

RESERVOIR SEDIMENT
DATA SUMMARY

Saddle Mountain No. 2

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SCS-34 Rev. 6-66

NAME OF RESERVOIR

50-52

DATA SHEET NO.

DAM	1. OWNER C. O. Lunsford			2. STREAM Saddle Mtn. Creek			3. STATE Oklahoma												
	4. SEC. 2 TWP. 6N RANGE 14W			5. NEAREST P.O. Carnegie			6. COUNTY Kiowa												
	7. LAT. 98° 38' 20" LONG 35° 01' 30"			8. TOP OF DAM ELEVATION 1385.1			9. SPILLWAY CREST ELEV. 1380.1												
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		1380.1		85.3		674.0		771.3		4-5-59								
	b. MULTIPLE USE																		
	c. POWER																		
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN								
	e. IRRIGATION																		
	f. CONSERVATION																		
WATERSHED	17. LENGTH OF RESERVOIR 0.76 MILES			AV. WIDTH OF RESERVOIR 0.13 MILES			18. TOTAL DRAINAGE AREA 3.43 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 29.0 INCHES									
	19. NET SEDIMENT CONTRIBUTING AREA 3.37 SQ. MI.			23. MEAN ANNUAL RUNOFF 2.0 INCHES			20. LENGTH 3.80 MILES			24. MEAN ANNUAL RUNOFF 366 AC.-FT.									
	21. MAX. ELEV. 1820.0			MIN. ELEV. 1349.0			25. ANNUAL TEMP.: MEAN 61.0			RANGE 11° - 110°									
	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.				
	4-5-59		-		-		Range Contour (D)		15R		15.0 (85.3)		97.3 (771.3)		0.27 (2.11)				
4-5-65		6.00		6.00		Range Contour (D)		15R		15.0 2/		87.81 2/		0.24 2/					
9-10-70		5.26		11.26		Range Contour (D)		15R		15.4 (85.3)		81.5 (751.4)		0.22 (2.05)					
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 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		
	4-5-59		-			-			-		-			-					
	4-5-65		9.47 2/			1.58 2/			0.47 2/			9.47 2/		1.58 2/			0.47 2/		
9-10-70		6.38 (20.0)			1.21 (1.77)			0.36 (0.53)			15.9 (20.0)		1.41 (1.77)			0.42 (0.53)			
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		
4-5-65		38 Sed P(2)		389 2/			389 2/			1.62 2/		9.73 2/							
9-10-70		85 Det P(2)		416 (734)			485 (691)			1.5 (0.2)		16.3 (2.6)							
		53 Sed P(3)																	
		86 Det P(3)																	

weighted Avg. Approx 60 lbs./ft³

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	107	103	99	96.3	94	92	88	86	84	82	80	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
4-5-65					5	10	14	16	18	24	13	
9-10-70	2	4	6	8	6	0	14	17	21	15	7	

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. Original Survey			ELEVATION-AREA-CAPACITY DATA					
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
96.3	15.01	97.28	1970 Survey	96.3	15.35	81.43		
94.0	11.01	67.34	111.0	35.32	751.35	95.0	12.43	63.40
92.0	7.99	48.33	109.0	71.99	594.23	93.0	9.38	41.67
90.0	6.13	34.18	107.0	59.50	462.94	91.0	6.73	25.63
88.0	5.28	22.72	105.0	48.24	355.40	89.0	4.52	14.45
86.0	4.20	13.21	103.0	39.39	267.91	87.0	3.35	6.61
84.0	3.05	5.95	101.0	36.74	191.80	85.0	2.07	1.24
82.0	1.58	1.37	99.0	22.89	132.71	83.2	0.0	0.0
80.0	0.09	0/0						

47. REMARKS AND REFERENCES

1/ Refers to Sediment Pool

2/ Area above sediment pool riser wasn't surveyed in 1965

Land Use: Cropland 47%, Pasture-Rangeland 52%, Misc. 1% - 1970 survey.
 Cropland 59%, Pasture-Rangeland 40%, Misc. 1% - 1965 survey

Geology: Wichita Formation, Permian Age 90%, Arbuckle Gr. Ordovician Age 10%

Land Resource Area: Central Rolling Red Plains

() Figures enclosed in parentheses include sediment and flood pool

48. AGENCY MAKING SURVEY Oklahoma Watershed Planning Staff

49. AGENCY SUPPLYING DATA SCS U.S.D.A.

50. DATE December 16, 1970

RESERVOIR SEDIMENT
DATA SUMMARY

SCS-34 Rev. 6-66

Saddle Mountain Site No. 2

NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

50 - 52a

DATA SHEET NO.

DAM	1. OWNER C. O. Lunford		2. STREAM Saddle Mtn. Creek		3. STATE Oklahoma			
	4. SEC. 2 TWP. 6N RANGE 14W		5. NEAREST P.O. Carnegie, OK		6. COUNTY Kiowa			
	7. LAT 35° 01' 30" LONG 98° 38' 20"		8. TOP OF DAM ELEVATION 1385.1		9. SPILLWAY CREST ELEV. 1380.1			
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	1380.1	85.3	674.0	771.3	4- 5-59		
	b. MULTIPLE USE							
	c. POWER							
	d. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	e. IRRIGATION							
	f. CONSERVATION					4- 5-59		
g. INACTIVE 1/	1365.4	15.01	97.3	97.3				
WATERSHED	17. LENGTH OF RESERVOIR		0.76 MILES		AV. WIDTH OF RESERVOIR 0.18 MILES			
	18. TOTAL DRAINAGE AREA		3.43 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 29.0 INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA		3.37 SQ. MI.		23. MEAN ANNUAL RUNOFF 2.0 INCHES			
	20. LENGTH 3.80 MILES		AV. WIDTH 0.90 MILES		24. MEAN ANNUAL RUNOFF 366 AC.-FT.			
	21. MAX. ELEV. 1820.0		MIN. ELEV. 1349.0		25. ANNUAL TEMP: MEAN 61° FRANGELL° to 110° F			
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.
	4- 5-59	-	-	Range-Contour (D)	15 R	15.0 (85.3)	97.3 (771.3)	0.27 (2.11)
	4- 5-65	6.00	6.00	"	2' CI	15.0 (2/)	87.81 (2/)	0.24 (2/)
	9-10-70	5.26	11.26	"	"	15.4 (85.3)	81.5 (751.4)	0.22 (2.05)
	6-19-75	4.78	16.04	"	"	14.3 (82.8)	74.8 (716.6)	0.20 (1.96)
	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 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	
	4- 5-65	9.47 (2/)	1.58 (2/)	0.47 (2/)	9.47 (2/)	1.58 (2/)	0.47 (2/)	
	9-10-70	6.38 (20.0)	1.21 (5.26)	0.36 (1.56)	15.9 (20.0)	1.41 (1.77)	0.42 (0.53)	
	6-19-75	6.70 (34.8)	1.40 (7.28)	0.42 (2.16)	22.5 (54.7)	1.40 (3.41)	0.42 (1.01)	
	26. DATE OF SURVEY	39. AV. DRY WGT., LBS. PER CU. FT.	40. SED. DEP., TONS PERSQ. 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
	4- 5-65	38 Sed. P (2)	389	389	1.62	9.73		
	85 Det. P (2)	2/	2/	2/	2/			
9-10-70	53 Sed. P (3)	593	485	1.5	16.3			
	86 Det. P (3)	↙	(691)	(0.2)	(2.6)			
6-19-75	55 Sed. P (3)	534	503	1.4	23.1			
	88 Det. P (3)	↙ (3889)	↙ (1633)	(0.4)	(7.1)			

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION													
	CR-04	04-08	08-12	12-16	16-20	17-19	19-23	23-25	25-27	27-29	29-31			
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
4- 5-65	0	0	0	0	5	10	14	16	18	24	13			
9-10-70	1	4	6	8	6	0	14	17	21	15	7			
6-19-75	3	12	15	20	14	5	8	8	4	8	3			
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
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						
See Attached sheet for elevation-area-capacity data.														
47. REMARKS AND REFERENCES														
<p>1/ Refers to sediment pool.</p> <p>2/ Area above sediment pool elevation wasn't surveyed in 1965. Figures in parentheses include sediment and flood pools.</p> <p>Land Use: 1965 - cropland 59%, pasture-rangeland 40%, miscellaneous 1%. 1970 - cropland 47%, pasture-rangeland 52%, miscellaneous 1%. 1975 - cropland 47%, pasture-rangeland 52%, miscellaneous 1%.</p> <p>Geology: Wichita Formation, Permian Age 90%; Arbuckle Group Ordovician Age 10%.</p> <p>Land Resource Area: Central Rolling Red Plains.</p>														
48. AGENCY MAKING SURVEY Oklahoma Watershed Planning Staff														
49. AGENCY SUPPLYING DATA SCS, USDA														
50. DATE April 29, 1977														

Saddle Mountain Site No. 2

<u>3/</u> Elevation	Area	Capacity	<u>3/</u> Elevation	Area	Capacity
<u>Original Survey (1959)</u>			<u>1965 Survey</u>		
<u>96.3</u>	<u>15.01</u>	<u>97.28</u>	<u>96.3</u>	<u>15.01</u>	<u>87.81</u>
94.0	11.01	67.34	94.0	10.49	57.96
92.0	7.99	48.33	92.0	7.67	39.80
90.0	6.13	34.18	90.0	5.50	26.63
88.0	5.28	22.72	88.0	4.59	16.54
86.0	4.20	13.21	86.0	3.45	8.50
84.0	3.05	5.95	84.0	2.11	2.94
82.0	1.58	1.37	82.0	0.40	0.43
80.0	0.09	0.0	81.0	0.02	0.01
 <u>1970 Survey</u>			 <u>1975 Survey</u>		
111.0	85.32	751.35	111.0	82.76	716.62
109.0	71.99	594.23	109.0	69.48	564.38
107.0	59.50	462.94	107.0	57.96	436.94
105.0	48.24	355.40	105.0	47.21	331.77
103.0	39.39	267.91	103.0	38.49	246.07
101.0	36.74	191.90	101.0	30.91	176.67
99.0	22.89	132.71	99.0	22.78	122.98
<u>96.3</u>	<u>15.35</u>	<u>81.43</u>	<u>96.3</u>	<u>14.32</u>	<u>74.75</u>
95.0	12.43	63.40	95.0	11.59	59.20
93.0	9.38	41.67	93.0	8.28	39.33
91.0	6.73	25.63	91.0	6.11	24.94
89.0	4.52	14.45	89.0	4.23	14.60
85.0	2.07	1.24	87.0	3.27	7.10
83.2	0.0	0.0	85.0	2.13	1.70
			83.3	0.0	0.0

3/ Local elevation. Add 1269.1 to convert to MSL.