

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

Lavon Lake

NAME OF RESERVOIR

51-30a

DATA SHEET NO.

DAM	1. OWNER Corps of Engineers, D.A.		2. STREAM East Fork of Trinity		3. STATE Texas	
	4. SEC. - TWP. - RANGE -		5. NEAREST P O		6. COUNTY Collin	
	7. LAT 33° 02' " LONG 96° 29' "		8. TOP OF DAM ELEVATION 502.0		9. SPILLWAY CREST ELEV 490.0 ^{1/}	
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, ACRES	
	a. FLOOD CONTROL		490.0		20,050, 20,439 ^{2/}	
	b. MULTIPLE USE				279,300, 284,123 ^{2/}	
	c. POWER				423,400, 434,447 ^{2/}	
	d. WATER SUPPLY					
	e. IRRIGATION					
	f. CONSERVATION		472.0		11,060, 11,085 ^{2/}	
	g. INACTIVE		453.0		3,050, 3,066 ^{2/}	
WATERSHED	13. ORIGINAL CAPACITY, ACRE-FEET		14. GROSS STORAGE, ACRE-FEET		15. DATE STORAGE BEGAN	
	17. LENGTH OF RESERVOIR 10 ^{4/}		AV. WIDTH OF RESERVOIR 1.2		MILES	
	18. TOTAL DRAINAGE AREA 777 770 ^{5/}		SQ. MI.		22. MEAN ANNUAL PRECIPITATION 61 ^{39.84}	
	19. NET SEDIMENT CONTRIBUTING AREA 745.7 738.1 ^{5/}		SQ. MI.		23. MEAN ANNUAL RUNOFF 7.68	
	20. LENGTH 110		MILES		AV. WIDTH 7	
SURVEY DATA	21. MAX. ELEV. 827.0		MIN. ELEV. 433.0		25. ANNUAL TEMP MEAN 64.8 RANGE -7° TO 118°	
	26. DATE OF SURVEY		27. PERIOD YEARS		28. ACCL. YEARS	
	1946 ^{7/}		-		-	
	Oct 1953 ^{2/}		-		-	
	Oct 1959		6.0		6.0	
	Oct 1965		6.0		12.0	
	29. TYPE OF SURVEY		30. NO. OF RANGES OR CONTOUR INT.		31. SURFACE AREA, ACRES	
	Map (R)		1		20,050	
	Range (D)		57		20,439	
	Range (D)		27		20,390	
Range (D)		38		20,491		
32. CAPACITY, ACRE-FEET		33. C:H RATIO, AC.-FT. PER AC.-FT.				
423,400		1.34				
434,447		1.38				
425,960		1.35				
416,494		1.32				
26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW, ACRE-FEET		
Oct 1959		36.4		289,221		
Oct 1965		39.1		292,340		
		a. MEAN ANNUAL		b. MAX. ANNUAL		
		752,081		443,855		
		1,735,325		1,754,040		
		289,221		290,870		
		1,735,325		3,489,365		
26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS, ACRE-FEET		38. TOTAL SED. DEPOSITS TO DATE, ACRE-FEET		
Oct 1959		a. PERIOD TOTAL		a. TOTAL TO DATE		
Oct 1965		b. AV ANNUAL		b. AV ANNUAL		
		c. PER SQ. MI.-YEAR		c. PER SQ. MI.-YEAR		
		(9,430) ^{7/}		8,487		
		(1,572) ^{7/}		1,415		
		(2.11) ^{7/}		1,496		
		8,487		1,415		
		1,415		1,496		
		1,578		1,496		
		2.14		1,496		
		17,953		1,496		
26. DATE OF SURVEY		39. AV. DRY WGT, LBS. PER CU. FT.		40. SED. DEP., TONS PER SQ. MI.-YR		
Oct 1959		a. PERIOD		b. TOTAL TO DATE		
Oct 1965		a. PERIOD		b. TOTAL TO DATE		
		a. AV ANN.		b. TOT. TO DATE		
		a. PERIOD		b. TOT. TO DATE		
		b. TOT. TO DATE		a. PERIOD		
		b. TOT. TO DATE		b. TOT. TO DATE		
		53.1(29) ^{8/}		2,221 ^{9/}		
		30.9(9) ^{8/}		2,472 ^{9/}		
		2,221		2,221 ^{9/}		
		2,472 ^{9/}		2,348 ^{8/}		
		0.326		1.95		
		0.344		4.13		
		4,171 ^{9/}		4,171 ^{9/}		
		4,593 ^{9/}		4,378 ^{9/}		

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	57-50	50-45	45-40	40-35	35-30	30-25	25-20	20-15	15-10	10-5	5-Crest	-10
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Oct 1959	0.2	6.6	5.9	11.7	11.4	19.5	16.9	7.5	4.9	2.5	2.9	10.0
Oct 1965	0.3	11.6	20.0	11.0	13.5	18.0	15.5	3.8	2.7	2.1	1.5	

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 1959	10.0	5.2	10.4	15.7	19.9	15.7	8.5	6.5	4.7	3.4	11.1				
Oct 1965	16.4	13.8	7.3	18.0	19.7	12.3	9.1	2.6	0.5	0.3					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC-FT.
1954	470.20	443.35	143,592	1961	475.50	469.75	268,708
1955	472.02	466.75	92,351	1962	476.16	470.01	300,984
1956	473.03	468.88	66,005	1963	477.05	469.98	214,464
1957	491.90	468.07	752,081	1964	482.60	468.24	286,484
1958	488.26	471.40	589,324	1965	482.60	469.43	443,855
1959	472.98	470.58	78,336	1966	472.00	471.54	322 ^{11/}
1960 ^{10/}	-	-	13,636				
1960 ^{10/}	-	-	239,223				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
443.0	0	0	465.0	7,097	69,469	490.0	20,491	416,494
445.0	32	45	470.0	9,936	112,867			
450.0	2,101	4,353	472.0	10,857	133,776			
453.0	2,615	11,385	475.0	12,610	169,118			
455.0	3,147	17,076	480.0	15,040	238,994			
460.0	5,202	39,078	485.0	17,819	320,776			

47 REMARKS AND REFERENCES 1/ Top of spillway gates. 2/ "Original" or 1945 capacity adjusted in 1961 by range line controls established in 1953 to give "Oct 53" area and capacity. 3/ First release 28-30 June 1954. 4/ 10 miles up East Fork-16.1 miles up Pilot Grove Creek. 5/ D.A. revised by Circular No. 63-01. 6/ Computed from runoff. 7/ Total sediment below el 500.0. 8/ Samples taken from main channel. 9/ The 1959 dry weight used. The 1965 samples were from main channel. 10/ Partial year used in each resurvey. 11/ Partial year.