

RESERVOIR SEDIMENT  
DATA SUMMARY

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS

POOL NO. 9  
NAME OF RESERVOIR

44-17  
DATA SHEET NO.

|                         |   |   |                                |   |  |  |
|-------------------------|---|---|--------------------------------|---|--|--|
| DAM                     | 1. OWNER Dept. of the Army, C. of E.    |   | 2. STREAM Arkansas River       |   | 3. STATE Arkansas                                  |  |
|                         | 4. SEC. 35 TWP. 6N RANGE 17W            |   | 5. NEAREST P. O. Morrilton 35W |   | 6. COUNTY Conway                                   |  |
|                         | 7. LAT 35° 07' 26.3" LONG 92° 47' 10.6" |   | 8. TOP OF DAM ELEVATION 292    |   | 9. SPILLWAY CREST ELEV. 288 1/2                    |  |
| RESERVOIR               | 10. STORAGE ALLOCATION                  |   | 11. ELEVATION TOP OF POOL      |   | 12. ORIGINAL SURFACE AREA, ACRES                   |  |
|                         | 13. ORIGINAL CAPACITY, ACRE-Feet        |   | 14. GROSS STORAGE, ACRE-Feet   |   | 15. DATE STORAGE BEGAN                             |  |
|                         | a. FLOOD CONTROL                        |   |                                |   | Nov 9, 1969  |  |
|                         | b. MULTIPLE USE                         |   |                                |   |  |  |
|                         | c. POWER                                |   |                                |   |  |  |
|                         | d. WATER SUPPLY                         |   |                                |   | 16. DATE NORMAL OPER. BEGAN                        |  |
|                         | e. IRRIGATION                           |   |                                |   | Nov 27, 1969                                       |  |
|                         | f. CONSERVATION 2/                      |   | 287                            |   | 4,800  |  |
| g. INACTIVE 3/          |   | 253   |                                | 0   |  |  |
| 17. LENGTH OF RESERVOIR |   | 28.1 MILES  |                                | AV. WIDTH OF RESERVOIR .027 MILES             |  |  |
| WATERSHED               | 18. TOTAL DRAINAGE AREA                 |   | 154,949 SQ. MI.                |   | 22. MEAN ANNUAL PRECIPITATION 12-50 INCHES         |  |
|                         | 19. NET SEDIMENT CONTRIBUTING AREA      |   | 1,274 SQ. MI.                  |   | 23. MEAN ANNUAL RUNOFF 3.11 (38 yrs) 4/ INCHES     |  |
|                         | 20. LENGTH 1,212 MILES                  |   | AV. WIDTH 128 MILES            |   | 24. MEAN ANNUAL RUNOFF 25,669,200 (38 yrs) AC.-FT. |  |
|                         | 21. MAX. ELEV. 14,431                   |   | MIN. ELEV. 253                 |   | 25. ANNUAL TEMP. MEAN 56 RANGE -22 to 114          |  |
|                         | 26. DATE OF SURVEY                      |   | 27. PERIOD YEARS               |   | 28. ACCL. YEARS                                    |  |
| 29. TYPE OF SURVEY      |   | 30. NO. OF RANGES OR CONTOUR INT.                 |                                | 31. SURFACE AREA, ACRES                       |  |  |
| 32. CAPACITY, ACRE-Feet |   | 33. C/I. RATIO, 5/ AC.-FT. PER AC.-FT.            |                                |   |  |  |
| Jan 19, 1970            |   |   |                                | Range (D)                                     |  |  |
| Jul 27, 1971            |   | 1.52  |                                | 38  |  |  |
| Mar 22, 1972            |   | 0.65  |                                | 38  |  |  |
|                         |   | 2.17  |                                | 38  |  |  |
|                         |   |   |                                | 4,800   |  |  |
|                         |   |   |                                | 4,840   |  |  |
|                         |   |   |                                | 4,990   |  |  |
|                         |   |   |                                | 63,460  |  |  |
|                         |   |   |                                | 68,450  |  |  |
|                         |   |   |                                | 69,600  |  |  |
|                         |   |   |                                | .0578   |  |  |
|                         |   |   |                                | .0614   |  |  |
|                         |   |   |                                | .0616   |  |  |
| 26. DATE OF SURVEY      |   | 34. PERIOD ANNUAL PRECIPITATION                   |                                | 35. PERIOD WATER INFLOW, ACRE-Feet            |  |  |
|                         |   |   |                                | a. MEAN ANNUAL b. MAX. ANNUAL c. PERIOD TOTAL |  |  |
| Jul 27, 1971            |   |   |                                | 21,834,868                                    |  |  |
| Mar 22, 1972            |   |   |                                | 20,336,923                                    |  |  |
|                         |   |   |                                | 33,189,000                                    |  |  |
|                         |   |   |                                | 13,219,000                                    |  |  |
|                         |   |   |                                | 21,834,868                                    |  |  |
|                         |   |   |                                | 46,408,000                                    |  |  |
| 26. DATE OF SURVEY      |   | 37. PERIOD CAPACITY LOSS, ACRE-Feet               |                                |   | 38. TOTAL SED. DEPOSITS TO DATE, ACRE-Feet         |  |
|                         |   | a. PERIOD TOTAL b. AV. ANNUAL c. PER SQ. MI.-YEAR |                                |   | a. TOTAL TO DATE b. AV. ANNUAL c. PER SQ. MI.-YEAR |  |
| Jul 27, 1971            |   | -4,990  |                                |   | -4,990   |  |
| Mar 22, 1972            |   | -1,150  |                                |   | -6,140   |  |
|                         |   | -3,283  |                                |   | -3,283   |  |
|                         |   | -1,769  |                                |   | -2,829   |  |
|                         |   | -2.577  |                                |   | -2.577   |  |
|                         |   | -1.389  |                                |   | -2.221   |  |
| 26. DATE OF SURVEY      |   | 39. AV. DRY WGT., LBS. PER CU. FT.                |                                | 40. SED. DEP., TONS PER SQ. MI.-YR.           |  |  |
|                         |   |   |                                | a. PERIOD b. TOTAL TO DATE                    |  |  |
| Jul 27, 1971            |   | 80*   |                                | -4,490  |  |  |
| Mar 22, 1972            |   | 80*   |                                | -2,420  |  |  |
|                         |   |   |                                | -4,490  |  |  |
|                         |   |   |                                | -3,870  |  |  |
|                         |   |   |                                | -5.17   |  |  |
|                         |   |   |                                | -4.46   |  |  |
|                         |   |   |                                | -7.86   |  |  |
|                         |   |   |                                | -9.68   |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
| 26. DATE OF SURVEY      |   | 39. AV. DRY WGT., LBS. PER CU. FT.                |                                | 40. SED. DEP., TONS PER SQ. MI.-YR.           |  |  |
|                         |   |   |                                | a. PERIOD b. TOTAL TO DATE                    |  |  |
| Jul 27, 1971            |   | 80*   |                                | -4,490  |  |  |
| Mar 22, 1972            |   | 80*   |                                | -2,420  |  |  |
|                         |   |   |                                | -4,490  |  |  |
|                         |   |   |                                | -3,870  |  |  |
|                         |   |   |                                | -5.17   |  |  |
|                         |   |   |                                | -4.46   |  |  |
|                         |   |   |                                | -7.86   |  |  |
|                         |   |   |                                | -9.68   |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
| 26. DATE OF SURVEY      |   | 39. AV. DRY WGT., LBS. PER CU. FT.                |                                | 40. SED. DEP., TONS PER SQ. MI.-YR.           |  |  |
|                         |   |   |                                | a. PERIOD b. TOTAL TO DATE                    |  |  |
| Jul 27, 1971            |   | 80*   |                                | -4,490  |  |  |
| Mar 22, 1972            |   | 80*   |                                | -2,420  |  |  |
|                         |   |   |                                | -4,490  |  |  |
|                         |   |   |                                | -3,870  |  |  |
|                         |   |   |                                | -5.17   |  |  |
|                         |   |   |                                | -4.46   |  |  |
|                         |   |   |                                | -7.86   |  |  |
|                         |   |   |                                | -9.68   |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
| 26. DATE OF SURVEY      |   | 39. AV. DRY WGT., LBS. PER CU. FT.                |                                | 40. SED. DEP., TONS PER SQ. MI.-YR.           |  |  |
|                         |   |   |                                | a. PERIOD b. TOTAL TO DATE                    |  |  |
| Jul 27, 1971            |   | 80*   |                                | -4,490  |  |  |
| Mar 22, 1972            |   | 80*   |                                | -2,420  |  |  |
|                         |   |   |                                | -4,490  |  |  |
|                         |   |   |                                | -3,870  |  |  |
|                         |   |   |                                | -5.17   |  |  |
|                         |   |   |                                | -4.46   |  |  |
|                         |   |   |                                | -7.86   |  |  |
|                         |   |   |                                | -9.68   |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
| 26. DATE OF SURVEY      |   | 39. AV. DRY WGT., LBS. PER CU. FT.                |                                | 40. SED. DEP., TONS PER SQ. MI.-YR.           |  |  |
|                         |   |   |                                | a. PERIOD b. TOTAL TO DATE                    |  |  |
| Jul 27, 1971            |   | 80*   |                                | -4,490  |  |  |
| Mar 22, 1972            |   | 80*   |                                | -2,420  |  |  |
|                         |   |   |                                | -4,490  |  |  |
|                         |   |   |                                | -3,870  |  |  |
|                         |   |   |                                | -5.17   |  |  |
|                         |   |   |                                | -4.46   |  |  |
|                         |   |   |                                | -7.86   |  |  |
|                         |   |   |                                | -9.68   |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
| 26. DATE OF SURVEY      |   | 39. AV. DRY WGT., LBS. PER CU. FT.                |                                | 40. SED. DEP., TONS PER SQ. MI.-YR.           |  |  |
|                         |   |   |                                | a. PERIOD b. TOTAL TO DATE                    |  |  |
| Jul 27, 1971            |   | 80*   |                                | -4,490  |  |  |
| Mar 22, 1972            |   | 80*   |                                | -2,420  |  |  |
|                         |   |   |                                | -4,490  |  |  |
|                         |   |   |                                | -3,870  |  |  |
|                         |   |   |                                | -5.17   |  |  |
|                         |   |   |                                | -4.46   |  |  |
|                         |   |   |                                | -7.86   |  |  |
|                         |   |   |                                | -9.68   |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |
|                         |   |   |                                | 82  |  |  |
|                         |   |   |                                | 41  |  |  |

| 26. DATE OF SURVEY   | 43. DEPTH DESIGNATION RANGE IN FEET |        |        |        |        |        |        |        |        |        |  | M.S.L. |  |
|--|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--------|--|
|  | 253-70                              | 270-72 | 272-74 | 274-76 | 276-78 | 278-80 | 280-82 | 282-84 | 284-87 | 287-89 |  |        |  |
| PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION |                                     |        |        |        |        |        |        |        |        |        |  |        |  |
| Jul 27, 1971   | -19                                 | -52    | 10     | -11    | -9     | -9     | -4     | -2     | -3     | -1     |  |        |  |
| Mar 22, 1972   | -15                                 | 8      | -2     | -13    | -4     | -6     | -7     | -9     | -28    | -24    |  |        |  |

  

| 26. DATE OF SURVEY   | 44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR |       |       |       |       |       |       |       |       |        |      |      |      |      |      |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|------|------|------|------|
|  | 0-10  | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 | -105 | -110 | -115 | -120 | -125 |
| PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION |   |       |       |       |       |       |       |       |       |        |      |      |      |      |      |
| Jul 27, 1971   | -10   | -17   | -8    | -11   | -3    | 1     | -9    | -16   | -16   | -11    |      |      |      |      |      |
| Mar 22, 1972   | -57   | 2     | -9    | -7    | -5    | -12   | -9    | 1     | 18    | -22    |      |      |      |      |      |

  

| 45. RANGE IN RESERVOIR OPERATION |            |            |                 |            |            |            |                 |
|----------------------------------|------------|------------|-----------------|------------|------------|------------|-----------------|
| WATER YEAR                       | MAX. ELEV. | MIN. ELEV. | INFLOW, AC.-FT. | WATER YEAR | MAX. ELEV. | MIN. ELEV. | INFLOW, AC.-FT. |
| 1970                             | 287.4      | 283.7      | 22,680,000      |            |            |            |                 |
| 1971                             | 287.6      | 282.8      | 17,350,000      |            |            |            |                 |
| 1972                             | 294.3      | 283.1      | 16,060,000      |            |            |            |                 |

  

| 46. ELEVATION-AREA-CAPACITY DATA |       |          |             |       |          |           |       |          |
|----------------------------------|-------|----------|-------------|-------|----------|-----------|-------|----------|
| ELEVATION                        | AREA  | CAPACITY | ELEVATION   | AREA  | CAPACITY | ELEVATION | AREA  | CAPACITY |
| Original Survey - 1970           |       |          | 274         | 2,290 | 12,050   | 282       | 4,170 | 44,760   |
| 289                              | 5,060 | 74,150   | 272         | 1,360 | 6,630    | 280       | 3,790 | 36,180   |
| 287                              | 4,800 | 63,460   | 270         | 940   | 4,210    | 278       | 3,450 | 28,390   |
| 284                              | 4,340 | 48,530   | 1972 Survey |       |          | 276       | 3,050 | 21,430   |
| 282                              | 4,040 | 39,440   |             |       |          | 274       | 2,610 | 15,260   |
| 280                              | 3,600 | 31,150   | 289         | 5,260 | 80,690   | 272       | 2,030 | 10,320   |
| 278                              | 3,180 | 23,880   | 287         | 4,990 | 69,600   | 270       | 990   | 5,400    |
| 276                              | 2,780 | 17,450   | 284         | 4,500 | 54,130   |           |       |          |

  

47. REMARKS AND REFERENCES

- 1/ Top of spillway gates in closed position.
- 2/ Top of reregulation pool is elev. 287. Top of navigation pool is elev. 284.
- 3/ Spillway crest.
- 4/ Interpolated from USGS Water Resources Data for Arkansas at Dardanelle and Murray Dam at Little Rock.
- 5/ Adjustment based on inflow from net sediment contributing area (Item 19) as taken from USGS W.R. Data; 1970 (1,097,000 AC. FT); 1971 (1,115,000 AC. FT); 1972 (1,129,200 AC. FT).
- 6/ Computed from measured suspended sediment concentrations.

  

48. AGENCY MAKING SURVEY Department of the Army, Corps of Engineers

49. AGENCY SUPPLYING DATA Southwestern Div., Little Rock Dist. 50. DATE 1 Nov 76