U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

RESERVOIR SEDIMENTATION DATA SUMMARY

Max Miller #1 — NAME OF RESERVOIR

35-19 — DATA SHEET NO.

DAM

1. OWNER Max Miller	2. RIVER Trib. of W. Nishnabotna River	3. STATE Iowa
4. SEC. 29 TWP. 74 N RANGE 40 W	5. NEAREST TOWN Macedonia	6. COUNTY Pottawattamie
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		8.24	36.23	43.84	Nov. 1941
b. POWER					
c. WATER SUPPLY		2.94	7.61	7.61	16. DATE NORMAL OPER. BEGAN
d. IRRIGATION					
e. CONSERVATION					Nov. 1941
f. INACTIVE					

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

WATERSHED

18. TOTAL DRAINAGE AREA 0.223 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 29 (26)	INCHES
19. NET SEDIMENT CONTRIBUTING AREA 0.218 SQ. MI.		23. MEAN ANNUAL RUNOFF 4.2 *	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. 1941	-	-	-	-	2.94	7.61	34.1
May 1949	7.5	7.5	Range Detailed	3	1.46	1.06	4.75

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	d. MEAN ANNUAL	b. TOTAL TO DATE
		(inches)			(inches)	
May 1949		6.6 *			6.6 *	

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	6.55 (8.38) 1/	0.873 (1.117)	4.00 (5.12)	6.55 (8.38)	0.873 (1.117)	4.00 (5.12)

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	65.2 (3)	5,680 (7,270)	5,680 (7,270)	2.55 (11.47) 2/	19.1 (86.1) 2/	3/ 11,620 (14,870)	3/ 11,620 (14,870)

* Estimated

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

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.

Mechanical analysis made of sediment.

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

AGR-SCS-BELTSVILLE, MD. 2403 JUNE 1952

U.S. DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE

RESERVOIR SEDIMENTATION DATA SUMMARY

Max Miller # 1 — NAME OF RESERVOIR

35-19a — DATA SHEET NO.

DAM

1. OWNER Max Miller	2. RIVER Trib. of W. Nishnabotna River	3. STATE Iowa
4. SEC. 29 TWP. 74 N RANGE 40W	5. NEAREST TOWN Macedonia	6. COUNTY Pottawattamie
7. STREAM BED ELEV.	8. TOP OF DAM ELEV.	9. SPILLWAY CREST ELEV. 100.0

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 (assumed)
a. FLOOD CONTROL	107.5	8.24	36.23	43.84	Nov. 1941
b. POWER					
c. WATER SUPPLY	100.0	2.94	7.61	7.61	16. DATE NORMAL OPER. BEGAN
d. IRRIGATION					
e. CONSERVATION					Nov. 1941
f. INACTIVE					

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

WATERSHED

18. TOTAL DRAINAGE AREA 0.223 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 29 (26) INCHES	
19. NET SEDIMENT CONTRIBUTING AREA 0.218 SQ. MI.		23. MEAN ANNUAL RUNOFF 4.2 est. 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 1/ ACRE-FEET	33. C/W RATIO 2/ AC.-FT. PER SQ.MI.
11/41	-	-	-	-	8.24	43.84	196
5/49	7.5	7.5	Detailed Range	3 ranges	6.76	35.46	159
6/52	3.1	10.6	"	"	6.02	32.10	144

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
5/49	-	(inches) 6.6 est.	-	-	(inches) 6.6 est.	-

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
5/49	6.55	0.873	4.005	6.55	0.873	4.005
	(8.38)	(1.117)	(5.124)	(8.38)	(1.117)	(5.124)
6/52	0.94	0.303	1.39	7.49	0.717	3.29
	(3.36)	(1.08)	(4.95	(11.74)	(1.11)	(5.09)

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
5/49	65.2 (3)	5,690	5,690	1.99	14.94	11,620	11,620
		(7,280)	(7,280)			(14,870)	(14,870)
6/52	69.7 (3)	2,110	4,980	1.64	17.08		
		(7,520)	(7,730)				

1/ Below crest. 2/ C/I ratio estimated to be 0.874 in 1941, 0.709 in 1949 and 0.642 in 1952. Trap efficiency estimated to be 97% up to 1952.

26. DATE OF SURVEY 1/	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
		Below crest				Sediment crest and emergency						
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
May 1949		78				22						
June 1952		64				36						

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
1941:								
107.5	8.24	43.84						
100.0	2.94	7.61						
1949:								
107.5	8.24	35.46						
100.0	1.46	1.06						
1952								
107.5	8.24	32.10						
100.0	0.72	0.12						

47. REMARKS AND REFERENCES

1. Gottschalk, L. C., and G. M. Brune. Sediment Design Criteria for the Missouri Basin Loess Hills. Soil Conservation Service, Milwaukee, Wisconsin, 1950.
2. USDA Yearbook of Agriculture, Washington, D. C. 1941.

Mechanical analysis made of sediment. June 1952, Log jammed in drop inlet. Gully forming in emergency spillway although it has never overflowed.

48. AGENCY SUPPLYING DATA SCS, Milwaukee, Wisconsin 49. DATE July 20, 1952.

1/ These figures are for total sediment to date of survey.