

RESERVOIR SEDIMENTATION  
DATA SUMMARY

Tracy North

35-22

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER Tracy North			2. RIVER Trib. of Boyer River			3. STATE Iowa																	
	4. SEC. 25 TWP. 84 N RANGE 38 W			5. NEAREST TOWN Vail			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				5.37		12.04		48.64		Nov. 1939													
	b. POWER																							
	c. WATER SUPPLY				4.63		36.60		36.60		16. DATE NORMAL OPER. BEGAN													
	d. IRRIGATION																							
	e. CONSERVATION										Nov. 1939													
	f. INACTIVE																							
WATERSHED	17. LENGTH OF RESERVOIR				MILES				AV. WIDTH OF RESERVOIR				MILES											
	18. TOTAL DRAINAGE AREA				0.245				SQ. MI.				22. MEAN ANNUAL PRECIPITATION				28 (40)				INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA				0.238				SQ. MI.				23. MEAN ANNUAL RUNOFF				5.1 *				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.									
	Nov. 1939		-		-		-		-		4.63		36.60		149									
	April 1949		9.4		9.4		Range Detailed		7		4.27		28.35		116									
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW <del>ACRE- FEET</del>				36. WATER INFL. TO DATE <del>ACRE- FEET</del>															
					a. MEAN ANNUAL		b. MAX. ANNUAL		c. PERIOD TOTAL		d. MEAN ANNUAL		e. TOTAL TO DATE											
					(inches)						(inches)													
	April 1949				6.9 *						6.9 *													
	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		e. AV. ANNUAL		f. PER SQ. MI.- YEAR											
	April 1949		8.25 (8.60) 1/		0.878 (0.915)		3.69 (3.84)		8.25 (8.60)		0.878 (0.915)		3.69 (3.84)											
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										
April 1949		52.7 (3)		4,240 (4,410)		4,240 (4,410)		1.88 (2.40) 2/		17.7 (22.5) 2/		2/ 8,220 (8,570)		2/ 8,220 (8,570)										

\* Estimated

1/ Above-crest deposits within original flow-line at emergency spillway elevation and are wholly within flood storage pool.

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  
 Gottschalk, L.C., and G. M. Brune. Sediment design criteria for the Missouri Basin Loess Hills. U. S. Soil Conserv. Serv., SCS-TP-97, 21 pp., illus, processed, Milwaukee, Wisconsin, 1950.

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

48. AGENCY SUPPLYING DATA Region 3, Soil Conservation Service  
U. S. Department of Agriculture  
Milwaukee, Wisconsin

49. DATE January 9, 1950

RESERVOIR SEDIMENTATION  
DATA SUMMARY

Tracy North

NAME OF RESERVOIR

35-22a

DATA SHEET NO.

DAM	1. OWNER Tracy North			2. RIVER Trib. of Boyer River			3. STATE Iowa			
	4. SEC. 25 TWP. 84 <sup>N</sup> RANGE 38 <sup>W</sup>			5. NEAREST TOWN Vail			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		5.37	12.04	48.64	Nov. 1939				
	b. POWER									
	c. WATER SUPPLY		4.63	36.60	36.60	16. DATE NORMAL OPER. BEGAN				
	d. IRRIGATION									
	e. CONSERVATION									
	f. INACTIVE					Nov. 1939				
17. LENGTH OF RESERVOIR				MILES	17. AV. WIDTH OF RESERVOIR		MILES			
WATERSHED	18. TOTAL DRAINAGE AREA 0.245			SQ. MI.	22. MEAN ANNUAL PRECIPITATION 28 (40)			INCHES		
	19. NET SEDIMENT CONTRIBUTING AREA 0.238			SQ. MI.	23. MEAN ANNUAL RUNOFF 3.2 est.			INCHES		
	20. LENGTH		MILES	20. AV. WIDTH		MILES	24. MEAN ANNUAL RUNOFF 171 a.f./sq.mi. <del>ACRE-FT.</del>			
	21. MAX. ELEV.		MIN. ELEV.		25. CLIMATIC CLASSIFICATION					
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 <sup>1/</sup> AREA ACRES	32. CAPACITY ACRE- FEET	33. C/W RATIO <sup>2/</sup> AC-FT. PER SQ. MI.		
	11/39	-	-	-	-	5.37	48.64	199		
	3/24/49	9.4	9.4	Detailed	7 ranges	5.01	40.04	163		
	7/14/53	4.30	13.7	"	"	4.90	37.41	153		
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE- FEET			36. WATER INFL. TO DATE AC-FT.			
				a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE		
	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			
	3/24/49	8.60	0.915	3.84	8.60	0.915	3.84			
7/14/53	2.63	0.612	2.57	11.23	0.819	3.44				
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			
3/24/49	52.7 (3)	4,410	4,410	1.88	17.7	-	-			
7/14/53	55.7 (18)	3,120	4,180	1.69	23.2	-	-			

1/ At crest elevation. 2/ C/I ratio 1.19 in 1939, 0.98 in 1949, and 0.89 in 1953. Trap efficiency estimated at 97 percent to date.

