

RESERVOIR SEDIMENT

DATA SUMMARY

SCS-34 Rev. 6-66

Site No. 25, Upper Washita River

NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

50- 49

DATA SHEET NO.

| | | | | | | | | | | | | |
|--------------------|--|-------------------------------------|-----------------------------|---------------------------------------|--|-----------------------------------|---------------------------------------|-------------------------|---|--|-----------------------------|--|
| DAM | 1. OWNER R. T. Alexander | | | 2. STREAM Washita River | | | 3. STATE Texas | | | | | |
| | 4. SEC. TWP. RANGE | | | 5. NEAREST P.O. Canadian | | | 6. COUNTY Hemphill | | | | | |
| | 7. LAT. " " " " " " " " " " " " | | | 8. TOP OF DAM ELEVATION 2437.0 | | | 9. SPILLWAY CREST ELEV. 2433.0 | | | | | |
| 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 | | 2433.0 | | 113.08 | | 1041.30 | | 1315.92 | | 7-2-61 | |
| | b. MULTIPLE USE | | | | | | | | | | | |
| | c. POWER | | | | | | | | | | | |
| | d. WATER SUPPLY | | | | | | | | | | 16. DATE NORMAL OPER. BEGAN | |
| | e. IRRIGATION | | | | | | | | | | | |
| | f. CONSERVATION | | | | | | | | | | 7-2-61 | |
| g. INACTIVE | | 2419.2 | | 40.24 | | 274.62 | | 274.62 | | | | |
| WATERSHED | 17. LENGTH OF RESERVOIR 1.32 MILES | | | | AV. WIDTH OF RESERVOIR 0.14 MILES | | | | | | | |
| | 18. TOTAL DRAINAGE AREA 7.14 SQ. MI. | | | | 22. MEAN ANNUAL PRECIPITATION 21.30 (38) INCHES | | | | | | | |
| | 19. NET SEDIMENT CONTRIBUTING AREA 6.96 SQ. MI. | | | | 23. MEAN ANNUAL RUNOFF 0.75 INCHES | | | | | | | |
| | 20. LENGTH 5.0 MILES | | AV. WIDTH 1.43 MILES | | 24. MEAN ANNUAL RUNOFF 285 AC.-FT. | | | | | | | |
| | 21. MAX. ELEV. | | MIN. ELEV. 2401.0 | | 25. ANNUAL TEMP.: MEAN RANGE Subhumid | | | | | | | |
| 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. CM RATIO, AC.-FT. PER ACRE SQ. MI. | | | |
| | 11-27-61 | | - | - | Range- Contour (D) | 32 R 2 CI | 113.08 | 1315.92 | 184.30 | | | |
| | 7-6-66 | | 4.6 | 4.6 | | | 113.08 | 1312.74 | 183.86 | | | |
| | 11-27-61 | | - | - | | | 40.24 | 274.62 | | | | |
| | 7-6-66 | | 4.6 | 4.6 | | | 40.24 | 271.44 | | | | |
| 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 | | | | |
| 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 | | | | | |
| 1/ 7-6-66 | | 3.18 | 0.69 | 0.10 | 3.18 | 0.69 | 0.10 | | | | | |
| 2/ 7-6-66 | | 3.18 | 0.69 | 0.10 | 3.18 | 0.69 | 0.10 | | | | | |
| 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. PERIOD | b. TOTAL TO DATE | a. AV. ANN. | b. TOT. TO DATE | a. PERIOD | b. TOT. TO DATE | | | | | |
| 1/ 7-6-66 | | - | - | - | 0.05 | 0.24 | -- | -- | | | | |
| 2/ 7-6-66 | | 91.8 | 3/ 199.9 | 199.9 | 0.25 | 1.16 | -- | -- | | | | |

| | | | | | | | | | | | | | | | |
|---|---|------------|-----------------|------------|------------|------------|-----------------|----------|-------|--------|------|------|------|----------|------|
| 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 | | | | | | | |
| See Attached Sheet | | | | | | | | | | | | | | | |
| 47. REMARKS AND REFERENCES | | | | | | | | | | | | | | | |
| <u>1/</u> Both pools . <u>2/</u> Sediment pool only. <u>3/</u> All sediments subjected to long periods of aeration. | | | | | | | | | | | | | | | |
| Land Use: Rangeland. Estimated trap efficiency: 98% | | | | | | | | | | | | | | | |
| Soil Conservation Service Temple, Texas | | | | | | | | | | | | | | | |
| 48. AGENCY MAKING SURVEY | | | | | | | | | | | | | | | |
| 49. AGENCY SUPPLYING DATA | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 50. DATE | 2-67 |

Site No. 25, Upper Washita River

46

Elevation - Area - Capacity Data

1961

| Elevation | Area | Capacity | Elevation | Area | Capacity |
|-----------|-------|----------|-----------|--------|----------|
| 2401.0 | .20 | .13 | 2419.2 | 40.24 | 274.62 |
| 2403.0 | 1.74 | 1.42 | 2421.0 | 48.69 | 354.53 |
| 2405.0 | 5.50 | 8.36 | 2423.0 | 58.94 | 462.05 |
| 2407.0 | 6.85 | 20.71 | 2425.0 | 68.61 | 589.54 |
| 2409.0 | 10.03 | 37.51 | 2427.0 | 79.74 | 737.82 |
| 2411.0 | 13.57 | 61.03 | 2429.0 | 91.01 | 908.53 |
| 2413.0 | 18.47 | 92.97 | 2431.0 | 101.65 | 1101.19 |
| 2415.0 | 25.58 | 136.84 | 2433.0 | 113.08 | 1315.92 |
| 2417.0 | 32.50 | 194.80 | | | |

1966

| | | | | | |
|--------|-------|--------|--------|--------|---------|
| 2401.0 | .26 | .17 | 2419.2 | 40.24 | 271.44 |
| 2403.0 | 1.57 | 1.39 | 2421.0 | 48.69 | 351.35 |
| 2405.0 | 4.97 | 7.63 | 2423.0 | 58.94 | 458.87 |
| 2407.0 | 6.32 | 18.87 | 2425.0 | 68.61 | 586.36 |
| 2409.0 | 9.65 | 34.73 | 2427.0 | 79.74 | 734.64 |
| 2411.0 | 13.57 | 57.85 | 2429.0 | 91.01 | 905.35 |
| 2413.0 | 18.47 | 89.79 | 2431.0 | 101.65 | 1098.01 |
| 2415.0 | 25.58 | 133.66 | 2433.0 | 113.08 | 1312.74 |
| 2417.0 | 32.50 | 191.62 | | | |

RESERVOIR SEDIMENT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

DATA SUMMARY

Site 25, Upper Washita

SCS-34 Rev. 6-66

NAME OF RESERVOIR

50 - 49a

DATA SHEET NO.

| DAM | 1. OWNER R. T. Alexander | | 2. STREAM Gageby Creek | | 3. STATE Texas | | | |
|--------------------|--|-------------------------------------|--|--|---|-----------------------------|-------------------------|-------------------------------------|
| | 4. SEC. TWP. RANGE | | 5. NEAREST P. O. Canadian | | 6. COUNTY Hemphill | | | |
| | 7. LAT. 35° 41' 15" LONG. 100° 10' 18" | | 8. TOP OF DAM ELEVATION 2437.0 | | 9. SPILLWAY CREST ELEV. 2433.0 | | | |
| 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 | 2433.0 1/ | 113.08 | 1041.30 | 1315.92 | 7-2-61 | | |
| | b. MULTIPLE USE | | | | | | | |
| | c. POWER | | | | | | | |
| | d. WATER SUPPLY | | | | | 16. DATE NORMAL OPER. BEGAN | | |
| | e. IRRIGATION | | | | | | | |
| | f. CONSERVATION | | | | | | | |
| g. INACTIVE | 2419.2 2/ | 40.24 | 274.62 | 274.62 | 274.62 | 7-2-61 | | |
| WATERSHED | 17. LENGTH OF RESERVOIR 1.32 MILES | | AV. WIDTH OF RESERVOIR 0.13 MILES | | | | | |
| | 18. TOTAL DRAINAGE AREA 7.14 SQ. MI. | | 22. MEAN ANNUAL PRECIPITATION 20.50 (62) INCHES | | | | | |
| | 19. NET SEDIMENT CONTRIBUTING AREA 6.96 SQ. MI. | | 23. MEAN ANNUAL RUNOFF 0.75 INCHES | | | | | |
| | 20. LENGTH 5.0 MILES | AV. WIDTH 1.43 MILES | 24. MEAN ANNUAL RUNOFF 285.58 AC.-FT. | | | | | |
| | 21. MAX. ELEV. | | MIN. ELEV. 2401.0 | | 25. ANNUAL TEMP.: MEAN 59°F RANGE 23°F - 95°F | | | |
| 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. |
| | 11-27-61 | - | - | Range Contour (D) | 32R | 113.08 | 1315.92 | 4.61 |
| | 7-6-66 | 4.60 | 4.60 | | | 113.08 | 1312.74 | 4.60 |
| | 9-9-74 | 8.18 | 12.78 | (D) | 2' CI | 113.08 | 1287.45 | 4.51 |
| | 11-27-61 | - | - | | | 40.24 | 274.62 | -- |
| | 7-6-66 | 4.60 | 4.60 | | | 40.24 | 271.44 | -- |
| | 9-9-74 | 8.18 | 12.78 | 39.66 | 259.39 | -- | | |
| 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 | | |
| | | | | | | | | |
| 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 | | |
| 9-9-74 | 25.29 | 3.09 | 0.44 | 28.47 | 2.23 | 0.32 | | |
| 9-9-74 | 12.05 | 1.47 | 0.21 | 15.23 | 1.19 | 0.17 | | |
| 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. PERIOD | b. TOTAL TO DATE | a. AV. ANN. | b. TOT. TO DATE | a. PERIOD | b. TOT. TO DATE | |
| 9-9-74 | - | 899.46 | 647.31 | 0.17 | 2.16 | -- | -- | |
| 9-9-74 | *91 (4) | 418.28 | 336.94 | 0.43 | 5.55 | -- | -- | |
| 9-9-74 | 95 (5) | 481.18 | 310.37 | - | - | | | |

*All sediment subjected to long periods of aeration.

| | | | | | | | | | | | | | | |
|--------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 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 |
| 2403.0 | 1.14 | 0.76 | 2419.2 | 39.66 | 259.39 | | | |
| 2405.0 | 4.52 | 6.05 | 2421.0 | 48.75 | 338.82 | | | |
| 2407.0 | 6.17 | 16.70 | 2423.0 | 57.01 | 444.53 | | | |
| 2409.0 | 8.80 | 31.60 | 2425.0 | 66.81 | 568.28 | | | |
| 2411.0 | 12.61 | 52.91 | 2427.0 | 78.14 | 713.15 | | | |
| 2413.0 | 16.62 | 82.06 | 2429.0 | 89.89 | 881.13 | | | |
| 2415.0 | 24.55 | 122.99 | 2431.0 | 101.69 | 1072.68 | | | |
| 2417.0 | 32.64 | 180.02 | 2433.0 | 113.08 | 1287.46 | | | |

47. REMARKS AND REFERENCES

Land Use - 95% Rangeland, 5% Small Grains.
 Geology - Ogallala Formation, Pliocene Age.
 Trap Efficiency - 98%+ (water has yet to flow through drawdown).
 Land Resource Area - Central Rolling Red Plains

1/ Total reservoir below emergency spillway crest.
 2/ Sediment pool only.
 3/ Detention pool only.

48. AGENCY MAKING SURVEY Soil Conservation Service
 49. AGENCY SUPPLYING DATA Temple, Texas
 50. DATE 12-74