

RESERVOIR SEDIMENT DATA SUMMARY

Thorpe
NAME OF RESERVOIR

20-9b
DATA SHEET NO.

| | | | | | | | | | | | | | | | |
|------------------------------------|---|-----------------------------------|------------------------------------|--|-----------------------------------|---|---|-------------------------------|---------------------------------|-----------------|-----------------------------|-----------------|------------------------------------|-----------------|--|
| DAM | 1. OWNER ALCOA | | | 2. STREAM W. Fk. Tuckasegee | | | 3. STATE North Carolina | | | | | | | | |
| | 4. SEC. TWP. RANGE | | | 5. NEAREST POST OFF. Glenville | | | 6. COUNTY Jackson | | | | | | | | |
| | 7. LAT. 35° 11' 47" LONG. 83° 09' 10" | | | 8. TOP OF DAM ELEVATION 3,506.7 | | | 9. SPILLWAY CREST ELEV. 3,491.75 | | | | | | | | |
| 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 | | 2/ | | 3/ | | 3/ | | 3/ | | 2/12/41 | | | | |
| | b. MULTIPLE USE | | | | | | | | | | | | | | |
| | c. POWER | | 3,491.75 | | 1,464 | | 68,823 | | 70,700 | | | | | | |
| | d. WATER SUPPLY | | | | | | | | | | 16. DATE NORMAL OPER. BEGAN | | | | |
| | e. IRRIGATION | | | | | | | | | | | | | | |
| | f. CONSERVATION | | | | | | | | | | | | | | |
| g. INACTIVE | | 3,406.7 | | 173 | | 1,877 | | 1,877 | | | | | | | |
| 17. LENGTH OF RESERVOIR | | | | 4.6 | | MILES | | 17. AV. WIDTH OF RESERVOIR | | | | 0.50 | | MILES | |
| 18. TOTAL DRAINAGE AREA | | | | 36.7 | | SQ. MI. | | 22. MEAN ANNUAL PRECIPITATION | | | | 66.0 | | INCHES | |
| 19. NET SEDIMENT CONTRIBUTING AREA | | | | 34.4 | | SQ. MI. | | 23. MEAN ANNUAL RUNOFF | | | | 40.8 | | INCHES | |
| 20. LENGTH | | | | 7 | | MILES | | 24. MEAN ANNUAL RUNOFF | | 79,960 | | AC.-FT. | | | |
| 21. MAX. ELEV. 5,127 | | | | MIN. ELEV. 3,373 | | | | 25. ANNUAL TEMP; MEAN 55° | | | | RANGE 0° to 86° | | | |
| WATERSHED | 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 AC.-FT. PER AC.-FT. | | |
| | Feb. 12, 1941 | | | | | | | | | | | | | | |
| | Sept. 5, 1950 | | 9.6 | 9.6 | Range | | 20 | | 1,464 | | 70,700 | | 0.888 | | |
| | July 22, 1958 | | 7.8 | 17.4 | Range | | 20 | | 1,464 | | 70,537 | | 0.886 | | |
| | May 20, 1969 | | 10.9 | 28.3 | Range | | 20 | | 1,464 | | 70,487 | | 0.882 | | |
| | | | | | (D) | | | | | | | | | | |
| | 26. DATE OF SURVEY | | 34. PERIOD ANNUAL PRECIPITATION | | 35. PERIOD WATER INFLOW ACRE-Feet | | | | 36. WATER INFL. TO DATE AC.-FT. | | | | | | |
| | | | | | a. MEAN ANNUAL | | b. MAX. ANNUAL | | c. PERIOD TOTAL | | a. MEAN ANNUAL | | b. TOTAL TO DATE | | |
| | Sep. 5, 1950 | | 70.4 | | 84,887 | | 132,900 | | 814,919 | | 84,887 | | 814,919 | | |
| | July 22, 1958 | | 64.2 | | 78,578 | | 88,462 | | 612,907 | | 82,059 | | 1,427,826 | | |
| May 20, 1969 | | 66.1 | | 80,556 | | 101,680 | | 870,001 | | 81,195 | | 2,297,827 | | | |
| SURVEY DATA | 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 | | | | | | |
| | July 22, 1958 | | 163 | | | 20.9 | | | 0.61 | | | | | | |
| | May 20, 1969 | | 50 | | | 4.6 | | | 0.13 | | | | | | |
| | | | | | | | | | 4/ | | | | | | |
| 26. DATE OF SURVEY | | 39. AV. DRY WGT. LBS. PER CU. FT. | | 40. SED. DEP. TONS PER SQ. MI.-YR. | | 41. STORAGE LOSS PCT. | | 42. SED. INFLOW PPM | | | | | | | |
| | | | | a. TOTAL TO DATE | | b. PERIOD | | a. AV. AN. | | b. TOT. TO DATE | | a. PERIOD | | b. TOT. TO DATE | |
| July 22, 1958 | | 55* | | 731 | | 731 | | 0.030 | | 0.231 | | 235 | | 235 | |
| May 20, 1969 | | 55* | | 395 | | 160 | | 0.016 | | 0.301 | | 51 | | 127 | |

*Assumed

| | | | | | | | | | | | | | |
|--------------------|---|--------|-------|-------|-------|-----------------|--|--|--|--|--|--|--|
| 26. DATE OF SURVEY | 43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION | | | | | | | | | | | | |
| | 122-10 | 100-80 | 80-60 | 60-40 | 40-20 | 20-Top of Gates | | | | | | | |
| | PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION | | | | | | | | | | | | |
| July 22, 1958 | 10 | 16 | 44 | 8 | 3 | 19 | | | | | | | |
| May 20, 1969 | 8 | 23 | 61 | 30 | 35 | 5/ -57 | | | | | | | |

| | | | | | | | | | | | | | | | |
|--------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|------|------|------|------|
| 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 | | | | | | | | | | | | | | |
| July 22, 1958 | 15 | 8 | 9 | 6 | 7 | 4 | 9 | 25 | 14 | 3 | | | | | |
| May 20, 1969 | 14 | 5 | 1 | 10 | 13 | 4 | 11 | 23 | 14 | 5 | | | | | |

| 45. RANGE IN RESERVOIR OPERATION 2/ | | | | | | | |
|-------------------------------------|------------|------------|----------------|------------|------------|------------|----------------|
| WATER YEAR | MAX. ELEV. | MIN. ELEV. | INFLOW AC.-FT. | WATER YEAR | MAX. ELEV. | MIN. ELEV. | INFLOW AC.-FT. |
| See sheet 20-9a for previous data | | | | | | | |
| 1959 | 3472.30 | 3450.62 | 63,684 | | | | |
| 1960 | 3489.86 | 3465.66 | 88,571 | | | | |
| 1961 | 3478.62 | 3459.20 | 78,360 | | | | |
| 1962 | 3491.55 | 3461.23 | 88,075 | | | | |
| 1963 | 3473.49 | 3456.36 | 54,584 | | | | |
| 1964 | 3491.27 | 3464.52 | 86,316 | | | | |
| 1965 | 3489.45 | 3477.03 | 101,680 | | | | |
| 1966 | 3484.08 | 3462.15 | 75,932 | | | | |
| 1967 | 3489.98 | 3461.25 | 92,263 | | | | |
| 1968 | 3489.53 | 3478.49 | 75,897 | | | | |
| 1969 | 3490.74 | 3475.84 | 77,281 | | | | |

| 46. ELEVATION-AREA-CAPACITY DATA | | | | | | | | |
|----------------------------------|-------|----------|-----------|------|----------|-----------|------|----------|
| ELEVATION | AREA | CAPACITY | ELEVATION | AREA | CAPACITY | ELEVATION | AREA | CAPACITY |
| | | 1950 | | | 1969 | | | |
| 3370 | 0 | 0 | | | 0 | | | |
| 3390 | 40 | 261 | | | 245 | | | |
| 3410 | 202 | 2,486 | | | 2,429 | | | |
| 3430 | 500 | 9,244 | | | 9,053 | | | |
| 3450 | 844 | 22,606 | | | 22,350 | | | |
| 3470 | 1,142 | 42,518 | | | 42,182 | | | |
| 3491.75 | 1,464 | 70,700 | | | 70,487 | | | |

47. REMARKS AND REFERENCES

1/ Top of gates.

2/ 1936 datum. To obtain Alcoa datum subtract 391.75.

3/ From first accurate area-volume curves, September 5, 1950, data.

4/ Items 38a, b, and c, 40a, 41a, and 42b calculated from first survey on September 5, 1950.

5/ (-) Minus donotes scour. Treated as negative sediment.

48. AGENCY MAKING SURVEY Hydraulic Data Branch
 49. AGENCY SUPPLYING DATA Tennessee Valley Authority

50. DATE June 1, 1971