# TEST DATA SUMMARY



SWDGL Report 9829

FEATURE _____

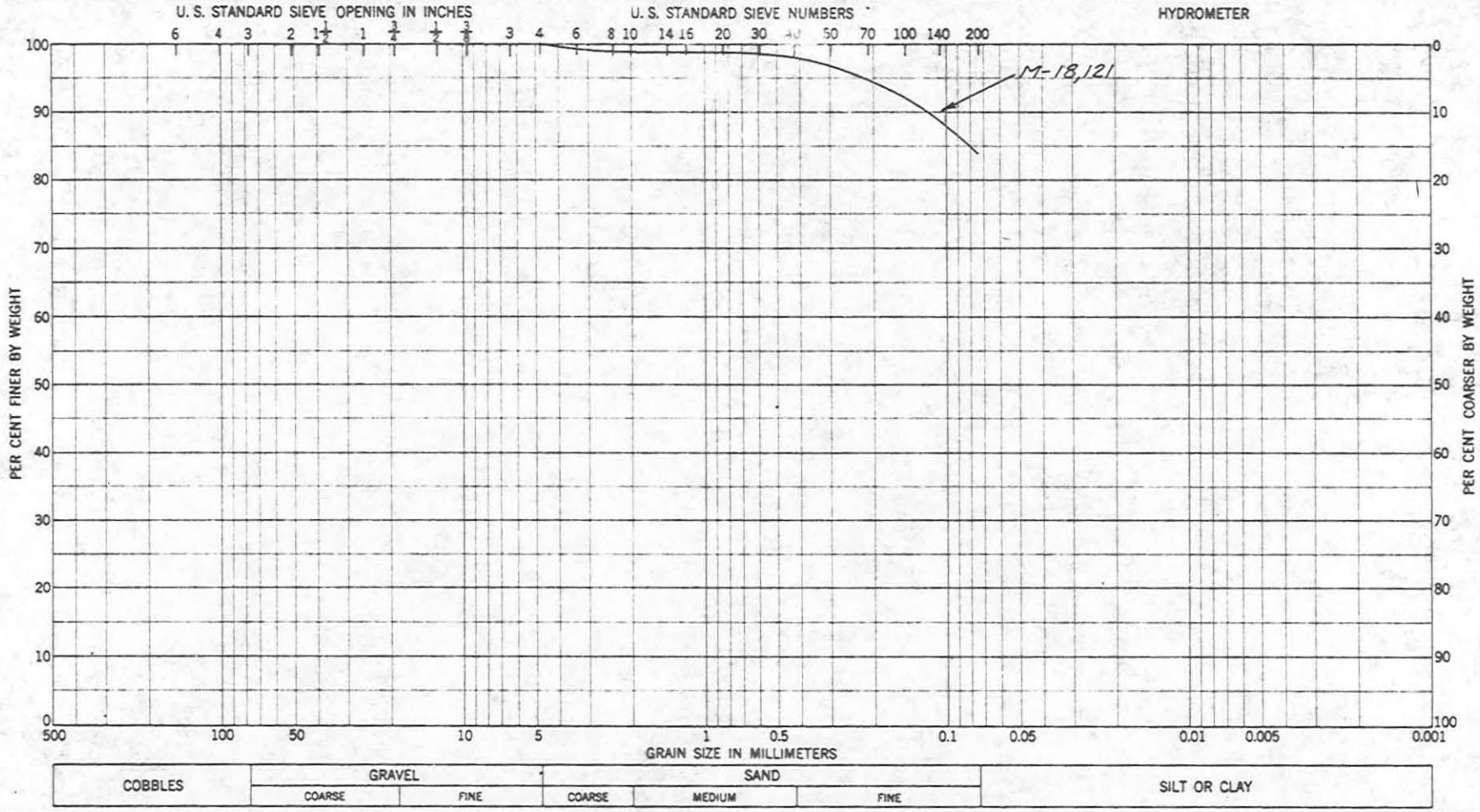
WALLISVILLE DAM

| 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 e | DRY DENSITY LBS/CU FT | $W_I$ % | $W_F$ % | $S_I$ % | TYPE TEST | SPECIMEN SIZE INCHES | TEST | $\sigma_m$ T/SQ FT | $\sigma_I$ T/SQ FT | C T/SQ FT | $\phi$ DEGREES | PERMEABILITY: e | K FT/MIN. | CONSOLIDATION DATA: $P_O$ T/SQ FT | $P_C$ T/SQ FT | $C_C$ | $t_{50}$ * | LS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3ST-267 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M-18 | 120 | 0.5-10.0 | CH | 0 | 9 | 91 | | 65 | 18 | 2.70est | | | 22.5 | 98.6 | | | | | | | | | | | | | | | | | | | 21 | |
| | | | | CLAY, grayish brown. | | | | | | | | | | | .805 | 93 | 27.8 | 30.1 | 93 | DS | 3X3X0.5 | 1 | | | 0.3 | 17.7 | | | | | | | | |
| | | | | | | | | | | | | | | | .797 | 94 | 27.8 | 28.4 | 94 | " | " | 2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | .797 | 94 | 27.8 | 26.2 | 94 | " | " | 3 | | | | | | | | | | | | |
| 3ST-274 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M-18 | 121 | 15.0-30.0 | CH | 0 | 16 | 84 | | 70 | 19 | 2.70est | | | 23.2 | 97.7 | | | | | | | | | | | | | | | | | | | 22 | |
| | | | | CLAY, pale red. | | | | | | | | | | | .830 | 92 | 28.4 | 30.2 | 93 | DS | 3X3X0.5 | 1 | | | 0.1 | 17.9 | | | | | | | | |
| | | | | | | | | | | | | | | | .832 | 92 | 28.6 | 28.9 | 93 | " | " | 2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | .834 | 92 | 28.7 | 26.7 | 93 | " | " | 3 | | | | | | | | | | | | |
| 3ST-284 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M-18 | 116 | 6.0-9.0 | CL | 0 | 18 | 82 | | 50 | 15 | 2.69est | | | 17.0 | 109.0 | | | | | | | | | | | | | | | | | | | 18 | |
| | | | | CLAY, grayish brown; some small calcareous particles. | | | | | | | | | | | .658 | 101 | 22.2 | 22.4 | 91 | DS-S | 3X3X0.5 | 1 | | | 0.1 | 26.8 | | | | | | | | |
| | | | | | | | | | | | | | | | .659 | 101 | 22.2 | 21.1 | 91 | " | " | 2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | .655 | 102 | 22.1 | 20.2 | 91 | " | " | 3 | | | | | | | | | | | | |
| 3ST-290 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M-18 | 117 | 4.0-7.5 | CH | 0 | 14 | 86 | | 65 | 17 | 2.70est | | | 19.7 | 102.2 | | | | | | | | | | | | | | | | | | | 22 | |
| | | | | CLAY, gray and grayish brown; some small calcareous particles. | | | | | | | | | | | .789 | 94 | 25.2 | 27.4 | 86 | DS-S | 3X3X0.5 | 1 | | | 0.3 | 16.3 | | | | | | | | |
| | | | | | | | | | | | | | | | .793 | 94 | 25.6 | 25.5 | 87 | " | " | 2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | .786 | 94 | 25.5 | 22.6 | 88 | " | " | 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
S – Consolidated Drained
CU – Consolidated Undrained
* Values at Pressure
T/SQ FT




| Sample No. | Depth | Classification | Nat w % | LL | PL | PI |
|---|---|---|---|---|---|---|
| M-18,121 | 15.0 - 30.0 | CLAY (CH) | | 70 | 19 | 51 |

Project WALLISVILLE DAM

Area

Boring No. 3ST-274

Date JUL 66

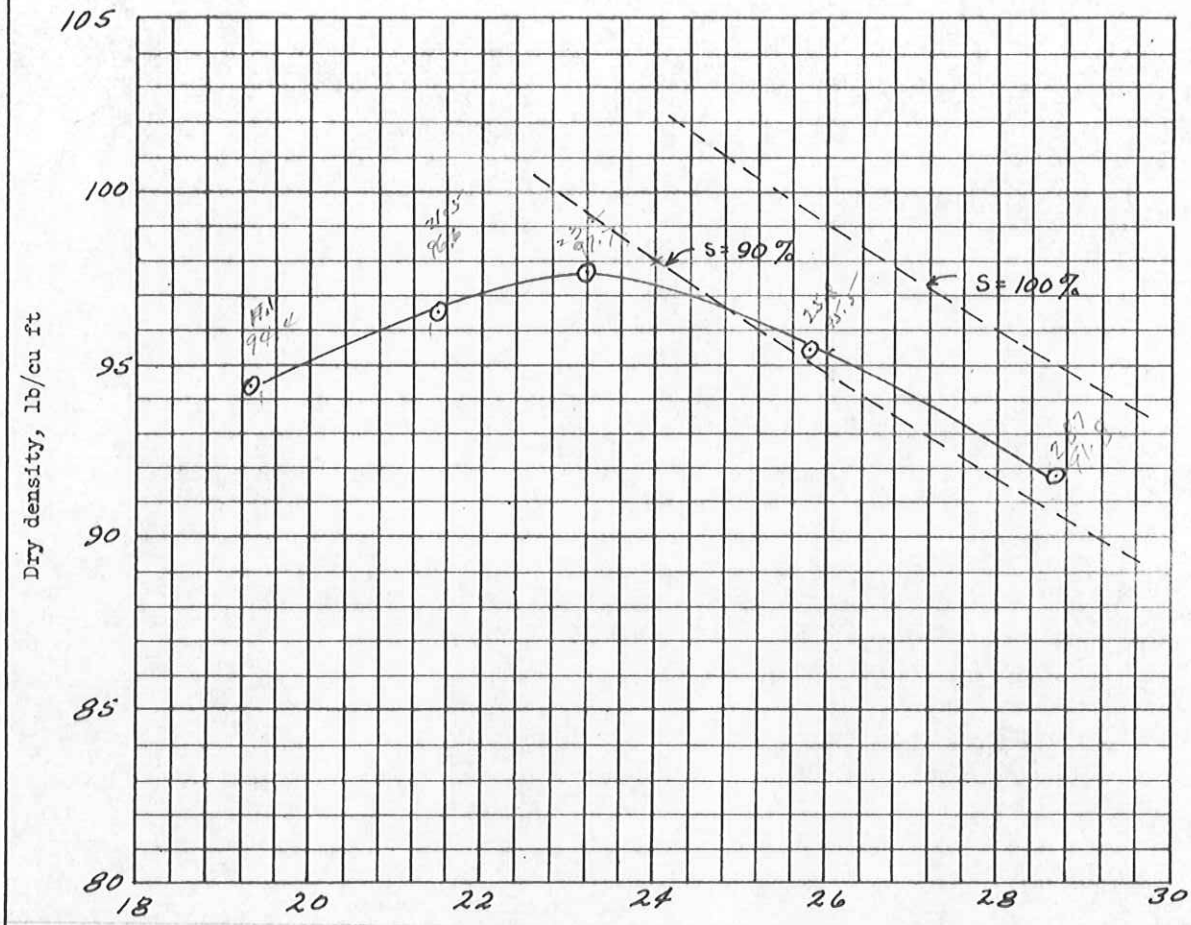
# GRADATION CURVES

Plate No. 2

SWDGL Report 9829

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

C 0436




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

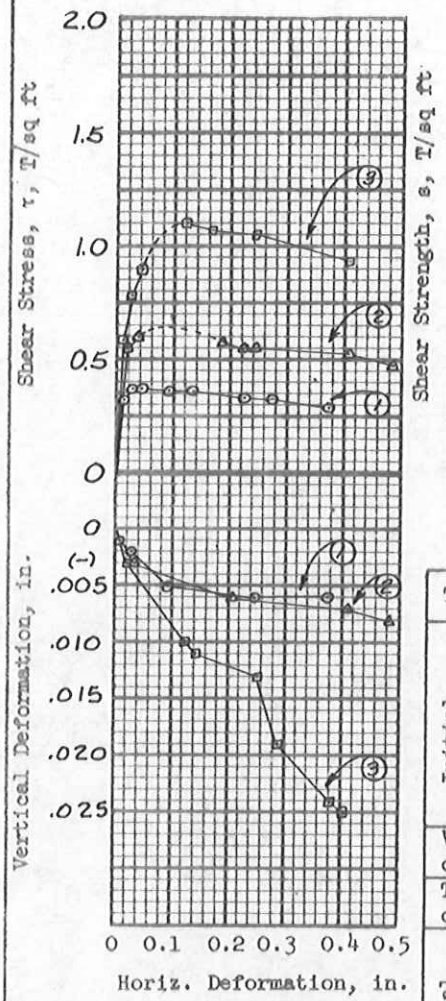
12 inch drop. 4 inch diameter mold

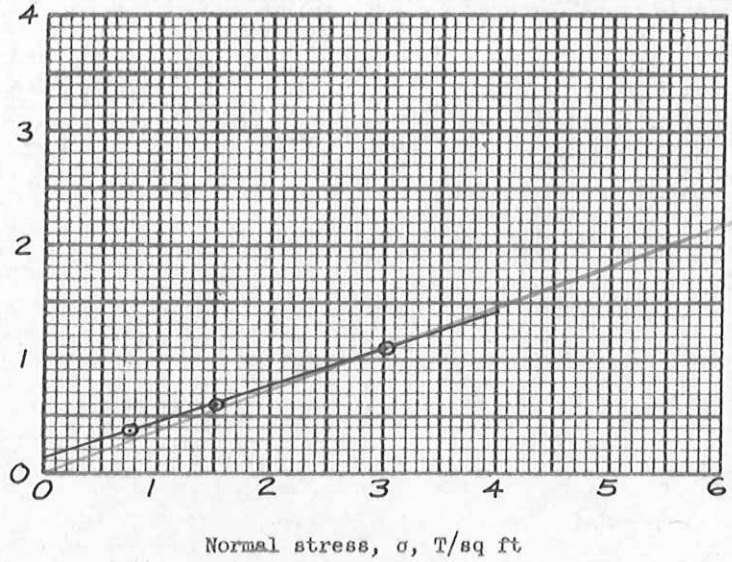
| Sample No. | ~~Elev or~~ Depth | Classification | G | LL | PL | % > No. 4 | % > 3/4 in. |
|---|---|---|---|---|---|---|---|
| | 15.0-30.0 | CLAY (CH) | 2.70 est | 70 | 19 | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Sample No. | M-18,121 | | | |
|---|---|---|---|---|
| Natural water content, percent | | | | |
| Optimum water content, percent | 23.2 | 23.2 | | |
| Max dry density, lb/cu ft | 97.7 | 97.7 | ✓ | |

| Remarks | Project WALLISVILLE DAM |
|---|---|
| | |
| | Area |
| | Boring No. 3ST-274 Date JUL 66 |
| | **COMPACTION TEST REPORT** |

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




| Test No. | | | ① | ② | ③ | |
|---|---|---|---|---|---|---|
| Initial | Water content | $w_o$ | 28.4 % | 28.6 % | 28.7 % | % |
| | Void ratio | $e_o$ | .830 | .832 | .834 | |
| | Saturation | $S_o$ | 93 % | 93 % | 93 % | % |
| | Dry density, lb/cu ft | $\gamma_d$ | 92 | 92 | 92 | |
| Void ratio after consolidation | | $e_c$ | | | | |
| Time for 50 percent consolidation, min | | $t_{50}$ | — | — | 24 | |
| Final | Water content | $w_f$ | 30.2 % | 28.9 % | 26.7 % | % |
| | Void ratio | $e_f$ | | | | |
| | Saturation | $S_f$ | % | % | % | % |
| Normal stress, T/sq ft | | $\sigma$ | 0.75 | 1.5 | 3.0 | |
| Maximum shear stress, T/sq ft | | $\tau_{max}$ | 0.37 | 0.64 | 1.10 | |
| Actual time to failure, min | | $t_f$ | 295 | 900 | 1100 | |
| Rate of strain, in./min | | | 0.0001 | 0.0001 | 0.0001 | |
| Ultimate shear stress, T/sq ft | | $\tau_{ult}$ | | | | |

Shear Strength Parameters

$\phi'$ = 17.9 ° 20°

tan $\phi'$ = .324

c' = 0.1 T/sq ft

☐ Controlled stress

☑ Controlled strain

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

Classification CLAY (CH)

LL 70 | PL 19 | PI 51 | $G_s$ 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-274 | Sample No. M-18,121

Depth ~~El~~ 15.0-30.0 | Date JUL 68

DIRECT SHEAR TEST REPORT

...e No. 3ST-274

| DRILLING LOG | DIVISION Southwestern | INSTALLATION Galv Dist, Eng Div | SHEET OF SHEETS |
|---|---|---|---|

1. PROJECT: Wallisville Reservoir - Overflow Dam
2. LOCATION (Coordinates or Station): Borrow area at west end of overflow Dam
3. DRILLING AGENCY: U. S. Army Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): 3ST-274
5. NAME OF DRILLER: Smith  X = 3,330,775  y = 743,000
6. DIRECTION OF HOLE: ☐ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 30.0
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: ; UNDISTURBED: 15 Cont
14. TOTAL NUMBER CORE BOXES
15. ELEVATION GROUND WATER
16. DATE HOLE: STARTED 1 Apr; COMPLETED 1 Apr 1966
17. ELEVATION TOP OF HOLE: + 19.2
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 | | Brown clay, tr sand, v/stiff | | | Cont. 1 | 2.75 |
| 2.0 | 4.0 | | Brown clay, v/stiff | | | Cont. 2 | 3.00 |
| 4.0 | 6.0 | | Brown clay w/cal nod, v/stiff | | | Cont. 3 | 2.75 |
| 6.0 | 8.0 | | Brown clay w/cal nod, hard | | | Cont. 4 | 4.50+ |
| 8.0 | 10.0 | | Brown sandy clay w/cal nod hard | | | Cont. 5 | 4.50+ |
| 10.0 | 12.0 | | Brown gray clay w/cal nod hard | | | Cont. 6 | 4.50+ |
| 12.0 | 14.0 | | Brown clay w/cal nod, hard | | | Cont. 7 | 4.50+ |
| 14.0 | 16.0 | | Brown clay, hard | | | Cont. 8 | 4.00 |
| 16.0 | 18.0 | | Same as above, hard | | | Cont. 9 | 4.25 |
| 18.0 | 20.0 | | Brown clay w/cal nod, hard | | | Cont. 10 | 4.00 |
| 20.0 | 22.0 | | Brown and gray clay w/cal nod, hard | | | Cont. 11 | 4.50 |
| 22.0 | 24.0 | | Brown clay w/cal nod, hard | | | Cont. 12 | 4.50+ |
| 24.0 | 26.0 | | Brown clay w/sand, hard | | | Cont. 13 | 4.50+ |
| 26.0 | 28.0 | | Brown clay w/layer of clayey sand, hard | | | Cont. 14 | 4.50+ |
| 28.0 | 30.0 | | Brown clay, hard | | | Cont. 15 | 4.50 |
| | | | BOTTOMED | | | | |
| | | | Water table later | | | | |
| | | | water at 7.5' depth | | | | |
| 0.5 – 15 | | | 5 bags | | | | |
| 15 – 30 | | | 5 bags | | | | |

ENG FORM 1 APR 63 1836 PREVIOUS EDITIONS MAY BE USED (EM 1110-1-1801) GPO 1963 : OF—712-275 872-462

PROJECT: Overflow Dam Wallisville Reservoir | HOLE NO. 3ST-274