Results of Tests of Foundation Materials

Hole No.	SWD Sample No.	Depth, feet	Type of Sample	Mechanical Analysis, % Passing 1"	3/4"	1/2"	3/8"	No. 4	No. 10	No. 20	No. 40	No. 100	No. 200	Limits LL	PL	LS	Natural Conditions Water Content %	Dry Density lbs/cu.ft.	Classification
3ST-255 (Cont'd)	X-3516	8.0 - 10.0	Ctn														42.9		CH CLAY, dark gray, medium consistency.
	X-3517	10.0 - 12.0	"														58.5		CH CLAY, dark gray, very soft.
	X-3518	12.0 - 14.0	"								100	97	85	70	16		54.0		CH CLAY, dark gray, soft.
	X-3519	14.0 - 16.0	"														31.7	92	CL CLAY, sandy, dark gray, soft.
	X-3520	16.0 - 18.0	"								100	95	71	41	14		25.1		CL CLAY, sandy, dark gray, stiff.
	X-3521	18.0 - 20.0	"														22.0	106	CL CLAY, sandy, dark gray, stiff.
	X-3522	20.0 - 22.0	"							100	99	94	85	81	22		31.4		CH CLAY, dark gray, stiff.
	X-3523	22.0 - 24.0	"														29.7	93	CH CLAY, dark gray, very stiff.
	X-3524	24.0 - 26.0	"														29.1		CH CLAY, gray and olive, stiff.
	X-3525	26.0 - 28.0	"														27.1	98	CH CLAY, gray and olive, stiff.
	X-3526	28.0 - 30.0	"														30.1		CH CLAY, gray and olive, stiff.
	X-3527	30.0 - 32.0	"								100	98	47				26.8	97	SM SAND, silty, gray; few thin clay seams.
	X-3528	32.0 - 34.0	"									100	99	68	20		38.8		CH CLAY, gray, medium consistency.
	X-3529	34.0 - 36.0	"														40.0	82	CH CLAY, gray, stiff.
	X-3530	37.0 - 38.0	Jar							100	99	19	11				22.9		SM-SP SAND, silty, gray.
	X-3531	41.0 - 43.0	Ctn									100	99	90	25		34.6		CH CLAY, gray and olive brown, stiff.
	X-3532	43.0 - 45.5	"														38.5	76	CH CLAY, gray, stiff.
	X-3533	45.5 - 48.0	"														41.2		CH CLAY, gray and olive brown, stiff.
	X-3534	48.0 - 50.0	"														38.1	83	CH CLAY, gray and yellow, stiff.
3ST-255A	X-3535	0.0 - 2.0	Ctn														46.5*		CH CLAY, dark gray, medium consistency; organic material.
	X-3536	2.0 - 4.0	"									100	99	81	20		40.3	80	CH CLAY, dark gray, medium consistency.
	X-3537	4.0 - 6.0	"														45.1		CH CLAY, dark gray, medium consistency
	X-3538	6.0 - 8.0	"														41.8	79	CH CLAY, dark gray, soft.
	X-3539	8.0 - 10.0	"														48.9		CH CLAY, dark gray, very soft.
	X-3540	10.0 - 12.0	"														45.7	76	CH CLAY, dark gray, soft.
	X-3541	12.0 - 14.0	"														55.5		CH CLAY, dark gray, soft.
	X-3542	14.0 - 16.0	"							100	95	41	27	36	11		24.0	100	SC SAND, clayey, gray, soft.
	X-3543	16.0 - 18.0	"														34.8		CH CLAY, dark gray, medium consistency.
	X-3544	18.0 - 20.0	"								100	93	75	56	16		27.4	96	CH CLAY, dark gray, stiff. UNCONFINED COMPRESSION TEST PLATE 4.

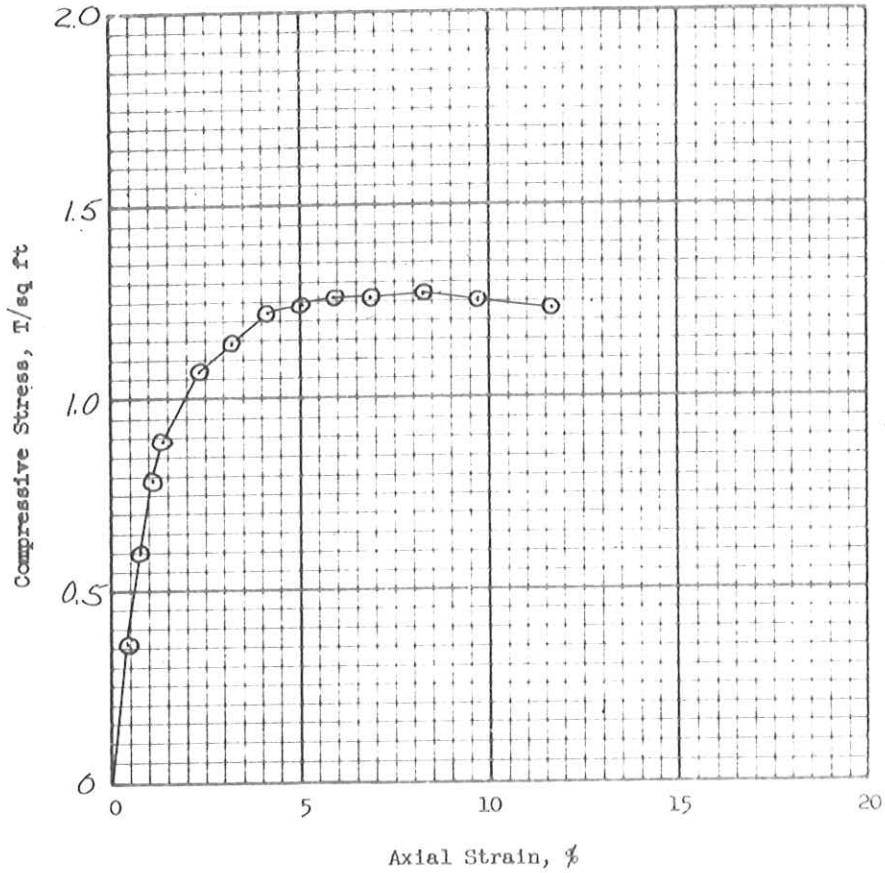
* Drying temperature 140° F.

Results of Tests of Foundation Materials

Hole No.	SWD Sample No.	Depth, feet	Type of Sample	Mechanical Analysis, % Passing 1"	3/4"	1/2"	3/8"	No. 4	No. 10	No. 20	No. 40	No. 100	No. 200	Limits LL	PL	LS	Natural Conditions Water Content %	Dry Density lbs/cu.ft.	Classification
3ST-255A	X-3545	20.0 - 22.0	Ctn														30.0		CH CLAY, dark gray, stiff.
	X-3546	22.0 - 24.0	"														31.0	91	CH CLAY, dark gray, stiff.
	X-3547	24.0 - 26.0	"					100	99	98	98	95	93	61	17		23.9	103	CH CLAY, gray to olive and yellow, stiff. UNCONFINED COMPRESSION TEST: PLATE 5.
	X-3548	26.0 - 28.0	"														28.5		CH CLAY, gray and olive-brown, stiff.
	X-3549	28.0 - 30.0	"								100	99	87	41	15		26.7	96	CL CLAY, gray and olive, stiff.
	X-3550	30.0 - 32.0	"														24.0		CL CLAY, sandy, gray, stiff.
	X-3551	32.0 - 34.0	"							100	99	78	35				23.2	102	SM SAND, silty, gray; 1/4" clay seams.
	X-3552	34.0 - 36.0	"							100	98	68	21				22.5		SM SAND, silty, gray; 1/8" clay seams.
	X-3553	36.0 - 38.0	Jar								100	63	16				25.1		SM SAND, silty, gray.
	X-3554	40.0 - 42.0	Ctn								100	98	83	56	16		32.6	92	CH CLAY, gray, medium consistency.
	X-3555	42.0 - 44.0	"					100	99	96	95	84	49				22.9		SM SAND, silty, gray; large pocket of gray clay near top.
	X-3556	44.0 - 46.0	Jar														38.1		CH CLAY, gray and olive.
	X-3557	46.0 - 48.0	Ctn														35.4	86	CH CLAY, gray and brownish-yellow, very stiff, slickensided.
	X-3558	48.0 - 50.0	"														37.6		CH CLAY, bluish-gray and olive, stiff.
3ST-255B	X-3559	0.0 - 2.0	Ctn														40.9*		CH CLAY, gray, medium consistency, organic material.
	X-3560	2.0 - 4.0	"														39.9	82	CH CLAY, gray, medium consistency.
	X-3561	4.0 - 6.0	"														43.7		CH CLAY, gray, medium consistency.
	X-3562	6.0 - 8.0	"														53.3	69	CH CLAY, dark gray, soft.
	X-3563	8.0 - 10.0	"														50.9		CH CLAY, dark gray, very soft.
	X-3564	10.0 - 12.0	"								100	99	94	66	18		56.9	70	CH CLAY, dark gray, very soft.
	X-3565	12.0 - 14.0	"														49.9		CH CLAY, dark gray, very soft, 1/4" sand seams.
	X-3566	14.0 - 16.0	"								100	96	80	70	17		34.0	88	CH CLAY, dark gray, soft.
	X-3567	16.0 - 18.0	"														26.7		CL CLAY, sandy, dark gray, stiff.
	X-3568	18.0 - 20.0	"								100	91	67	41	14		24.0	102	CL CLAY, sandy, dark gray, stiff.

* Drying temperature 140° F.

Failure Sketches



☐ Controlled stress

☑ Controlled strain

Rate, 0.3 %/min

Test No.						
Type of specimen Undisturbed						
Initial	Water content	w_o	27.6 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	96			
Time to failure, min		t_f	30			
Unconfined compressive strength, T/sq ft		q_u	1.3			
Undrained shear strength, T/sq ft		s_u	0.6			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.9			
Initial specimen height, in.		H_o	6.5			

Classification CLAY, sandy (CL)

LL	PL	PI	G_s
56	16	40	

Remarks

Project WALLISVILLE DAM

Area Foundation Material

Boring No. 3ST-255A Sample No. X-3544

Depth ~~El~~ 18.0-20.0 Date JAN 67

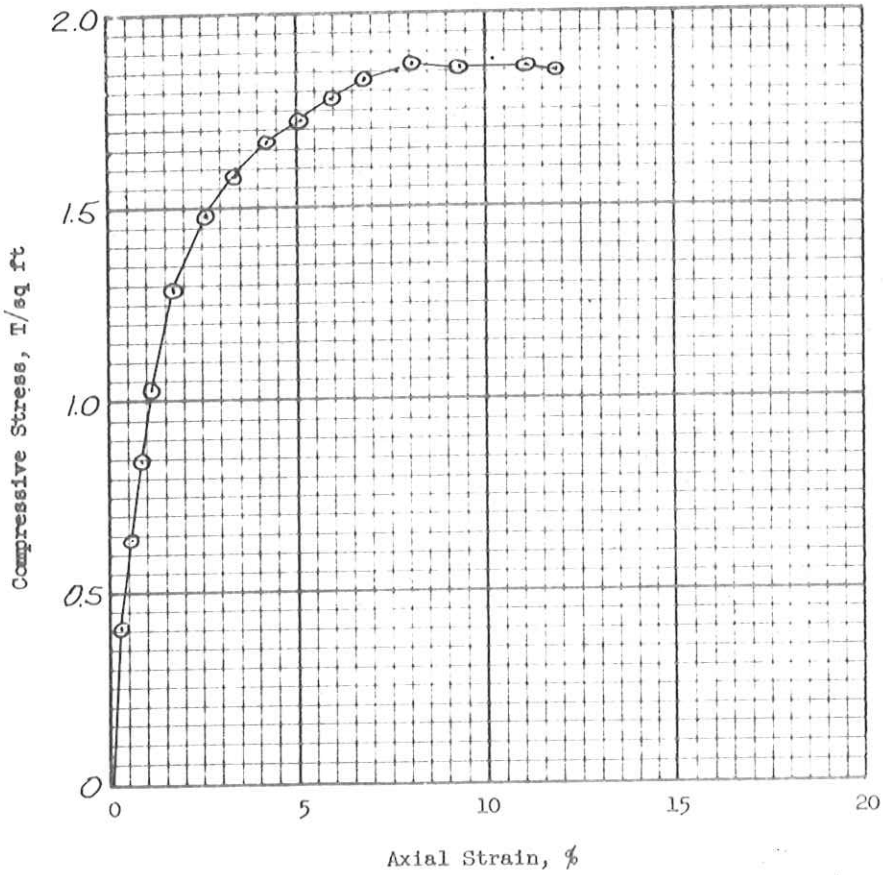
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Plate No. 4

Failure Sketches



☐ Controlled stress

☑ Controlled strain
Rate, 0.2 %/min

Test No.						
Type of specimen Undisturbed						
Initial	Water content	w_o	24.4 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	102			
Time to failure, min		t_f	37			
Unconfined compressive strength, T/sq ft		q_u	1.9			
Undrained shear strength, T/sq ft		s_u	0.9			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.8			
Initial specimen height, in.		H_o	7.1			

Classification CLAY (CH)

LL 61 | PL 17 | PI 44 | G_s

Remarks

Project WALLISVILLE DAM

Area Foundation Material

Boring No. 3ST-255A | Sample No. X-3547

Depth ~~El~~ 24.0-26.0 | Date JAN 67

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Plate No. 5

DRILLING LOG

DIVISION	Southwestern
INSTALLATION	Galv Dist, Eng Div
SHEET	OF SHEETS
1. PROJECT	Wallisville Reservoir
2. LOCATION (Coordinates or Station)	
3. DRILLING AGENCY	Dept of the Army, GD, Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	3ST-255A
5. NAME OF DRILLER	Black
6. DIRECTION OF HOLE	☐ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	
9. TOTAL DEPTH OF HOLE	50.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
12. MANUFACTURER'S DESIGNATION OF DRILL	
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED: 2 Jars; UNDISTURBED: 22 Cont
14. TOTAL NUMBER CORE BOXES	
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED: 7 Nov; COMPLETED: 7 Nov 1966
17. ELEVATION TOP OF HOLE	
18. TOTAL CORE RECOVERY FOR BORING	%
19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
0.0	2.0		Gray clay w/roots, medium			Cont. 1	0.75
2.0	4.0		Gray clay, medium			Cont. 2	0.50
4.0	6.0		Same as above, medium			Cont. 3	0.50
6.0	8.0		Gray clay w/sandy layers,med			Cont. 4	0.50
8.0	10.0		Gray clay w/sandy seams,soft			Cont. 5	0.25
10.0	12.0		Gray clay, soft			Cont. 6	0.25
12.0	14.0		Gray clay w/sandy layers,soft			Cont. 7	0.25
14.0	16.0		Gray sandy clay,medium			Cont. 8	0.50
16.0	18.0		Gray clay,stiff			Cont. 9	1.00
18.0	20.0		Same as above, stiff	Unc		Cont. 10	1.75
20.0	22.0		Gray clay w/cal nods,stiff			Cont. 11	1.75
22.0	24.0		Gray and brown clay w/cal nods,v/stiff			Cont. 12	2.00
24.0	26.0		Brown clay w/cal nods, v/stiff	Unc		Cont. 13	2.50
26.0	28.0		Brown and gray clay w/cal nods v/stiff			Cont. 14	2.50
28.0	30.0		Gray and brown clay sandy stiff			Cont. 15	1.75
30.0	32.0		Gray clay w/sandy layers, med			Cont. 16	0.05
32.0	34.0		Gray sand w/clay binder,stiff			Cont. 17	1.00
34.0	36.0		Gray sand w/clay layers, medium			Cont. 18	0.75
36.0	38.0		Gray sand w/clay layers 36.0-36.5 No count 36.5-37.0 1 blow 37.0-37.5 1 blow 37.5-38.0 No count			Jar 1	
38.0	40.0		Washed			No sample	
40.0	42.0		Gray clay w/sandy seams,stiff			Cont. 19	1.25
42.0	44.0		Gray sand w/clay binder medium			Cont. 20	0.50
			continued				