TEST DATA SUMMARY

SWDGL Report 9829

FEATURE

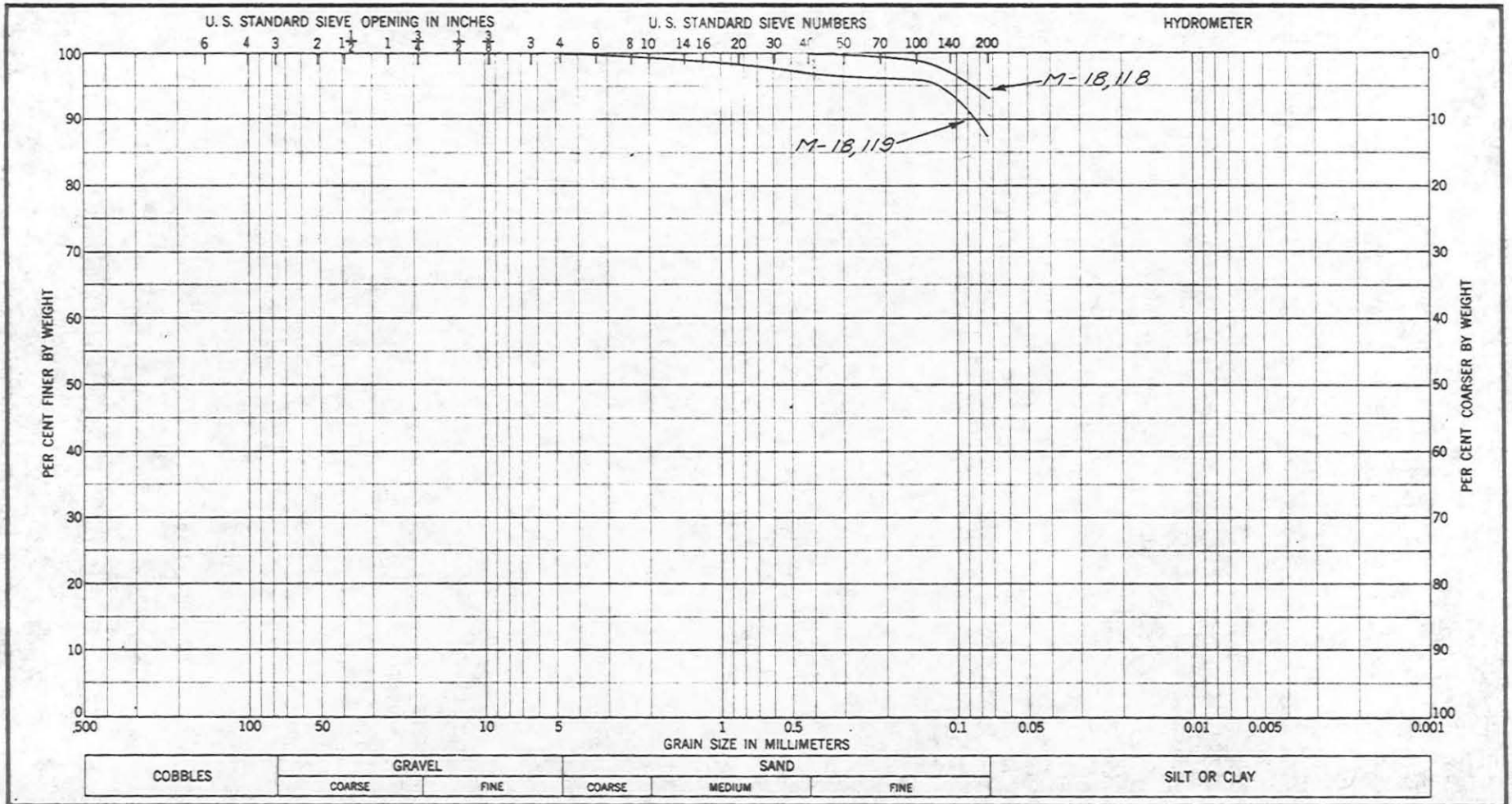
WALLISVILLE DAM

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 F	DRY DENSITY LBS/CU FT	W_i %	W_F %	S_i %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_m T/SQ FT	σ_1 T/SQ FT	C T/SQ FT	ϕ DEGREES	PERMEABILITY: e	K FT/MIN.	CONSOLIDATION DATA: P_D T/SQ FT	P_C T/SQ FT	C_C	t_{50} *	LS	REMARKS
3ST-291																																		
M-18	118	0.5-4.0	CH	0	7	93		74	17	2.70 est			23.3	95.8																			24	
				CLAY, dark gray.											860	91	28.6	30.0	90	DS	3X3X0.5	1			0.2	10.6								
															867	90	28.9	28.8	90	"	"	2												
															867	90	28.9	26.2	90	"	"	3												
M-18	119	4.0-8.0	CH	0	12	88		69	16	2.70 est			23.3	98.5																			22	
				CLAY, grayish brown.											852	91	28.7	30.5	91	DS-S	3X3X0.5	1			0.2	17.0								
															846	91	28.4	28.7	91	"	"	2												
															854	91	28.8	25.5	91	"	"	3												

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

(TRANSLUCENT) Specimens remolded with a water content of optimum +5% and dry density taken from wet leg of compaction curve.

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.	Depth	Classification	Nat w %	LL	PL	PI
M-18,118	0.5-4.0	CLAY (CH)		74	17	57
M-18,119	4.0-8.0	CLAY (CH)		69	16	53

Project WALLISVILLE DAM

Area

Boring No. 3ST-291

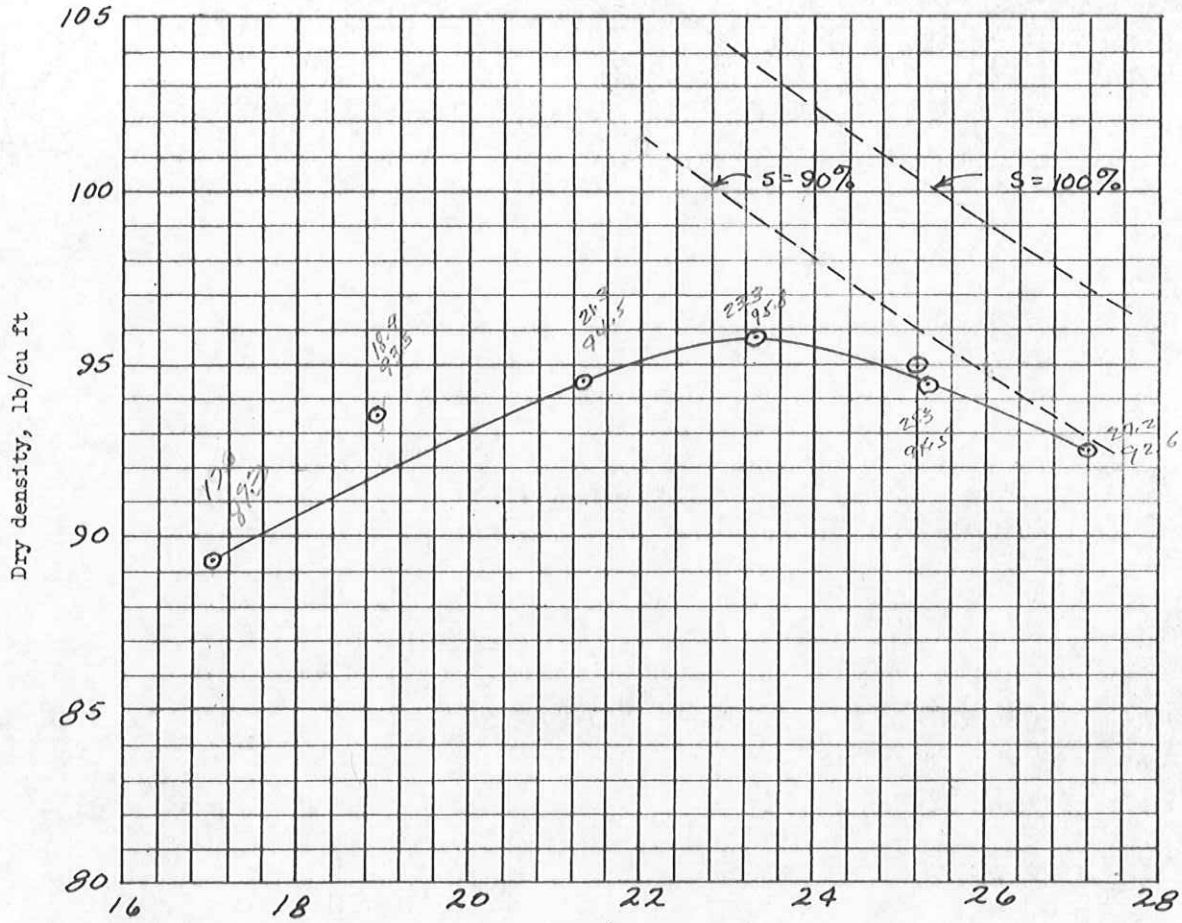
Date JUL 66

GRADATION CURVES

Plate No. 5

SWDGL Report 9829

ENG FORM 1 MAY 63 2087 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE. (TRANSLUCENT) C 0-4 3 6



EM 1110-2-1906
Appendix VI

Water content, percent of dry weight

Standard compaction test

25 blows per each of 3 layers, with 5.5 lb rammer and

12 inch drop. 4 inch diameter mold

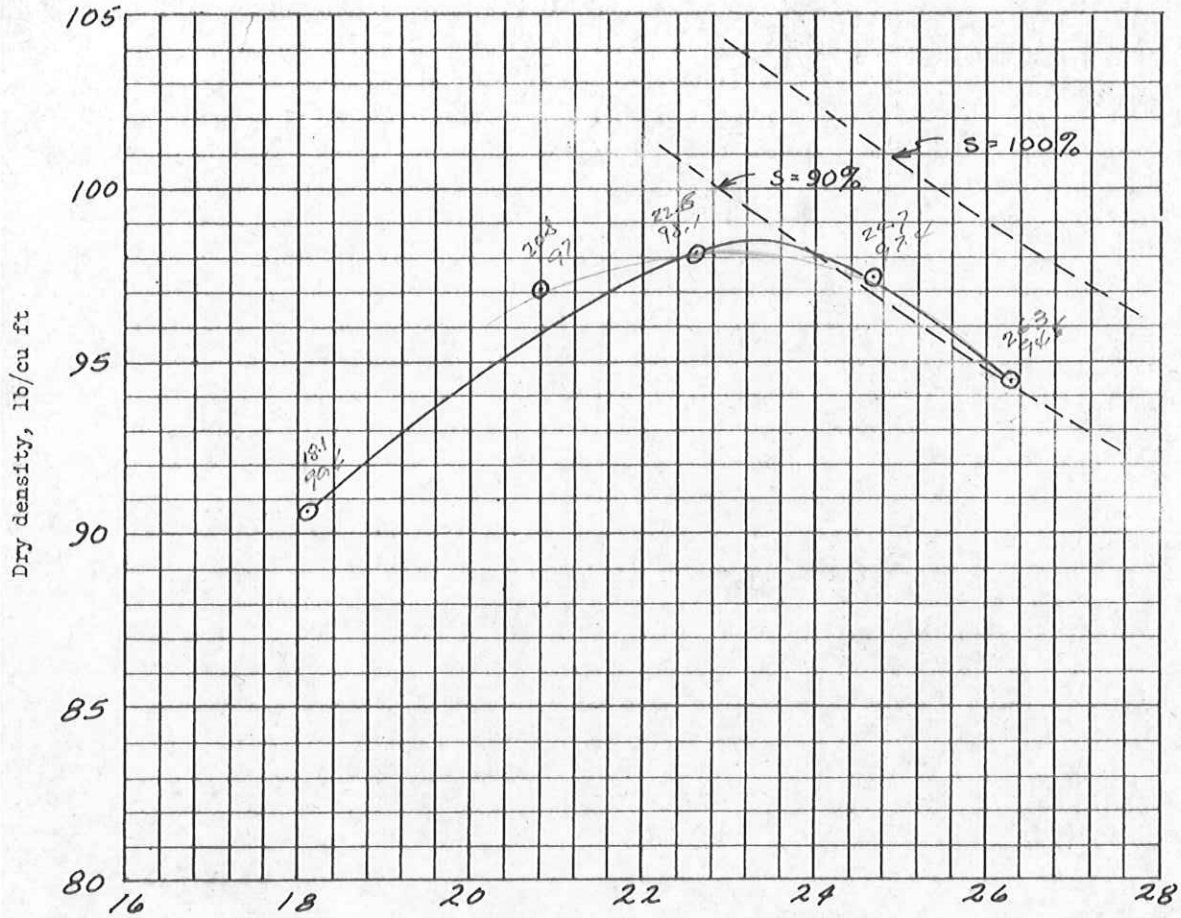
Sample No.	~~Elev or~~ Depth	Classification	G	LL	PL	% > No. 4	% > 3/4 in.
	0.5-4.0	CLAY (CH)	2.70 est.	74	17		

Sample No.	M-18,118			
Natural water content, percent				
Optimum water content, percent	23.3	23.3		
Max dry density, lb/cu ft	95.8	95.8		

Remarks	Project WALLISVILLE DAM
	Area
	Boring No. 3ST-291 Date JUL 66
	COMPACTION TEST REPORT

ENG FORM 1 JUN 65 2091 PREVIOUS EDITIONS ARE OBSOLETE D41500 PLATE VI-2

Plate No. 10



EM 1110-2-1906 Water content, percent of dry weight

Appendix VI

Standard compaction test

25 blows per each of 3 layers, with 5.5 lb rammer and

12 inch drop. 4 inch diameter mold

Sample No.	~~Elev or~~ Depth	Classification	G	LL	PL	% > No. 4	% > 3/4 in.
	40-8.0	CLAY (CH)	2.70 est.	69	16		

Sample No.	M-18,119			
Natural water content, percent				
Optimum water content, percent	23.3	22.8	✓	
Max dry density, lb/cu ft	98.5	98.1		

Remarks

Project WALLISVILLE DAM

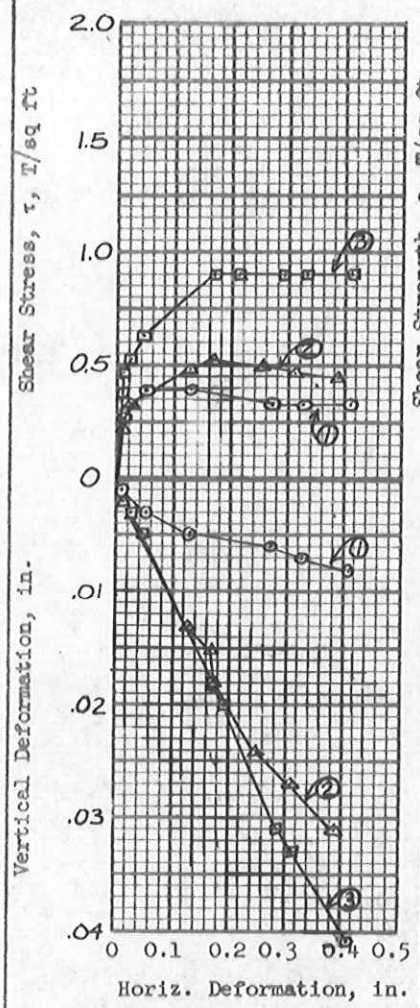
Area

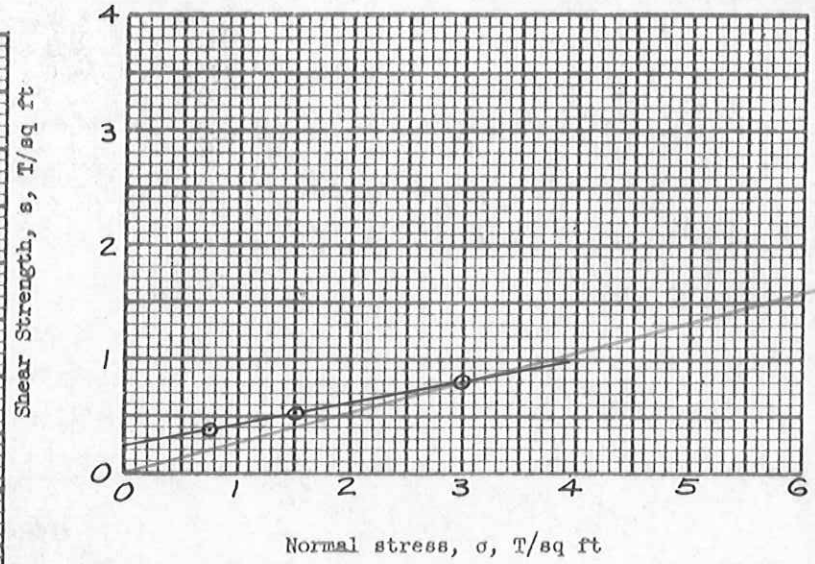
Boring No. 3ST-291 Date JUL 66

COMPACTION TEST REPORT

ENG FORM 2091 1 JUN 65 PREVIOUS EDITIONS ARE OBSOLETE D41500 PLATE VI-2

Plate No. 11





Test No.			①	②	③	
Initial	Water content	w_o	28.6 %	28.9 %	28.9 %	%
	Void ratio	e_o	.860	.867	.867	
	Saturation	S_o	90 %	90 %	90 %	%
	Dry density, lb/cu ft	γ_d	91	90	90	
Void ratio after consolidation		e_c				
Time for 50 percent consolidation, min		t_{50}	–	–	32	
Final	Water content	w_f	30.0 %	28.8 %	26.2 %	%
	Void ratio	e_f				
	Saturation	S_f	%	%	%	%
Normal stress, T/sq ft		σ	0.75	1.5	3.0	
Maximum shear stress, T/sq ft		τ_{max}	0.39	0.52	0.80	
Actual time to failure, min		t_f	410	1400	1400	
Rate of strain, in./min			0.0001	0.0001	0.0001	
Ultimate shear stress, T/sq ft		τ_{ult}				

Shear Strength Parameters

ϕ' = 10.6 ° 15°

tan ϕ' = .187

c' = 0.2 T/sq ft

☐ Controlled stress

☑ Controlled strain

Type of specimen Remolded — 3.0 in. square — 0.5 in. thick

Classification CLAY (CH)

LL 74 | PL 17 | PI 58 | G_s 2.70 (est.)

Remarks Specimens remolded with a water content of optimum +6% and dry density taken from wet leg of compaction curve.

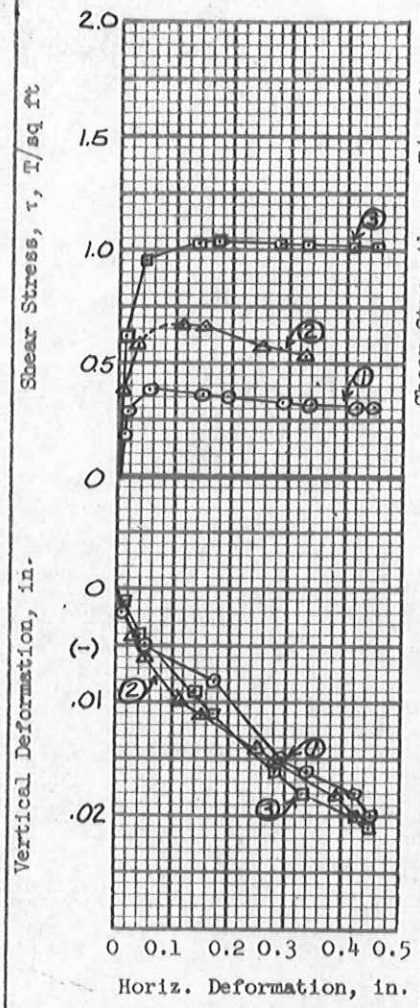
Project WALLISVILLE DAM

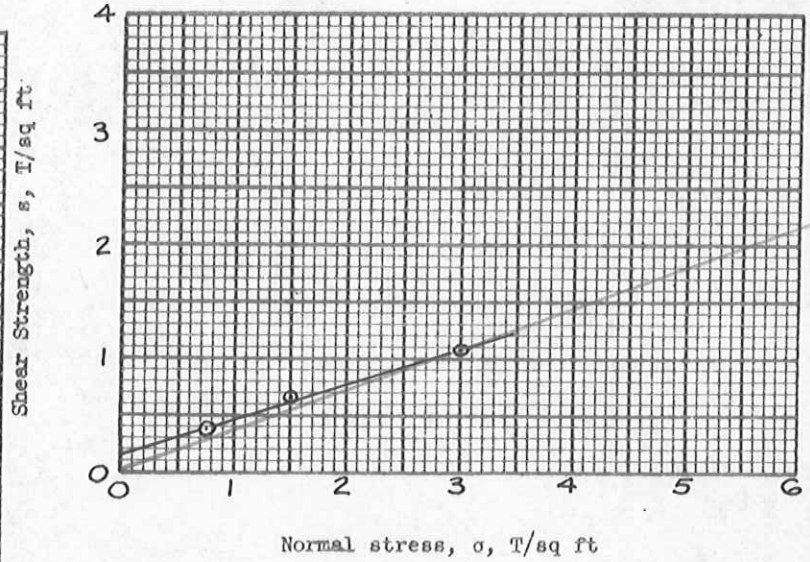
Area

Boring No. 3ST-291 | Sample No. M-18,118

Depth ~~El~~ 0.5-4.0 | Date JUL 66

DIRECT SHEAR TEST REPORT





Test No.			①	②	③	
Initial	Water content	w_o	28.7 %	28.4 %	28.8 %	%
	Void ratio	e_o	.852	.846	.854	
	Saturation	S_o	91 %	91 %	91 %	%
	Dry density, lb/cu ft	γ_d	91	91	91	
Void ratio after consolidation		e_c				
Time for 50 percent consolidation, min		t_{50}	—	—	22	
Final	Water content	w_f	30.5 %	28.7 %	25.5 %	%
	Void ratio	e_f				
	Saturation	S_f	%	%	%	%
Normal stress, T/sq ft		σ	0.75	1.5	3.0	
Maximum shear stress, T/sq ft		τ_{max}	0.39	0.66	1.08	
Actual time to failure, min		t_f	415	700	1700	
Rate of strain, in./min			0.0001	0.0001	0.0001	
Ultimate shear stress, T/sq ft		τ_{ult}				

Shear Strength Parameters

ϕ' = 17.0 ° 20°

tan ϕ' = .307

c' = 0.2 T/sq ft

☐ Controlled stress

☑ Controlled strain

Type of specimen Remolded — 3.0 in. square — 0.5 in. thick

Classification CLAY (CH)

LL 69 | PL 16 | PI 53 | G_s 2.70 (est.)

Remarks Specimens remolded with a water content of optimum +5% and dry density taken from wet leg of compaction curve.

Project WALLISVILLE DAM

Area

Boring No. 3ST-291 | Sample No. M-18,119

Depth ~~El~~ 4.0-8.0 | Date JUL 66

DIRECT SHEAR TEST REPORT