

RESERVOIR SEDIMENT  
DATA SUMMARY

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS

Baldhill Dam (Lake Ashlabala)

NAME OF RESERVOIR

30-16a

DATA SHEET NO.

DAM	1. OWNER Corps of Engineers		2. STREAM Shayenne		3. STATE North Dakota		
	4. SEC. 18 TWP. 14N RANGE 58W		5. NEAREST P.O. Valley City		6. COUNTY Barnes		
	7. LAT. 47° 2' 5" LONG 98° 4' 40"		8. TOP OF DAM ELEVATION 1278.5		9. SPILLWAY CREST ELEV. 1252.00		
RESERVOIR	10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL	12. ORIGINAL SURFACE AREA, ACRES	13. ORIGINAL (H) CAPACITY, ACRE-FEET	14. GROSS STORAGE, ACRE FEET (H)	15. DATE STORAGE BEGAN	
	a. FLOOD CONTROL	1267.0	5,715	24,200	76,400	Conserv. Pool 1 Aug 1949	
	b. MULTIPLE USE						
	c. POWER						
	d. WATER SUPPLY	1262.5	5,450	51,000	52,200	16. DATE NORMAL OPER. BEGAN	
	e. IRRIGATION						
	f. CONSERVATION	1236.0	350	1,200	1,200		
g. INACTIVE							
17. LENGTH OF RESERVOIR			27.0 MILES		AV. WIDTH OF RESERVOIR 0.33 MILES		
WATERSHED	18. TOTAL DRAINAGE AREA 8078-(C) 3940-(D) 1988-ESQ. MI.			22. MEAN ANNUAL PRECIPITATION		17.08 INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA 1979.0 SQ. MI.			23. MEAN ANNUAL RUNOFF		0.24 INCHES	
	20. LENGTH 180.0 MILES		AV. WIDTH 23.0 MILES		24. MEAN ANNUAL RUNOFF 55,100 AC.-FT.		
	21. MAX. ELEV. 1900		MIN. ELEV. 1230.0		25. ANNUAL TEMP. MEAN 44.4° RANGE 37.5°-45.7°		
	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
3 Dec 52		0	Range	30	5,715	76,400	1.39
17 Jan 58	5.1	5.1		29	5,715	75,410	1.37
8 Feb 64	6.1	11.2	Detailed	29	5,715	74,367	1.35
13 Jan 71	6.9	18.1		29	5,715	73,670	1.34
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	d. MEAN ANNUAL	e. TOTAL TO DATE	
3 Dec 52	19.16	16,560	89,110	293,300	16,560	293,300	
17 Jan 58	16.16	6,440	69,100	138,250	10,940	480,860	
8 Feb 64	23.15	32,320	184,950	826,600	19,140	1,310,570	
13 Jan 71							
26. DATE OF SURVEY	37. PERIOD CAPACITY LOSS, 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	
3 Dec 52	990 (F) (1265)(G)	194 (248)	0.0981 (0.125)	990 (1265)	194 (248)	0.0981 (0.125)	
17 Jan 58	1043 (1090)	171 (179)	0.0365 (0.0902)	2035 (2355)	181 (196)	0.092 (0.106)	
8 Feb 64	696.52 (634.86)	101 (92)	0.051 (9.9405)	2730 (2990)	151 (165)	0.0762 (0.0834)	
13 Jan 71							
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	c. AV. ANN.	d. TOT. TO DATE	e. PERIOD	f. TOT. TO DATE
3 Dec 52	90	132 (245)	132 (245)	0.254 (1.66)	1.30 (6220)	4870 (6220)	4870 (6220)
17 Jan 58	90	170 (177)	180 (238)	0.237 (0.256)	2.66 (3.08)	7991 (8351)	6098 (7064)
8 Feb 64	90	100 (91)	149 (163)	0.197 (0.218)	3.57 (3.91)	1215 (1107)	3000 (3290)
13 Jan 71	*Estimated						

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, 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														
17 Jan 58	20.0	20.0	20.0	12.0	7.0	7.0	-2.0	4.0	10.0	2.0					
8 Feb 64	-7.0	5.0	10.5	12.0	20.0	1.5	12.5	26.5	11.0	8.0	0.90				
13 Jan 71	20.0	23.0	26.0	17.0	6.5	8.0	14.5	-8.5	-8.0	0.5					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1953	1266.10	1261.90	31,350	1963	1265.30	1262.88	21,025
1954	66.30	63.40	64,150	1964	66.80	62.30	32,620
1955	66.90	62.80	50,065	1965	68.00	62.97	148,190
1956	66.85	62.30	89,115	1966	67.90	61.52	178,450
1957	66.90	63.70	57,160	1967	67.35	60.15	125,680
1958	66.01	63.80	22,975	1958	67.10	63.17	50,560
1959	65.45	63.05	12,785	1969	67.50	57.78	184,740
1960	66.55	63.34	69,005	1970	66.46	62.60	91,010
1961	65.90	63.21	10,685	to 1/13/71	67.39	61.66	---
1962	66.54	62.48	66,735				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY

47. REMARKS AND REFERENCES

A. Negative denotes scour in this reach.  
 B. Records are for entire calendar year. Elevations are Baldhill Pool at the dam.  
 C. Total drainage area.  
 D. Devils Lake basin.  
 E. Effective drainage area.  
 F. Net amount below reservoir elevation in Item #9.  
 G. Net amount above and below reservoir elevation in Item #9.  
 H. Pool is drawdown in the Spring from elevation 1267.0 to 1262.5 to provide for flood control storage.

48. AGENCY MAKING SURVEY  
 49. AGENCY SUPPLYING DATA *Corps of Engineers*  
 50. DATE *10 March 1972*