

RESERVOIR SEDIMENTATION

FORT SUPPLY

46-1a

DATA SUMMARY

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER Corps of Engineers			2. RIVER Wolf Creek			3. STATE Oklahoma		
	4. SEC. 17 TWP. 24N RANGE 22W			5. NEAREST TOWN Fort Supply			6. COUNTY Woodward		
	7. STREAM BED ELEV. 1978			8. TOP OF DAM ELEV. 2059.5			9. SPILLWAY CREST ELEV. 2028		
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	2028	5,731	96,430	107,300	31 Jan 1941 (1)			
	b. POWER								
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN			
	d. IRRIGATION								
	e. CONSERVATION	2002 (2)	1,818	14,260	14,260	11 June 1942			
	f. INACTIVE								
WATERSHED	17. LENGTH OF RESERVOIR 7.70 MILES				AV. WIDTH OF RESERVOIR 1.23 MILES				
	18. TOTAL DRAINAGE AREA 1735 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 21.32 (55 yr.) INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 1726 SQ. MI.			23. MEAN ANNUAL RUNOFF 0.82 (20.7 yrs.) INCHES					
	20. LENGTH 92 MILES AV. WIDTH 20 MILES			24. MEAN ANNUAL RUNOFF 75,690 (20.7 yrs.) AC.-FT.					
	21. MAX. ELEV. 3036 MIN. ELEV. 1978			25. CLIMATIC CLASSIFICATION 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. C/W RATIO AC.-FT. PER SQ. MI.	
	Jan 1943	Orig	Survey	Range (D)	40	5731	107,340	62	
	June 1949	6.4	6.4	Range (D)	19	5728	106,150	61	
	June 1958	9.0	15.4	Range (D)	19	5694	101,750	59	
SURVEY DATA	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		
	June 1949	23.1	61,430	91,910	393,150	61,430	393,150		
June 1958	21.9	86,130	219,800	775,170	75,860	1,168,320			
SURVEY DATA	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.-YR.	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YR.		
	June 1949	1190	186	0.108	1190	186	0.108		
June 1958	4400	489	0.283	5590	363	0.210			
SURVEY DATA	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. INFL. PPM		
			a. PERIOD	b. TOTAL TO DATE	a. AV. ANNUAL	b. TO DATE	a. PERIOD	b. TO DATE	
	June 1949	57.8 (20)	136	136	0.173	1.11	2800	2800	
June 1958	67.2 (26)	414	307	0.338	5.21	6110	5150		

26.	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION														
	48-43	43-38	38-33	33-28	28-23	23-18	18-13	13-8	8-3	3-Cr					
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
1 June 1949	8.3	34.7	11.6	14.0	6.0	5.9	7.7	7.0	4.0	0.8					
1 June 1958	1.9	20.3	13.2	14.0	18.1	10.8	8.6	5.7	5.8	1.6					
26.	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														
June 1949	25.7	8.9	10.4	18.8	11.3	10.2	9.3	2.1	2.3	1.0					
June 1958	13.7	8.9	9.4	17.9	15.3	9.3	9.6	9.0	5.9	1.0					
45. RANGE IN RESERVOIR OPERATION															
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC-FT	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC-FT								
1943 (9 mo)	2003.5	1979.0	25,590	1951	2023.8	1999.9	154,000								
1944	2006.2	1992.4	62,240	1952	2002.4	1998.9	32,210								
1945	2006.4	1999.8	64,280	1953	2003.1	1997.9	18,610								
1946	2005.2	1999.2	26,520	1954	2004.9	1997.0	36,680								
1947	2009.5	1982.3	91,910	1955	2007.0	1995.6	51,130								
1948	2003.0	1987.2	33,760	1956	2002.4	2001.1	12,820								
1949	2016.7	1999.4	138,900	1957	2026.5	1999.8	219,800								
1950	2024.9	1999.9	169,500	1958 (8 mo)	2004.0	2001.7	30,420								
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
1985	0	0	2010	2726	28,430										
1990	276	276	2015	3364	43,540										
1995	764	2860	2020	4156	62,340										
2000	1399	8,130	2025	5132	85,520										
2002	1584	11,130	2028	5694	101,800										
2005	2033	16,510	2030	6,148	113,600										
47. REMARKS AND REFERENCES															
<p>(1) Date of diversion.</p> <p>(2) Conservation pool raised to elevation 2002.0 in October 1950. Prior to that time it was maintained at elevation 2000.0 with initial corresponding capacity of 10,890 AF.</p>															
48. AGENCY SUPPLYING DATA Dept of Army, Corps of Engineers					49. DATE										
					May 1959										

RESERVOIR SEDIMENT  
DATA SUMMARY

FORT SUPPLY LAKE

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

SCS-34 Rev. 6-66

NAME OF RESERVOIR

46-1b

DATA SHEET NO.

DAM	1. OWNER <b>Dept. of Army, C of E</b>			2. STREAM <b>Wolf Creek</b>			3. STATE <b>Oklahoma</b>									
	4. SEC. <b>17 TWP. 24N RANGE 22W</b>			5. NEAREST P.O. <b>Fort Supply</b>			6. COUNTY <b>Woodward</b>									
	7. LAT <b>36° 33' 15" LONG. 99° 34' 0"</b>			8. TOP OF DAM ELEVATION <b>2059.5</b>			9. SPILLWAY CREST ELEV. <b>2028.0</b>									
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		2028		5731		89,200		107,340		Jan. 31, 1941					
	b. MULTIPLE USE															
	c. POWER															
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN					
	e. IRRIGATION															
	f. CONSERVATION		2004 1/		2079		18,140		18,140		June 11, 1942					
g. INACTIVE																
WATERSHED	17. LENGTH OF RESERVOIR <b>7.70</b> MILES				AV. WIDTH OF RESERVOIR <b>1.16</b> MILES											
	18. TOTAL DRAINAGE AREA <b>1735</b> SQ. MI.				22. MEAN ANNUAL PRECIPITATION <b>21.33 2/</b> INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA <b>1485</b> SQ. MI.				23. MEAN ANNUAL RUNOFF <b>0.65</b> INCHES											
	20. LENGTH <b>92</b> MILES		AV. WIDTH <b>19</b> MILES		24. MEAN ANNUAL RUNOFF <b>60,510 (32.2 yrs)</b> AC.-F.T.											
	21. MAX. ELEV. <b>3036</b>		MIN. ELEV. <b>1978</b>		25. ANNUAL TEMP.: MEAN <b>59°F</b> RANGE											
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.	
	1-5-43		-		-		Range		40		5731		107,340		1.27	
	6-1-49		6.42		6.4		Range		19		5728		106,150		1.26	
	6-1-58		9.00		15.4		Range		19		5694		101,750		1.21	
	12-1-69		11.50		26.9		Range		16		5692		100,720		1.66	
	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			
	6-1-49		23.10		61,240		91,910		393,150		61,240		393,150			
	6-1-58		21.90		86,130		219,800		775,170		75,860		1,168,320			
	12-1-69		21.62 3/		33,180		48,680		381,560		57,620		1,549,880			
	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			
	6-1-49		1190		186		0.125		1190		186		0.125			
6-1-58		4400		489		0.329		5590		363		0.244				
11-30-69		1030		90		0.061		6620 6771 4/		246 252		0.166 0.170				
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		
6-1-49		57.8		157		157		0.173		1.11		2800		2800		
6-1-58		67.0		498		356		0.338		5.21		6090		5140		
11-30-69		65.3		74		236		0.229		6.17		2437		4470		

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	48-43	43-38	38-33	33-28	28-23	23-18	18-13	13-8	8-3	3-cr	cr +6	+6to+12
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
5-25-49	8	35	11	14	6	6	8	7	4	1		
6-15-58	2	20	13	14	18	11	8	6	6	2		
11-30-69	1.6	18.4	13.5	13.5	16.9	10.3	7.4	6.1	6.1	1.8	1.8	0.4

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														
5-25-49	26	9	11	19	11	10	9	2	2	1					
6-15-58	14	9	9	18	15	9	10	9	6	1					
11-30-69	13.4	11.4	9.9	17.0	15.3	9.3	8.4	7.6	5.2	2.5					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1943	2003.5	1979.0	25,590	1957	2026.5	1999.8	219,800
1944	2006.2	1992.4	62,240	1958	2003.9	2001.7	60,900
1945	2006.4	1999.8	64,280	1959	2002.7	2001.1	16,400
1946	2005.2	1999.2	26,520	1960	2003.0	2001.2	27,710
1947	2009.5	1982.3	91,910	1961	2004.2	2001.8	48,680
1948	2003.0	1987.2	33,760	1962	2002.3	2001.2	29,230
1949	2016.7	1999.4	138,900	1963	2003.6	2000.9	33,600
1950	2024.9	1999.9	169,500	1964	2002.4	2000.1	16,440
1951	2023.8	1999.9	154,000	1965	2005.3	1999.6	36,120
1952	2002.4	1998.9	32,210	1966	2006.0	2003.3	33,140
1953	2003.1	1997.9	18,610	1967	2005.0	2003.6	30,460
1954	2004.9	1997.0	36,680	1968	2004.3	2003.2	29,480
1955	2007.0	1995.6	51,130	1969	2005.8	2002.6	47,410
1956	2002.4	2001.1	12,820	1970(2 mo)	2004.1	2003.7	2,410

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1969 CAPACITY			2016	3,512	46,170	2000	1,372	7,560
2030	6,096	112,500	2014	3,228	39,420	1998	1,086	5,140
2028	5,692	100,700	2012	2,939	33,280	1996	841	3,220
2026	5,307	89,730	2010	2,697	27,630	1994	594	1,790
2024	4,933	79,480	2008	2,442	22,490	1992	412	791
2022	4,504	70,050	2006	2,156	17,890	1990	197	166
2020	4,137	61,430	2004	1,819	13,890	1988	0	0
2018	3,810	53,480	2002	1,573	10,570			

47. REMARKS AND REFERENCES

- 1/ Conservation pool raised to elevation 2004.0 in June 1964. October 1950 - June 1964 pool was maintained at elevation 2002.0.
- 2/ Normal precipitation for representative stations in basin.
- 3/ Precipitation at Fort Supply Dam.
- 4/ Below elevation 2040.0.

48. AGENCY MAKING SURVEY Dept. of the Army, Corps of Engineers, Tulsa, Okla.

49. AGENCY SUPPLYING DATA Corps of Engr., Dept. of the Army

50. DATE December, 1971