

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

Webbers Falls Lock & Dam 16

NAME OF RESERVOIR

45-59

DATA SHEET NO.

DAM	1. OWNER Corps of Engineers			2. STREAM Arkansas River			3. STATE Oklahoma									
	4. SEC. 34 TWP. 13N RANGE 20E			5. NEAREST P O Gore, OK			6. COUNTY Muskogee									
	7. LAT. 35° 35' 14 " LONG. 95° 10' 06 "			8. TOP OF DAM ELEVATION 520.0			9. SPILLWAY CREST ELEV 491.0									
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										9 Nov 70					
	b. MULTIPLE USE															
	c. POWER		490.0		11,590		32,300		179,350							
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN					
	e. IRRIGATION															
	f. CONSERVATION		487.0		9,990		136,850		146,050		Dec. 70					
	g. INACTIVE		460.0		1,930		10,200		10,200							
WATERSHED	17. LENGTH OF RESERVOIR 46.03 1/ MILES				AV. WIDTH OF RESERVOIR 0.39 MILES											
	18. TOTAL DRAINAGE AREA 97,033 2/ SQ. MI.				22. MEAN ANNUAL PRECIPITATION 40.44 (47 yrs) INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA 1,765 SQ. MI.				23. MEAN ANNUAL RUNOFF 3.14 (45 yrs) INCHES											
	20. LENGTH 1030.8 MILES				AV. WIDTH 94.1 MILES				24. MEAN ANNUAL RUNOFF 14,140,000 (45 yrs) AC. FT.							
	21. MAX. ELEV. 14,424 ft.				MIN. ELEV. 433.0 ft.				25. ANNUAL TEMP MEAN 61.5 F RANGE -23 F to 11 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/H. RATIO, AC.-FT. PER AC.-FT.	
	1 Nov 1970 4/		-		-		Range (D)		66		12,515		191,400		0.648 3/	
	1 Oct 1976		5.92		5.92		Range (D)		66		12,620		182,230		0.617 3/	
	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			
	1 Oct 1976		9.5-44.2		20,876,840		36,191,740		123,590,880		20,876,840		123,590,880			
	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 Oct 1976		9171 5/		1549 5/		0.8777 5/		9171 5/		1549 5/		0.8777 5/			
	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 Oct 1976		68.63		1312.0		1312.0		0.864 5.11		81.62		81.62				

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	59-52	52-46	46-39	39-32	32-25	25-20	20-15	15-10	10-5	5-C	C-5	5-10
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
1 Oct 1976	0.35	0.91	7.62	19.36	43.74	25.63	11.26	2.48	3.46	-3.33	-4.25	-7.23

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														
1 Oct 1976	5.2	19.4	15.8	41.6	11.7	9.5	4.3	-12.0	4.1	0.4					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1971	490.09	458.40	6766743				
1972	490.66	488.70	8555994				
1973	490.58	488.07	36191738				
1974	490.79	488.69	32991630				
1975	490.76	487.23	29779744				
1976	490.80	487.01	9305031				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
437	0	0	474	4697	47955	492	13595	195340
440	5	9	476	5271	58027	494	15558	224670
445	52	86	478	5706	68987	496	16965	257265
450	158	549	480	6376	81100	498	18236	292460
455	661	2262	482	7239	94760	499	18930	311040
460	1524	7920	484	8258	110240	510	30924	592210
465	2288	17360	487	10013	137680	520	47900	1004100
470	3512	31719	490	11640	170100			
472	4016	39246	491	12620	182230			

47. REMARKS AND REFERENCES

- Length of reservoir is 31,9 mi. Arkansas River, 7.7 mi. Grand River, 6.5 mi. Verdigris River
- 12,541 sq. mi. are non-contributing
- Based on net sediment contributing area
- For computation purposes, 11-1-70 was used for date of first survey
- Includes sediment above top power pool

48. AGENCY MAKING SURVEY *Tulsa District*

49. AGENCY SUPPLYING DATA Dept. of the Army Corps of Engineers 50. DATE 21 May 1981