

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

Belton Lake
NAME OF RESERVOIR

53 - 47

DATA SHEET NO.

DAM	1. OWNER Corps of Engineers			2. STREAM Leon River			3. STATE Texas								
	4. SEC. - TWP. - RANGE -			5. NEAREST P O BELTON N-3-MI			6. COUNTY Bell								
	7. LAT. 31° 06' 13" LONG. 97° 28' 39"			8. TOP OF DAM ELEVATION 662.0			9. SPILLWAY CREST ELEV. 631.0								
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		631.0		23,620 \downarrow		887,000 \downarrow 891,636 \downarrow		1,097,600 \downarrow 1,101,051 \downarrow		MARCH 8, 1954				
	b. MULTIPLE USE														
	c. POWER														
	d. WATER SUPPLY		569.0		7400 \downarrow 7380 \downarrow		210,322 \downarrow 209,238 \downarrow		209,415 \downarrow		16. DATE NORMAL OPER. BEGAN				
	e. IRRIGATION														
	f. CONSERVATION										3 \downarrow				
	g. INACTIVE		483.0		42 \downarrow 29 \downarrow		278 \downarrow 177 \downarrow		278 \downarrow 177 \downarrow		MAY 3, 1956				
WATERSHED	17. LENGTH OF RESERVOIR 45.2 \downarrow			MILES			AV. WIDTH OF RESERVOIR 0.82			MILES					
	18. TOTAL DRAINAGE AREA 3560 \downarrow 2258.8 \downarrow			SQ. MI.			22. MEAN ANNUAL PRECIPITATION 31.69			INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 3234.8 \downarrow 2221.8 \downarrow			SQ. MI.			23. MEAN ANNUAL RUNOFF 3.32 (60)			INCHES					
	20. LENGTH 317.3			MILES			AV. WIDTH 11.2			MILES					
	21. MAX. ELEV. 1800.0			MIN. ELEV. 470.0			24. MEAN ANNUAL RUNOFF 488,000 (60)			AC.-FT.					
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.		
	1949		-	-	Map (R)		-		23,620		1,097,600		2.25		
	1949 \downarrow		-	-	Range (D)		71		23,620		1,101,051		2.26		
	Oct 1961		7.67	7.67	Range (D)		26		23,660		1,091,318		2.24		
	Oct 1966		5.00	12.67	Range (D)		37		23,605		1,086,196		2.23		
	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		
	Oct 1961		34.44		580,848		1,154,125		4,455,101		580,848		4,455,101		
	Oct 1966		32.90		471,538		1,148,286		2,357,689		537,710		6,812,790		
	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			
Oct 1961		9,733		1,269		0.39		9,733		1,269		0.39			
Oct 1966		5,122		1,024		0.39		14,855		1,172		0.39			
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, FPM							
				a. PERIOD		b. TOTAL TO DATE		a. AV. ANN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE	
Oct 1961		51.4 $\frac{7}{8}$ (12)		436.60 $\frac{9}{10}$		436.60 $\frac{9}{10}$		0.12		0.88		1,789 $\frac{9}{10}$		1,789 $\frac{9}{10}$	
Oct 1966		40.8 $\frac{8}{10}$ (7)		439.2 $\frac{6}{10}$		436.60 $\frac{9}{10}$		0.11		1.35		1,789 $\frac{9}{10}$		1,796 $\frac{9}{10}$	

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	161-140	140-130	130-120	120-110	110-100	100-90	90-80	80-70	70-60	60-50	50-30	30 CREST
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Oct 1961	3.32	5.28	5.35	7.63	8.13	12.46	12.05	13.08	16.44	10.08	4.76	1.42
Oct 1966	2.67	3.78	4.48	8.33	10.72	13.33	12.22	11.59	23.82	7.65	1.76	-0.35

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														
Oct 1961	13.7	15.0	18.3	16.7	16.9	11.1	5.3	1.8	0.6	0.6					
Oct 1966	3.0	16.5	29.1	30.0	15.6	3.4	1.4	1.0	0	0					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1954	520.40	483.80	15,837	1964	578.43	565.23	294,859
1955	562.97	514.20	186,726	1965	610.92	568.75	1,148,286
1956	571.00	562.67	157,479	1966 ^{10/}	428.45	391.60	572,336
1957	620.45	553.06	1,154,125	1967 ^{10/}	569.78	568.95	10,632
1958	580.87	568.18	783,070				
1959	572.39	568.23	136,909				
1960	596.42	567.72	867,763				
1961	587.39	567.72	1,071,309				
1962 ^{10/}	575.03	567.80	81,883				
1962 ^{10/}	575.03	567.80	207,514				
1963	570.44	566.07	124,062				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
470	0	0	560	5,692	141,116			
480	0	0	569	6,987	196,635			
483	4	2	570	7,209	203,733			
490	40	142	580	9,575	289,027			
500	136	968	590	11,525	394,192			
510	371	3,587	600	13,660	520,499			
520	1,102	10,119	610	16,191	669,237			
530	2,098	26,279	620	19,482	848,553			
540	3,058	51,242	630	23,243	1,062,773			
550	4,582	89,306	631	23,605	1,086,196			

47. REMARKS AND REFERENCES 1/ 1949 original capacity. 2/ 1949 data adjusted in 1963 with ranges installed in 1953-1954. 3/ Conservation pool first filled. 4/ Leon River 45.2 miles. Cowhouse Creek 22.5 miles. 5/ Does not include the areas above Lake Comanche (36.2 sq. mi) or Lake Leon (252 sq mi) for 9.59 years. 6/ Does not include area above Lake Proctor (1.265 sq. mi) Lake Comanche (36.2 sq mi) or Belton Lake area (37 sq. mi.) for 3.08 years. 7/ Limited number of samples taken as density probe was used. The average shown is an average weight of the 12 samples and not a weighted average. 8/ Samples taken from main channel. 9/ The 1961 dry weight used. 10/ Partial year.

48. AGENCY MAKING SURVEY Department of the Army CE, Fort Worth

49. AGENCY SUPPLYING DATA Department of the Army CE, Fort Worth DATE July 1975