

RESERVOIR SEDIMENT
DATA SUMMARY

SCS-34 Rev. 6-66

Sturgis Watershed No. 3

NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

38-8

DATA SHEET NO.

| DAM | 1. OWNER USDA Forest Service | | 2. STREAM Alkali Creek | | 3. STATE So. Dak. | | | |
|-----------------------|-----------------------------------------------------|-----------------------------------------------|--------------------------------------|----------------------------------|--------------------------------------------|----------------------------------|-------------------------|-------------------------------------|
| | 4. SEC. 4 TWP. 4N RANGE 5E | | 5. NEAREST P.O. Sturgis 6Mi.S | | 6. COUNTY Meade | | | |
| | 7. LAT. 44° 20' 10" LONG 103° 31' 50" | | 8. TOP OF DAM ELEVATION 4710 | | 9. SPILLWAY CREST ELEV. - | | | |
| 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 | | | | | | | |
| | b. MULTIPLE USE | 1/ | N/A | N/A | N/A | 12/1/63 | | |
| | c. POWER | | | | | | | |
| | d. WATER SUPPLY | | | | | 16. DATE NOR-MAL OPER. BEGAN | | |
| | e. IRRIGATION | | | | | | | |
| | f. CONSERVATION | | | | | 12/1/63 | | |
| | g. INACTIVE | | | | | | | |
| WATERSHED | 17. LENGTH OF RESERVOIR | | | MILES | AV. WIDTH OF RESERVOIR | | MILES | |
| | 18. TOTAL DRAINAGE AREA | | | .297 | SQ. MI. | 22. MEAN ANNUAL PRECIPITATION | | 25.17 2/ INCHES |
| | 19. NET SEDIMENT CONTRIBUTING AREA | | | 0.297 | SQ. MI. | 23. MEAN ANNUAL RUNOFF | | 6.58 INCHES |
| | 20. LENGTH | | 0.801 | MILES | AV. WIDTH | | .371 | MILES |
| | 24. MEAN ANNUAL RUNOFF | | 104.22 | | AC. FT. | | | |
| 21. MAX. ELEV. | | 5333 | | MIN. ELEV. | | 4715 | | |
| 25. ANNUAL TEMP: MEAN | | 43 | | RANGE | | 130 | | |
| SURVEY DATA | 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. |
| | 10/1/65 | - | - | See Remark <u>3/</u> | | | | |
| | 10/1/66 | 1.00 | 1.00 | | | | | |
| | 10/1/67 | 1.00 | 2.00 | | | | | |
| | 10/1/68 | 1.00 | 3.00 | | | | | |
| | 10/1/69 | 1.00 | 4.00 | | | | | |
| | 10/1/70 | 1.00 | 5.00 | | | | | |
| | 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 | |
| | 10/1/66 | 24.41 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | |
| | 10/1/67 | 32.28 | 511.1 | 511.1 | 511.1 | 448.4 | 896.8 | |
| | 10/1/68 | 24.64 | 389.5 | 389.5 | 389.5 | 428.8 | 1286.3 | |
| | 10/1/69 | 20.94 | 330.6 | 330.6 | 330.6 | 404.2 | 1616.9 | |
| | 10/1/70 | 32.60 | 516.8 | 516.8 | 516.8 | 426.7 | 2133.7 | |
| | 26. DATE OF SURVEY | 37. 4/ 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 | | |
| 10/1/66 | 15.7×10^{-6} | 15.7×10^{-6} | 52.8×10^{-6} | 15.7×10^{-6} | 15.7×10^{-6} | 52.8×10^{-6} | | |
| 10/1/67 | 59.8×10^{-6} | 59.8×10^{-6} | 201.2×10^{-6} | 75.5×10^{-6} | 37.8×10^{-6} | 127.3×10^{-6} | | |
| 10/1/68 | 5.0×10^{-6} | 5.0×10^{-6} | 16.8×10^{-6} | 80.5×10^{-6} | 26.8×10^{-6} | 90.2×10^{-6} | | |
| 10/1/69 | 3.2×10^{-6} | 3.2×10^{-6} | 10.9×10^{-6} | 83.7×10^{-6} | 20.9×10^{-6} | 70.4×10^{-6} | | |
| 10/1/70 | 360.5×10^{-6} | 360.5×10^{-6} | 1213.9×10^{-6} | 444.2×10^{-6} | 88.8×10^{-6} | 299.0×10^{-6} | | |
| 26. DATE OF SURVEY | 39. AV. DRY WGT., LBS. PER CU. FT. | 40. SED. DEP., TONS PERSQ. MI.-YR. | | 41. STORAGE LOSS, PCT. | | 42. SED. INFLOW, PPM | | |
| | | a. PERIOD | b. TOTAL TO DATE | a. AV. ANN. | b. TOT. TO DATE | a. PERIOD | b. TOT. TO DATE | |
| 10/1/66 | 92.2 | .106 | .106 | | | | | |
| 10/1/67 | | .404 | .256 | | | | | |
| 10/1/68 | | .034 | .181 | | | | | |
| 10/1/69 | | .022 | .141 | | | | | |
| 10/1/70 | | 2.438 | .600 | | | | | |

| | | | | | | | | | | | | | |
|--------------------|-----------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| 26. DATE OF SURVEY | 43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | |
|--------------------|---------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|------|------|------|------|
| 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 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

| 45. RANGE IN RESERVOIR OPERATION | | | | | | | |
|----------------------------------|------------|------------|-----------------|------------|------------|------------|-----------------|
| WATER YEAR | MAX. ELEV. | MIN. ELEV. | INFLOW, AC.-FT. | WATER YEAR | MAX. ELEV. | MIN. ELEV. | INFLOW, AC.-FT. |
| | | | | | | | |

| 46. ELEVATION-AREA-CAPACITY DATA | | | | | | | | |
|----------------------------------|------|----------|-----------|------|----------|-----------|------|----------|
| ELEVATION | AREA | CAPACITY | ELEVATION | AREA | CAPACITY | ELEVATION | AREA | CAPACITY |
| | | | | | | | | |

47. REMARKS AND REFERENCES

1/ 10-14, a-g: Water yield research facility; inflow = outflow over weir.
 2/ 5 year average 1966 - 1970.
 3/ Volumetric streamflow facility.
 4/ Period sediment deposit, acre-feet, bedload; no permanent capacity loss since material cleaned from weir pond periodically.

N/A Not applicable

48. AGENCY MAKING SURVEY
 49. AGENCY SUPPLYING DATA Forest Service

50. DATE July 10, 1972