

**RESERVOIR SEDIMENTATION  
 DATA SUMMARY**

W-9 (Revised)

38-4

NAME OF RESERVOIR DATA SHEET NO.

<b>DAM</b>	1. OWNER Stanley Smeenk			2. RIVER Sulphur Creek			3. STATE South Dakota									
	4. LONG. 103° 10" LAT. 44° 54" RANGE R 8E			5. NEAREST TOWN Sulphur			6. COUNTY Butte									
	7. STREAM BED ELEV. *2930			8. TOP OF DAM ELEV. 2965			9. SPILLWAY CREST ELEV. 2960									
<b>RESERVOIR</b>	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										Nov. 1951					
	b. POWER															
	c. WATER SUPPLY															
	d. IRRIGATION										16. DATE NORMAL OPER. BEGAN					
	e. CONSERVATION															
	f. INACTIVE				30.032				332.735							
<b>WATERSHED</b>	17. LENGTH OF RESERVOIR .87 MILES				13. AV. WIDTH OF RESERVOIR 300 FEET											
	18. TOTAL DRAINAGE AREA 1.27 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 15.40 INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA 1.27 SQ. MI.				23. MEAN ANNUAL RUNOFF .80 1/ INCHES											
	20. LENGTH 2.50 MILES		AV. WIDTH .50 MILES		24. MEAN ANNUAL RUNOFF 54.3 AC.-FT.											
	21. MAX. ELEV. *3540		MIN. ELEV. *2930		25. CLIMATIC CLASSIFICATION Semi-arid											
<b>SURVEY DATA</b>	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. 1951						Range D		20 ranges		2960'		350.9		276	
	Sept. 1957		5.8		5.8		Range D		20 ranges		30.03		332.7		262	
	June 1961		3.8		9.6		Range D		20 ranges		30.03		337.7		266	
	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			
	Nov. 1951		2/		3/		69.2		164		3/13.3		164			
	Sept. 1957		10.50		13.3											
	June 1961															
	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				
Nov. 1951		18.16		3.13		2.45										
Sept. 1957		4/														
June 1961																
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		

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  
 1/ Average taken from 4 years runoff data, 1957-1960.  
 2/ No Precipitation records before 1957.  
 3/ No Runoff records before 1957.  
 4/ The capacity of W-9 increased 4.92 A. ft. since Sept. 1957, thus until the dry wgt. (lbs/cu. ft.) data are analyzed the tons/Acre cannot be determined.

48. AGENCY SUPPLYING DATA Watershed Engineering ARS, SWC, 49. DATE \_\_\_\_\_

RESERVOIR SEDIMENT  
DATA SUMMARY

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

SCS-34 Rev. 6-66

W-9 (Smeenk)

NAME OF RESERVOIR

38-4a

DATA SHEET NO.

DAM	1. OWNER Stanley Smeenk			2. STREAM Sulphur Creek			3. STATE South Dakota					
	4. SEC. 32 TWP. 12 RANGE R 8E			5. NEAREST P.O. Sulphur			6. COUNTY Butte					
	7. LAT. 44° 54' LONG. 103° 10'			8. TOP OF DAM ELEVATION 2965			9. SPILLWAY CREST ELEV. 2960					
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, ACRES		13. ORIGINAL CAPACITY, ACRE-FEET		14. GROSS STORAGE, ACRE-FEET		15. DATE STORAGE BEGAN	
	a. FLOOD CONTROL										Nov. 1951	
	b. MULTIPLE USE										16. DATE NORMAL OPER. BEGAN	
	c. POWER											
	d. WATER SUPPLY											
	e. IRRIGATION											
	f. CONSERVATION											
	g. INACTIVE				30.032				350.9			
WATERSHED	17. LENGTH OF RESERVOIR .87 MILES				AV. WIDTH OF RESERVOIR 300 Feet				2227 MILES			
	18. TOTAL DRAINAGE AREA 1.27 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 13.5 INCHES							
	19. NET SEDIMENT CONTRIBUTING AREA 1.27 SQ. MI.				23. MEAN ANNUAL RUNOFF .501 INCHES							
	20. LENGTH 2.50 MILES		AV. WIDTH .50 MILES		24. MEAN ANNUAL RUNOFF 33.9 AC.-FT.							
	21. MAX. ELEV. *3540		MIN. ELEV. *2930		25. ANNUAL TEMP.: MEAN 45°F		RANGE -24° to 101°					
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/I. RATIO, AC.-FT. PER AC.-FT.			
	Nov. 1951				Range D	20 ranges	2960'	350.9	10.35			
	June 1961		9.6	9.6	Range D	20 ranges	30.03	334.0	9.85			
	June 1969		8.0	17.6	Range D	20 ranges	30.03	315.3	9.30			
	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			
	June 1961		10.50 <sup>2/</sup>		*33.9	*69.2	*339	*33.9	*339			
	June 1969											
	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	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR				
June 1961		16.9	1.76	1.38	16.9	1.76	1.38					
June 1969		18.7	2.34	1.84	35.6	2.02	1.59					
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. ANN.	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE				
June 1961		84	2525	2525	.5	4.8						
June 1969		84	3367	2909	.6	10.1						

\*Assumed

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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														

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/ Average taken from 5 years runoff data, 1957-1961.

2/ Precipitation, 1957-1961.

48. AGENCY MAKING SURVEY Watershed Engineering, ARS, SWC, USDA

49. AGENCY SUPPLYING DATA Watershed Engineering, ARS, SWC, USDA 50. DATE \_\_\_\_\_