

RESERVOIR SEDIMENTATION  
DATA SUMMARY

Fred Hollrah

35-10

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER Fred Hollrah			2. RIVER Trib. of Willow Cr.		3. STATE Iowa		
	4. SEC. 7 TWP. 83N RANGE 41W			5. NEAREST TOWN Ute		6. COUNTY Crawford		
	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		4.71	18.55	37.53	August 1944		
	b. POWER							
	c. WATER SUPPLY		2.56	18.98	18.98	16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION					August 1944		
	e. CONSERVATION							
	f. INACTIVE							
17. LENGTH OF RESERVOIR			MILES	AV. WIDTH OF RESERVOIR		MILES		
WATERSHED	18. TOTAL DRAINAGE AREA 0.217			SQ. MI.	22. MEAN ANNUAL PRECIPITATION 28 (40)		INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA 0.213			SQ. MI.	23. MEAN ANNUAL RUNOFF 4.5*		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.
	Aug. 1944	-	-	-	-	2.56	18.98	87.5
	March 1949	4.6	4.6	Range Detailed	7	2.51	12.76	58.8
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW			36. WATER INFL. TO DATE	
				a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE
	March 1949			(inches)			(inches)	
				7.7*			7.7*	
	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	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	
	March 1949	6.22 (6.39) 1/	1.35 (1.39)	6.35 (6.52)	6.22 (6.39)	1.35 (1.39)	6.35 (6.52)	
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	
March 1949	58.3 (3)	8,060 (8,280)	8,060 (8,280)	3.70 (7.11) 2/	17.0 (32.8) 2/	14,150 3/ (14,570) 3/	14,150 3/ (14,570) 3/	

\* Estimated

1/ Above crest deposits within original flow line at emergency spillway elevation

2/ Based on water supply 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 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 1. Gottschalk, L.C., and Brune, G.M. Sediment design criteria for the Missouri Basin Loess Hills. Soil Cons. Serv. SCS-TP-97, 21 pp., illus., processed. Milwaukee, Wis., 1950.  
 2. U.S.D.A. Yearbook of Agriculture, Washington, D.C., 1941.  
 For 310 feet downstream from dam, gradient was found to have decreased from 2.00 to 0.90%. From 310 to 650 feet downstream, gradient increased from 1.00 to 1.65%.

$$\frac{37b \times 39 \times 1,000,000}{35a \times 18 \times 12} = 42$$

48. AGENCY SUPPLYING DATA Region 3, Soil Conservation Service 49. DATE January 9, 1950  
 U. S. Dept. of Agriculture, Milwaukee, Wis.