

RESERVOIR SEDIMENTATION
DATA SUMMARY

Guthrie Reservoir

46-8

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER City of Guthrie			2. RIVER Tributary of Cottonwood Creek		3. STATE Oklahoma			
	4. SEC. 32 TWP. 16 RANGE 2			5. NEAREST TOWN Guthrie		6. COUNTY Logan			
	7. STREAM BED ELEV.			8. TOP OF DAM ELEV.		9. SPILLWAY CREST ELEV. 980			
RESERVOIR	10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL	12. SURFACE AREA ACRES	13. STORAGE ACRE- FEET	14. ACCUMULATED ACRE- FEET	15. DATE STORAGE BEGAN			
	a. FLOOD CONTROL					Oct. 1920			
	b. POWER								
	c. WATER SUPPLY	980	226	3,064	3,064	16. DATE NORMAL OPER. BEGAN			
	d. IRRIGATION								
	e. CONSERVATION								
	f. INACTIVE					Oct. 1920			
17. LENGTH OF RESERVOIR		1.9	MILES	AV. WIDTH OF RESERVOIR		0.2	MILES		
WATERSHED	18. TOTAL DRAINAGE AREA		13.30	SQ. MI.	22. MEAN ANNUAL PRECIPITATION		33.39 (4) INCHES		
	19. NET SEDIMENT CONTRIBUTING AREA		12.95	SQ. MI.	23. MEAN ANNUAL RUNOFF		INCHES		
	20. LENGTH		MILES	AV. WIDTH	MILES	24. MEAN ANNUAL RUNOFF		AG.-FT.	
	21. MAX. ELEV.		MIN. ELEV.		25. CLIMATIC CLASSIFICATION			Humid	
	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/W RATIO AC.-FT. PER SQ. MI.
Oct. 1920		-	-	-	-	226	3,064	230	
May 1935		14.5	14.5	Range & contour combination Detailed	11 1 (C.I.)	217	2,608	196	
SURVEY DATA	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE- FEET			36. WATER INFL. TO DATE AG-FT.	
					a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE
26. DATE OF SURVEY		37. PERIOD SEDIMENT DEPOSITS 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		
May 1935		456 (556) 1/	31.4 (38.3)	2.42 (2.96)	456 (556)	31.4 (38.3)	2.42 (2.96)		
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. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE
May 1935		60*		3,162 (3,868)	3,162 (3,863)	1.03	14.88	-	-

*Assumed

1/ Above-crest deposits within original flow-line.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, 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

Eakin, H. M., and Brown, Carl B. Silting of reservoirs. U. S. Dept. of Agr. Tech. Bull. 524, Revised 1939, pp. 82-85.

Sediment in the lower part of the lake is reddish-brown fine sandy silt. Deposits in the upper half of the lake are fine to coarse sand.

Region 4, Soil Conservation Service
U. S. Department of Agriculture

48. AGENCY SUPPLYING DATA Fort Worth, Texas

49. DATE August 11, 1950