimen Weight

Wet + Stone (etc): 1386.9 gm
Stone (etc): 132.19 gm
Wet Initial: 1254.71 gm
Wet Final: ___ gm
Excess Ovendry - Dish No. 214
Wgt. Dish + Dry Soil 20[illegible].80 gm
Wgt. Dish 201.49 gm
Wgt. Excess Dry Soil 4.31 gm

Dimentions of Specimen

	Height (in) Initial (L_o)	Final (L_f)	Diameter (in) or ___ Initial	Final
1	5.9535		1-T 2.8722	2.930
2	5.9565		2-M 2.8 70	3.355
3	5.9585		3-B 2.8 69	3.275
4	5.9522		1-T 2.8 554	
5	5.948		2-M 2.8 55	
Ave	5.9537		3-B 2.8 65	
			Ave 2.8644	3.22875

$D_{ave} = (D_T + 2D_M + D_B)/4$

ΔL_c = ___ in
ΔL_t = ___ in
$\Sigma \Delta L$ = ___ in
$L_o - L_f$ = ___ in

$A_o = \pi D^2/4 = 6.44491$ in²
$V_o = in^3 \cdot 16.3871 = 628.721$ cm³
Rsm $5.4542(D^2)^2 = 56.8591$ 10^{-3} ft²

Membrane: Thickness = 0.0275 in; Circumference (C_m) = 8.9025 in; Diam = C_m/π = 2.8338 in

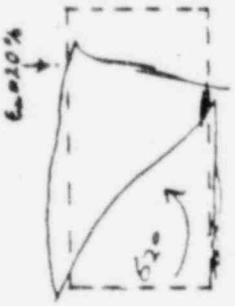
Filter Paper: Top + bottom: ☐ Yes; ☒ No

Filter Strips: ☐ Yes; ☒ No
___ Vertical at 1/4" - Whatman #54 or ___
___ Sprial at 1/4" - Whatman #1 or ___

Wgt top cap = ___ gm, ___ 10^{-3} tons
Wgt (cap, dial + piston) = ___ gm, ___ 10^{-3} tons

Preliminary
γ_{co} = 194.59 lb/ft³ γ_{do} = 109.48 lb/ft³

Failure Sketch



Final Visual Classification: ☐ See more detailed sketch on attached sheet; ☐ Photo Taken

Other Remarks: $\bar{\sigma}_{cf}$ = 2 ksf

Preliminary Cal. by [signature] Reviewed by [signature]

☐ Trimmed by ___ Setup by [signature] Taken down by [signature]
☐ Reconstituted Date ___ Date 8/3/81 Date 8/5/81

See back for Summary Calculations

TRIAXIAL TEST SUMMARY CALCULATIONS T-275

Type Test: CIU-C ☒ Undisturbed ☐ Reconstituted - Specimen

☐ Dynamic f / Hz or ____ ☐ sinusoidal or ____ ☐ Static e 3.93 %/hr

Consolidation History Units: tsf or KSF	Max Induced Pore Pressure Uncorr.	Max Induced Pore Pressure Corr.*	☒ Preshear/perm ☐ Pre cy-loading Uncorr.	☒ Preshear/perm ☐ Pre cy-loading Corr.*	Preshear after Cy-loading Uncorr.	Preshear after Cy-loading Corr.*
σ_{cell}		—	16.4016	—		—
u		—	14.400	—		—
$\bar{\sigma}_v$			—	2.0190		
$\bar{\sigma}_h$			2.0016	2.0051		
$\bar{\sigma}_p = (\bar{\sigma}_v + \bar{\sigma}_h)/2$			—	2.0120		
$K_c = \bar{\sigma}_v / \bar{\sigma}_h$			1.00	1.0069		
OCR			1.00	1.00		
Consol. Time	☐ Overnight days ____ hours ____		☐ Overnight days ____ hours ____		☐ Overnight days ____ hours ____	

* Corrected for effects of membrane, S. Hor strips, etc.

H_o = 5.9537 in
A_o = 6.4442 in²
V_o = 628.721 cm³
Dea/Dom = 1.0108
G_s = 2.653 ☒ Assumed ☐ Measured
B_g = 96.4 %
Area Corr. Factors: C
Undrained = 1.242
$C = \frac{1}{\varepsilon_a}(1 - A_c/A_{sm})$
Drained = ____
$C = \frac{1}{\varepsilon_a}[1 - \frac{A_c(1+\varepsilon_v)}{A_{sm}}]$

Calculate Wgt. of Dry Soil	By Initial Water Content	By Final Water Content	By Total Oven-dried Specimen
w_1 (%)			
w_2 (%)			
w_{ave} (%)	13.80	19.53	
Wgt. Wet Soil, W_T (gm)	1254.71	(1303.59)	
Partial Wgt Dry Soil (gm)	ΔV_T (cm³) during test	÷ (1+w) conv.	1086.29
Wgt Excess Over-dry Soil	Corr. Wet Wgt. $\beta_0 = W_T + \Delta V_T$		4.31
Total Wgt. Oven Dry Soil, W_s (gm)	1102.56	(1090.60)	1090.60
W_s used:	Final	= 1090.60 gm	

Variations in Height and Volume During Consolidation	During Initial Consol. without back-pressure	During Back-Pressuring ΔV_b = vol. in	After Backpressuring $\bar{\sigma}_h$ (psi) From 2.6 To 3.5	After Backpressuring $\bar{\sigma}_h$ (psi) From 2.6 To 13.9	After Backpressuring $\bar{\sigma}_h$ (psi) From ____ To ____
Sign Convention: (-) ΔV in, (+) ΔV out; (-) ΔL up, (+) ΔL down					
ΔL (in)	0.0069	0.0076	0.0006	0.0075	
ΔV_m (cm³)	(+9.70)	—	0.40	4.36	
$= \Delta V_a = 3V_o(\Delta H/H_o)$	2.186	2.408	0.190		
$R = \Delta V_m/\Delta V_a$	Used = 2.105		2.105		
Corrected $\Delta V_a = R \cdot \Delta V_a$	(4.602)	(5.069)			
Circle Selected Value	ΔV_1	ΔV_2	ΔV_3	ΔV_4	ΔV_5

ΔL_{cy} = ____ in

$\Delta V_{rebound} = \sigma_{max}$ to σ_{test} = ____ cm³

ΔV_T (during drained loading) = ____ cm³

Calculation of ΔV_c During Consolidation by Different Procedures

ΔV_c by Wgt. Change $= W_o - W_s - (\Delta V_b + \Delta V_T)$

$\Delta W_{gt.}$ = −48.88 gm

$\Sigma(\Delta V_b + \Delta V_4)$ = ____

$\therefore \Delta V_c$ = ____ cm³

ΔV_c by recorded/calculated volume changes = Σ selected ΔV

$\Delta V_c = \Delta V_1 + \Delta V_2 + \Delta V$

$= 4.602 + 5.069 + 4.36$

$= 14.031$ cm³

ΔV_c assuming S = 100% $V_F = (\gamma_{sat} + w_2)W_s/\gamma_w$

Undrained: $\Delta V_c = V_o - V_F$

w_2 = 19.53 %

Drained: $\Delta V_c = V_o - (V_F + \Delta V_T)$

V_F = 625.201 cm³

$V_F + \Delta V_T$ = ____ cm³

$\therefore \Delta V_c$ = 3.520 cm³

Conclusions

ΔV_c used (ave. value) = 3.520 cm³ $\therefore V_c$ = 625.201 cm³; ΔL_c = 0.022 in; $\therefore L_c$ = 5.9317 in

$A_c = V_c/L_c$ (cm³/in)/16.3871 = 6.4319 in² β 0.1444 = 44.6659 $\times 10^{-3}$ ft²

ε_{ac} = 0.37 %; ε_v 0.56 %; $1-\varepsilon_v$ = ____ $E_{\varepsilon}^{\#}$ = 0.1727; $\varepsilon_{vc}^{\#}$ = ____ # not in percent

At max. induced pore pressure: $\Delta V_{max} = \Delta V_c - \Delta V_{rebound}$ = ____ cm³; ΔL_{max} = ____ in

Summary	Height (in)	Area (in² or cm² ft² x 10⁻³)	Volume (cm³)	Water Content (%)	Total or Dry Density (lb/ft³)	Saturation (%)		
Initial	5.9537	44.7514	628.721	15.05	124.53 108.29	75.8		
After Consol.	5.9317	44.6659	625.201	19.53	130.17 108.90	100.0		

$S = \omega G_s \cdot \gamma_d/(G_s \cdot \gamma_w - \gamma_d) = \omega \cdot G_s \cdot \gamma_w/(G_s \cdot \gamma_w(1+\omega) - \gamma_w)$

Calculated by ____ Reviewed by ____

Psi x 0.0072 = tsf
w for S = 100% = $G_s \cdot \gamma_w - \gamma_d/G_s \cdot \gamma_d$ = $G_s \cdot \gamma_w - \gamma_w/(G_s \cdot \gamma_w)$
γ_w @ 20°C (tsf) = 62.32 lb/ft³ = 0.9982 gm/cm³ (S.H.) = 64.2 (lb/ft³)

A.TRIAX

THIS IS A CIU TEST. IT HAS BEEN
CALCULATED BY COMPUTER PROGRAM NO. C-T-1R.6 USING FILE NO. T-275

PROJ. NO.	81C4055T3	REVIEWED BY: GD
BORING NO.	COE-7	DATE: 8/6/89
SAMPLE NO.	S-20	INPUT DATA CHECKED BY: TL
SPECIMEN NO.	B	
DEPTH(FT.)	39.5	TEST NO. ID-078

ISOTROPIC	TYPE OF CONSOLIDATION
UNDRAINED	DRAINAGE CONDITIONS DURING LOADING
COMPRESSION	MODE OF LOADING
CONSTANT	CELL PRESSURE DURING LOADING
5.9537	INITIAL HEIGHT OF SPECIMEN IN INCHES
2.8644	INITIAL DIAMETER OF SPECIMEN IN INCHES
628.72	INITIAL VOLUME OF SPECIMEN IN CU.CM.
.5000	PISTON DIAMETER IN INCHES
.5100	WEIGHT OF TOP CAP ONLY IN TONS*10**-3
1.2700	WEIGHT OF TOP CAP + PISTON + DIAL IN TONS*10**-3
1.5950	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3
NO	WAS PISTON IN CONTACT WITH SPECIMEN DURING CONSOLIDATION?
.0275	MEMBRANE THICKNESS IN INCHES
2.8338	MEMBRANE DIAMETER IN INCHES
0.0000	FILTER STRIP CORRECTION CONSTANT AT 2% AXIAL STRAIN IN TONS ** 10-3
1.2420	RIGHT CYLINDER DISTORTION FACTOR

PRE-SHEAR CONDITIONS:

8.2008	CELL PRESSURE IN TSF
7.2000	BACK PRESSURE IN TSF
.0220	AXIAL DEFORMATION DURING CONSOL. IN INCHES
3.52	VOLUME CHANGE DURING CONSOL. IN CU. CM.
11.9505	MEASURED AXIAL LOAD PRIOR TO STATIC LOADING FROM FIRST LINE OF LOADING DATA IN TONS*10**-3

EFFECTIVE STRESSES CORRECTED FOR MEMBRANE AND FILTER STRIPS, ETC:

AXIAL	=	2.0190 KSF
LATERAL	=	2.0051 KSF
MEAN	=	2.0097 KSF
PBAR	=	2.0120 KSF
LATERAL/AXIAL	=	.9931
AXIAL/LATERAL	=	1.0069
OCR	=	1.000

11.9505	PISTON DRAG CORRECTION IN TONS *10**-3
2000	FILE NUMBER FOR LOAD CELL OR PROVING RING
1000	FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000	FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE	FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES	IS DATA NOMALIZATION REQUIRED?
	DATA NORMALIZED TO PRESHEAR STRESSES WITH NORM = P-BAR OF 2.0120 KSF

11.9505 PISTON DRAG CORRECTION IN TONS *10**-3
2000 FILE NUMBER FOR LOAD CELL OR PROVING RING
1000 FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000 FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES IS DATA NOMALIZATION REQUIRED?
DATA NORMALIZED TO PRESHEAR STRESSES
WITH NORM = P-BAR OF 2.0120 KSF

AXIAL STRAIN %	DEVIATOR STRESS KSF	OBLIQUITY	DELTA-U KSF	A-FACTOR	Q KSF	P-BAR KSF	SECANT MODULUS KSF	TANGENT MODULUS KSF	DEVIATOR NORM	DELTA-U NORM	Q NORM	P-BAR NORM	SECANT NORM
0.0000	.0139	1.0069	0.0000	0.0000	.0070	2.0120	0.000	0.000	.0069	0.0000	.0035	1.0000	0.0000
.0128	.1569	1.0794	.0280	.1958	.0784	2.0555	1115.929	1829.619	.0780	.0139	.0390	1.0216	554.6289
.0226	.4056	1.2102	.0760	.1940	.2028	2.1319	1733.750	2108.619	.2016	.0378	.1008	1.0595	861.6924
.0337	.5918	1.3150	.1260	.2180	.2959	2.1750	1714.010	1470.016	.2941	.0626	.1471	1.0810	851.8812
.0450	.7348	1.4018	.1760	.2441	.3674	2.1965	1601.613	1286.332	.3652	.0875	.1826	1.0917	796.0189
.0607	.9397	1.5330	.2420	.2614	.4698	2.2329	1525.392	1153.969	.4670	.1203	.2335	1.1098	758.1362
.0855	1.1878	1.7100	.3320	.2828	.5939	2.2670	1373.458	932.476	.5904	.1650	.2952	1.1267	682.6233
.0998	1.3116	1.8061	.3780	.2913	.6558	2.2829	1300.249	790.254	.6519	.1879	.3259	1.1346	646.2375
.1275	1.5098	1.9696	.4480	.2995	.7549	2.3120	1173.708	696.808	.7504	.2227	.3752	1.1491	583.3458
.1448	1.6273	2.0698	.4840	.3000	.8137	2.3347	1114.112	651.161	.8088	.2406	.4044	1.1604	553.7257
.1725	1.8003	2.2255	.5360	.3000	.9001	2.3692	1035.803	548.974	.8948	.2664	.4474	1.1775	514.8052
.2025	1.9420	2.3647	.5820	.3018	.9710	2.3941	952.288	506.710	.9652	.2893	.4826	1.1899	473.2975
.2355	2.1208	2.5356	.6240	.2962	1.0604	2.4415	894.599	504.792	1.0541	.3101	.5270	1.2135	444.6254
.2670	2.2685	2.6716	.6480	.2874	1.1343	2.4913	844.293	439.953	1.1275	.3221	.5637	1.2382	419.6227
.2999	2.4038	2.7951	.6660	.2787	1.2019	2.5410	796.846	414.995	1.1947	.3310	.5973	1.2629	396.0410
.3336	2.5449	2.9176	.6780	.2679	1.2724	2.5995	758.616	458.231	1.2648	.3370	.6324	1.2920	377.0403
.3645	2.6985	3.0426	.6840	.2548	1.3492	2.6703	736.548	452.743	1.3412	.3400	.6706	1.3272	366.0723
.3975	2.8332	3.1446	.6840	.2426	1.4166	2.7377	709.204	451.539	1.4081	.3400	.7041	1.3607	352.4821
.4297	2.9927	3.2551	.6780	.2276	1.4964	2.8235	693.190	434.374	1.4874	.3370	.7437	1.4033	344.5231
.4641	3.1211	3.3377	.6700	.2156	1.5605	2.8957	669.483	455.554	1.5512	.3330	.7756	1.4392	332.7403
.4972	3.2988	3.4488	.6580	.2003	1.6494	2.9965	660.734	533.936	1.6395	.3270	.8198	1.4893	328.3921
.5272	3.4579	3.5330	.6400	.1858	1.7289	3.0940	653.294	518.853	1.7186	.3181	.8593	1.5378	324.6940
.5609	3.6290	3.6200	.6200	.1715	1.8145	3.1996	644.541	475.377	1.8037	.3081	.9018	1.5903	320.3436
.5939	3.7754	3.6869	.6000	.1595	1.8877	3.2928	633.332	496.570	1.8764	.2982	.9382	1.6366	314.7727
.6561	4.1176	3.8220	.5460	.1330	2.0588	3.5179	625.438	560.181	2.0465	.2714	1.0233	1.7485	310.8494
.7214	4.4897	3.9477	.4820	.1077	2.2449	3.7680	620.450	584.757	2.2314	.2396	1.1157	1.8727	308.3705
.7844	4.8675	4.0400	.4040	.0832	2.4338	4.0349	618.744	602.832	2.4192	.2008	1.2096	2.0054	307.5225
.8497	5.2632	4.1270	.3220	.0613	2.6316	4.3147	617.799	652.915	2.6159	.1600	1.3079	2.1445	307.0530
.9141	5.7136	4.2150	.2280	.0400	2.8568	4.6339	623.548	705.114	2.8397	.1133	1.4199	2.3031	309.9099
.9748	6.1450	4.2876	.1360	.0222	3.0725	4.9417	628.983	725.991	3.0541	.0676	1.5271	2.4561	312.6111
1.0387	6.6185	4.3475	.0280	.0042	3.3093	5.2864	635.882	725.687	3.2895	.0139	1.6447	2.6274	316.0404
1.1076	7.1083	4.3895	-.0920	-.0130	3.554	5.6513	640.511	751.003	3.5329	-.0457	1.7664	2.8088	318.3408
1.2314	8.0880	4.4665	-.3280	-.0406	4.0440	6.3772	655.712	829.805	4.0198	-.1630	2.0099	3.1695	325.8958
1.3568	9.1941	4.5318	-.5980	-.0652	4.5970	7.2002	675.608	897.357	4.5696	-.2972	2.2848	3.5786	335.7845
1.4856	10.3691	4.5864	-.886	-.0856	5.1846	8.0758	697.051	946.987	5.1536	-.4404	2.5768	4.0138	346.4420
1.6130	11.6017	4.6174	-1.2020	-.1037	5.8009	9.0081	718.388	1007.744	5.7662	-.5974	2.8831	4.4771	357.0466
1.7359	12.8902	4.6400	-1.5360	-.1193	6.4451	9.9863	741.752	1089.916	6.4066	-.7634	3.2033	4.9633	368.6586
1.8566	14.2559	4.6579	-1.8920	-.1329	7.1280	11.0252	767.087	1147.456	7.0853	-.9403	3.5427	5.4797	381.2503
1.9767	15.6525	4.6577	-2.2740	-.1454	7.8262	12.1055	791.157	1212.533	7.7794	-1.1302	3.8897	6.0166	393.2137
2.0967	17.1668	4.6840	-2.6800	-.1563	8.5834	13.2687	818.089	1272.233	8.5321	-1.3320	4.2660	6.5947	406.5990
2.2181	18.7240	4.6589	-3.1120	-.1663	9.3620	14.4793	843.524	1339.205	9.3060	-1.5467	4.6530	7.1964	419.2404
2.3359	20.3685	4.6533	-3.5700	-.1754	10.1842	15.7596	871.371	1395.956	10.1234	-1.7743	5.0617	7.8327	433.0809
2.4588	22.0846	4.6399	-4.0620	-.1841	11.0423	17.1097	897.613	1452.990	10.9763	-2.0189	5.4881	8.5037	446.1231
2.5743	23.8279	4.6293	-4.5600	-.1915	11.9140	18.4794	925.066	1510.591	11.8427	-2.2664	5.9214	9.1844	459.7677
2.6943	25.6423	4.6149	-5.0880	-.1985	12.8212	19.9146	951.195	1531.839	12.7445	-2.5288	6.3723	9.8978	472.7543
2.8129	27.4818	4.5964	-5.6360	-.2052	13.7409	21.3823	976.514	1580.889	13.6588	-2.8012	6.8294	10.6273	485.3377
2.9312	29.3868	4.5822	-6.1980	-.2110	14.6934	22.8969	1002.078	1590.475	14.6056	-3.0805	7.3028	11.3800	498.0434
3.0543	31.3205	4.5650	-6.7800	-.2166	15.6603	24.4458	1025.012	1595.605	15.5666	-3.3697	7.7833	12.1498	509.4422
3.1741	33.2623	4.5455	-7.3760	-.2219	16.6311	26.0127	1047.479	1628.719	16.5317	-3.6660	8.2659	12.9286	520.6082
3.2957	36.2354	4.5218	-8.2832	-.2287	18.1177	28.4065	1079.403	1641.028	18.0094	-4.1168	9.0047	14.1183	536.4748
3.5349	39.1826	4.4933	-9.2110	-.2352	19.5913	30.8079	1108.054	1624.058	19.4742	-4.5780	9.7371	15.3119	550.7148
3.7156	42.0806	4.4657	-10.1364	-.2410	21.0403	33.1823	1132.155	1613.397	20.9145	-5.0379	10.4573	16.4920	562.6932
3.8926	44.9540	4.4439	-11.0474	-.2458	22.4770	35.5301	1154.486	1563.315	22.3426	-5.4907	11.1713	17.6588	573.7922
4.0734	47.6709	4.4254	-11.9102	-.2499	23.8355	37.7514	1169.966	1452.076	23.6930	-5.9195	11.8465	18.7629	581.4858
							1179.727	1385.702	24.9453	-6.3111	12.4726	19.7807	586.3372

2.6743	23.8277	4.6279	-4.9[illegible]	-.1715	11.[illegible]3	18.[illegible]4	9[illegible]6	15.[illegible]71	1.[illegible]27	-.[illegible]84	[illegible].14	[illegible].44	[illegible].767	
2.6943	25.6423	4.6149	-5.0880	-.1985	12.8212	19.9146	951.195	1531.839	12.7445	-2.5288	6.3723	9.8978	472.7543	
2.8129	27.4818	4.5964	-5.6360	-.2052	13.7409	21.3823	976.514	1580.889	13.6588	-2.8012	6.8294	[illegible].6273	485.3377	
2.9312	29.3868	4.5822	-6.1980	-.2110	14.6934	22.8969	1002.078	1590.475	14.6056	-3.0805	7.3028	11.3800	498.0434	
3.0543	31.3205	4.5650	-6.7800	-.2166	15.6603	24.4456	1025.012	1595.605	15.5666	-3.3697	7.7833	12.1498	509.4422	
3.1741	33.2623	4.5455	-7.3760	-.2219	16.6311	26.0127	1047.479	1628.719	16.5317	-3.6660	8.2659	12.9286	520.6082	
3.3557	36.2354	4.5218	-8.2832	-.2287	18.1177	28.4065	1079.403	1641.028	18.0094	-4.1168	9.0047	14.1183	536.4748	
3.5349	39.1826	4.4933	-9.2110	-.2352	19.5913	30.8079	1108.054	1624.058	19.4742	-4.5780	9.7371	15.3119	550.7148	
3.7156	42.0806	4.4657	-10.1364	-.2410	21.0403	33.1823	1132.155	1613.397	20.9145	-5.0379	10.4573	16.4920	562.6932	
3.8926	44.9540	4.4439	-11.0474	-.2458	22.4770	35.5301	1154.486	1563.315	22.3426	-5.4907	11.1713	17.6588	573.7922	
4.0734	47.6709	4.4256	-11.9102	-.2499	23.8355	37.7514	1169.966	1452.076	23.6930	-5.9195	11.8465	18.7629	581.4858	
4.2532	50.1907	4.4134	-12.6992	-.2531	25.0953	39.7993	1179.727	1285.702	24.9453	-6.3111	12.4726	19.7807	586.3372	
4.4362	52.3319	4.4044	-13.3658	-.2555	26.1660	41.5376	1179.353	1049.534	26.0095	-6.6429	13.0048	20.6446	586.1509	
4.6260	54.0943	4.4033	-13.8867	-.2568	27.0472	42.9418	1169.056	816.433	26.8855	-6.9029	13.4427	21.3425	581.0333	
4.8165	55.4363	4.4031	-14.2840	-.2577	27.7182	44.0081	1150.679	607.629	27.5525	-7.0993	13.7762	21.8725	571.9000	
5.0121	56.4353	4.4050	-14.5683	-.2582	28.2176	44.7920	1125.714	412.630	28.0489	-7.2406	14.0245	22.2621	559.4917	
5.2117	57.0629	4.3974	-14.7901	-.2593	28.5315	45.3276	1094.642	289.568	28.3609	-7.3508	14.1804	22.5283	544.0488	
5.4086	57.5841	4.3924	-14.9684	-.2600	28.7921	45.7666	1064.426	203.353	28.6199	-7.4395	14.3100	22.7465	529.0313	
5.6142	57.8762	4.3817	-15.1082	-.2611	28.9381	46.0525	1030.634	104.702	28.7651	-7.5089	14.3825	22.8886	512.2363	
5.8081	58.0069	4.3675	-15.2190	-.2624	29.0034	46.2287	998.481	-6.925	28.8300	-7.5640	14.4150	22.9762	496.2559	
6.2161	57.6754	4.3158	-15.3876	-.2669	28.8377	46.2318	927.617	-163.017	28.6653	-7.6478	14.3327	22.9777	461.0354	
6.4133	57.1926	4.2758	-15.4528	-.2703	28.5963	46.0556	891.558	-464.748	28.4253	-7.6802	14.2127	22.8901	443.1141	
6.6241	55.7497	4.1847	-15.4986	-.2781	27.8748	45.3801	841.413	-1696.662	27.7082	-7.7030	13.8541	22.5544	418.1911	
6.8550	49.4938	3.8204	-15.5418	-.3141	24.7469	42.2954	721.804	-2356.052	24.5990	-7.7244	12.2995	21.0213	358.7443	
7.0826	44.9341	3.5595	-15.5492	-.3462	22.4670	40.0231	634.230	-1489.040	22.3327	-7.7281	11.1664	19.8919	315.2193	
7.2984	42.8310	3.4414	-15.5370	-.3629	21.4155	38.9594	586.663	-753.560	21.2875	-7.7221	10.6437	19.3633	291.5776	
7.5075	41.7178	3.3798	-15.5226	-.3723	20.8589	38.3885	555.499	-413.967	20.7342	-7.7149	10.3671	19.0795	276.0889	
7.7114	41.1151	3.3471	-15.5106	-.3774	20.5576	38.0753	532.990	-256.820	20.4347	-7.7089	10.2173	18.9238	264.9017	
7.9138	40.6737	3.3241	-15.4936	-.3811	20.3368	37.8377	513.786	-150.430	20.2153	-7.7005	10.1076	18.8057	255.3572	
8.1110	40.5107	3.3160	-15.4840	-.3824	20.2553	37.7467	499.282	-91.858	20.1342	-7.6957	10.0671	18.7605	248.1486	
8.3116	40.3079	3.3060	-15.4720	-.3840	20.1539	37.6334	484.791	-94.471	20.0335	-7.6898	10.0167	18.7042	240.9465	
8.5122	40.1316	3.2972	-15.4624	-.3855	20.0658	37.5358	471.295	-83.297	19.9459	-7.6850	9.9729	18.6557	234.2386	
8.7128	39.9737	3.2897	-15.4504	-.3867	19.9868	37.4449	458.630	-25.787	19.8673	-7.6790	9.9337	18.6105	227.9442	
8.9168	40.0291	3.2941	-15.4406	-.3859	20.0145	37.4629	448.760	-68.497	19.8949	-7.6741	9.9474	18.6195	223.0384	
9.1225	39.6915	3.2754	-15.4358	-.3891	19.8457	37.2894	434.941	-56.692	19.7271	-7.6718	9.8635	18.5332	216.1703	
9.3214	39.7924	3.2821	-15.4286	-.3879	19.8962	37.3328	426.742	19.622	19.7773	-7.6682	9.8886	18.5548	212.0955	
9.5254	39.7689	3.2817	-15.4214	-.3880	19.8845	37.3140	417.357	-20.481	19.7656	-7.6646	9.8828	18.5454	207.4308	
9.7244	39.7104	3.2790	-15.4166	-.3884	19.8552	37.2800	408.217	-16.158	19.7365	-7.6622	9.8682	18.5286	202.8881	
9.9267	39.7046	3.2792	-15.4118	-.3884	19.8523	37.2724	399.639	-18.231	19.7336	-7.6598	9.8668	18.5248	198.7241	
10.1323	39.6355	3.2759	-15.4070	-.3889	19.8177	37.2332	391.041	-19.951	19.6993	-7.6574	9.8496	18.5053	194.3514	
10.3346	39.6227	3.2758	-15.4022	-.3889	19.8113	37.2222	383.262	4.825	19.6929	-7.6551	9.8465	18.4998	190.4855	
10.5251	39.6531	3.2785	-15.3948	-.3885	19.8266	37.2301	376.614	-34.339	19.7080	-7.6514	9.8540	18.5038	187.1814	
10.7274	39.4819	3.2689	-15.3924	-.3901	19.7409	37.1422	367.916	-55.530	19.6229	-7.6502	9.8115	18.4601	182.8581	
10.9314	39.4280	3.2664	-15.3876	-.3905	19.7140	37.1106	360.557	8.712	19.5961	-7.6478	9.7981	18.4444	179.2008	
11.1118	39.5071	3.2716	-15.3828	-.3896	19.7535	37.1455	355.416	37.468	19.6354	-7.6454	9.8177	18.4617	176.6454	
11.2501	39.5501	3.2740	-15.3828	-.3892	19.7750	37.1671	351.431	-4.453	19.6568	-7.6454	9.8284	18.4724	174.6647	
11.5131	39.4448	3.2686	-15.3780	-.3901	19.7224	37.1099	342.489	-23.812	19.6045	-7.6430	9.8023	18.4440	170.2206	
11.7845	39.4242	3.2680	-15.3732	-.3902	19.7121	37.0949	334.425	13.453	19.5942	-7.6406	9.7971	18.4366	166.2129	
12.0525	39.5167	3.2736	-15.3708	-.3892	19.7584	37.1390	327.755	1.704	19.6402	-7.6395	9.8201	18.4585	162.8979	
12.3189	39.4338	3.2694	-15.3660	-.3899	19.7169	37.0930	319.996	-.446	19.5990	-7.6371	9.7995	18.4356	159.0412	
12.5836	39.5138	3.2743	-15.3636	-.3891	19.7569	37.1308	313.900	52.412	19.6388	-7.6359	9.8194	18.4544	156.0119	
12.8449	39.7088	3.2855	-15.3636	-.3872	19.8544	37.2284	309.032	63.307	19.7357	-7.6359	9.8678	18.5029	153.5924	
13.1146	39.8491	3.2939	-15.3612	-.3858	19.9245	37.2964	303.746	13.266	19.8054	-7.6347	9.9027	18.5367	150.9651	
13.3827	39.7808	3.2902	-15.3588	-.3864	19.8904	37.2601	297.152	-.647	19.7715	-7.6335	9.8857	18.5187	147.6876	
13.6507	39.8456	3.2936	-15.3612	-.3858	19.9228	37.2951	291.792	38.377	19.8037	-7.6347	9.9018	18.5361	145.0236	
13.9154	39.9847	3.3022	-15.3564	-.3843	19.9924	37.3601	287.242	55.502	19.8728	-7.6323	9.9364	18.5684	142.7621	
14.1851	40.1423	3.3113	-15.3564	-.3828	20.0712	37.4392	282.891	32.623	19.9512	-7.6323	9.9756	18.6077	140.5997	
14.4532	40.1606	3.3123	-15.3564	-.3827	20.0803	37.4486	277.770	2.134	19.9603	-7.6323	9.9801	18.6123	138.0549	
14.7179	40.1539	3.3119	-15.3564	-.3827	20.0769	37.4454	272.729	-8.330	19.9569	-7.6323	9.9785	18.6108	135.5494	
14.9792	40.1170	3.3097	-15.3564	-.3831	20.0585	37.4273	267.725	-19.980	19.9386	-7.6323	9.9693	18.6018	133.0624	
15.2422	40.0490	3.3058	-15.3564	-.3838	20.0245	37.3935	262.660	-7.780	19.9048	-7.6323	9.9524	18.5850	130.5449	
15.5052	40.0761	3.3073	-15.3564	-.3835	20.0380	37.4073	258.379	14.905	19.9182	-7.6323	9.9591	18.5918	128.4173	
15.7783	40.1294	3.3103	-15.3564	-.3830	20.0647	37.4343	254.245	55.341	19.9447	-7.6323	9.9724	18.6052	126.3625	
16.0396	40.3676	3.3240	-15.3564	-.3808	20.1838	37.5536	251.588	49.495	20.0631	-7.6323	10.0316	18.6646	125.0420	
16.3161	40.3892	3.3249	-15.3588	-.3806	20.1946	37.5672	247.458	6.015	20.0739	-7.6335	10.0369	18.6713	122.9891	
16.5555	40.3993	3.3254	-15.3588	-.3805	20.1996	37.5724	243.940	18.337	20.0789	-7.6335	10.0394	18.6739	121.2408	
16.8151	40.4836	3.3299	-15.3612	-.3798	20.2418	37.6173	240.675	17.742	20.1208	-7.6347	10.0604	18.6962	119.6181	
17.0882	40.4918	3.3304	-15.3612	-.3797	20.2459	37.6217	236.877	-1.463	20.1249	-7.6347	10.0624	18.6984	117.7302	
[illegible]	[illegible]	[illegible]	[illegible]	-.3799	20.2378	37.6139	233.057	-.110	20.1168	-7.6347	10.0584	18.6945	115.8318	

10.	39.	3	-15	-	1 7	3 2	3 1	51	93	74	96	53	351	
10.	39.	3.	-15.	-.	19.8113	37.2222	383.262	4.825	19.6929	-7.6551	9.8465	18.4998	190.4855	
10.5251	39.6531	3.2785	-15.3948	-.3885	19.8268	37.2301	376.614	-34.339	19.7080	-7.6514	9.8540	18.5038	187.1814	
10.7274	39.4819	3.2689	-15.3924	-.3901	19.7409	37.1422	367.916	-55.530	19.6229	-7.6502	9.8115	18.4601	182.8581	
10.9314	39.4280	3.2664	-15.3876	-.3905	19.7140	37.1106	360.557	8.712	19.5961	-7.6478	9.7981	18.4444	179.2008	
11.1118	39.5071	3.2716	-15.3828	-.3896	19.7535	37.1455	355.416	37.468	19.6354	-7.6454	9.8177	18.4617	176.6454	
11.2501	39.5501	3.2740	-15.3828	-.3892	19.7750	37.1671	351.431	-4.453	19.6568	-7.6454	9.8284	18.4724	174.6647	
11.5131	39.4448	3.2686	-15.3780	-.3901	19.7224	37.1099	342.489	-23.812	19.6045	-7.6430	9.8023	18.4440	170.2206	
11.7845	39.4242	3.2680	-15.3732	-.3902	19.7121	37.0949	334.425	13.453	19.5942	-7.6406	9.7971	18.4366	166.2129	
12.0525	39.5167	3.2736	-15.3708	-.3892	19.7584	37.1390	327.755	1.704	19.6402	-7.6395	9.8201	18.4585	162.8979	
12.3189	39.4338	3.2694	-15.3660	-.3899	19.7169	37.0930	319.996	-.446	19.5990	-7.6371	9.7995	18.4356	159.0412	
12.5836	39.5138	3.2743	-15.3636	-.3891	19.7569	37.1308	313.900	52.412	19.6388	-7.6359	9.8194	18.4544	156.0119	
12.8449	39.7088	3.2855	-15.3636	-.3872	19.8544	37.2284	309.032	63.307	19.7357	-7.6359	9.8678	18.5029	153.5924	
13.1146	39.8491	3.2939	-15.3612	-.3858	19.9245	37.2964	303.746	13.266	19.8054	-7.6347	9.9027	18.5367	150.9651	
13.3827	39.7808	3.2902	-15.3588	-.3864	19.8904	37.2601	297.152	-.647	19.7715	-7.6335	9.8857	18.5187	147.6876	
13.6507	39.8456	3.2936	-15.3612	-.3858	19.9228	37.2951	291.792	38.377	19.8037	-7.6347	9.9018	18.5361	145.0236	
13.9154	39.9847	3.3022	-15.3564	-.3843	19.9924	37.3601	287.242	55.502	19.8728	-7.6323	9.9364	18.5684	142.7621	
14.1851	40.1423	3.3113	-15.3564	-.3828	20.0712	37.4392	282.891	32.623	19.9512	-7.6323	9.9756	18.6077	140.5997	
14.4532	40.1606	3.3123	-15.3564	-.3827	20.0803	37.4486	277.770	2.134	19.9603	-7.6323	9.9801	18.6123	138.0549	
14.7179	40.1539	3.3119	-15.3564	-.3827	20.0769	37.4454	272.729	-8.330	19.9569	-7.6323	9.9785	18.6108	135.5494	
14.9792	40.1170	3.3097	-15.3564	-.3831	20.0585	37.4273	267.725	-19.980	19.9386	-7.6323	9.9693	18.6018	133.0624	
15.2422	40.0490	3.3058	-15.3564	-.3838	20.0245	37.3935	262.660	-7.780	19.9048	-7.6323	9.9524	18.5850	130.5449	
15.5052	40.0761	3.3073	-15.3564	-.3835	20.0380	37.4073	258.379	14.905	19.9182	-7.6323	9.9591	18.5918	128.4173	
15.7783	40.1294	3.3103	-15.3564	-.3830	20.0647	37.4343	254.245	55.341	19.9447	-7.6323	9.9724	18.6052	126.3625	
16.0396	40.3676	3.3240	-15.3564	-.3808	20.1838	37.5536	251.588	49.495	20.0631	-7.6323	10.0316	18.6646	125.0420	
16.3161	40.3892	3.3249	-15.3588	-.3806	20.1946	37.5672	247.458	6.015	20.0739	-7.6335	10.0369	18.6713	122.9891	
16.5555	40.3993	3.3254	-15.3588	-.3805	20.1996	37.5724	243.940	18.337	20.0789	-7.6335	10.0394	18.6739	121.2408	
16.8151	40.4836	3.3299	-15.3612	-.3798	20.2418	37.6173	240.675	17.742	20.1208	-7.6347	10.0604	18.6962	119.6181	
17.0882	40.4918	3.3304	-15.3612	-.3797	20.2459	37.6217	236.877	-1.463	20.1249	-7.6347	10.0624	18.6984	117.7302	
17.3613	40.4756	3.3294	-15.3612	-.3799	20.2378	37.6139	233.057	-.110	20.1168	-7.6347	10.0584	18.6945	115.8318	
17.6344	40.4912	3.3299	-15.3636	-.3798	20.2456	37.6244	229.536	5.655	20.1246	-7.6359	10.0623	18.6998	114.0819	
17.9008	40.5061	3.3307	-15.3636	-.3797	20.2531	37.6322	226.204	-26.206	20.1320	-7.6359	10.0660	18.7036	112.4257	
18.1840	40.3418	3.3212	-15.3636	-.3812	20.1709	37.5504	221.777	-24.350	20.0503	-7.6359	10.0252	18.6630	110.2256	
18.4453	40.3662	3.3223	-15.3660	-.3811	20.1831	37.5653	218.767	20.806	20.0624	-7.6371	10.0312	18.6704	108.7296	
18.7032	40.4495	3.3270	-15.3660	-.3803	20.2247	37.6073	216.196	1179.950	20.1038	-7.6371	10.0519	18.6912	107.4515	STOP

A.BASIC RESPRT

1	DATA FILE IDENT. NO.	T-275
2	PROJECT NO.	81C4055T3
3	BORING NO.	C0E-7
4	SAMPLE NO.	S-20
5	SPECIMEN NO.	B
6	DEPTH	39.5
7	TEST NO.	ID-078
8	FILE # FOR LOAD CELL OR PROVING RING	2000
9	FILE # FOR PORE PRESSURE CONST.	1000
10	FILE # FOR CELL PRESSURE CONST	2000
11	FILE # FOR PISTON FRICTION CORRECTION	NONE
12	TYPE OF CONSOLIDATION	I
13	DRAINAGE CONDITIONS DURING LOADING	U
14	MODE OF LOADING	C
15	CELL PRESSURE DURING LOADING	C
16	INITIAL HEIGHT OF SPECIMEN IN INCHES	5.9537
17	INITIAL DIAMETER OF SPECIMEN IN INCHES	2.8644
18	INITIAL VOLUME OF SPECIMEN IN CU. CM.	628.721
19	PISTON DIAMETER IN INCHES	0.5
20	WEIGHT OF TOP CAP ONLY IN TONS*10**-3	0.51
21	WEIGHT OF TOP CAP + PISTON +DIAL IN TONS*10**-3	1.27
22	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3	1.595
23	WAS PISTON INTACT DURING CONSOL	NO
24	MEMBRANE THICKNESS IN INCHES	.0275
25	MEMBRANE DIAMETER IN INCHES	2.8338
26	FILTER STRIP CORRECTION CONSTANT	0.0
27	RIGHT CYLINDER DISTORTION FACTOR	1.242
28	DOES SPECIMEN HAVE AN INDUCED OCR	NO
29	CELL PRESSURE IN TSF	0.0
30	BACK PRESSURE IN TSF	0.0
31	AXIAL DEFORMATION DURING CONSOL. IN INCHES	0.0
32	VOLUME CHANGE DURING CONSOL. IN CU. CM.	0.0
33	APPLIED AXIAL LOAD IN TONS*10**-3	0.0
34	PRE SHEAR CONDITION - CELL PRESSURE IN TSF	8.2008
35	BACK PRESSURE IN TSF	7.200
36	AXIAL DEFORMATION IN INCHES	.022
37	VOLUME CHANGE IN CU. CM.	3.52
38	PISTON DRAG CORRECTION IN TONS*10**-3	11.9505
39	SPECIMEN CYCLICLY LOADED BEFORE SHEARING	NO
40	SPECIMEN RECONSOLIDATED DURING CYCLIC LOADING	NO
41	SUM OF VOLUME CHANGES DURING RECONSOLIDATION IN CU. CM.	0.0
42	PORE PRESSURE IN TSF	0.0
43	TOTAL CHANGE IN HT DURING CYCLIC LOADING IN INCHES	0.0
44	OUTPUT UNITS REQUIRED	KSF
45	DATA NORMALIZATION SELECTION	2.0
46	RESULT FILE DESIRED	0.0

DIS (in.)	LOAD (lbs)	PORE PRESSURE (tsf)
.00978,	23.901,	7.242
.01054,	30.294,	7.256
.01112,	41.41,	7.280
.01178,	49.74,	7.305
.01245,	56.14,	7.330
.01338,	65.31,	7.363
.01485,	76.43,	7.408
.01570,	81.98,	7.431
.01734,	90.88,	7.466
.01837,	96.16,	7.484
.02001,	103.94,	7.510

.00978.	23.901.	7.242
.01054.	30.294.	7.256
.01112.	41.41.	7.280
.01178.	49.74.	7.305
.01245.	56.14.	7.330
.01338.	65.31.	7.363
.01485.	76.43.	7.408
.01570.	81.98.	7.431
.01734.	90.88.	7.466
.01837.	96.16.	7.484
.02001.	103.94.	7.510
.02179.	110.33.	7.533
.02375.	118.39.	7.554
.02562.	125.06.	7.566
.02757.	131.18.	7.575
.02957.	137.57.	7.581
.03140.	144.52.	7.584
.03336.	150.63.	7.584
.03527.	157.86.	7.581
.03731.	163.70.	7.577
.03927.	171.76.	7.571
.04105.	178.98.	7.562
.04305.	186.76.	7.552
.04501.	193.43.	7.542
.04870.	209.00.	7.515
.05257.	225.95.	7.483
.05631.	243.18.	7.444
.06018.	261.25.	7.403
.06400.	281.82.	7.356
.06760.	301.55.	7.310
.07139.	323.23.	7.256
.07548.	345.7.	7.196
.08282.	390.7.	7.078
.09038.	441.6.	6.943
.09790.	495.8.	6.799
.10546.	552.8.	6.641
.11275.	612.5.	6.474
.11991.	675.9.	6.296
.12703.	740.9.	6.105
.13415.	811.5.	5.902
.14135.	884.3.	5.686
.14834.	961.3.	5.457
.15563.	1041.9.	5.211
.16248.	1123.9.	4.962
.16960.	1209.6.	4.698
.17663.	1296.5.	4.424
.18365.	1386.9.	4.143
.19095.	1478.8.	3.852
.19806.	1571.4.	3.554
.20883.	1713.7.	3.1004
.21946.	1855.4.	2.6365
.23018.	1995.5.	2.1738
.24068.	2135.0.	1.7183
.25140.	2267.9.	1.2869
.26207.	2392.1.	0.8929
.27292.	2499.1.	0.5591
.28418.	2588.9.	.29763
.29548.	2659.2.	.10001
.30708.	2713.7.	-.04217
.31892.	2750.9.	-.15303
0.3306.	2783.1.	-.24220
0.3428.	2804.8.	-.31209
0.3543.	2818.4.	-0.3675
0.3785.	2817.9.	-0.4518
0.3902.	2802.0.	-0.4844
0.4027.	2739.8.	-0.5073
0.4164.	2443.0.	-0.5289

```
0.3      2817      .451
0.3902,  2802.0,-0.4844
0.4027,  2739.8,-0.5073
0.4164,  2443.0,-0.5289
0.4299,  2227.3,-0.5326
0.4427,  2130.6,-0.5265
0.4551,  2081.9,-0.5193
0.4672,  2058.0,-0.5133
0.4792,  2041.9,-0.5048
0.4909,  2039.4,-0.5000
0.5028,  2035.0,-0.4940
0.5147,  2031.9,-0.4892
0.5266,  2029.7,-0.4832
0.5387,  2038.3,-0.4783
0.5509,  2027.2,-0.4759
0.5627,  2038.0,-0.4723
0.5748,  2042.7,-0.4687
0.5866,  2045.5,-0.4663
0.5986,  2051.1,-0.4639
0.6108,  2053.6,-0.4615
0.6228,  2058.9,-0.4591
0.6341,  2066.1,-0.4554
0.6461,  2063.3,-0.4542
0.6582,  2066.6,-0.4518
0.6689,  2076.1,-0.4494
0.6771,  2082.5,-0.4494
0.6927,  2085.0,-0.4470
0.7088,  2092.2,-0.4446
0.7247,  2105.3,-0.4434
0.7405,  2109.2,-0.4410
0.7562,  2121.7,-0.4398
0.7717,  2140.3,-0.4398
0.7877,  2156.4,-0.4386
0.8036,  2161.4,-0.4374
0.8195,  2173.6,-0.4386
0.8352,  2189.8,-0.4362
0.8512,  2207.3,-0.4362
0.8671,  2217.3,-0.4362
0.8828,  2225.9,-0.4362
0.8983,  2232.8,-0.4362
0.9139,  2238.1,-0.4362
0.9295,  2248.7,-0.4362
0.9457,  2261.2,-0.4362
0.9612,  2283.7,-0.4362
0.9776,  2294.8,-0.4374
0.9918,  2304.0,-0.4374
1.0072,  2318.2,-0.4386
1.0234,  2328.7,-0.4386
1.0396,  2337.9,-0.4386
1.0558,  2349.0,-0.4398
1.0716,  2359.9,-0.4398
1.0884,  2361.2,-0.4398
1.1039,  2372.6,-0.4410
1.1192,  2387.4,-0.4410
-999.,0.0,0.0
```

.0305 .025

2 D

TRIAXIAL TEST (Set Up / Take Down)

WCC L-202 (1.180)

Proj. No. 81640557-3 Proj. Eng. [illegible] Cell No. H-7 Piston dia.: ☐ 3/8"; ☒ 1/2"

Type Test CIU-C File No. T-276

Loading Conditions:	☐ Dynamic ☒ Static	☒ Undrained ☐ Drained	☒ Compression ☐ Extension	☒ Constant Cell pressure ☐ Variable cell pressure

Type Consolidation:	☐ Isotropic ☐ Anisotropic	☐ K_o stress path ☐ 45° Stress path	Piston Screwed in: ☐ Yes; ☒ No

☒ Undisturbed	☐ Reconstituted	☐ Impact	☐ Constant Effort
Boring No. COC 7	Composite No. ____	☐ Static	____ layers; ____ lb {Hammer / Tamp}
Sample No. S-22	Specimen No. C	☐ Kneading	____ Blows-Tamps / layer
Depth (ft) 44.5	Remarks ID # 080	☐ Tamping	☐ Undercompaction
☐ Endocapped with Castone;	☐ Geomarine Sample	☐ Other	____ layers; ____ Uni (%)

Water Content				Final
Location	Top	Bot		Ave
Container No.	WA 28	LB-22		SA
Wgt. Container + Wet Soil (gm)	147.5	89.15		2194.6
Wgt. Container + Dry Soil (gm)	131.91	82.59		1980.55
Wgt. Container (gm)	34.11	34.06		904.95
Wgt. Dry Soil (gm)	97.80	48.53	ave	1075.8
WATER CONTENT (%)	15.94	13.52	14.73	19.88

☐ See attached data sheet(s) for additional water contents

Specimen Weight

Wet + Stone (etc): 1399.5 gm
Stone (etc): 130.30 gm
Wet Initial: 1269.2 gm
Wet Final: ____ gm
Excess Ovendry Dish No. 424
Wgt. Dish + Dry Soil 211.18 gm
Wgt. Dish 206.86 gm
Wgt. Excess Dry Soil 4.32 gm

Dimentions of Specimen

	Height (in) Initial (L_o)	Final (L_f)	Diameter (in) or ____ Initial	Final	
1	5.944		1-T 2.863		
2	5.957		2-M 2.847		*
3	5.945		3-B 2.840		
4	5.943		1'-T 2.865		
5	5.954		2'-M 2.857		*
Ave	5.9487		3'-B 2.861		
			Ave 2.8555		

$D_{ave}^* = (D_T + 2D_M + D_B)/4$

ΔL_c = ____ in
ΔL_t = ____ in
$\Sigma \Delta L$ = ____ in
$L_o - L_f$ = ____ in

$A_o = \pi D^2/4 = 6.4040$ in²
$V_o = in^3 \cdot 16.3871 = 624.274$ cm³
$A_{sm} = 5.4542(D^*)^2 =$ ____ 10^{-3} ft²

Membrane: Thickness = 0.0277 in; Circumference (C_m) = 8.8735 in; Diam = C_m/π = 2.8264 in

Filter Paper: Top + bottom: ☐ Yes; ☒ No

Filter Strips: ☐ Yes; ☒ No
____ Vertical at 1/4" - Whatman #54 or ____
____ Sprial at 1/4" - Whatman #1 or ____

Wgt top cap = ____ gm, ____ 10^{-3} gms
Wgt (cap, dial + piston) = ____ gm, ____ 10^{-3} gms

Preliminary

γ_{co} = 126.93 lb/ft³ γ_{do} = 110.63 lb/ft³

Failure Sketch

Final Visual Classification: ☐ See more detailed sketch on attached sheet; ☐ Photo Taken

Other Remarks: OC 1 ksf

Preliminary Cal. by [signature] Reviewed by [signature]

☐ Trimmed by ____ Setup by [signature] Taken down by [signature]
☐ Reconstituted Date ____ Date 8/4/81 Date 8/6/81

See back for Summary Calculations

TRIAXIAL TEST SUMMARY CALCULATIONS T-296

Type Test: CIU-C ☒ Undisturbed; ☐ Reconstituted - Specimen

☐ Dynamic / Hz or ____ ☐ sinusoidal or ____ ☒ Static 3.96 %/hr

Consolidation History Units: ~~tsf~~ or KSF	Max Induced Pore Pressure Uncorr.	Corr. #	☒ Preshear/perm. ☐ Pre cy-loading Uncorr.	Corr. #	Preshear after Cy-loading Uncorr.	Corr. #
σ_{cell}		—	15.4088	—		—
u		—	14.400	—		—
$\bar{\sigma}_v$			—	1.0045		
$\bar{\sigma}_h$			1.0008	1.0195		
$\bar{\sigma}_p = (\bar{\sigma}_v + \bar{\sigma}_h)/2$			—	1.0120		
$K_c = \bar{\sigma}_v / \bar{\sigma}_h$			1.00	1.0150		
OCR			1.00	1.000		
Consol. Time	☐ Overnight ____ days ____ hours		☐ Overnight ____ days ____ hours		☐ Overnight ____ days ____ hours	

Corrected for effects of membrane, S. Hor strips, etc.

H_o = 5.9487 in

A_o = 6.4040 in²

V_o = 624.274 cm³

Dav/Dom = 1.0103

G_s = 2.662 ☒ Assumed ☐ Measured

B_g = 95.4 %

Area Corr. Factors: C

Undrained = 1.95 a/s from S-19, S-20

$C = \frac{1}{\varepsilon_a}\left(1 - \frac{A_c}{A_{om}}\right)$

Drained = ____

$C = \frac{1}{\varepsilon_a}\left[1 - \frac{A_c(1+\varepsilon_v\varepsilon_a)}{A_{om}}\right]$

Calculate Wgt. of Dry Soil	By Initial Water Content	By Final Water Content	By Total Oven-dried Specimen
W_1 (%)			
W_2 (%)			
W_{ave} (%)	14.73	19.88	
Wgt. Wet Soil, W_T (gm)	1269.2	(1294.85)	
Partial Wgt. Dry Soil (gm)	ΔV_T (cm³) during test ÷ (1+e) Est.		1075.8
Wgt. Excess Oven-dry Soil	Corr. Wet Wgt. @ B_g: $W_T + \Delta V_T$		4.32
Total Wgt. Oven Dry Soil, W_s (gm)	1106.25	(1080.12)	1080.12
W_s used:		Final = 1080.12 gm	

Variations in Height and Volume During Consolidation	During Initial Consol. without back-pressure	During Back-Pressuring ΔV_b = vol. in	After Backpressuring $\bar{\sigma}_3$ (psi) From 3.15 To 6.95	$\bar{\sigma}_h$ (psi) From ____ To ____	$\bar{\sigma}_h$ (psi) From ____ To ____
	Sign Convention: (-) ΔV in, (+) ΔV out; (-) ΔL up, (+) ΔL down				
ΔL (in)	0.0089	0.0051	0.0023		
ΔV_m (cm³)	(-2 / -1.70)	—	(+6.38) ÷ 2.14		
$\frac{\Delta V_a}{3V_o(\Delta H/H_o)}$	2.802	1.606	0.944		
$R = \Delta V_m / \Delta V_a$	Rused = 2.267	2.267			
Corrected $\Delta V_a = R \cdot \Delta V_a$	(6.352)	(3.641)			
Circle Selected Value	ΔV_1	ΔV_2	ΔV_3	ΔV_4	ΔV_5

ΔL_{cy} = ____ in

ΔV rebound = σ_{max} to σ_{test} = ____ cm³

ΔV_T (during drained loading) = ____ cm³

Calculation of ΔV_c During Consolidation by Different Procedures	ΔV_c by Wgt. Change $= W_o - W_s - (\Delta V_b + \Delta V_T)$	ΔV_c by recorded/calculated volume changes $= \Sigma$ selected ΔV	ΔV_c assuming S = 100% $V_F = (W_{Gs} + w_c)W_s/\gamma_w$
	$\Delta W_{gt.}$ = -25.65 gm	$\Delta V_c = \Delta V_1 + \Delta V_2 + \Delta V$	Undrained: $\Delta V_c = V_o - V_F$
	$\Sigma(\Delta V_b + \Delta V_T)$ = —	= 6.352 + 3.641 + 2.14	Drained: $\Delta V_c = V_o - (V_F + \Delta V_T)$
	∴ ΔV_c = — cm³	= 12.133 cm³	w_o = 19.88 % V_F = 621.602 cm³
			$V_F + \Delta V_T$ = — cm³
			∴ ΔV_c = 2.672 cm³

Conclusions

ΔV_c used (ave ✓ value) = 2.672 cm³ ∴ V_c = 621.602 cm³; ΔL_c = 0.017 in; ∴ L_c = 5.9317 in

$A_c = V_o/L_c$ (cm³/in) / 16.387 = 6.3949 in² / 0.144 = 44.4088 x10⁻³ ft²

ε_{ac} = 0.29 %; ε_v 0.43 %; $1-\varepsilon_v$ = ____; $E_s^{\#}$ = 0.1828; $\varepsilon_{vs}^{\#}$ = ____ # not in percent.

At max. induced pore pressure: $\Delta V_{max} = \Delta V_c - \Delta V_{rebound}$ = ____ cm³; ΔL_{max} = ____ in

Summary	Height (in)	Area (~~ft²~~ cm² / ft² x10⁻³)	Volume (cm³)	Water Content (%)	Total or Dry Density (lb/ft³)	Saturation (%)		
Initial	5.9487	44.4722	624274	17.51	126.93 108.01	87.0		
After Consol.	5.9317	44.4088	621.602	19.88	130.05 108.48	100.0		

$S = W G_s \cdot \gamma_d / (G_s \cdot \gamma_w - \gamma_d) = w \cdot G_s \cdot \gamma_o / (G_s \cdot \gamma_w (1+w) - \gamma_o)$

Calculated by ____ Reviewed by ____

Psi x 0.0072 = tsf

W Sor S x 100 = Gs·γw − γd / Gs·γd = Gs·γw − γe / G(γe − γw) γw @ 20C (Stead) = 62.32 lb/ft³ = 0.9982 gm/cm³ (Sm) = 8x.8 (lb/ft³)

A.TRIAX

THIS IS A CIU TEST. IT HAS BEEN
CALCULATED BY COMPUTER PROGRAM NO. C-T-1R.6 8/11/81 USING FILE NO. T-276

PROJ. NO.	81C4055T3	REVIEWED BY:
BORING NO.	COE-7	DATE: 8/12/81
SAMPLE NO.	S-22	INPUT DATA CHECKED BY: RD
SPECIMEN NO.	C	
DEPTH(FT.)	44.5	TEST NO. ID-080

ISOTROPIC	TYPE OF CONSOLIDATION
UNDRAINED	DRAINAGE CONDITIONS DURING LOADING
COMPRESSION	MODE OF LOADING
CONSTANT	CELL PRESSURE DURING LOADING
5.9487	INITIAL HEIGHT OF SPECIMEN IN INCHES
2.8555	INITIAL DIAMETER OF SPECIMEN IN INCHES
624.27	INITIAL VOLUME OF SPECIMEN IN CU.CM.
.5000	PISTON DIAMETER IN INCHES
.5100	WEIGHT OF TOP CAP ONLY IN TONS*10**-3
1.2700	WEIGHT OF TOP CAP + PISTON + DIAL IN TONS*10**-3
1.5950	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3
NO	WAS PISTON IN CONTACT WITH SPECIMEN DURING CONSOLIDATION?
.0277	MEMBRANE THICKNESS IN INCHES
2.8264	MEMBRANE DIAMETER IN INCHES
0.0000	FILTER STRIP CORRECTION CONSTANT AT 2% AXIAL STRAIN IN TONS ** 10-3
1.2500	RIGHT CYLINDER DISTORTION FACTOR

PRE-SHEAR CONDITIONS:

7.7004	CELL PRESSURE IN TSF
7.2000	BACK PRESSURE IN TSF
.0170	AXIAL DEFORMATION DURING CONSOL. IN INCHES
2.67	VOLUME CHANGE DURING CONSOL. IN CU. CM.
11.1170	MEASURED AXIAL LOAD PRIOR TO STATIC LOADING FROM FIRST LINE OF LOADING DATA IN TONS*10**-3

EFFECTIVE STRESSES CORRECTED FOR MEMBRANE AND FILTER STRIPS, ETC:

AXIAL	=	1.0195 KSF
LATERAL	=	1.0045 KSF
MEAN	=	1.0095 KSF
PBAR	=	1.0120 KSF
LATERAL/AXIAL	=	.9853
AXIAL/LATERAL	=	1.0150
OCR	=	1.000

11.1170	PISTON DRAG CORRECTION IN TONS *10**-3
2000	FILE NUMBER FOR LOAD CELL OR PROVING RING
1000	FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000	FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE	FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES	IS DATA NORMALIZATION REQUIRED?
	DATA NORMALIZED TO PRESHEAR STRESSES

CR

11.1170 PISTON DRAG CORRECTION IN TONS *10**-3
2000 FILE NUMBER FOR LOAD CELL OR PROVING RING
1000 FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000 FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES IS DATA NOMALIZATION REQUIRED?
DATA NORMALIZED TO PRESHEAR STRESSES
WITH NORM = P-BAR OF 1.0120 KSF

AXIAL STRAIN %	DEVIATOR STRESS KSF	OBLIQUITY	DELTA-U KSF	A-FACTOR	Q KSF	P-BAR KSF	SECANT MODULUS KSF	TANGENT MODULUS KSF	DEVIATOR NORM	DELTA-U NORM	Q NORM	P-BAR NORM	SECANT NORM
0.0000	.0150	1.0150	0.0000	0.0000	.0075	1.0120	0.000	0.000	.0149	0.0000	.0074	1.0000	0.0000
.0096	.1151	1.1159	.0120	.1200	.0575	1.0500	1040.941	1352.353	.1137	.0119	.0568	1.0376	1028.5861
.0179	.2525	1.2591	.0300	.1263	.1263	1.1007	1328.850	1441.043	.2495	.0296	.1248	1.0877	1313.0782
.0292	.3901	1.4122	.0580	.1546	.1951	1.1416	1286.044	1008.245	.3855	.0573	.1927	1.1280	1270.7805
.0464	.5274	1.5767	.0900	.1757	.2637	1.1782	1105.087	752.171	.5211	.0889	.2606	1.1642	1091.9707
.0614	.6333	1.7144	.1180	.1908	.3167	1.2032	1007.550	629.667	.6258	.1166	.3129	1.1889	995.5916
.0794	.7331	1.8520	.1440	.2005	.3666	1.2270	904.324	548.326	.7244	.1423	.3622	1.2125	893.5906
.0966	.8266	1.9905	.1700	.2095	.4133	1.2478	840.091	491.303	.8168	.1680	.4084	1.2330	830.1208
.1207	.9324	2.1590	.2000	.2180	.4662	1.2707	760.008	402.850	.9214	.1976	.4607	1.2556	750.9880
.1597	1.0752	2.3954	.2340	.2207	.5376	1.3081	664.041	336.493	1.0624	.2312	.5312	1.2926	656.1599
.1799	1.1372	2.4992	.2460	.2192	.5686	1.3271	623.819	290.671	1.1237	.2431	.5618	1.3113	616.4154
.2249	1.2609	2.7074	.2660	.2135	.6305	1.3690	553.991	237.503	1.2460	.2628	.6230	1.3527	547.4161
.2556	1.3223	2.8101	.2740	.2096	.6612	1.3917	511.501	254.603	1.3066	.2707	.6533	1.3751	505.4306
.2856	1.4151	2.9478	.2780	.1986	.7075	1.4341	490.238	251.050	1.3983	.2747	.6991	1.4170	484.4195
.3239	1.4889	3.0438	.2760	.1872	.7445	1.4730	455.109	184.448	1.4713	.2727	.7356	1.4555	449.7079
.3508	1.5256	3.0884	.2740	.1814	.7628	1.4933	430.569	154.918	1.5075	.2707	.7537	1.4756	425.4591
.3861	1.5869	3.1663	.2720	.1730	.7934	1.5259	407.144	206.348	1.5680	.2688	.7840	1.5078	402.3118
.4169	1.6605	3.2424	.2640	.1604	.8303	1.5708	394.686	204.777	1.6408	.2609	.8204	1.5521	390.0020
.4491	1.7155	3.2980	.2580	.1517	.8578	1.6043	378.632	196.923	1.6952	.2549	.8476	1.5852	374.1377
.4822	1.7892	3.3465	.2420	.1364	.8946	1.6571	367.972	202.152	1.7680	.2391	.8840	1.6375	363.6046
.5159	1.8503	3.4014	.2340	.1275	.9252	1.6957	355.766	197.123	1.8284	.2312	.9142	1.6756	351.5432
.5474	1.9175	3.4379	.2180	.1146	.9587	1.7353	347.545	215.531	1.8947	.2154	.9474	1.7246	343.4203
.5811	1.9910	3.4933	.2060	.1042	.9955	1.7940	340.031	215.711	1.9674	.2036	.9837	1.7727	335.9949
.6126	2.0583	3.5332	.1920	.0939	1.0291	1.8417	333.514	201.569	2.0338	.1897	1.0169	1.8198	329.5556
.6479	2.1251	3.5649	.1760	.0834	1.0626	1.8911	325.695	204.367	2.0999	.1739	1.0500	1.8687	321.8297
.6786	2.1923	3.5897	.1580	.0725	1.0962	1.9427	320.870	220.405	2.1663	.1561	1.0832	1.9196	317.0619
.7116	2.2656	3.6206	.1400	.0622	1.1328	1.9974	316.271	224.336	2.2387	.1383	1.1194	1.9737	312.5173
.7438	2.3387	3.6499	.1220	.0525	1.1693	2.0519	312.400	201.131	2.3109	.1206	1.1555	2.0275	308.6920
.7784	2.3993	3.6642	.1040	.0436	1.1996	2.1002	306.317	203.148	2.3708	.1028	1.1854	2.0753	302.6819
.8443	2.5515	3.7127	.0640	.0252	1.2757	2.2163	300.428	231.901	2.5212	.0632	1.2606	2.1900	296.8621
.9095	2.7034	3.7514	.0220	.0082	1.3517	2.3343	295.585	222.063	2.6714	.0217	1.3357	2.3066	292.0771
.9754	2.8427	3.7691	-.0220	-.0078	1.4213	2.4479	289.883	219.532	2.8089	-.0217	1.4045	2.4189	286.4426
1.0446	3.0002	3.7919	-.0700	-.0235	1.5001	2.5747	285.779	237.852	2.9646	-.0692	1.4823	2.5441	282.3871
1.1105	3.1635	3.8231	-.1160	-.0369	1.5818	2.7024	283.527	261.770	3.1260	-.1146	1.5630	2.6703	280.1621
1.1734	3.3453	3.8577	-.1660	-.0499	1.6726	2.8432	283.088	255.094	3.3056	-.1640	1.6528	2.8095	279.7285
1.2432	3.5018	3.8642	-.2180	-.0626	1.7509	2.9735	280.479	229.235	3.4602	-.2154	1.7301	2.9382	277.1498
1.3129	3.6581	3.8700	-.2700	-.0741	1.8291	3.1037	277.475	243.422	3.6147	-.2668	1.8074	3.0668	274.1819
1.4480	4.0131	3.8900	-.3840	-.0961	2.0066	3.3952	276.113	257.807	3.9655	-.3794	1.9827	3.3549	272.8358
1.5807	4.3484	3.8823	-.5040	-.1163	2.1742	3.6829	274.131	271.073	4.2968	-.4960	2.1484	3.6392	270.8977
1.7090	4.7197	3.8979	-.6240	-.1327	2.3599	3.9885	275.296	297.339	4.6637	-.6166	2.3319	3.9412	272.0288
1.8401	5.1201	3.9113	-.7540	-.1477	2.5601	4.3187	277.433	310.745	5.0594	-.7451	2.5297	4.2675	274.1404
1.9721	5.5375	3.9103	-.8980	-.1626	2.7688	4.6715	280.029	310.489	5.4718	-.8873	2.7359	4.6160	276.7053
2.1026	5.9352	3.9084	-1.0360	-.1750	2.9676	5.0083	281.564	315.036	5.8648	-1.0237	2.9324	4.9489	278.2222
2.2338	6.3619	3.8960	-1.1920	-.1879	3.1809	5.3777	284.132	335.032	6.2864	-1.1779	3.1432	5.3139	280.7602
2.3621	6.8042	3.9043	-1.3380	-.1971	3.4021	5.7449	287.425	346.369	6.7234	-1.3221	3.3617	5.6767	284.0139
2.4895	7.2477	3.8958	-1.4980	-.2072	3.6238	6.1266	290.525	349.102	7.1617	-1.4802	3.5808	6.0539	287.0772
2.6170	7.6940	3.8851	-1.6620	-.2165	3.8470	6.5138	293.433	366.479	7.6027	-1.6423	3.8014	6.4365	289.9502
2.7429	8.1760	3.8821	-1.8320	-.2245	4.0880	6.9249	297.533	368.688	8.0790	-1.8103	4.0395	6.3427	294.0016
2.8727	8.6364	3.8665	-2.0080	-.2330	4.3182	7.3311	300.114	389.057	8.5339	-1.9842	4.2669	7.2441	296.5516
2.9364	8.9063	3.8740	-2.0940	-.2356	4.4531	7.5520	302.791	393.624	8.8006	-2.0691	4.4003	7.4624	299.1969
3.1313	9.6152	3.8456	-2.3740	-.2473	4.8076	8.1865	306.586	379.033	9.5011	-2.3458	4.7505	8.0894	302.9474
3.3255	10.3810	3.8309	-2.6620	-.2568	5.1905	8.8575	311.708	390.212	10.2578	-2.6304	5.1289	8.7523	308.0086
[illegible]	[illegible]	[illegible]	-2.9560	-.2657	5.5742	9.5372	315.906	400.029	11.0161	-2.9229	5.5081	9.4240	312.1563
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.7829	-3.2193	5.8914	10.1039	317.0480

2.4895	7.2477	3.8958	-1.4980	-.2072	3.6250	6.1208	290.323	347.102	7.1017	-1.4802	3.6608	6.0039	287.0772
2.6170	7.6940	3.8851	-1.6620	-.2165	3.8470	6.5138	293.433	366.479	7.6027	-1.6423	3.8014	6.4365	289.9502
2.7429	8.1760	3.8821	-1.8320	-.2245	4.0880	6.9249	297.533	368.688	8.0790	-1.8103	4.0395	6.8427	294.0016
2.8727	8.6364	3.8665	-2.0080	-.2330	4.3182	7.3311	300.114	389.057	8.5339	-1.9842	4.2669	7.2441	296.5516
2.9364	8.9063	3.8740	-2.0940	-.2356	4.4531	7.5520	302.791	393.624	8.8006	-2.0691	4.4003	7.4624	299.1969
3.1313	9.6152	3.8456	-2.3740	-.2473	4.8076	8.1865	306.586	379.033	9.5011	-2.3458	4.7505	8.0894	302.9474
3.3255	10.3810	3.8309	-2.6620	-.2568	5.1905	8.8575	311.708	390.212	10.2578	-2.6304	5.1289	8.7523	308.0086
3.5243	11.1485	3.8131	-2.9580	-.2657	5.5742	9.5372	315.906	400.029	11.0161	-2.9229	5.5081	9.4240	312.1563
3.7118	11.9244	3.7971	-3.2580	-.2736	5.9622	10.2253	320.856	421.814	11.7829	-3.2193	5.8914	10.1039	317.0480
3.9023	12.7430	3.7829	-3.5740	-.2808	6.3715	10.9506	326.170	428.267	12.5918	-3.5316	6.2959	10.8207	322.2988
4.0949	13.5655	3.7656	-3.9000	-.2879	6.7827	11.6879	330.907	433.038	13.4045	-3.8537	6.7022	11.5492	326.9792
4.2861	14.4052	3.7516	-4.2300	-.2940	7.2026	12.4378	335.739	437.794	14.2343	-4.1798	7.1171	12.2902	331.7542
4.4803	15.2526	3.7358	-4.5700	-.3000	7.6263	13.2016	340.100	439.612	15.0716	-4.5158	7.5358	13.0449	336.0633
4.6708	16.0963	3.7193	-4.9140	-.3056	8.0482	13.9675	344.292	448.872	15.9053	-4.8557	7.9527	13.8017	340.2056
4.8605	16.9590	3.7042	-5.2660	-.3108	8.4795	14.7509	348.606	439.185	16.7578	-5.2035	8.3789	14.5758	344.4689
5.0638	17.8201	3.6905	-5.6180	-.3156	8.9100	15.5305	351.614	437.347	17.6086	-5.5513	8.8043	15.3491	347.4405
5.2565	18.6895	3.6747	-5.9820	-.3204	9.3447	16.3323	355.264	439.074	18.4677	-5.9110	9.2338	16.1384	351.0473
5.4598	19.5576	3.6574	-6.3540	-.3252	9.7788	17.1384	357.934	450.298	19.3254	-6.2786	9.6627	16.9350	353.6856
5.6503	20.4598	3.6483	-6.7200	-.3287	10.2299	17.9556	361.835	462.073	20.2170	-6.6402	10.1085	17.7425	357.5401
5.8442	21.3333	3.6351	-7.0900	-.3326	10.6668	18.7624	364.776	444.428	21.0801	-7.0059	10.5400	18.5397	360.4470
6.0381	22.1831	3.6185	-7.4660	-.3369	11.0916	19.5634	367.139	436.904	21.9198	-7.3774	10.9599	19.3312	362.7811
6.2370	23.0494	3.6039	-7.8460	-.3407	11.5247	20.3766	369.318	441.316	22.7758	-7.7529	11.3879	20.1347	364.9345
6.4292	23.9088	3.5907	-8.2226	-.3442	11.9544	21.1829	371.645	443.828	23.6250	-8.1250	11.8125	20.9315	367.2340
6.6231	24.7628	3.5789	-8.5962	-.3474	12.3814	21.9836	373.660	445.557	24.4689	-8.4942	12.2344	21.7227	369.2253
6.8068	25.5908	3.5659	-8.9672	-.3507	12.7954	22.7687	375.738	433.332	25.2871	-8.8608	12.6436	22.4985	371.2784
7.0041	26.4114	3.5520	-9.3432	-.3540	13.2057	23.5551	376.873	427.203	26.0980	-9.2323	13.0490	23.2756	372.3999
7.1979	27.2613	3.5412	-9.7216	-.3569	13.6307	24.3586	378.529	419.429	26.9378	-9.6062	13.4689	24.0695	374.0365
7.3986	28.0648	3.5285	-10.0928	-.3599	14.0324	25.1316	379.125	413.610	27.7317	-9.9730	13.8658	24.8333	374.6250
7.5891	28.8777	3.5187	-10.4590	-.3624	14.4389	25.9043	380.320	404.379	28.5350	-10.3349	14.2675	25.5969	375.8058
7.7880	29.6377	3.5054	-10.8230	-.3654	14.8188	26.6484	380.363	397.025	29.2859	-10.6945	14.6430	26.3321	375.8489
7.9768	30.4156	3.4954	-11.1820	-.3679	15.2078	27.3965	381.113	398.051	30.0546	-11.0493	15.0273	27.0713	376.5893
8.1740	31.1732	3.4843	-11.5412	-.3705	15.5866	28.1346	381.184	375.522	30.8032	-11.4042	15.4016	27.8007	376.6602
8.3730	31.9032	3.4741	-11.8882	-.3729	15.9516	28.8467	380.846	368.313	31.5246	-11.7471	15.7623	28.5043	376.3263
8.5584	32.5887	3.4623	-12.2280	-.3755	16.2944	29.5293	380.604	347.381	32.2020	-12.0829	16.1010	29.1789	376.0868
8.7590	33.2410	3.4504	-12.5582	-.3780	16.6205	30.1857	379.333	347.072	32.8464	-12.4092	16.4232	29.8275	374.8306
8.9462	33.9315	3.4432	-12.8812	-.3799	16.9658	30.8541	379.118	340.176	33.5288	-12.7283	16.7644	30.4880	374.6180
9.1367	34.5246	3.4331	-13.1824	-.3821	17.2623	31.4520	377.704	289.463	34.1148	-13.0259	17.0574	31.0787	373.2209
9.3440	35.0795	3.4212	-13.4812	-.3846	17.5398	32.0284	375.261	275.832	34.6632	-13.3212	17.3316	31.6482	370.8069
9.5413	35.6398	3.4140	-13.7560	-.3862	17.8199	32.5834	373.375	262.802	35.2168	-13.5927	17.6084	32.1967	368.9436
9.7402	36.1203	3.4050	-14.0113	-.3882	18.0602	33.0792	370.683	215.353	35.6916	-13.8450	17.8458	32.6865	366.2833
10.1381	36.8729	3.3861	-14.4451	-.3920	18.4364	33.8895	363.559	172.272	36.4352	-14.2737	18.2176	33.4873	359.2437
10.4011	37.2816	3.3795	-14.6596	-.3935	18.6408	34.3085	358.295	125.520	36.8391	-14.4856	18.4195	33.9013	354.0427
10.6607	37.5299	3.3680	-14.8404	-.3957	18.7649	34.6135	351.899	69.819	37.0844	-14.6642	18.5422	34.2027	347.7222
10.9271	37.6471	3.3553	-14.9753	-.3980	18.8235	34.8073	344.393	21.264	37.2002	-14.7976	18.6001	34.3941	340.3056
11.1951	37.6431	3.3413	-15.0693	-.4006	18.8216	34.8995	336.112	-52.119	37.1963	-14.8905	18.5962	34.4853	332.1227
11.4665	37.3642	3.3146	-15.1342	-.4053	18.6821	34.8251	325.723	-145.415	36.9207	-14.9546	18.4604	34.4118	321.8572
11.7380	36.8537	3.2785	-15.1656	-.4118	18.4269	34.6015	313.843	-184.881	36.4163	-14.9856	18.2082	34.1908	310.1178
12.0026	36.3729	3.2477	-15.1728	-.4174	18.1864	34.3684	302.915	-174.721	35.9411	-14.9927	17.9706	33.9605	299.3199
12.2741	35.8198	3.2158	-15.1688	-.4236	17.9508	34.1262	292.507	-165.128	35.4912	-14.9880	17.7456	33.7310	289.0356
12.5370	35.4901	3.1951	-15.1584	-.4274	17.7451	33.9131	282.962	-158.683	35.0689	-14.9765	17.5348	33.5196	279.6037
12.8034	35.1842	3.1784	-15.1416	-.4307	17.5921	33.7435	274.686	-114.420	34.7666	-14.9619	17.3833	33.3430	271.4257
13.0715	34.8787	3.1617	-15.1246	-.4340	17.4393	33.5740	266.716	-80.930	34.4647	-14.9451	17.2324	33.1755	263.5500
13.3479	34.7463	3.1548	-15.1151	-.4354	17.3731	33.4985	260.199	-54.409	34.3339	-14.9357	17.1670	33.1010	257.1111
13.6177	34.5819	3.1455	-15.1079	-.4372	17.2910	33.4094	253.838	-92.053	34.1715	-14.9286	17.0857	33.0128	250.8254
13.8840	34.2539	3.1264	-15.0982	-.4412	17.1269	33.2359	246.605	-132.843	33.8473	-14.9190	16.9237	32.8415	243.6786
14.1656	33.8526	3.1027	-15.0886	-.4461	16.9263	33.0259	238.872	-162.142	33.4508	-14.9095	16.7254	32.6339	236.0365
14.4286	33.3746	3.0736	-15.0838	-.4524	16.6873	32.7823	231.205	-184.303	32.9785	-14.9048	16.4892	32.3933	229.4605
14.6933	32.8800	3.0441	-15.0741	-.4589	16.4400	32.5257	223.674	-173.838	32.4898	-14.8952	16.2449	32.1396	221.0192
14.9647	32.4435	3.0193	-15.0549	-.4645	16.2218	32.2884	216.700	-137.144	32.0585	-14.8762	16.0292	31.9052	214.1281
15.2395	32.1317	3.0029	-15.0308	-.4682	16.0659	32.1087	210.747	-93.693	31.7504	-14.8524	15.8752	31.7276	208.2453
15.4991	31.9398	2.9939	-15.0067	-.4703	15.9699	31.9889	205.978	-39.936	31.5607	-14.8286	15.7804	31.6092	203.5335
15.7655	31.9239	2.9962	-14.9801	-.4697	15.9620	31.9547	202.398	-33.784	31.5451	-14.8023	15.7725	31.5754	199.9954
16.0352	31.7577	2.9887	-14.9560	-.4714	15.8789	31.8478	197.956	-50.870	31.3808	-14.7785	15.6904	31.4698	195.6069
16.3016	31.6509	2.9850	-14.9319	-.4723	15.8254	31.7705	194.066	-46.197	31.2752	-14.7547	15.6376	31.3935	191.7629
16.5696	31.5108	2.9792	-14.9078	-.4736	15.7554	31.6767	190.081	-22.045	31.1368	-14.7309	15.5684	31.3007	187.8252
16.8343	31.5324	2.9829	-14.8886	-.4727	15.7662	31.6685	187.221	5.082	31.1582	-14.7119	15.5791	31.2926	184.9991
17.1040	31.5378	2.9859	-14.8669	-.4719	15.7689	31.6498	184.300	-25.686	31.1635	-14.6904	15.5817	31.2742	182.1126
17.3755	31.3929	2.9797	-14.8428	-.4733	15.6965	31.5536	180.598	-43.152	31.0204	-14.6666	15.5102	31.1791	178.4442
				-.4739	15.6526	31.4859	177.363	-37.707	30.9336	-14.6428	15.4668	31.1122	175.2594

9.	36.	3	-14	- 2	1 2	3 2	3 9	53	16 -	50	58	365	.283	
10.1381	36.8729	3.3861	-14.4451	-.3920	18.4364	33.6895	363.559	172.272	36.4352	-14.2737	19.2176	33.4873	359.2437	
10.4011	37.2816	3.3795	-14.6596	-.3935	18.6408	34.3085	358.295	125.520	36.8391	-14.4856	18.4195	33.9019	354.0427	
10.6607	37.5299	3.3680	-14.8404	-.3957	18.7649	34.6135	351.899	69.819	37.0844	-14.6642	18.5422	34.2027	347.7222	
10.9271	37.6471	3.3553	-14.9753	-.3980	18.8235	34.8073	344.393	21.264	37.2002	-14.7976	18.6001	34.3941	340.3056	
11.1951	37.6431	3.3413	-15.0693	-.4006	18.8216	34.8075	336.112	-52.119	37.1963	-14.8905	18.5982	34.4853	332.1227	
11.4665	37.3642	3.3146	-15.1342	-.4053	18.6821	34.8251	325.723	-145.415	36.9207	-14.9546	18.4604	34.4118	321.8572	
11.7380	36.8537	3.2785	-15.1656	-.4118	18.4269	34.6015	313.843	-184.881	36.4163	-14.9856	18.2082	34.1908	310.1178	
12.0026	36.3728	3.2477	-15.1728	-.4174	18.1864	34.3684	302.915	-174.721	35.9411	-14.9927	17.9706	33.9605	299.3199	
12.2741	35.9175	3.2202	-15.1680	-.4226	17.9588	34.1362	292.507	-165.125	35.4912	-14.9880	17.7456	33.7310	289.0356	
12.5370	35.4901	3.1951	-15.1584	-.4274	17.7451	33.9131	282.962	-138.683	35.0689	-14.9785	17.5345	33.5106	279.6037	
12.8034	35.1842	3.1784	-15.1416	-.4307	17.5921	33.7435	274.686	-114.420	34.7666	-14.9619	17.3833	33.3430	271.4257	
13.0715	34.8787	3.1617	-15.1246	-.4340	17.4393	33.5740	266.716	-80.930	34.4647	-14.9451	17.2324	33.1755	263.5500	
13.3479	34.7463	3.1548	-15.1151	-.4354	17.3731	33.4985	260.199	-54.409	34.3339	-14.9357	17.1670	33.1010	257.1111	
13.6177	34.5819	3.1455	-15.1079	-.4372	17.2910	33.4094	253.838	-92.053	34.1715	-14.9286	17.0857	33.0128	250.8254	
13.8840	34.2539	3.1264	-15.0982	-.4412	17.1269	33.2359	246.605	-132.843	33.8473	-14.9190	16.9237	32.8415	243.6786	
14.1656	33.8526	3.1027	-15.0886	-.4461	16.9263	33.0259	238.872	-162.142	33.4508	-14.9095	16.7254	32.6339	236.0365	
14.4286	33.3746	3.0736	-15.0838	-.4524	16.6873	32.7823	231.205	-184.303	32.9785	-14.9048	16.4892	32.3933	228.4605	
14.6933	32.8800	3.0441	-15.0741	-.4589	16.4400	32.5257	223.674	-173.836	32.4898	-14.8952	16.2449	32.1396	221.0192	
14.9647	32.4435	3.0193	-15.0549	-.4645	16.2218	32.2884	216.700	-137.144	32.0585	-14.8762	16.0292	31.9052	214.1281	
15.2395	32.1317	3.0029	-15.0308	-.4682	16.0659	32.1087	210.747	-93.693	31.7504	-14.8524	15.8752	31.7276	208.2453	
15.4991	31.9398	2.9939	-15.0067	-.4703	15.9699	31.9889	205.978	-39.936	31.5607	-14.8286	15.7804	31.6092	203.5335	
15.7655	31.9239	2.9962	-14.9801	-.4697	15.9620	31.9547	202.398	-33.784	31.5451	-14.8023	15.7725	31.5754	199.9954	
16.0352	31.7577	2.9887	-14.9560	-.4714	15.8789	31.8478	197.956	-50.870	31.3808	-14.7785	15.6904	31.4698	195.6069	
16.3016	31.6509	2.9850	-14.9319	-.4723	15.8254	31.7705	194.066	-46.197	31.2752	-14.7547	15.6376	31.3935	191.7629	
16.5696	31.5108	2.9792	-14.9078	-.4736	15.7554	31.6767	190.081	-22.045	31.1368	-14.7309	15.5684	31.3007	187.8252	
16.8343	31.5324	2.9829	-14.8886	-.4727	15.7662	31.6685	187.221	5.082	31.1582	-14.7119	15.5791	31.2926	184.9991	
17.1040	31.5378	2.9859	-14.8669	-.4719	15.7689	31.6498	184.300	-25.686	31.1635	-14.6904	15.5817	31.2742	182.1126	
17.3755	31.3929	2.9797	-14.8426	-.4733	15.6965	31.5536	180.588	-43.152	31.0204	-14.6666	15.5102	31.1791	178.4442	
17.6418	31.3052	2.9772	-14.8187	-.4739	15.6526	31.4859	177.363	-37.707	30.9336	-14.6428	15.4668	31.1122	175.2584	
17.9132	31.1899	2.9728	-14.7946	-.4749	15.5950	31.4045	174.033	-27.452	30.8197	-14.6190	15.4099	31.0318	171.9671	
18.1982	31.1560	2.9739	-14.7681	-.4746	15.5772	31.3606	171.113	3.961	30.7847	-14.5928	15.3924	30.9884	169.0823	
18.4578	31.2013	2.9802	-14.7440	-.4730	15.6037	31.3633	168.993	21.120	30.8370	-14.5690	15.4185	30.9911	166.9870	
18.7309	31.2671	2.9867	-14.7223	-.4715	15.6335	31.3718	166.848	32.765	30.8960	-14.5475	15.4480	30.9995	164.8674	
18.9939	31.3819	2.9961	-14.7054	-.4692	15.6909	31.4127	165.142	16.423	31.0094	-14.5309	15.5047	31.0399	163.1819	
19.2670	31.3524	2.9966	-14.6861	-.4690	15.6762	31.3790	162.648	1.565	30.9803	-14.5118	15.4901	31.0066	160.7175	
19.5216	31.3879	3.0004	-14.6741	-.4681	15.6939	31.3851	160.709	3.147	31.0153	-14.4999	15.5077	31.0126	158.8013	
19.8115	31.3657	3.0007	-14.6596	-.4680	15.6828	31.3599	158.245	-5.688	30.9934	-14.4856	15.4967	30.9877	156.3665	
20.0661	31.3562	3.0022	-14.6427	-.4676	15.6781	31.3386	156.190	25.114	30.9840	-14.4690	15.4920	30.9667	154.3360	
20.3392	31.5036	3.0128	-14.6331	-.4651	15.7518	31.4031	154.817	938.400	31.1297	-14.4594	15.5648	31.0303	152.9795	STOP

A.BASIC RESPRT

1	DATA FILE IDENT. NO.	T-276
2	PROJECT NO.	81C405ST3
3	BORING NO.	COE-7
4	SAMPLE NO.	S-22
5	SPECIMEN NO.	C
6	DEPTH	44.5
7	TEST NO.	ID-080
8	FILE # FOR LOAD CELL OR PROVING RING	2000
9	FILE # FOR PORE PRESSURE CONST.	1000
10	FILE # FOR CELL PRESSURE CONST	2000
11	FILE # FOR PISTON FRICTION CORRECTION	NONE
12	TYPE OF CONSOLIDATION	I
13	DRAINAGE CONDITIONS DURING LOADING	U
14	MODE OF LOADING	C
15	CELL PRESSURE DURING LOADING	C
16	INITIAL HEIGHT OF SPECIMEN IN INCHES	5.9487
17	INITIAL DIAMETER OF SPECIMEN IN INCHES	2.8555
18	INITIAL VOLUME OF SPECIMEN IN CU. CM.	624.274
19	PISTON DIAMETER IN INCHES	0.5
20	WEIGHT OF TOP CAP ONLY IN TONS*10**-3	0.51
21	WEIGHT OF TOP CAP + PISTON +DIAL IN TONS*10**-3	1.27
22	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3	1.595
23	WAS PISTON INTACT DURING CONSOL	NO
24	MEMBRANE THICKNESS IN INCHES	0.0277
25	MEMBRANE DIAMETER IN INCHES	2.8264
26	FILTER STRIP CORRECTION CONSTANT	0.0
27	RIGHT CYLINDER DISTORTION FACTOR	1.25
28	DOES SPECIMEN HAVE AN INDUCED OCR	NO
29	CELL PRESSURE IN TSF	0.0
30	BACK PRESSURE IN TSF	0.0
31	AXIAL DEFORMATION DURING CONSOL. IN INCHES	0.0
32	VOLUME CHANGE DURING CONSOL. IN CU. CM.	0.0
33	APPLIED AXIAL LOAD DURING CONSOL. TONS*10**-3	0.0
34	PRE SHEAR CONDITION - CELL PRESSURE IN TSF	7.7004
35	BACK PRESSURE IN TSF	7.200
36	AXIAL DEFORMATION IN INCHES	0.017
37	VOLUME CHANGE IN CU. CM.	2.672
38	PISTON DRAG CORRECTION IN TONS*10**-3	11.117
39	SPECIMEN CYCLICLY LOADED BEFORE SHEARING	NO
40	SPECIMEN RECONSOLIDATED DURING CYCLIC LOADING	NO
41	SUM OF VOLUME CHANGES DURING RECONSOLIDATION IN CU. CM.	0.0
42	PORE PRESSURE IN TSF	0.0
43	TOTAL CHANGE IN HT DURING CYCLIC LOADING IN INCHES	0.0
44	OUTPUT UNITS REQUIRED	KSF
45	DATA NORMALIZATION SELECTION	2.0
46	RESULT FILE DESIRED	0.0

DIS (in.)	LOAD (lbs)	PORE PRESSURE (tsf)
.00854,	22.234,	7.231
.00911,	26.681,	7.237
.00960,	32.79,	7.246
.01027,	38.91,	7.260
.01129,	45.02,	7.276
.01218,	49.74,	7.290
.01325,	54.19,	7.303
.01427,	58.36,	7.316
.01570,	62.69,	7.351

.00	22.	7.2
.00911.	28.681.	7.237
.00960.	32.79.	7.246
.01027.	38.91.	7.260
.01129.	45.02.	7.276
.01218.	49.74.	7.290
.01325.	54.19.	7.303
.01427.	58.36.	7.316
.01570.	63.09.	7.331
.01801.	69.48.	7.348
.01921.	72.26.	7.354
.02188.	77.82.	7.364
.02370.	80.59.	7.368
.02548.	84.76.	7.370
.02775.	88.10.	7.369
.02935.	89.77.	7.368
.03144.	92.55.	7.367
.03327.	95.88.	7.363
.03518.	98.38.	7.360
.03714.	101.72.	7.352
.03914.	104.50.	7.348
.04101.	107.55.	7.340
.04301.	110.89.	7.334
.04488.	113.95.	7.327
.04697.	117.00.	7.319
.04879.	120.06.	7.310
.05075.	123.40.	7.301
.05266.	126.73.	7.292
.05471.	129.51.	7.283
.05862.	136.46.	7.263
.06249.	143.41.	7.242
.06640.	149.80.	7.220
.07050.	157.03.	7.196
.07441.	164.53.	7.173
.07832.	172.87.	7.148
.08228.	180.09.	7.122
.08642.	187.32.	7.096
.09443.	203.72.	7.039
.10230.	219.28.	6.979
.10991.	236.51.	6.919
.11769.	255.13.	6.854
.12552.	274.59.	6.782
.13326.	293.21.	6.713
.14104.	313.22.	6.635
.14865.	334.0.	6.562
.15621.	354.9.	6.482
.16377.	376.0.	6.400
.17124.	398.8.	6.315
.17894.	420.7.	6.227
.18272.	433.5.	6.184
.19428.	467.4.	6.064
.20580.	504.1.	5.900
.21759.	541.1.	5.752
.22871.	578.6.	5.602
.24001.	618.3.	5.444
.25144.	658.4.	5.281
.26278.	699.5.	5.116
.27430.	741.2.	4.946
.28560.	782.9.	4.774
.29685.	825.7.	4.598
.30891.	868.8.	4.422
.32034.	912.4.	4.240
0.3324.	956.3.	4.054
0.3437.	1001.9.	3.871
0.3552.	1046.4.	3.686
0.3667.	1090.0.	3.493
0.3785.	1134.7.	3.308
0.3899.	1179.2.	3.1197
0.4014.	1223.7.	2.9330

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.28[illegible]   78[illegible]   4.[illegible]
.29[illegible]   825.[illegible]   4.59[illegible]
.30891,  868.8,  4.422
.32034,  912.4,  4.240
0.3324,  956.3,  4.054
0.3437, 1001.9,  3.871
0.3552, 1046.4,  3.686
0.3667, 1090.0,  3.498
0.3785, 1134.7,  3.308
0.3899, 1179.2, 3.1197
0.4014, 1223.7, 2.9329
0.4123, 1267.0, 2.7474
0.4240, 1310.4, 2.5594
0.4355, 1355.4, 2.3702
0.4474, 1398.5, 2.1846
0.4587, 1442.1, 2.0015
0.4705, 1483.5, 1.8195
0.4817, 1525.8, 1.6400
0.4934, 1567.5, 1.4604
0.5052, 1608.1, 1.2869
0.5162, 1646.4, 1.1170
0.5281, 1683.6, 0.9519
0.5392, 1722.6, 0.7904
0.5505, 1757.0, 0.6398
0.5628, 1790.1, 0.4904
0.5745, 1823.4, 0.3530
0.5863, 1852.9, .22533
0.6099, 1901.8, .00843
0.6255, 1929.9,-.09881
0.6409, 1949.9,-.18918
0.6567, 1963.5,-.25666
0.6726, 1971.0,-.30366
0.6887, 1964.4,-0.3361
0.7048, 1945.7,-0.3518
0.7205, 1928.2,-0.3554
0.7366, 1912.1,-0.3530
0.7522, 1897.1,-0.3482
0.7680, 1888.5,-0.3398
0.7839, 1879.9,-0.3313
0.8003, 1880.7,-.32655
0.8163, 1879.6,-.32294
0.8321, 1869.6,-.31812
0.8488, 1856.0,-.31330
0.8644, 1837.6,-.31089
0.8801, 1818.2,-.30607
0.8962, 1802.0,-.29643
0.9125, 1792.6,-.28438
0.9279, 1789.3,-.27233
0.9437, 1795.9,-.25907
0.9597, 1794.3,-.24702
0.9755, 1795.9,-.23497
0.9914, 1795.7,-.22292
1.0071, 1804.5,-.21328
1.0231, 1812.6,-.20244
1.0392, 1812.3,-.19039
1.0550, 1815.1,-.17834
1.0711, 1816.5,-.16629
1.0880, 1822.9,-.15303
1.1034, 1833.7,-.14098
1.1196, 1845.4,-.13014
1.1352, 1860.1,-.12170
1.1514, 1866.8,-.11206
1.1665, 1876.8,-.10604
1.1837, 1884.6,-.09881
1.1988, 1892.1,-.09037
1.2150, 1909.6,-.08555
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0.6       1963      2566
0.6726,  1971.0,-.30366
0.6887,  1964.4,-0.3361
0.7048,  1945.7,-0.3518
0.7205,  1928.2,-0.3554
0.7366,  1912.1,-0.3530
0.7522,  1897.1,-0.3482
0.7680,  1888.5,-0.3398
0.7839,  1879.9,-0.3313
0.8003,  1880.7,-.32655
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0.8321,  1869.6,-.31812
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0.8644,  1837.6,-.31089
0.8801,  1818.2,-.30607
0.8962,  1802.0,-.29643
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1.0071,  1804.5,-.21328
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1.0392,  1812.3,-.19039
1.0550,  1815.1,-.17834
1.0711,  1816.5,-.16629
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1.1988,  1892.1,-.09037
1.2150,  1909.6,-.08555
-999.,0.0,0.0
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WCC
L-202
(1.180)

TRIAXIAL TEST (Set Up / Take Down)

Proj. No 81C405573 Proj. Eng. [illegible] Cell No H-7 Piston dia: ☐ 3/8"; ☒ 1/2"

Type Test CW-C File No T-277

Loading Conditions: ☐ Dynamic ☒ Static	☒ Undrained ☐ Drained	☒ Compression ☐ Extension	☒ Constant cell pressure ☐ Variable cell pressure

Type Consolidation: ☒ Isotropic ☐ Anisotropic ☐ K_o stress path ☐ 45° Stress path	Piston Screwed in: ☐ Yes; ☒ No

☒ Undisturbed	☐ Reconstituted	☐ Impact	☐ Constant Effort
Boring No CVC-7	Composite No ____	☐ Static	____ layers; ____ lb {Hammer Tamp
Sample No S-23	Specimen No C	☐ Kneading	____ Blows-Tamps/layer
Depth (ft) 47.1	Remarks ____	☐ Tamping	☐ Undercompaction
☐ Endocapped with Castone; ☐ Geomarine Sample		☐ Other	____ layers; ____ Uni (%)

Water Content				Final
Location	T	B		Ave
Container No	48-15	4A124		P
Wgt. Container + Wet Soil (gm)	86.35	161.09		2180.6
Wgt Container + Dry Soil (gm)	78.87	141.44		1959.20
Wgt. Container (gm)	33.06	34.10		910.85
Wgt Dry Soil (gm)	45.81	107.34	ave	1048.35
WATER CONTENT (%)	16.32	18.31	17.32	21.12

☐ See attached data sheet(s) for additional water contents

Specimen Weight

Wet + Stone (etc): 1341.0 gm
Stone (etc): 132.7 gm
Wet Initial: 1208.3 gm
Wet Final: ____ gm
Excess Ovendry - Dish No 425
Wgt Dish + Dry Soil 210.69 gm
Wgt. Dish 207.00 gm
Wgt. Excess Dry Soil 3.69 gm

Dimentions of Specimen

	Height (in) Initial (L_o)	Final (L_f)		Diameter (in) or ____ Initial	Final	
1	5.9375		1-T	2.853		
2	5.941		2-M	2.847		*
3	5.938		3-B	2.867		
4	5.937		1'-T	2.870		
5	5.941		2'-M	2.863		*
Ave	5.9389		3'-B	2.865		
			Ave	2.8608		

$D_{ave}^{*} = (D_T + 2D_M + D_B)/4$

ΔL_c = ____ in
ΔL_t = ____ in
$\Sigma \Delta L$ = ____ in
$L_o - L_f$ = ____ in

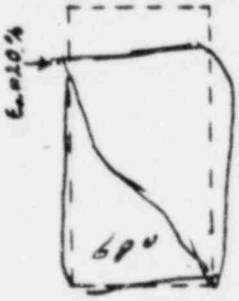
$A_o = \pi D^2/4 = 6.4278$ in²
$V_o = in^3 \cdot 16.3871 = 625.562$ cm³
A_{cm} $5.4542(D^*)^2$ = ____ 10^{-3} ft²

Membrane: Thickness = 0.0225 in; Circumference (C_m) = 8.7655 in; Diam = C_m/π = 2.7901 in

Filter Paper: Top + bottom: ☐ Yes; ☒ No
Filter Strips: ☐ Yes; ☒ No
____ Vertical at 1/4" - Whatman #54 or ____
____ Sprial at 1/4" - Whatman #1 or ____
Wgt top cap = ____ gm, ____ 10^{-3} tons
Wgt (cap, dial + piston) = ____ gm, ____ 10^{-3} tons

Preliminary
γ_{co} = 120.59 lb/ft³ γ_{do} = 102.78 lb/ft³

Failure Sketch



Final Visual Classification: ☐ See more detailed sketch on attached sheet; ☐ Photo Taken

Other Remarks: 4.164

Preliminary Cal. by [illegible] Reviewed by [illegible]

☐ Trimmed by ____ Setup by ____ Taken down by ____
☐ Reconstituted Date ____ Date 8/4/81 Date 8/7/81

See back for Summary Calculations

TRIAXIAL TEST SUMMARY CALCULATIONS T-277

Type Test: CIU-C ☒ Undisturbed ☐ Reconstituted - Specimen

☐ Dynamic f / H_d or ____ ☐ sinusoidal or ____ ☒ Static e 4.01 %/hr

Consolidation History Units: tsf or KSF	Max Induced Pest Pressure Uncorr.	Max Induced Pest Pressure Corr. #	☒ Preshear/perm. ☐ Pre cy-loading Uncorr.	☒ Preshear/perm. ☐ Pre cy-loading Corr. #	Preshear after Cy-loading Uncorr.	Preshear after Cy-loading Corr. #
$\bar{\sigma}_{cell}$		—	14.304	—		—
u		—	14.400	—		—
$\bar{\sigma}_v$		—	—	0.5218		—
$\bar{\sigma}_h$		—	0.504	0.5112		—
$\bar{\sigma}_p = (\bar{\sigma}_v + \bar{\sigma}_h)/2$		—	—	0.5165		—
$K_c = \bar{\sigma}_v / \bar{\sigma}_h$		—	1.00	1.0208		—
OCR		—	1.00	1.000		—
Consol. Time	☐ Overnight days ____ hours ____	—	☐ Overnight days ____ hours ____	—	☐ Overnight days ____ hours ____	—

Corrected for effects of membrane, filter strips, etc.

H_o = 5.9389 in
A_o = 6.4278 in²
V_o = 625.562 cm³
Dso/Dom = 1.0253
G_s = 2.661 ☒ Assumed ☐ Measured (from S-23D)
B_g = 99.5 %
Area Corr. Factors: C
Undrained = 1.25 allb.
$C = \frac{1}{\varepsilon_q}\left(1 - \frac{A_c}{A_{sm}}\right)$
Drained = ____
$C = \frac{1}{\varepsilon_q}\left[1 - \frac{A_c(1+\varepsilon_v t)}{A_{sm}}\right]$

Calculate Wgt. of Dry Soil	By Initial Water Content	By Final Water Content	By Total Oven-dried Specimen
w_1 (%)			
w_2 (%)			
w_{ave} (%)	17.32	21.12	
Wgt. Wet Soil, W_T (gm)	1208.3	(1274.23)	
Partial Wgt Dry Soil (gm)	ΔV_T (cm³) during test ____ (-) ΔV_{out} (+) ΔV_{out}		1048.35
Wgt Excess Over Dry Soil	Corr. Wet Wgt. $\bar{W}_T = W_T + \Delta V_T$		3.69
Total Wgt Over Dry Soil, W_s (gm)	1029.92	(1052.64)	1052.64
W_s used:		= 1052.04 gm	

Variations in Height and Volume During Consolidation	During Initial Consol. without back-pressure	During Back-Pressuring ΔV_o = vol. in	After Backpressuring $\bar{\sigma}_h$ (psi) From 2.5 To 3.5	$\bar{\sigma}_h$ (psi) From ____ To ____	$\bar{\sigma}_h$ (psi) From ____ To ____
	Sign Convention: (-) ΔV_{in}, (+) ΔV_{out} (-) ΔL_{up}, (+) ΔL_{down}				
ΔL (in)	0.0045	0.0115	0.0005		
ΔV_m (cm³)	-18.30	—	+0.50 / +0.01 = +0.49		
$\frac{-\Delta V_a}{3V_o(\Delta H/H_o)}$	1.422	3.634	0.158		
$R = \Delta V_m / \Delta V_a$	Rused = ____		3.101		
Corrected $\Delta V_a = R \cdot \Delta V_a$					
Circle Selected Value	ΔV_1	ΔV_2	ΔV_3	ΔV_4	ΔV_5

ΔL_{cy} = ____ in

$\Delta V_{rebound} = \sigma_{max}$ to σ_{test} = ____ cm³

ΔV_T (during drained loading) = ____ cm³

Calculation of ΔV_c During Consolidation by Different Procedures	ΔV_c by Wgt Change $= W_o - W_s - (\Delta V_o + \Delta V_T)$	ΔV_c by recorded/calculated volume changes = Σ selected ΔV	ΔV_c assuming S = 100% $V_F = (W_s - w_i \frac{W_s}{G_s \gamma_w}) / \gamma_w$
	$\Delta W_{gt.}$ = ____ gm	$\Delta V_c = \Delta V_1 + \Delta V_2 + \Delta V_3$	Undrained: $\Delta V_c = V_o - V_F$
	$\Sigma(\Delta V_o + \Delta V_T)$ = ____	1.422 + 3.634 + 0.49	Drained: $\Delta V_c = V_o - (V_F + \Delta V_T)$
	$\therefore \Delta V_c$ = ____ cm³	= 5.546 cm³	w_o = 21.12 % V_F = 618.660 cm³
			$V_F + \Delta V_T$ = ____ cm³
			$\therefore \Delta V_c$ = 6.902 cm³

Conclusions

ΔV_c used (ave ✓ value) = 6.902 cm³ $\therefore V_c$ = 618.660 cm³; ΔL_c = 0.0165 in; $\therefore L_c$ = 5.9224 in

$A_c = V_c / L_c$ (cm³/in) / 16.387 / = 6.3746 in² / 0.144 = 44.2680 $\times 10^{-3}$ ft²

ε_{ac} = 0.28 %; ε_v 1.10 %; $1 - \varepsilon_v$ = ____ E_q* = ____; ε_{vt}* = ____ * not in percent

At max. induced pest pressure: $\Delta V_{max} = \Delta V_c - \Delta V_{rebound}$ = ____ cm³; ΔL_{max} = ____ in

Summary	Height (in)	Area (ft² x 10⁻³)	Volume (cm³)	Water Content (%)	Total / Dry Density (lb/ft³)	Saturation (%)		
Initial	5.9389	44.6375	625.562	14.85	120.59 / 104.99	68.2		
After Consol.	5.9224	44.2680	618.660	21.12	128.58 / 106.16	100.0		

$S = \frac{w G_s \cdot \gamma_d}{(G_s \cdot \gamma_w - \gamma_d)} = \frac{w \cdot G_s \cdot \gamma_d}{(G_s \cdot \gamma_w (1+w) - \gamma_t)}$

Calculated by ____ Reviewed by ____

$P_{si} \times 0.0072 = tsf$
W for $S = 100\% = G_s \cdot \gamma_w - \gamma_d / G_s \cdot \gamma_d = G_s \cdot \gamma_w - \gamma_t / G_s (\gamma_t - \gamma_w)$
$\gamma_w @ 20°C$ (tread) = 62.32 lb/ft³ • 0.9932 gm/cm³ (S.M.) • 64.2 (lb/ft³)

A.TRIAX

THIS IS A CIU TEST. IT HAS BEEN
CALCULATED BY COMPUTER PROGRAM NO. C-T-1R.6 USING FILE NO. T-277

PROJ. NO.	81C4055T3	REVIEWED BY: RBR
BORING NO.	COE-7	DATE: 1/8/81
SAMPLE NO.	S-23	INPUT DATA CHECKED BY: TG
SPECIMEN NO.	C	
DEPTH(FT.)	47.1	TEST NO. ID-081

ISOTROPIC	TYPE OF CONSOLIDATION
UNDRAINED	DRAINAGE CONDITIONS DURING LOADING
COMPRESSION	MODE OF LOADING
CONSTANT	CELL PRESSURE DURING LOADING
5.9389	INITIAL HEIGHT OF SPECIMEN IN INCHES
2.8608	INITIAL DIAMETER OF SPECIMEN IN INCHES
625.56	INITIAL VOLUME OF SPECIMEN IN CU.CM.
.5000	PISTON DIAMETER IN INCHES
.5100	WEIGHT OF TOP CAP ONLY IN TONS*10**-3
1.2700	WEIGHT OF TOP CAP + PISTON + DIAL IN TONS*10**-3
1.5950	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3
NO	WAS PISTON IN CONTACT WITH SPECIMEN DURING CONSOLIDATION?
.0225	MEMBRANE THICKNESS IN INCHES
2.7901	MEMBRANE DIAMETER IN INCHES
0.0000	FILTER STRIP CORRECTION CONSTANT AT 2% AXIAL STRAIN IN TONS ** 10-3
1.2500	RIGHT CYLINDER DISTORTION FACTOR

PRE-SHEAR CONDITIONS:

7.4520	CELL PRESSURE IN TSF
7.2000	BACK PRESSURE IN TSF
.0165	AXIAL DEFORMATION DURING CONSOL. IN INCHES
6.90	VOLUME CHANGE DURING CONSOL. IN CU. CM.
10.2830	MEASURED AXIAL LOAD PRIOR TO STATIC LOADING FROM FIRST LINE OF LOADING DATA IN TONS*10**-3

EFFECTIVE STRESSES CORRECTED FOR MEMBRANE AND FILTER STRIPS, ETC:

AXIAL	=	.5218 KSF
LATERAL	=	.5112 KSF
MEAN	=	.5147 KSF
PBAR	=	.5165 KSF
LATERAL/AXIAL	=	.9796
AXIAL/LATERAL	=	1.0208
OCR	=	1.000

10.2830	PISTON DRAG CORRECTION IN TONS *10**-3
2000	FILE NUMBER FOR LOAD CELL OR PROVING RING
1000	FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000	FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE	FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES	IS DATA NORMALIZATION REQUIRED?
	DATA NORMALIZED TO PRESHEAR STRESSES
	P-BAR OF .5165 KSF

10.2830 PISTON DRAG CORRECTION IN TONS *10**-3
2000 FILE NUMBER FOR LOAD CELL OR PROVING RING
1000 FILE NUMBER FOR PORE PRESSURE CONVERSION CONSTANT
2000 FILE NUMBER FOR CELL PRESSURE CONVERSION CONSTANT
NONE FILE NUMBER FOR PISTON FRICTION CORRECTION CONSTANT
YES IS DATA NOMALIZATION REQUIRED?
DATA NORMALIZED TO PRESHEAR STRESSES
WITH NORM = P-BAR OF .5165 KSF

AXIAL STRAIN %	DEVIATOR STRESS KSF	OBLIQUITY	DELTA-U KSF	A-FACTOR	Q KSF	P-BAR KSF	SECANT MODULUS KSF	TANGENT MODULUS KSF	DEVIATOR NORM	DELTA-U NORM	Q NORM	P-BAR NORM	SECANT NORM
0.0000	.0106	1.0208	0.0000	0.0000	.0053	.5165	0.000	0.000	.0206	0.0000	.0103	1.0000	0.0000
.0089	.1236	1.2496	.0160	.1417	.0618	.5570	1261.911	1112.367	.2393	.0310	.1196	1.0783	2443.2041
.0181	.2114	1.4338	.0240	.1196	.1057	.5929	1110.969	900.035	.4092	.0465	.2046	1.1478	2150.9634
.0338	.3428	1.7338	.0440	.1324	.1714	.6386	983.688	766.475	.6638	.0852	.3319	1.2364	1904.5331
.0473	.4368	1.9639	.0580	.1361	.2184	.6716	901.407	544.849	.8457	.1123	.4229	1.3003	1745.2271
.0632	.4993	2.1267	.0680	.1391	.2497	.6929	773.875	377.653	.9668	.1317	.4834	1.3414	1498.3108
.0856	.5805	2.3589	.0840	.1474	.2902	.7174	665.649	328.459	1.1239	.1626	.5619	1.3890	1288.7722
.1067	.6429	2.5336	.0920	.1455	.3214	.7406	592.460	252.020	1.2447	.1781	.6223	1.4339	1147.0699
.1277	.6865	2.6696	.1000	.1479	.3433	.7545	529.472	224.267	1.3292	.1936	.6646	1.4607	1025.1177
.1562	.7550	2.8542	.1040	.1397	.3775	.7847	476.602	218.026	1.4618	.2014	.7309	1.5193	922.7567
.1878	.8169	3.0362	.1100	.1364	.4085	.8096	429.407	175.700	1.5816	.2130	.7908	1.5676	831.3810
.2396	.8975	3.2149	.1060	.1195	.4487	.8539	370.136	173.787	1.7376	.2052	.8688	1.6533	716.6251
.2718	.9594	3.3447	.1020	.1075	.4797	.8889	349.018	175.899	1.8576	.1975	.9288	1.7211	675.7387
.3027	1.0088	3.4532	.1000	.1002	.5044	.9156	329.693	180.547	1.9531	.1936	.9768	1.7727	638.3223
.3335	1.0707	3.5419	.0900	.0849	.5353	.9566	317.872	197.122	2.0730	.1742	1.0365	1.8520	615.4371
.3688	1.1387	3.6530	.0820	.0727	.5694	.9986	305.905	153.133	2.2047	.1588	1.1024	1.9334	592.2676
.4010	1.1753	3.6759	.0720	.0618	.5877	1.0269	290.427	164.446	2.2755	.1394	1.1378	1.9882	562.3007
.4326	1.2433	3.7555	.0600	.0486	.6217	1.0729	284.955	187.637	2.4073	.1162	1.2036	2.0772	551.7048
.4672	1.2987	3.8035	.0480	.0372	.6493	1.1126	275.684	180.232	2.5144	.0929	1.2572	2.1540	533.7560
.4979	1.3603	3.8625	.0360	.0266	.6802	1.1554	271.053	185.781	2.6337	.0697	1.3169	2.2370	524.7889
.5339	1.4218	3.8943	.0200	.0141	.7109	1.2021	264.308	212.736	2.7528	.0387	1.3764	2.3275	511.7300
.5655	1.5022	3.9732	.0060	.0040	.7511	1.2563	263.763	214.681	2.9084	.0116	1.4542	2.4324	510.6750
.5971	1.5574	4.0109	-.0060	-.0039	.7787	1.2959	259.059	190.684	3.0152	-.0116	1.5076	2.5091	501.5674
.6654	1.6986	4.0702	-.0420	-.0249	.8493	1.4026	253.663	223.668	3.2887	-.0813	1.6444	2.7155	491.1207
.7293	1.8523	4.1541	-.0760	-.0413	.9261	1.5134	252.536	238.354	3.5863	-.1471	1.7931	2.9301	488.9382
.7969	2.0116	4.2070	-.1160	-.0580	1.0058	1.6331	251.128	235.588	3.8948	- 2246	1.9474	3.1618	486.2122
.8645	2.1709	4.2437	-.1580	-.0732	1.0855	1.7547	249.884	269.330	4.2032	-.3059	2.1016	3.3974	483.8046
.9312	2.3733	4.3180	-.2040	-.0864	1.1866	1.9019	253.718	261.059	4.5950	-.3950	2.2975	3.6824	491.2269
.9981	2.5195	4.3183	-.2480	-.0989	1.2598	2.0191	251.373	251.023	4.8781	-.4802	2.4390	3.9091	486.6860
1.0649	2.7090	4.3473	-.2980	-.1105	1.3545	2.1638	253.380	268.684	5.2449	-.5770	2.6225	4.1894	490.5717
1.1296	2.8733	4.3515	-.3460	-.1209	1.4366	2.2939	253.417	298.738	5.5630	-.6699	2.7815	4.4413	490.6438
1.1971	3.1052	4.3925	-.4040	-.1306	1.5526	2.4679	258.496	326.975	6.0121	-.7822	3.0060	4.7782	500.4777
1.2618	3.3060	4.4036	-.4600	-.1396	1.6530	2.6243	261.161	291.377	6.4008	-.8906	3.2004	5.0810	505.6383
1.3309	3.4940	4.3813	-.5220	-.1499	1.7470	2.7804	261.737	346.565	6.7649	-1.0107	3.3824	5.3831	506.7525
1.3917	3.7499	4.4360	-.5800	-.1552	1.8749	2.9663	268.688	390.213	7.2602	-1.1229	3.6301	5.7431	520.2107
1.4592	3.9927	4.4439	-.6480	-.1628	1.9964	3.1557	272.893	350.297	7.7304	-1.2546	3.8652	6.1098	528.3529
1.5284	4.2288	4.4342	-.7200	-.1707	2.1144	3.3458	275.980	362.898	8.1875	-1.3940	4.0937	6.4778	534.3297
1.5929	4.4770	4.4455	-.7880	-.1765	2.2385	3.5379	280.385	404.163	8.6680	-1.5257	4.3340	6.8497	542.8567
1.7230	5.0277	4.4736	-.9360	-.1866	2.5139	3.9613	291.190	431.273	9.7342	-1.8122	4.8671	7.6694	563.7774
1.8521	5.5947	4.4762	-1.0980	-.1967	2.7974	4.4068	301.497	454.013	10.8320	-2.1259	5.4160	8.5321	583.7316
1.9843	6.2149	4.4808	-1.2740	-.2054	3.1074	4.8929	312.661	490.631	12.0327	-2.4666	6.0163	9.4732	605.3486
2.1142	6.8799	4.4827	-1.4640	-.2132	3.4400	5.4154	324.916	523.622	13.3203	-2.8345	6.6602	10.4849	629.0743
2.2412	7.5593	4.4747	-1.6640	-.2205	3.7797	5.9552	336.821	563.462	14.6357	-3.2217	7.3178	11.5299	652.1235
2.3703	8.3239	4.4777	-1.8820	-.2264	4.1619	6.5555	350.720	593.889	16.1159	-3.6438	8.0580	12.6921	679.0348
2.5025	9.1117	4.4677	-2.1160	-.2325	4.5558	7.1834	363.673	621.619	17.6413	-4.0968	8.8206	13.9079	704.1126
2.6287	9.9282	4.4622	-2.3560	-.2376	4.9641	7.8317	377.284	670.534	19.2221	-4.5615	9.6110	15.1630	730.4657
2.7563	10.8137	4.4597	-2.6140	-.2420	5.4069	8.5325	391.939	695.008	20.9366	-5.0610	10.4683	16.5198	758.8395
2.8892	11.7390	4.4469	-2.8940	-.2468	5.8695	9.2751	405.938	722.978	22.7280	-5.6031	11.3640	17.9577	785.9419
3.0192	12.7137	4.4364	-3.1880	-.2510	6.3568	10.0565	420.740	773.064	24.6151	-6.1723	12.3076	19.4705	814.5998
3.1453	13.7183	4.4315	-3.4860	-.2543	6.8591	10.8568	435.806	820.633	26.5601	-6.7493	13.2801	21.0201	843.7710
3.2708	14.7781	4.4211	-3.8080	-.2579	7.3891	11.7088	451.494	855.260	28.6121	-7.3727	14.3061	22.6695	874.1439
3.3978	15.8774	4.4073	-4.1480	-.2615	7.9387	12.5984	466.974	881.016	30.7404	-8.0310	15.3702	24.3920	904.1141
3.5246	17.0140	4.3934	-4.5020	-.2648	8.5070	13.5208	482.420	943.459	32.9410	-8.7164	16.4705	26.1777	934.0207
3.7494	19.4393	4.3715	-5.2540	-.2705	9.7196	15.4655	515.428	1008.361	37.6367	-10.1723	18.8183	29.9817	997.9276

2	9	4	-2	-.2420	5.4069	8.5325	391.939	695.008	20.9366	-5.0610	10.4683	16.5198	758.8395
2.7563	10.8137	4.4597	-2.6140	-.2468	5.8695	9.2751	405.938	722.978	22.7280	-5.6031	11.3640	17.9577	785.9419
2.8892	11.7390	4.4469	-2.8940	-.2510	6.3568	10.0585	420.740	773.064	24.6151	-6.1723	12.3076	19.4705	814.5998
3.0192	12.7137	4.4364	-3.1880	-.2543	6.8591	10.8568	435.806	820.633	26.5601	-6.7493	13.2801	21.0201	843.7710
3.1453	13.7183	4.4315	-3.4860	-.2579	7.3891	11.7088	451.494	855.260	28.6121	-7.3727	14.3061	22.6695	874.1439
3.2708	14.7781	4.4211	-3.8080	-.2615	7.9387	12.5984	466.974	881.016	30.7404	-8.0310	15.3702	24.3920	904.1141
3.3978	15.8774	4.4073	-4.1480	-.2648	8.5070	13.5208	482.420	943.459	32.9410	-8.7164	16.4705	26.1777	934.0207
3.5246	17.0140	4.3934	-4.5020	-.2705	9.7196	15.4855	515.428	1008.361	37.6367	-10.1723	18.8183	29.9817	997.9276
3.7694	19.4393	4.3715	-5.2540	-.2746	10.6795	17.0534	539.576	1047.414	41.3535	-11.3495	20.6767	33.0173	1044.6815
3.9565	21.3590	4.3510	-5.8620	-.2787	11.6909	18.7149	563.735	1097.833	45.2700	-12.6080	22.6350	36.2342	1091.4547
4.1458	23.3819	4.3289	-6.5120	-.2820	12.7280	20.4160	587.675	1141.055	49.2857	-13.8936	24.6429	39.5277	1137.8066
4.3298	25.4560	4.3111	-7.1760	-.2854	13.8125	22.2045	611.261	1156.805	53.4851	-15.2566	26.7425	42.9905	1183.4716
4.5176	27.6250	4.2918	-7.8800	-.2869	14.8824	23.9895	632.757	1184.268	57.6282	-16.6409	28.8141	46.4465	1225.0894
4.7023	29.7649	4.2683	-8.5950	-.2920	16.0409	25.9169	655.345	1203.544	62.1142	-18.1294	31.0571	50.1781	1268.8234
4.8938	32.0819	4.2485	-9.3638	-.2954	17.1778	27.8347	675.585	1220.549	66.5165	-19.6411	33.2583	53.8911	1308.0093
5.0838	34.3557	4.2238	-10.1446	-.3014	19.5148	31.7866	714.707	1234.380	75.5658	-22.7675	37.7829	61.5424	1383.7534
5.4594	39.0296	4.1804	-11.7594	-.3046	20.7038	33.8263	732.222	1273.165	80.1700	-24.4144	40.0850	65.4915	1417.6647
5.6536	41.4077	4.1555	-12.6100	-.3078	21.8978	35.8854	750.475	1272.830	84.7931	-26.0895	42.3966	69.4783	1453.0049
5.8343	43.7955	4.1310	-13.4752	-.3110	23.0965	37.9710	765.856	1253.305	89.4348	-27.8065	44.7174	73.5163	1482.7836
6.0302	46.1929	4.1055	-14.3620	-.3133	24.2659	39.9792	781.024	1070.046	93.9832	-29.4301	46.9816	77.4042	1512.1514
6.2125	48.5319	4.0886	-15.2006	-.3128	25.0912	41.2961	783.322	530.834	97.1589	-30.3819	48.5795	79.9540	1516.6002
6.4050	50.1824	4.0967	-15.6922	-.3100	25.2895	41.4776	766.281	130.783	97.9266	-30.3494	48.9633	80.3054	1483.6073
6.5992	50.5789	4.1244	-15.6754	-.3080	25.3398	41.4581	747.906	40.453	98.1216	-30.2138	49.0608	80.2676	1448.0311
6.7748	50.6797	4.1442	-15.6054	-.3069	25.3637	41.4386	726.870	19.785	98.2139	-30.1298	49.1070	80.2299	1407.3040
6.9774	50.7274	4.1557	-15.5620	-.3063	25.3795	41.4329	707.299	16.329	98.2753	-30.0880	49.1377	80.2189	1369.4106
7.1750	50.7590	4.1619	-15.5404	-.3059	25.3959	41.4398	688.791	7.715	98.3389	-30.0694	49.1694	80.2322	1333.5775
7.3725	50.7919	4.1658	-15.5308	-.3059	25.3947	41.4411	670.335	-4.883	98.3342	-30.0740	49.1671	80.2347	1297.8456
7.5751	50.7895	4.1652	-15.5332	-.3061	25.3862	41.4375	652.936	-11.058	98.3011	-30.0833	49.1506	80.2276	1264.1583
7.7744	50.7724	4.1631	-15.5380	-.3065	25.3728	41.4362	636.420	-25.501	98.2493	-30.1066	49.1247	80.2252	1232.1814
7.9719	50.7456	4.1591	-15.5500	-.3073	25.3358	41.4163	620.124	-24.510	98.1060	-30.1395	49.0530	80.1866	1200.6306
8.1695	50.6716	4.1511	-15.5670	-.3078	25.3245	41.4218	605.334	-29.935	98.0622	-30.1720	49.0311	80.1974	1171.9954
8.3654	50.6490	4.1464	-15.5838	-.3088	25.2764	41.3930	590.128	-54.488	97.8758	-30.2092	48.9379	80.1416	1142.5542
8.5646	50.5527	4.1367	-15.6030	-.3099	25.2154	41.3516	575.210	-63.195	97.6399	-30.2467	48.8199	80.0613	1113.6714
8.7655	50.4308	4.1253	-15.6224	-.3116	25.1272	41.2923	556.162	-61.477	97.2982	-30.3025	48.6491	79.9465	1076.7931
9.0340	50.2544	4.1088	-15.6512	-.3131	25.0484	41.2403	538.027	-63.760	96.9933	-30.3540	48.4966	79.8458	1041.6825
9.3092	50.0969	4.0940	-15.6778	-.3147	24.9541	41.1700	520.976	-80.267	96.6279	-30.4005	48.3139	79.7099	1008.6680
9.5777	49.9081	4.0777	-15.7018	-.3168	24.8329	41.0757	504.310	-96.042	96.1588	-30.4520	48.0794	79.5271	976.4015
9.8462	49.6659	4.0577	-15.7284	-.3191	24.6962	40.9631	488.221	-101.004	95.6294	-30.4984	47.8147	79.3092	945.2508
10.1146	49.3924	4.0364	-15.7524	-.3213	24.5618	40.8530	473.007	-105.276	95.1088	-30.5453	47.5544	79.0961	915.7958
10.3831	49.1236	4.0153	-15.7766	-.3236	24.4145	40.7251	458.393	-112.146	94.5386	-30.5825	47.2693	78.8484	887.5007
10.6499	48.8290	3.9937	-15.7958	-.3261	24.2640	40.5965	444.570	-123.830	93.9557	-30.6247	46.9778	78.5995	860.7385
10.9133	48.5280	3.9712	-15.8176	-.3290	24.0827	40.4346	430.524	-132.257	93.2538	-30.6619	46.6269	78.2860	833.5433
11.1852	48.1654	3.9456	-15.8368	-.3316	23.9078	40.2718	417.439	-139.971	92.5763	-30.6851	46.2882	77.9709	808.2097
11.4519	47.8155	3.9220	-15.8488	-.3346	23.7131	40.0967	404.788	-140.487	91.8224	-30.7226	45.9112	77.6318	783.7154
11.7137	47.4261	3.8947	-15.8682	-.3376	23.5323	39.9281	392.535	-142.564	91.1223	-30.7459	45.5612	77.3054	759.9917
11.9872	47.0646	3.8705	-15.8802	-.3408	23.3308	39.7413	380.806	-154.760	90.3423	-30.7738	45.1712	76.9436	737.2836
12.2506	46.6617	3.8434	-15.8946	-.3442	23.1193	39.5421	369.211	-159.451	89.5234	-30.7974	44.7617	76.5581	714.8344
12.5208	46.2387	3.8155	-15.9068	-.3477	22.8987	39.3313	357.915	-176.026	88.6690	-30.8160	44.3345	76.1499	692.9651
12.7926	45.7974	3.7870	-15.9164	-.3518	22.6504	39.0952	346.936	-273.777	87.7076	-30.8392	43.8538	75.6928	671.7079
13.0543	45.3009	3.7547	-15.9284	-.3600	22.1520	38.6066	332.210	-738.451	85.7775	-30.8578	42.8887	74.7467	643.1955
13.3329	44.3039	3.6925	-15.9380	-.3881	20.5553	37.0173	301.799	-980.908	79.5948	-30.8717	39.7974	71.6697	584.3180
13.6183	41.1106	3.4973	-15.9452	-.4116	19.3813	35.8436	278.854	-589.850	75.0489	-30.8717	37.5245	69.3972	539.8925
13.8969	38.7627	3.3546	-15.9452	-.4213	18.9319	35.3919	267.254	-281.859	73.3085	-30.8671	36.6542	68.5227	517.4351
14.1637	37.8637	3.3003	-15.9428	-.4282	18.6275	35.0853	258.065	-146.061	72.1298	-30.8624	36.0649	67.9292	499.6425
14.4322	37.2549	3.2637	-15.9404	-.4301	18.5397	34.9954	252.158	-40.289	71.7900	-30.8578	35.8950	67.7551	488.2068
14.7006	37.0795	3.2533	-15.9380	-.4305	18.5190	34.9701	247.303	-7.915	71.7100	-30.8485	35.8550	67.7062	478.8075
14.9725	37.0381	3.2514	-15.9332	-.4304	18.5183	34.9648	243.098	27.253	71.7069	-30.8392	35.8534	67.6958	470.6660
15.2308	37.0365	3.2519	-15.9284	-.4286	18.5922	35.0366	239.842	27.653	71.9934	-30.8346	35.9967	67.8349	464.3618
15.4993	37.1845	3.2612	-15.9260	-.4285	18.5925	35.0347	235.812	6.082	71.9944	-30.8299	35.9972	67.8311	456.5592
15.7644	37.1850	3.2616	-15.9236	-.4281	18.6087	35.0487	232.041	10.316	72.0570	-30.8253	36.0285	67.8583	449.2573
16.0345	37.2173	3.2638	-15.9212	-.4278	18.6201	35.0580	228.408	18.794	72.1014	-30.8206	36.0507	67.8763	442.2234
16.2996	37.2403	3.2655	-15.9188	-.4269	18.6582	35.0940	225.235	33.708	72.2490	-30.8160	36.1245	67.9460	436.0813
16.5630	37.3165	3.2704	-15.9164	-.4257	18.7099	35.1459	222.257	15.890	72.4490	-30.8160	36.2245	68.0465	430.3141
16.8315	37.4198	3.2767	-15.9164	-.4258	18.7007	35.1321	218.573	28.554	72.4133	-30.8067	36.2066	68.0198	423.1820
17.1067	37.4014	3.2762	-15.9116	-.4240	18.7815	35.2132	216.315	44.806	72.7262	-30.8067	36.3631	68.1768	418.8105
17.3600	37.5630	3.2860	-15.9116	-.4231	18.8179	35.2475	213.270	7.673	72.8671	-30.8020	36.4335	68.2431	412.9148
17.6420	37.6357	3.2907	-15.9092	-.4233	18.8038	35.2313	209.916	-15.355	72.8127	-30.7974	36.4064	68.2118	406.4221
17.9105	37.6077	3.2893	-15.9068	-.4240	18.7765	35.2042	206.496	-12.719	72.7068	-30.7974	36.3534	68.1594	399.7999

8.	50	4	-15	1	-3	2	5	4	8	6	14	-35	22	-20	11	974	.995	
8.5646	50.5527	4.1367	-15.6030	-.3088	25.2764	41.3930	590.128	-54.488	97.8758	-30.2092	48.7379	80.1416	1142.554	
8.7655	50.4308	4.1253	-15.6224	-.3099	25.2154	41.3516	575.210	-63.195	97.6399	-30.2467	48.8199	80.0613	1113.8714	
9.0340	50.2544	4.1088	-15.6512	-.3116	25.1272	41.2923	556.162	-61.477	97.2982	-30.3025	48.6491	79.9465	1076.7931	
9.3092	50.0969	4.0940	-15.6778	-.3131	25.0484	41.2403	538.027	-63.760	96.9933	-30.3540	48.4986	79.8458	1041.6825	
9.5777	49.9081	4.0777	-15.7018	-.3147	24.9541	41.1700	520.976	-80.267	96.6279	-30.4005	48.3139	79.7099	1008.6680	
9.8462	49.6659	4.0577	-15.7284	-.3168	24.8329	41.0757	504.310	-96.042	96.1588	-30.4520	48.0794	79.5271	976.4015	
10.1146	49.3924	4.0364	-15.7524	-.3191	24.6962	40.9631	488.221	-101.004	95.6294	-30.4984	47.8147	79.3092	945.2508	
10.3831	49.1236	4.0153	-15.7766	-.3213	24.5618	40.8530	473.007	-105.276	95.1088	-30.5453	47.5544	79.0961	915.7958	
10.6499	48.8290	3.9937	-15.7958	-.3236	24.4145	40.7251	458.393	-112.346	94.5386	-30.5825	47.2693	78.8484	887.5007	
10.9133	48.5280	3.9712	-15.8176	-.3261	24.2640	40.5965	444.570	-123.830	93.9557	-30.6247	46.9778	78.5995	860.7385	
11.1852	48.1654	3.9456	-15.8368	-.3290	24.0827	40.4346	430.524	-132.257	93.2538	-30.6619	46.6269	78.2860	833.5433	
11.4519	47.8155	3.9220	-15.8488	-.3316	23.9078	40.2718	417.439	-139.971	92.5763	-30.6851	46.2882	77.9709	808.2097	
11.7137	47.4261	3.8947	-15.8682	-.3348	23.7131	40.0967	404.788	-140.487	91.8224	-30.7226	45.9112	77.6318	783.7154	
11.9872	47.0646	3.8705	-15.8802	-.3376	23.5323	39.9281	392.535	-142.564	91.1223	-30.7459	45.5612	77.3054	759.9917	
12.2506	46.6617	3.8434	-15.8946	-.3408	23.3308	39.7413	380.806	-154.760	90.3423	-30.7738	45.1712	76.9436	737.2836	
12.5208	46.2387	3.8155	-15.9068	-.3442	23.1193	39.5421	369.211	-159.451	89.5234	-30.7974	44.7617	76.5581	714.8344	
12.7926	45.7974	3.7870	-15.9164	-.3477	22.8987	39.3313	357.915	-176.026	88.6890	-30.8160	44.3345	76.1499	692.9651	
13.0543	45.3009	3.7547	-15.9284	-.3518	22.6504	39.0952	346.936	-273.777	87.7076	-30.8392	43.8538	75.6928	671.7079	
13.3329	44.3039	3.6925	-15.9380	-.3600	22.1520	38.6066	332.210	-738.451	85.7775	-30.8578	42.8887	74.7467	643.1955	
13.6183	41.1106	3.4973	-15.9452	-.3881	20.5553	37.0173	301.799	-980.908	79.5948	-30.8717	39.7974	71.6897	584.3180	
13.8969	38.7627	3.3546	-15.9452	-.4116	19.3813	35.8436	278.854	-589.850	75.0489	-30.8717	37.5245	69.3972	539.8925	
14.1637	37.8637	3.3003	-15.9428	-.4213	18.9319	35.3919	267.254	-281.859	73.3085	-30.8671	36.6542	68.5227	517.4351	
14.4322	37.2549	3.2637	-15.9404	-.4282	18.6275	35.0853	258.065	-146.061	72.1298	-30.8624	36.0649	67.9292	499.6425	
14.7006	37.0795	3.2533	-15.9380	-.4301	18.5397	34.9954	252.158	-40.289	71.7900	-30.8578	35.8950	67.7551	488.2066	
14.9725	37.0381	3.2514	-15.9332	-.4305	18.5190	34.9701	247.303	-7.915	71.7100	-30.8485	35.8550	67.7062	478.8075	
15.2308	37.0365	3.2519	-15.9284	-.4304	18.5183	34.9648	243.098	27.253	71.7069	-30.8392	35.8534	67.6958	470.6660	
15.4993	37.1845	3.2612	-15.9260	-.4286	18.5922	35.0366	239.842	27.653	71.9934	-30.8346	35.9967	67.8349	464.3618	
15.7644	37.1850	3.2616	-15.9236	-.4285	18.5925	35.0347	235.812	6.082	71.9944	-30.8299	35.9972	67.8311	456.5592	
16.0345	37.2173	3.2638	-15.9212	-.4281	18.6087	35.0487	232.041	10.315	72.0570	-30.8253	36.0285	67.8583	449.2573	
16.2996	37.2403	3.2655	-15.9188	-.4278	18.6201	35.0580	228.408	18.794	72.1014	-30.8206	36.0507	67.8763	442.2234	
16.5630	37.3165	3.2704	-15.9164	-.4269	18.6582	35.0940	225.235	33.708	72.2490	-30.8160	36.1245	67.9460	436.0813	
16.8315	37.4198	3.2767	-15.9164	-.4257	18.7099	35.1459	222.257	15.890	72.4490	-30.8160	36.2245	68.0465	430.3141	
17.1067	37.4014	3.2762	-15.9116	-.4258	18.7007	35.1321	218.573	28.554	72.4133	-30.8067	36.2066	68.0198	423.1820	
17.3600	37.5630	3.2860	-15.9116	-.4240	18.7815	35.2132	216.315	44.806	72.7262	-30.8067	36.3631	68.1768	418.8105	
17.6420	37.6357	3.2907	-15.9092	-.4231	18.8179	35.2475	213.270	7.673	72.8671	-30.8020	36.4335	68.2431	412.9148	
17.9105	37.6077	3.2893	-15.9068	-.4233	18.8038	35.2313	209.916	-15.355	72.8127	-30.7974	36.4064	68.2118	406.4221	
18.1806	37.5529	3.2859	-15.9068	-.4240	18.7765	35.2042	206.496	-12.719	72.7068	-30.7974	36.3534	68.1594	399.7999	
18.4508	37.5389	3.2854	-15.9044	-.4241	18.7695	35.1951	203.397	15.992	72.6797	-30.7927	36.3398	68.1418	393.7990	
18.7142	37.6368	3.2913	-15.9044	-.4230	18.8184	35.2444	201.057	39.974	72.8692	-30.7927	36.4346	68.2371	389.2690	
18.9827	37.7517	3.2990	-15.8994	-.4216	18.8758	35.2971	198.818	53.668	73.0916	-30.7831	36.5458	68.3392	384.9351	
19.2478	37.9228	3.3093	-15.8994	-.4197	18.9614	35.3829	196.969	27.378	73.4229	-30.7831	36.7114	68.5054	381.3548	
19.5213	37.8960	3.3080	-15.8970	-.4199	18.9480	35.3675	194.072	1.235	73.3710	-30.7784	36.6855	68.4754	375.7454	
19.7898	37.9290	3.3096	-15.8994	-.4196	18.9645	35.3866	191.606	1.838	73.4348	-30.7831	36.7174	68.5126	370.9701	
20.0583	37.9059	3.3085	-15.8970	-.4198	18.9529	35.3730	188.926	1119.900	73.3901	-30.7784	36.6951	68.4862	365.7822	STOP

A.BASIC RESPRT

CDOS 16K BASIC, VERSION 5.4

1	DATA FILE IDENT. NO.	T-277
2	PROJECT NO.	81C4055T3
3	BORING NO.	COE-7
4	SAMPLE NO.	S-23
5	SPECIMEN NO.	C
6	DEPTH	47.1
7	TEST NO.	ID-081
8	FILE # FOR LOAD CELL OR PROVING RING	2000
9	FILE # FOR PORE PRESSURE CONST.	1000
10	FILE # FOR CELL PRESSURE CONST	2000
11	FILE # FOR PISTON FRICTION CORRECTION	NONE
12	TYPE OF CONSOLIDATION	I
13	DRAINAGE CONDITIONS DURING LOADING	U
14	MODE OF LOADING	C
15	CELL PRESSURE DURING LOADING	C
16	INITIAL HEIGHT OF SPECIMEN IN INCHES	5.9389
17	INITIAL DIAMETER OF SPECIMEN IN INCHES	2.8608
18	INITIAL VOLUME OF SPECIMEN IN CU. CM.	625.562
19	PISTON DIAMETER IN INCHES	0.5
20	WEIGHT OF TOP CAP ONLY IN TONS*10**-3	0.51
21	WEIGHT OF TOP CAP + PISTON +DIAL IN TONS*10**-3	1.27
22	WEIGHT OF TOP CAP + PISTON + DIAL + LVDT IN TONS*10**-3	1.595
23	WAS PISTON INTACT DURING CONSOL	NO
24	MEMBRANE THICKNESS IN INCHES	0.0225
25	MEMBRANE DIAMETER IN INCHES	2.7901
26	FILTER STRIP CORRECTION CONSTANT	0.0
27	RIGHT CYLINDER DISTORTION FACTOR	1.25
28	DOES SPECIMEN HAVE AN INDUCED OCR	NO
29	CELL PRESSURE IN TSF	0.0
30	BACK PRESSURE IN TSF	0.0
31	AXIAL DEFORMATION DURING CONSOL. IN INCHES	0.0
32	VOLUME CHANGE DURING CONSOL. IN CU. CM.	0.0
33	APPLIED AXIAL LOAD IN TONS*10**-3	0.0
34	PRE SHEAR CONDITION - CELL PRESSURE IN TSF	7.452
35	BACK PRESSURE IN TSF	7.200
36	AXIAL DEFORMATION IN INCHES	0.0165
37	VOLUME CHANGE IN CU. CM.	6.902
38	PISTON DRAG CORRECTION IN TONS*10**-3	10.283
39	SPECIMEN CYCLICLY LOADED BEFORE SHEARING	NO
40	SPECIMEN RECONSOLIDATED DURING CYCLIC LOADING	NO
41	SUM OF VOLUME CHANGES DURING RECONSOLIDATION IN CU. CM.	0.0
42	PORE PRESSURE IN TSF	0.0
43	TOTAL CHANGE IN HT DURING CYCLIC LOADING IN INCHES	0.0
44	OUTPUT UNITS REQUIRED	KSF
45	DATA NORMALIZATION SELECTION	2.0
46	RESULT FILE DESIRED	0.0

DIS (in.)	LOAD (lbs)	PORE PRESSURE (tsf)
.00987,	20.566,	7.228
.01040,	25.569,	7.236
.01094,	29.460,	7.240
.01187,	35.29,	7.250
.01267,	39.46,	7.257
.01361,	42.24,	7.262
.01494,	45.85,	7.270
.01619,	48.63,	7.274
.01743,	50.58,	7.278
.01912,	53.64,	7.280

(in.)	LO (lbs)	ORE (tsf)	URE
.00987.	20.566.	7.228	
.01040.	25.569.	7.236	
.01094.	29.460.	7.240	
.01187.	35.29.	7.250	
.01267.	39.46.	7.257	
.01361.	42.24.	7.262	
.01494.	45.85.	7.270	
.01619.	48.63.	7.274	
.01743.	50.58.	7.278	
.01912.	53.64.	7.280	
.02099.	56.41.	7.283	
.02406.	60.03.	7.281	
.02597.	62.81.	7.279	
.02780.	65.03.	7.278	
.02962.	67.81.	7.273	
.03171.	70.87.	7.269	
.03362.	72.53.	7.264	
.03549.	75.59.	7.258	
.03754.	78.09.	7.252	
.03936.	80.87.	7.246	
.04149.	83.65.	7.238	
.04336.	87.27.	7.231	
.04523.	89.77.	7.225	
.04928.	96.16.	7.207	
.05306.	103.11.	7.190	
.05706.	110.33.	7.170	
.06107.	117.56.	7.149	
.06502.	126.73.	7.126	
.06898.	133.40.	7.104	
.07294.	142.02.	7.079	
.07677.	149.52.	7.055	
.08077.	160.08.	7.026	
.08460.	169.25.	6.998	
.08869.	177.87.	6.967	
.09229.	189.54.	6.938	
.09629.	200.66.	6.904	
.10039.	211.50.	6.868	
.10421.	222.89.	6.834	
.11191.	248.19.	6.760	
.11956.	274.31.	6.679	
.12739.	302.94.	6.591	
.13508.	333.7.	6.496	
.14260.	365.2.	6.396	
.15025.	400.7.	6.287	
.15808.	437.4.	6.170	
.16555.	475.5.	6.050	
.17311.	516.9.	5.921	
.18098.	560.3.	5.781	
.18868.	606.1.	5.634	
.19615.	653.4.	5.485	
.20358.	703.4.	5.324	
.21110.	755.4.	5.154	
.21861.	809.3.	4.977	
.23311.	924.6.	4.601	
.24419.	1016.3.	4.297	
.25540.	1113.3.	3.972	
.26630.	1213.1.	3.640	
.27742.	1317.9.	3.288	
.28836.	1421.8.	2.9305	
.29970.	1534.7.	2.5461	
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