

RESERVOIR SEDIMENTATION
DATA SUMMARY

Theobold Main

NAME OF RESERVOIR

36-9

DATA SHEET NO.

DAM	1. OWNER Theobold				2. RIVER		3. STATE Iowa						
	4. SEC. 34 TWP. 88N RANGE 44W			5. NEAREST TOWN Anthony		6. COUNTY Woodbury							
	7. STREAM BED ELEV.				8. TOP OF DAM ELEV.		9. SPILLWAY CREST ELEV. 1,305.5						
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		1305.5		11.3		97.7		103.2		Aug. 1948		
	b. POWER												
	c. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION												
	e. CONSERVATION												
	f. INACTIVE		1,289.8		1.5		5.5		5.5		Aug. 1948		
17. LENGTH OF RESERVOIR					MILES		AV. WIDTH OF RESERVOIR					MILES	
WATERSHED	18. TOTAL DRAINAGE AREA 0.483				SQ. MI.		22. MEAN ANNUAL PRECIPITATION 29.67 (40yr)					INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA 0.442				SQ. MI.		23. MEAN ANNUAL RUNOFF 3.8 est.					INCHES	
	20. LENGTH		MILES		AV. WIDTH		MILES		24. MEAN ANNUAL RUNOFF				AG.-FT.
	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		33. C _w RATIO 1/ AC.-FT. PER SQ. MI.		
June 27, 1949		-	-	Detailed Contour 2	(ft)	11.3 (1.5)		103.2 (5.5)		213			
Aug. 21, 1950		1.15	1.15	"	"	11.3(0)		94.0(0)		195			
May 28, 1951		0.77	1.92	"	"	11.3(0)		93.5(0)		194			
Oct. 16, 1952		1.38	3.30	"	"	11.3(0)		89.2(0)		185			
SURVEY DATA	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						
SURVEY DATA	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					
	Aug. 21, 1950	9.20	8.00	18.1		9.20	8.00	18.1					
	May 28, 1951	0.463	0.601	1.36		9.66	5.03	11.4					
Oct. 16, 1952	4.34	3.15	7.13		14.00	4.24	9.59						
SURVEY DATA	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					
	Aug. 21, 1950	72.3 assumed	28,502	28,502	7.75	8.91	-	-					
	May 28, 1951	72.3 "	2,142	17,952	4.87	9.36	-	-					
Oct. 16, 1952	72.3 (3)	11,228	15,101	4.11	13.6	-	-						

1/ C/I ratio is estimated to be 1.05 in 1949; 0.95 in 1950; 0.95 in 1951; and 0.91 in 1952. Trap efficiency estimated to be 95% up to 1952.

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

"Dry" reservoir in Little Sioux Watershed.
 Total load adjusted for trap efficiency 16,000 tons/sq.mi./yr.
 34.2% of capacity to top of trash reach (21. 1,297.55) lost up to
 Oct. 16,1952 (10.3% annually).