U.S.DEPARTMENT OF AGRICULTURE

RESERVOIR SEDIMENTATION DATA SUMMARY

Fred Brown
NAME OF RESERVOIR

SOIL CONSERVATION SERVICE
35-2
DATA SHEET NO.

DAM

1. OWNER Fred Brown	2. RIVER Trib. of Willow R.	3. STATE Iowa
4. SEC. 29 TWP. 79N RANGE 44W	5. NEAREST TOWN Logan	6. COUNTY Harrison
7. STREAM BED ELEV.	8. TOP OF DAM ELEV.	9. SPILLWAY CREST ELEV.

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		2.62	11.04	22.93	June 1941
b. POWER					
c. WATER SUPPLY		2.00	11.89	11.89	16. DATE NORMAL OPER. BEGAN
d. IRRIGATION					
e. CONSERVATION					June 1941
f. INACTIVE					

17. LENGTH OF RESERVOIR	MILES	AV. WIDTH OF RESERVOIR	MILES

WATERSHED

18. TOTAL DRAINAGE AREA 0.100 SQ.MI.	22. MEAN ANNUAL PRECIPITATION 28 (40) INCHES
19. NET SEDIMENT CONTRIBUTING AREA 0.097 SQ. MI.	23. MEAN ANNUAL RUNOFF 3.8 * INCHES
20. LENGTH MILES AV. WIDTH MILES	24. MEAN ANNUAL RUNOFF AC.-FT.
21. MAX. ELEV. MIN. ELEV.	25. CLIMATIC CLASSIFICATION Sub-humid

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.
June 1941	–	–	–	–	2.00	11.89	118.9
May 1949	7.9	7.9	Range Detailed	3	1.80	4.61	46.1

26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW ACRE*FEET			36. WATER INFL. TO DATE ACRE-FT.	
		a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE
		(inches)			(inches)	
May 1949		6.0*			6.0*	

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.-YEAR	d. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ.MI-YEAR
May 1949	7.28 (7.81) 1/	0.922 (0.989)	9.51 (10.20)	7.28 (7.81)	0.922 (0.989)	9.51 (10.20)

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. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE
May 1949	63.2 (3)	13,080 (14,030)	13,080 (14,030)	4.32 (7.75)[2]	34.1 (61.2)[2]	29,180[3] (31,300)[3]	29,180[3] (31,300)[3]

* Estimated
1/ Above-crest deposits within original flow line at emergency spillway elevation.
2/ Based on conservation pool.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION														
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGH 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 1. Gottschalk, L.C., and Brune, G.M. Sediment design criteria for the Missouri Basin Loess Hills, Soil Conservation Service, SCS–TP–97, 21 pp., illus., processed. Milwaukee, Wisconsin, 1950.
2. U.S.D.A. Yearbook of Agriculture, Washington, D.C., 1941.
For 400 feet downstream from dam, gradient was found to have decreased from 4.65 to 3.35%. From 400 to 1,900 feet downstream, gradient increased from 1.19 to 1.60%.

$$3/ \quad 42 = \frac{37b \times 39 \times 1,000,000}{35a \times 18 \times \frac{640 \times 62.4}{12}}$$

48. AGENCY SUPPLYING DATA Region 3, Soil Conservation Service 49. DATE January 6, 1950
U. S. Dept. of Agriculture, Milwaukee, Wisconsin