

RESERVOIR SEDIMENTATION  
DATA SUMMARY

Thomas Hodkin  
NAME OF RESERVOIR

35-9

DATA SHEET NO.

DAM	1. OWNER Thomas Hodkin			2. RIVER Trib. of Boyer R.		3. STATE Iowa		
	4. SEC. 25 TWP. 83N RANGE 41W			5. NEAREST TOWN Dow City		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		1.44	3.05	22.44	August 1941		
	b. POWER							
	c. WATER SUPPLY		1.83	19.39	19.39	16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION					August 1941		
	e. CONSERVATION							
	f. INACTIVE							
17. LENGTH OF RESERVOIR				MILES	AV. WIDTH OF RESERVOIR		MILES	
WATERSHED	18. TOTAL DRAINAGE AREA 0.130			SQ. MI.	22. MEAN ANNUAL PRECIPITATION 28 (40)		INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA 0.127			SQ. MI.	23. MEAN ANNUAL RUNOFF 4.7*		INCHES	
	20. LENGTH		MILES	AV. WIDTH		MILES	24. MEAN ANNUAL RUNOFF	
	21. MAX. ELEV.		MIN. ELEV.		25. CLIMATIC CLASSIFICATION			Sub-humid
	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
Aug. 1941		-	-	-	-	1.83	19.39	
May 1949		2.8 1/	2.8	Range Detailed	4	0.20	0.21	
SURVEY DATA	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	
			(inches)				(inches)	
	May 1949		6.1*			6.1*		
	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		
May 1949	19.18 (21.76) 2/	6.85 (7.77)	53.9 (61.2)	19.18 (21.76)	6.85 (7.77)	53.9 (61.2)		
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	83.2 (3)	97,740 (110,900)	97,740 (110,900)	33.9 (35.3) 3/	94.8 (98.9) 3/	215,950 4/ (244,960) 4/	215,950 4/ (244,960) 4/	

\* Estimated

2/ Above-crest deposits within original flow line at emergency spillway elevation; includes 0.49 acre-feet deposits above emergency spillway elevation.

3/ Based on water supply pool.

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

28. 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
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 Conserv. Serv. SCS-TP-97, 21 pp., illus., processed. Milwaukee, Wis., 1950  
 2. U.S.D.A. Yearbook of Agriculture, Washington, D.C., 1941.  
 For 380 feet downstream from dam, gradient was found to have decreased from 1.58 to 1.21%. From 380 to 880 feet downstream, gradient increased from 0.60 to 1.36%.

1/ Res. filled with sediment June 1944.      4/ 42 =  $\frac{37b \times 39 \times 1,000,000}{35a \times 18 \times 640 \times 62.4}$

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