

RESERVOIR SEDIMENT  
DATA SUMMARY

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS

John Redmond Dam & Reservoir

NAME OF RESERVOIR

45-56

DATA SHEET NO.

DAM	1. OWNER Corps of Engineers			2. STREAM Grand (Neosho) River		STATE Kansas			
	4. SEC. 9 TWP. 21S RANGE 15E			5. NEAREST P O. Burlington 2 NW		6. COUNTY Coffey			
	7. LAT 38° 14' 15" LONG. 95° 46' 05"			8. TOP OF DAM ELEVATION 1081.5		9. SPILLWAY CREST ELEV. 1068 <u>✓</u>			
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		1068.0	31690	588140	644800	7 Sep 1963		
	b. MULTIPLE USE								
	c. POWER								
	d. WATER SUPPLY						16. DATE NORMAL OPER. BEGAN		
	e. IRRIGATION								
	f. CONSERVATION		1036.0	7780	54090 <u>2</u>	56660	1 Jul 1964		
	g. INACTIVE		1020.0	610	2570	2570			
WATERSHED	17. LENGTH OF RESERVOIR 28.55			MILES		AV. WIDTH OF RESERVOIR 1.73			
	18. TOTAL DRAINAGE AREA 3015			SQ. MI.		22. MEAN ANNUAL PRECIPITATION 32.41			
	19. NET SEDIMENT CONTRIBUTING AREA 2519 <u>3</u>			SQ. MI.		23. MEAN ANNUAL RUNOFF 6.38			
	20. LENGTH 88.5			MILES		AV. WIDTH 34.1			
	21. MAX. ELEV. 1600 ft			MIN. ELEV. 1002 ft		25. ANNUAL TEMP. MEAN 56.4° RANGE -7° to 105°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.	
	9-1-63 <u>4</u>			Range (D)	30	31690	644800	0.630	
	3-1-74	10.50	10.50	Range (D)	30	31660	630290	0.616	
	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
	3-1-74	36.03 <u>5</u>	1192954	2442570	12526020	1192954	12526020		
	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
	3-1-74	14510 (15992) <u>6</u>	1382 (1523) <u>6</u>	0.549 (0.605) <u>6</u>	14510 (15992) <u>6</u>	1382 (1523) <u>6</u>	0.549 (0.605) <u>6</u>		
	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. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE
	3-1-74	61.97 (62.90) <u>6</u>	741 (752) <u>6</u>	741 (752) <u>6</u>	0.214 (0.138) <u>6</u>	2.250 (1.445) <u>6</u>	1151 (1168) <u>6</u>	1151 (1168) <u>6</u>	

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION										
	59-56	56-48	48-40	40-32	32-24	24-16	16-8	8	0	0	0
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
3-1-74	0.5	12.2	24.3	25.4	10.3	5.1	7.4	5.5	9.3		

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														
3-1-74	42.5	23.6	7.0	4.7	11.0	9.1	2.0	0.1							

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1963 (1 Mo)	1021.72	1008.40	8490				
1964	1035.10	1021.10	282360				
1965	1062.39	1032.44	1518520				
1966	1039.02	1035.80	308560				
1967	1059.51	1035.20	799320				
1968	1047.26	1035.81	947000				
1969	1057.18	1035.90	1911890				
1970	1049.50	1035.72	1077820				
1971	1052.75	1035.91	1375210				
1972	1044.88	1035.90	710580				
1973	1060.85	1035.96	2442570				
1974 (5 Mo)	1066.81	1035.97	1143400				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA //	CAPACITY //	ELEVATION	AREA //	CAPACITY //	ELEVATION	AREA //	CAPACITY //
Original Areas & Capacities			1974 Areas & Capacities			1044	12100	124500
1002	0	0	1009	0	0	1048	14700	178600
1020	610	2570	1012	32	53	1052	17410	243300
1028	2990	14110	1016	54	216	1056	20470	319500
1036	7780	56660	1020	108	509	1060	23800	408500
1044	12320	136400	1024	858	2190	1064	27520	511500
1052	17730	256200	1028	2158	8086	1068	31660	630300
1060	24120	422600	1032	4738	21740	1072	36070	765600
1068	31690	644800	1036	7204	46480	1076	40660	918300
1080	45610	1106000	1040	9600	80700	1080	45610	1090000

47. REMARKS AND REFERENCES

- 1] Top of 35 ft. high tainter gates.
- 2] Includes 27600 Ac-Ft for water quality control; 11,900 Ac-Ft for water supply; 14590 Ac-Ft for sediment reserve.
- 3] Excludes areas above Council Grove and Marion Lakes.
- 4] Date of diversion. Used as date storage began.
- 5] Used the Project Office gage.
- 6] Includes sediment deposited above top of flood control pool.
- 7] Rounded figures.

48. AGENCY MAKING SURVEY

49. AGENCY SUPPLYING DATA Dept of Army, CE, Tulsa District

50. DATE June 1976