

RESERVOIR SEDIMENT

DATA SUMMARY

SCS-34 Rev. 6-66

Site No. 6, Six Mile Creek

NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

44- 14

DATA SHEET NO.

DAM	1. OWNER Newell Fletcher			2. STREAM Six Mile Creek			3. STATE Arkansas					
	4. SEC. 3 & 4 TWP. 6N RANGE 27W			5. NEAREST P.O. Chismville			6. COUNTY Logan					
	7. LAT. " " " " " " " " " " " "			8. TOP OF DAM ELEVATION 609.5			9. SPILLWAY CREST ELEV. 604.3					
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		604.3		122.64		1002.43		1304.03		Oct. 1954	
	b. MULTIPLE USE											
	c. POWER											
	d. WATER SUPPLY										Oct. 1954	
	e. IRRIGATION											
	f. CONSERVATION											
g. INACTIVE		591.5		40.31		301.60		301.60				
17. LENGTH OF RESERVOIR 1.17 MILES					AV. WIDTH OF RESERVOIR 0.16 MILES							
WATERSHED	18. TOTAL DRAINAGE AREA 4.14 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 44.21 INCHES							
	19. NET SEDIMENT CONTRIBUTING AREA 4.07 SQ. MI.				23. MEAN ANNUAL RUNOFF 13.24 INCHES							
	20. LENGTH 5.40 MILES		AV. WIDTH 0.77 MILES		24. MEAN ANNUAL RUNOFF 2923 AC.-F.T.							
	21. MAX. ELEV. 1050		MIN. ELEV. 575.6		25. ANNUAL TEMP.: MEAN RANGE							
	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.			
Oct. 1954		-	-	Range	16	122.64 (40.31)	1304.03 (301.60)	.446				
May 1964		9.58	9.58	Range	20	122.64 (38.58)	1275.62 (277.11)	.436				
Oct. 1970		6.42	16	Range	20	122.45 (36.99)	1253.26 (265.95)	.429				
26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW, ACRE-FEET			36. WATER INFL. TO DATE, AC.-FT.					
Oct. 1954				a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE				
26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS, ACRE-FEET			38. TOTAL SED. DEPOSITS TO DATE, ACRE-FEET							
Oct. 1954		a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR					
May 1964		28.41 (24.49)	2.97 (2.56)	.73 (.63)	28.41 (24.49)	2.97 (2.56)	.73 (.63)					
Oct. 1970		22.36 (11.16)	3.48 (1.74)	.86 (.43)	50.77 (35.65)	3.17 (2.23)	.78 (.55)					
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							
May 1964		68.8 1/	1093 (944)	1093 (944)	.23 (.85)	2.18 (8.12)						
Oct. 1970		76.1 2/	1425 (712)	1292 (911)	.24 (.74)	3.89 (11.82)						

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION										
	32.4-28.3	28.3-24.3	24.3-20.3	20.3-16.3	16.3-12.8	12.8-6.3					
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
May 1954	9.2	13.3	20.3	22.8	20.5	12.0					
Oct. 1970	7.2	12.2	15.4	16.2	19.2	22.8					

6.3
1.
7.

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														

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY

47. REMARKS AND REFERENCES

Note: Numbers in parentheses pertain to conservation pool only.

1/ Average of 11 samples.

2/ Average of 8 samples.

48. AGENCY MAKING SURVEY
49. AGENCY SUPPLYING DATA

Soil Conservation Service

50. DATE 1/12/71

STAGE-AREA-CAPACITY
Reservoir Site - No. Six
Six Mile Creek, Arkansas

December 1970

Elevation (ft.)	1954 Survey		1964 Survey		1970 Survey	
	Area (ac.)	Capacity (ac.ft.)	Area (ac.)	Capacity (ac.ft.)	Area (ac.)	Capacity (ac.ft.)
	571.9 ^{1/}		573.4 ^{1/}		573.7 ^{1/}	
574.0	1.52	1.06	.84	.17	.51	.05
576.0	4.44	6.77	3.44	4.16	2.87	3.11
578.0	7.80	18.85	7.04	14.43	6.41	12.15
580.0	10.67	37.24	9.43	30.84	8.91	27.41
582.0	13.84	61.68	12.65	52.84	12.18	48.41
584.0	18.51	93.92	16.33	81.74	15.74	76.25
586.0	22.34	134.71	20.99	118.96	20.55	112.43
588.0	27.46	184.42	25.89	165.75	25.62	158.51
590.0	34.10	245.86	32.41	223.93	30.99	215.03
591.5 ^{2/}	40.31	301.60	38.58	277.11	36.99	265.95
594.0	52.46	417.23	51.99	389.91	50.31	374.65
596.0	64.22	533.71	64.31	505.99	63.35	488.05
598.0	77.67	675.39	77.39	647.49	77.02	628.19
600.0	90.69	843.58	90.62	815.32	90.17	795.21
602.0	106.58	1040.63	106.55	1012.27	105.82	990.99
604.3 ^{3/}	122.64	1304.03	122.64	1275.62	122.45	1253.26

Notes: Capacity computations by modified prismatic formula.

^{1/} Mean low point in reservoir.

^{2/} Normal pool elevation - Principal spillway.

^{3/} Flood pool elevation - Emergency spillway.