TEST DATA SUMMARY

SW.GL Report No. 9211

FEATURE FOUNDATION MATERIAL

WALLISVILLE RESERVOIR

BORING NO.	SAM. NO.	DEPTH OR ELEV. OF SAMPLE	LABORATORY CLASSIFICATION	MECHANICAL ANALYSIS: GRAVEL %	SAND %	FINES %	D_{10}	ATTERBERG LIMITS: LL	PL	SPECIFIC GRAVITY G	NAT. WATER CONT %	NATURAL DRY DENSITY LBS/CU FT	COMPACTION DATA: OPT. WATER %	MAXIMUM DRY DENSITY LBS CU FT	SHEAR DATA: INITIAL e	DRY DENSITY LBS/CU FT	W_1 %	W_F %	S_1 %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_m T/SQ FT	σ_1 T/SQ FT	c T/SQ FT	ϕ DEGREES	PERMEABILITY: Lbs/Ft³ γ	K X 10^{-4} FT/MIN.	CONSOLIDATION DATA: P_o T/SQ FT	P_c T/SQ FT	C_c	t_{50} *	REMARKS
3ST-110																																	
	M-7984	5.0-7.0	SC	0	85	15					29.0																						
				Gray clayey SAND; free water.																															
	M-7985	10.0-11.0	CL					45	14		43.3	79																						
				Gray sandy CLAY; very soft.																															
	M-7986	15.0-17.0	SC	7	77	16					28.2																						
				Gray clayey SAND; shell and shell fragments.																															
3ST-111																																	
	M-7987	4.0-6.0	SM	0	77	23					26.1																						
				Gray silty SAND.																															
	M-7988	9.0-10.0	SM					20	17		23.2	104				106	21.1			UC	2.7 x 4.0		0.0	0.3										
				Gray silty SAND, firm; few shell fragments.																															
	M-7989	14.0-16.0	CL	27	26	47					52.0																						
				Gray sandy CLAY with shell.																															
	M-7990	22.0-24.0	CL								31.8	86				82	35.6			TC-Q	1.3 x 3.0		1.0	1.40										
				Gray sandy CLAY, medium consistency; some shell.																															
	M-7991	25.0-26.0	CH							2.69	28.0	96			718	98	26.1	26.9	98	TC-R	1.4 x 3.0		1.30	3.66										
				Dk. gray CLAY, stiff.																															
	M-7992	31.0-33.0	CL							2.68	20.2	107			581	106	21.5	20.4	99	TC-R	1.4 x 3.0		1.50	4.93										
				Gray and brownish-yellow sandy CLAY, stiff.																															
	M-7993	38.0-40.0	SC	0	58	42					25.3																	99	0.006	D_{10} < .005				
				Grayish-brown clayey SAND; free water.																															
	M-7994	43.0-45.0	CL	0	16	84					34.9																						
				Gray and grayish-brown CLAY.																															

ENG FORM 2086 1 MAR 58 (PREVIOUS EDITIONS MAY BE USED) (EM 1110-2-1803) (TRANSLUCENT)

TC – Triaxial Compression; UC – Unconfined Compression; DS – Direct Shear; S ~~CU~~ – Consolidated Drained; Q ~~UU~~ – Unconsolidate Undrained; R ~~CU~~ – Consolidated Undrained; * Values at Pressure; T/SQ FT

TEST DATA SUMMARY

SWDGL Report No. 9211

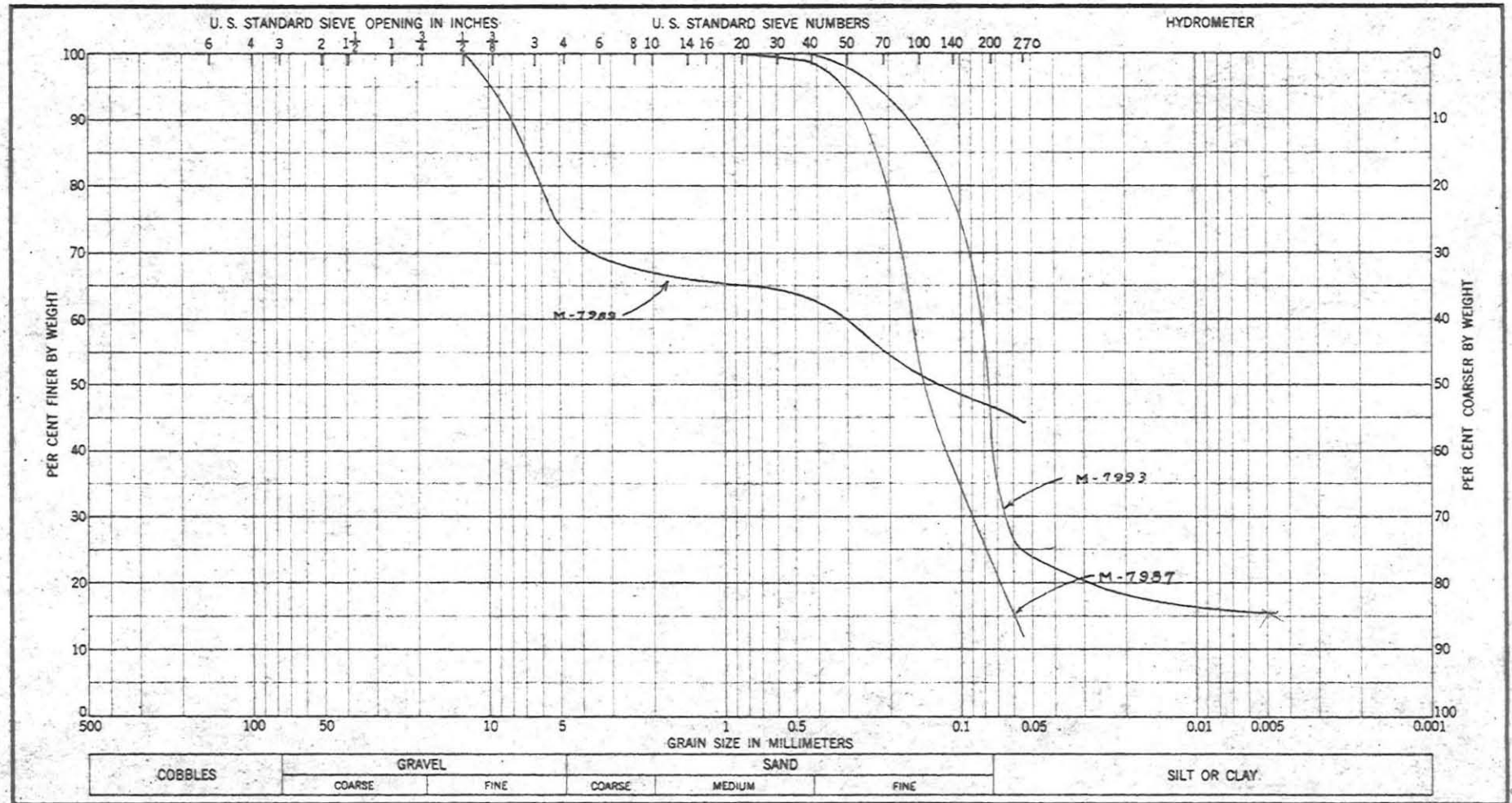
FEATURE FOUNDATION MATERIAL

WALLISVILLE RESERVOIR

BORING NO.	SAM. NO.	DEPTH OR ELEV. OF SAMPLE	LABORATORY CLASSIFICATION	MECHANICAL ANALYSIS: GRAVEL %	SAND %	FINES %	D_{10}	ATTERBERG LIMITS: LL	PL	SPECIFIC GRAVITY G	NAT. WATER CONT. %	NATURAL DRY DENSITY LBS/CU FT	COMPACTION DATA: OPT. WATER %	MAXIMUM DRY DENSITY LBS/CU FT	SHEAR DATA: INITIAL e	DRY DENSITY LBS/CU FT	W_1 %	W_F %	S_1 %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_m T/SQ FT	σ_1 T/SQ FT	c T/SQ FT	ϕ DEGREES	PERMEABILITY: γ_d Lbs/Ft³	K x 10⁴ FT/MIN.	CONSOLIDATION DATA: P_o T/SQ FT	P_c T/SQ FT	C_c	t_{50} *	REMARKS
3ST-111 (Cont'd)																																	
M-7995	48.0-50.0		SC	0	67	33					28.8																101	0.15					D10 not determined
				Gray clayey SAND; free water.																													
M-7996	53.0-55.0		SP-SM	18	77	5					13.8																						
				Grayish-brown gravelly SAND.																													
M-7997	63.0-64.0		CH					64	18		23.2	103				103	24.0			UC	2.8x5.9		0.0	3.3									
				Olive and gray CLAY, very stiff.																													
3ST-112																																	
M-7998	20.0-22.0		CL					34	11		36.0																						
				Gray sandy CLAY.																													
M-7999	26.0-27.0		CH					67	19		31.3	90				89	33.4			UC	2.7x5.1		0.0	0.8									
				Dk. gray CLAY, stiff.																													
M-8000	30.0-31.0		CH					51	14		23.0	105				105	23.2			UC	2.8x5.2		0.0	1.6									
				Gray and yellow CLAY, very stiff; becoming more sandy with depth.																													
M-8001	45.0-46.0		CH					42	20		31.2	91				90	32.5			UC	2.8x4.8		0.0	1.0									
				Gray and yellow CLAY, stiff.																													
M-8002	51.5-53.5		SP-SM	4	91	5					14.6																						
				Brown SAND.																													
M-8003	61.0-62.0		CH					62	17		23.4	105				105	22.8			UC	2.4x5.0		0.0	2.4									
				Yellowish-brown and gray CLAY, hard.																													

ENG FORM 2086 1 MAR 58 (PREVIOUS EDITIONS MAY BE USED) (EM 1110-2-1803) (TRANSLUCENT)

TC – Triaxial Compression
UC – Unconfined Compression
DS – Direct Shear
UU – Unconsolidate Undrained
CD – Consolidated Drained
CU – Consolidated Undrained
* Values at Pressure
T/SQ FT



Sample No.	Elev or Depth	Classification	Nat w %	LL	PL	PI
M-7987	4.0 - 6.0	silty SAND (SM)	26.1			
M-7989	14.0 - 16.0	sandy CLAY (CL)	52.0			
M-7993	38.0 - 40.0	clayey SAND (SC)	25.3			

GRADATION CURVES

Project Wallisville Reservoir

Area FOUNDATION MATERIAL

Boring No. 3ST-111

Date DEC 64

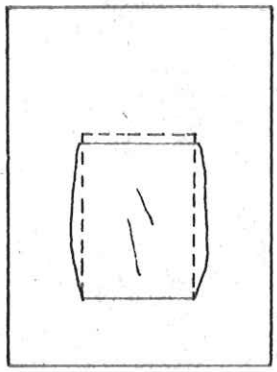
PLATE NO.

SWDGL Report No 9211

ENG FORM 2087 1 MAY 63 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE. (TRANSLUCENT)

C 3436

SWDGL Report No. 9211

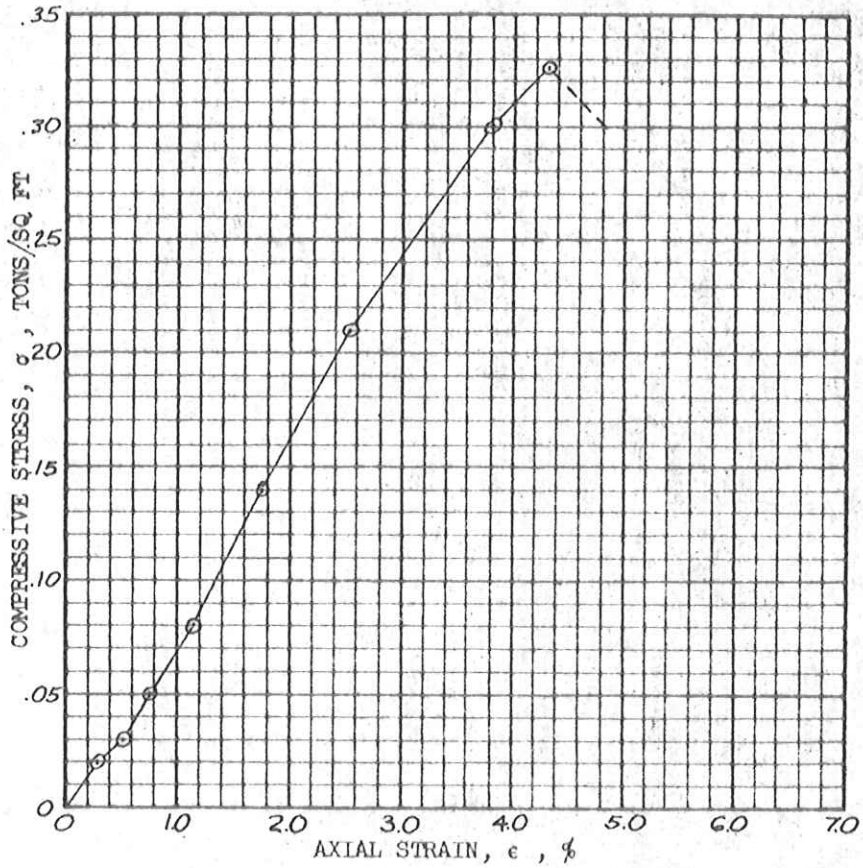


Sketch of specimen after failure

TEST TYPE
(Check one)

☐ Controlled-stress

☑ Controlled-strain
0.02 in/min



Type of specimen ☑ Undisturbed ☐ Remolded			Test No.	Test No.	Test No.	Test No.
Initial	Water content	w_o	21.1 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	106			
Time to failure, min		t_f	9			
Unconfined compressive strength, tons/sq ft		q_u	0.3			
Undrained shear strength, tons/sq ft		s_u	0.2			
Sensitivity ratio		S_t				

Classification silty SAND (SM)

LL	PL	PI	G_s
20	17	3	

Specimen Diam	Specimen Height
2.7 in.	4.0 in.

Remarks

Project Wallisville Reservoir

Area FOUNDATION MATERIAL

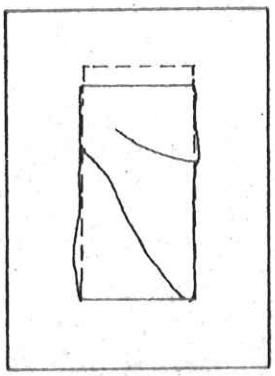
Boring No. 357-111 Sample No. M-7988

Depth, ~~El~~ 9.0-10.0 Date DEC 64

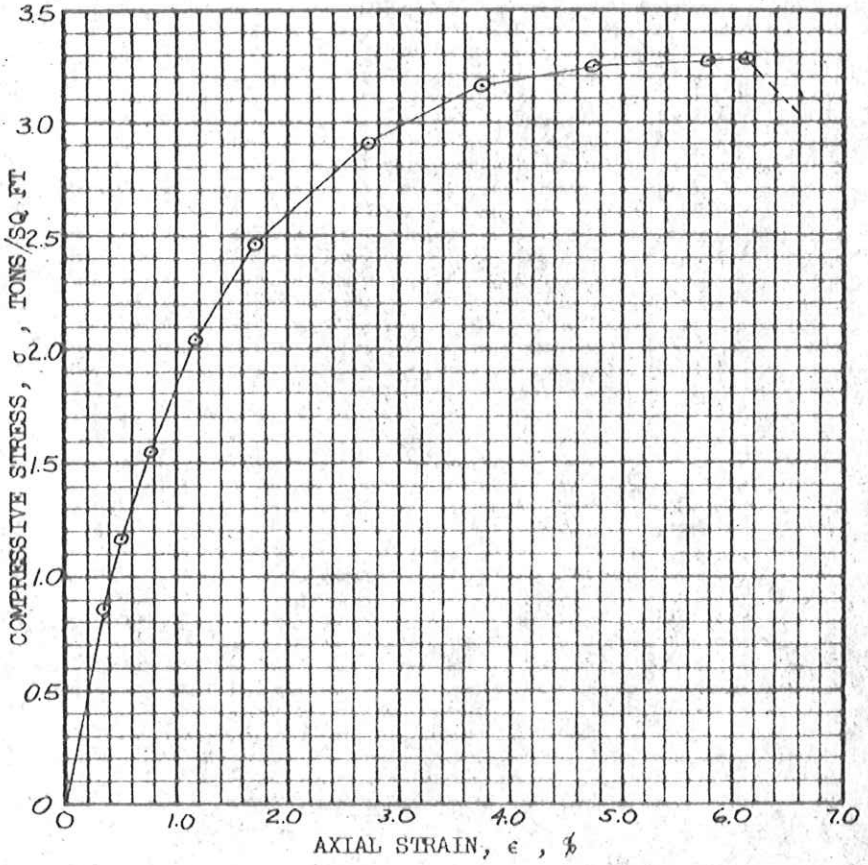
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659 1 MAY 63 (TRANSLUCENT)

C 8927 PLATE XI-2
PLATE NO. 15



Sketch of specimen after failure



TEST TYPE
(Check one)

☐ Controlled-stress

☑ Controlled-strain
0.02 in/min.

Type of specimen ☑ Undisturbed ☐ Remolded			Test No.	Test No.	Test No.	Test No.
Initial	Water content	w_o	24.0 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	103			
Time to failure, min		t_f	18			
Unconfined compressive strength, tons/sq ft		q_u	3.3			
Undrained shear strength, tons/sq ft		s_u	1.6			
Sensitivity ratio		S_t				

Classification CLAY (CH)

LL	PL	PI	G_s
64	18	46	

Specimen ~~cm~~ Diam 2.8 in. | Specimen ~~cm~~ Height 5.9 in.

Remarks

Project Wallisville Reservoir

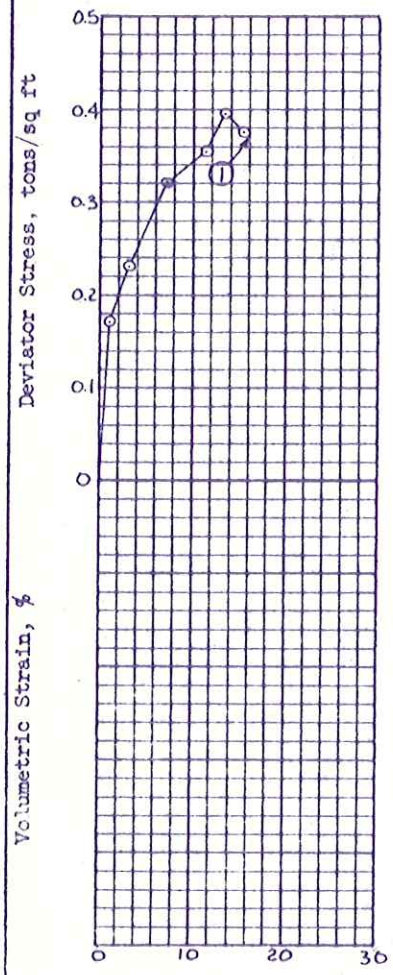
FOUNDATION MATERIAL

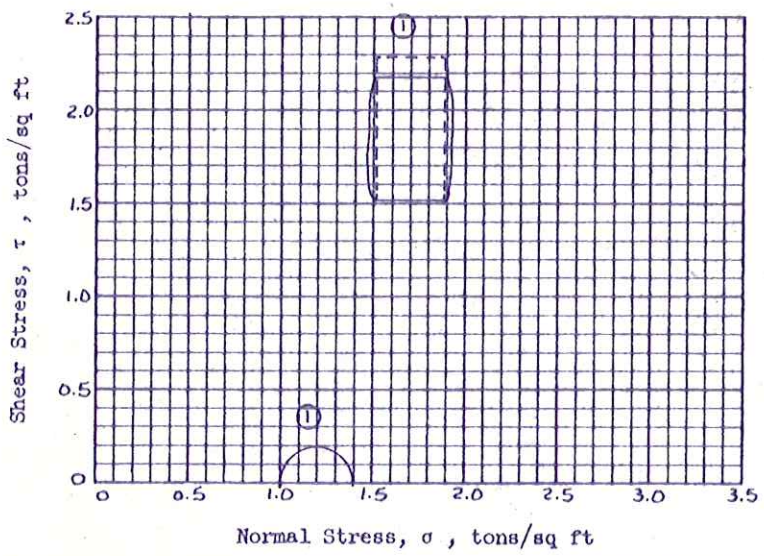
Area

Boring No. 357-111 Sample No. M-7997

Depth, ~~ft~~ 630-640 Date DEC 64

UNCONFINED COMPRESSION TEST REPORT





Test No.			①			
Initial	Water content	w_o	35.6 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density lb/cu ft	γ_d	82			
Before Test	Water content	w_c	%	%	%	%
	Saturation	S_c	%	%	%	%
	Consolidation press., tons/sq ft	σ_c				
	Void ratio	e_c				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Major principal stress, tons/sq ft		σ_1	1.40			
Minor principal stress, tons/sq ft		σ_3	1.0			
Time to failure, min			39			
Initial diameter, ~~cm~~ in			1.3			
Initial height, H_o, ~~cm~~ in			3.0			

Shear Values

ϕ = _____ °

tan ϕ = _____

c = _____ tons/sq ft

Type Test Q

Method of Saturation _____ ☐ Controlled Stress ☑ Controlled Strain

Type of specimen UNDISTURBED Rate of strain 0.01 in./min

Classification Sandy CLAY (CL)

LL	PL	PI	D_{10}

Remarks

Project Wallisville Reservoir

Area EXCAVATION MATERIAL

Boring No. 35T-111 Sample No. M-7990

Depth El 22.0-24.0 Date DEC 84

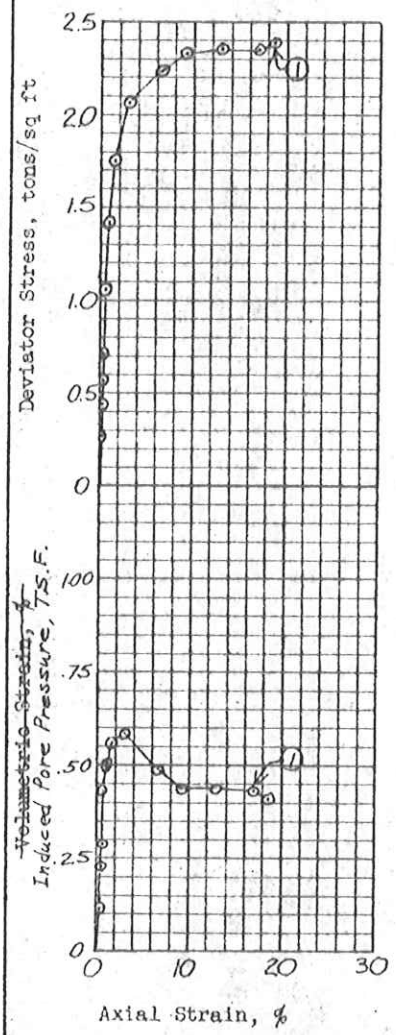
TRIAXIAL COMPRESSION TEST REPORT

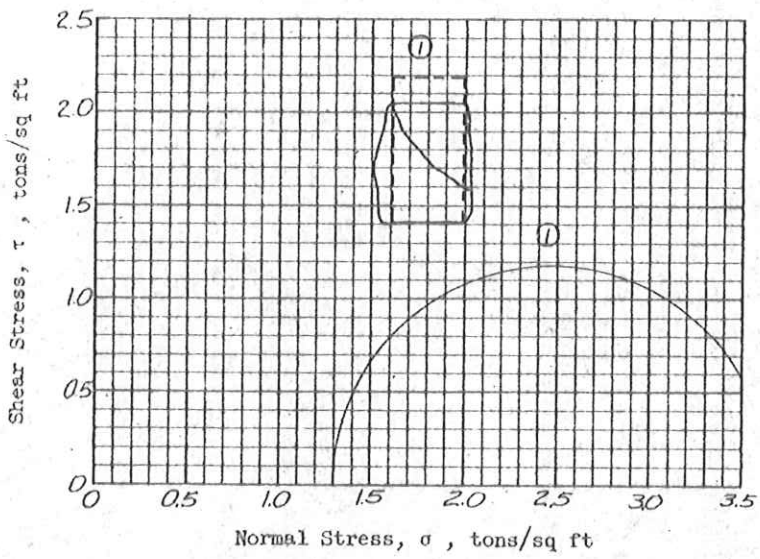
ENG FORM 2089 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

0 3426

PLATE NO. 26

SWDGL Report No 921





Shear Values

ϕ = _____ °

tan ϕ = _____

c = _____ tons/sq ft

Test No.			①			
Initial	Water content	w_o	26.1 %	%	%	%
	Void ratio	e_o	.718			
	Saturation	S_o	98 %	%	%	%
	Dry density lb/cu ft	γ_d	98			
Before Test	Water content	w_c	26.9 %	%	%	%
	Saturation	S_c	100 %	%	%	%
	Consolidation press., tons/sq ft	σ_c	1.30			
	Void ratio	e_c	.723			
Final	Water content	w_f	26.9 %	%	%	%
	Void ratio At Failure	e_f	.723			
Major principal stress, tons/sq ft		σ_1	3.66			
Minor principal stress, tons/sq ft		σ_3	1.30			
Time to failure, min			170			
Initial diameter, ~~cm~~ in			1.4			
Initial height, H_o, ~~cm~~ in			3.0			

Type Test R

Method of Saturation Back Pressure ☐ Controlled Stress ☑ Controlled Strain

Type of specimen UNDISTURBED Rate of strain 0.002 (nominal) in./min

Classification CLAY (CH)

LL | PL | PI | ~~D_{10}~~ G 2.69

Remarks

Project Wallisville Reservoir

Area FOUNDATION MATERIAL

Boring No. BST-111 Sample No. M-7991

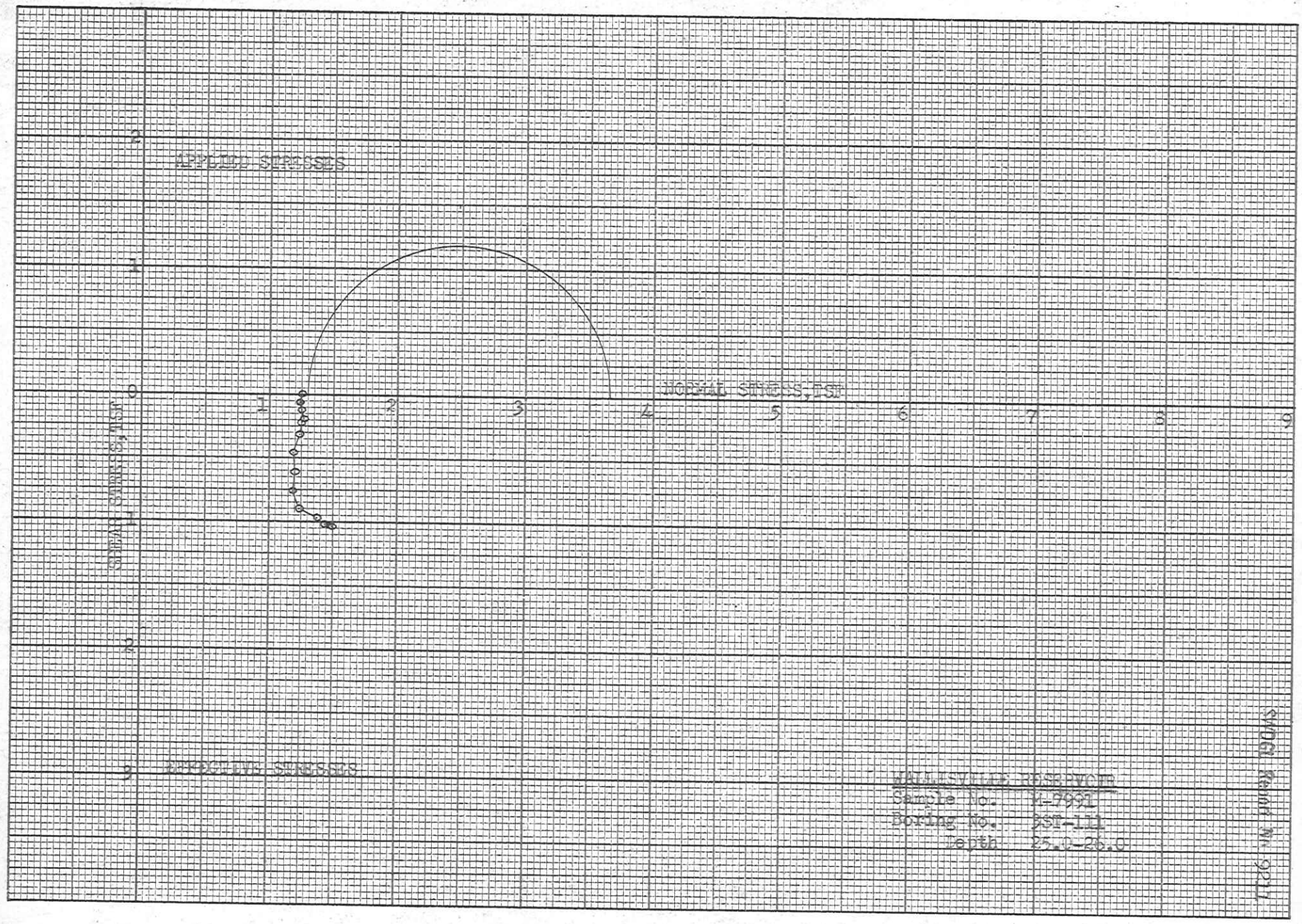
Depth ~~El~~ 25.0-26.0 Date DEC 64

TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 2089 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

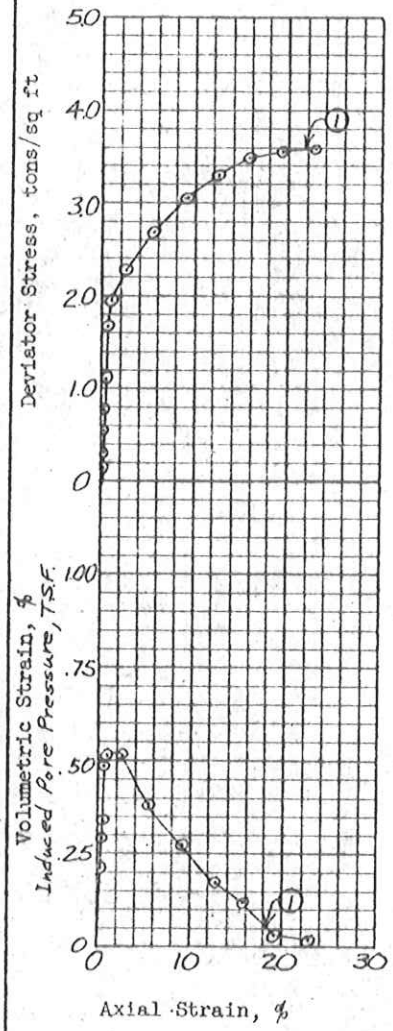
1426

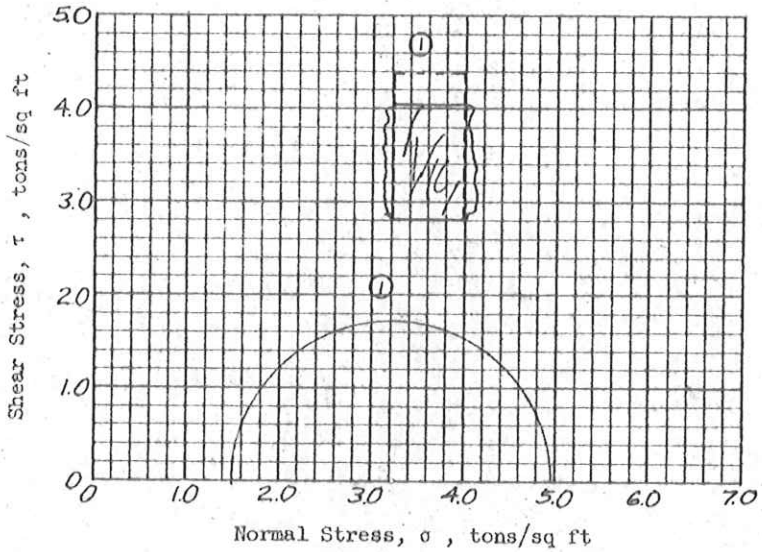
PLATE NO. 31



SWDGI Report No. 9211

PLATE NO. 32





Test No.			①			
Initial	Water content	w_o	21.5 %	%	%	%
	Void ratio	e_o	.581			
	Saturation	S_o	99 %	%	%	%
	Dry density lb/cu ft	γ_d	106			
Before Test	Water content	w_c	20.4 %	%	%	%
	Saturation	S_c	100 %	%	%	%
	Consolidation press., tons/sq ft	σ_c	1.50			
	Void ratio	e_c	.546			
Final	Water content	w_f	20.4 %	%	%	%
	Void ratio At Failure	e_f	.546			
Major principal stress, tons/sq ft		σ_1	4.93*			
Minor principal stress, tons/sq ft		σ_3	1.50			
Time to failure, min			225*			
Initial diameter, ~~cm~~ in			1.4			
Initial height, H_o, ~~cm~~ in			3.0			

Shear Values

ϕ = _____ °

tan ϕ = _____

c = _____ tons/sq ft

Type Test R

Method of Saturation Back Pressure ☐ Controlled Stress ☑ Controlled Strain

Type of specimen UNDISTURBED Rate of strain 0.002 (nominal) in./min

Classification Sandy CLAY (CL)

LL | PL | PI | ~~D_{10}~~ G 2.68

Remarks *At 15% strain.

Project Wallisville Reservoir

Area FOUNDATION MATERIAL

Boring No. BST-111 | Sample No. M-7992

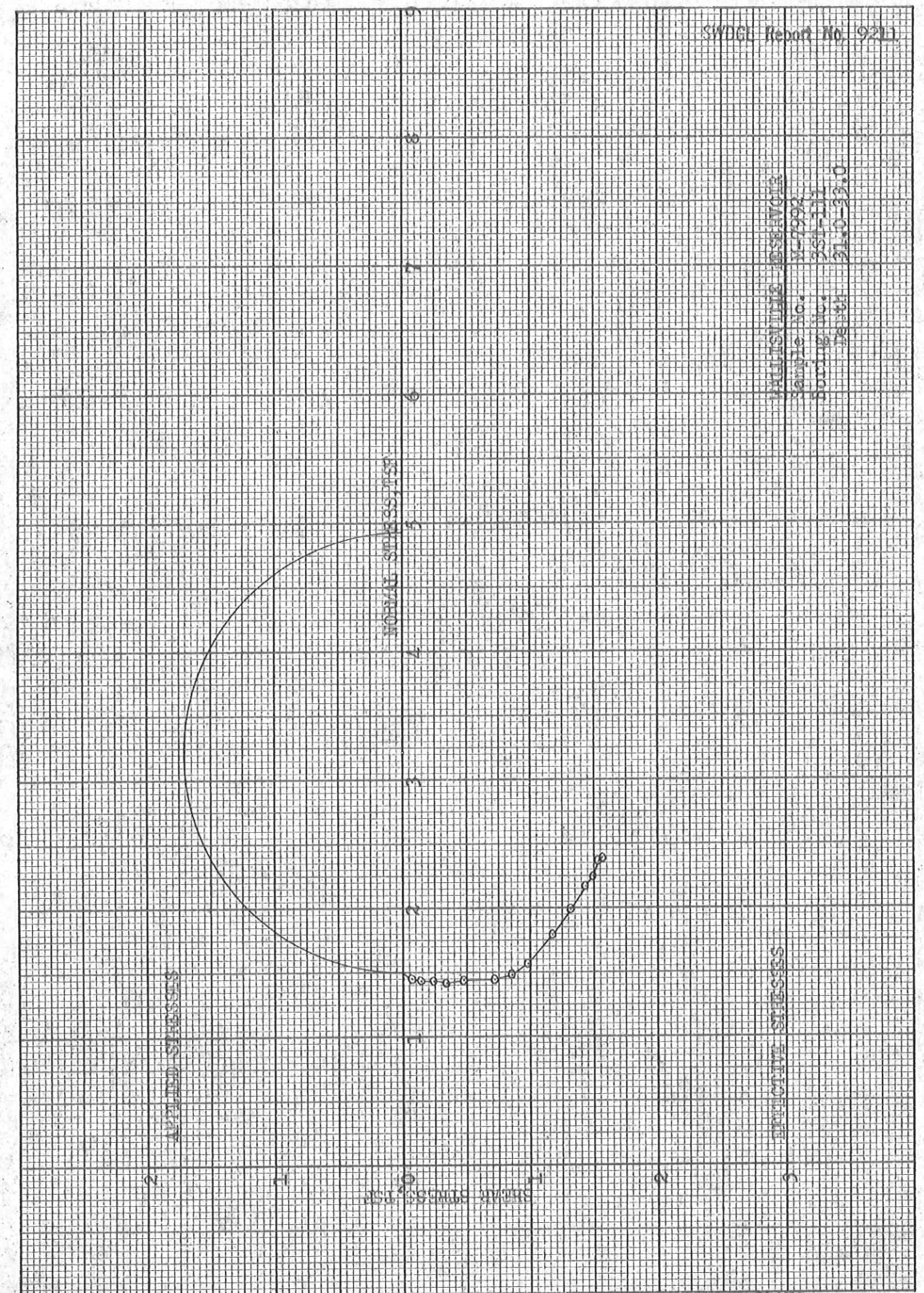
Depth ~~El~~ 31.0-33.0 | Date DEC 64

TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 2089 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

1 9426

PLATE NO. 33


HALLISVILLE RESERVOIR
Sample No. M-7992
Boring No. 3ST-111
Depth 31.0-33.0
NORMAL STRESS, TSF
SHEAR STRESS, TSF
APPLIED STRESSES
EFFECTIVE STRESSES
1
2
3
4
5
6
7
8
9
2
1
0
1
2
3