

RESERVOIR SEDIMENT
DATA SUMMARY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SCS-34 Rev. 6-66

WEST TWIN (2-A)

NAME OF RESERVOIR

63-9

DATA SHEET NO.

DAM	1. OWNER USDI BLM		2. STREAM TRIB. OF BADGER WASH		3. STATE COLO.		
	4. SEC. 36 TWP. 8 S. RANGE 104 W.		5. NEAREST P. O. MACK, COLO.		6. COUNTY MESA		
	7. LAT. 39° 20' " LONG. 108° 57' "		8. TOP OF DAM ELEVATION 5,048		9. SPILLWAY CREST ELEV. 5,050.2 ^{4/}		
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					Dec. 1953	
	b. MULTIPLE USE						
	c. POWER						
	d. WATER SUPPLY	5,050.2	3.10 ^{4/}	6.30	6.30	16. DATE NORMAL OPER. BEGAN	
	e. IRRIGATION					Dec. 1953	
	f. CONSERVATION						
g. INACTIVE							
17. LENGTH OF RESERVOIR .120 MILES		AV. WIDTH OF RESERVOIR .040 MILES					
WATERSHED	18. TOTAL DRAINAGE AREA .148 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 8.75 (38 yr) INCHES				
	19. NET SEDIMENT CONTRIBUTING AREA .148 SQ. MI.		23. MEAN ANNUAL RUNOFF .61 (17 yr) INCHES				
	20. LENGTH .84 MILES	AV. WIDTH .18 MILES	24. MEAN ANNUAL RUNOFF 4.82 (17 yr) AC.-FT.				
	21. MAX. ELEV. 5,140		MIN. ELEV. 5,035		25. ANNUAL TEMP.: MEAN 51°F RANGE --		
	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
12-6-53	--	--	Range D	5	1.77	6.30	1.31
7-28-55	1.6	1.6	"	5	1.26	4.38	0.91
11-4-56	1.3	2.9	"	5	"	"	0.91
10-25-57	1.0	3.9	"	5	"	3.90	0.81
11-20-58	1.1	5.0	"	5	"	"	0.81
11-12-59	1.0	6.0	"	5	3.10 ^{4/}	15.08 ^{4/}	3.13
11-2-61	2.0	8.0	"	5	"	13.86	2.88
SURVEY DATA	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW, ACRE-Feet ^{2/}			36. WATER INFL. TO DATE, AC.-FT.	
			a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE
	12-6-53	--	--	--	--	--	--
	7-28-55	11.3	9.65	8.77	15.45	9.65	15.45
	11-4-56	7.4	1.68	2.18	2.18	6.08	17.63
	10-25-57	13.1	9.36	9.36	9.36	6.91	26.99
	11-20-58	21.6	0.07	0.08	0.08	5.42	27.07
	11-12-59	5.8	4.37	4.37	4.37	5.25	31.44
	11-2-61	18.0	7.30	13.75	14.60	5.76	46.04
	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	
12-6-53	--	--	--	--	--	--	
7-28-55	1.92	1.20	8.10	1.92	1.20	8.10	
11-4-56	0	0	0	1.92	.66	4.46	
10-25-57	.48	.48	3.24	2.40	.62	4.19	
11-20-58	0	0	0	2.40	.48	3.24	
11-12-59	.22	.22	1.49	2.62	.44	2.97	
11-2-61	1.22	.61	4.12	3.84	.48	3.24	
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
12-6-53	--	--	--	--	--	--	--
7-28-55	90*	15,878	15,878	19.05	30.48	179,070	179,238
11-4-56	"	--	8,742	10.48	30.48	--	157,075
10-25-57	"	6,357	8,213	9.84	38.10	73,967	128,253
11-20-58	"	--	6,351	7.62	38.10	--	127,874
11-12-59	"	2,914	5,822	6.98	41.59	72,616	120,192
11-2-61	"	8,079	6,351	7.62	60.95	120,524	120,297

*Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION									
	18-16	16-14	14-12	12-10	10-8	8-6	6-4	4-2	2-0	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION									
10-25-57	0	1	17	39	29	13	1	0	0	
11-10-63	0	1	10	23	32	20	6	5	3	
10-25-67	0	1	7	15	23	28	9	9	8	

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														
11-4-56	18	19	18	12	11	11	5	3	2	1					
11-10-63	17	19	17	11	11	11	7	4	2	1					
11-4-65	17	18	17	11	11	11	7	5	2	1					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1954	44.58	34.7	8.77	1966	45.13	42.9	2.71
1955	45.53	33.9	8.86	1967	46.03	43.2	7.21
1956	--	--	0	1968	47.86	43.2	13.16
1957	44.64	40.0	9.36	1969	--	--	0
1958	40.56	40.1	.08	1970	--	--	0
1959	43.46	40.4	4.37				
1960	41.64	40.6	.80				
1961	46.96	40.9	13.75				
1962	45.70	41.4	3.41				
1963	44.36	41.6	2.79				
1964	46.57	42.4	5.07				
1965	46.26	43.2	5.13				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
ORIGINAL CAPACITY 1953			CAPACITY 1969					
34.7	0	0	43.8	0	0			
35.0	.08	.012	44.0	.38	.04			
37.0	.17	.23	45.0	.72	.58			
39.0	.40	.80	47.0	1.62	3.00			
41.0	.68	1.86	49.0	2.56	7.18			
43.0	1.16	3.68						
45.0	1.88	6.71						
47.0	2.78	9.11						
49.0	3.72	13.29						

47. REMARKS AND REFERENCES

- 1/ From National Weather Service Record at Fruita, Colo.
- 2/ Inflow amounts recorded during April 1 to Nov. 1 season. This generally includes most of the inflow for the year.
- 3/ Capacity increase.
- 4/ Dam and spillway raised in 1959.

Lusby, G. C., Turner, G. T., Thompson, J. R., and Reid, V. H., 1963, Hydrologic and biotic characteristics of grazed and ungrazed watersheds of Badger Wash basin in western Colorado, 1953-58: U.S. Geol. Survey Water-Supply Paper 1532-B.

Lusby, G. C., Reid, V. H., and Knipe, O. D., Effects of grazing on the hydrology and biology of the Badger Wash basin in western Colorado, 1953-66: U.S. Geol. Survey open-file report.

48. AGENCY MAKING SURVEY U.S. Geological Survey

49. AGENCY SUPPLYING DATA U.S. Geological Survey

50. DATE 11/71

RESERVOIR SEDIMENT
DATA SUMMARY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

WEST TWIN (2-A)--Cont.

SCS-34 Rev. 6-66

NAME OF RESERVOIR

63-9

DATA SHEET NO.

DAM	1. OWNER			2. STREAM			3. STATE							
	4. SEC.	TWP.	RANGE	5. NEAREST P. O.			6. COUNTY							
	7. LAT. ° ' " LONG. ° ' "			8. TOP OF DAM ELEVATION			9. SPILLWAY CREST ELEV.							
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													
	b. MULTIPLE USE													
	c. POWER													
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN			
	e. IRRIGATION													
	f. CONSERVATION													
g. INACTIVE														
WATERSHED	17. LENGTH OF RESERVOIR				MILES		AV. WIDTH OF RESERVOIR				MILES			
	18. TOTAL DRAINAGE AREA				SQ. MI.		22. MEAN ANNUAL PRECIPITATION				INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA				SQ. MI.		23. MEAN ANNUAL RUNOFF				INCHES			
	20. LENGTH		MILES		AV. WIDTH		MILES		24. MEAN ANNUAL RUNOFF				AC.-FT.	
	21. MAX. ELEV.			MIN. ELEV.			25. ANNUAL TEMP.: MEAN						RANGE	
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.					
	11-10-63		2.0	10.0	Range D	5	3.10	13.52	2.80					
	11-5-64		1.0	11.0	"	5	"	12.39	2.57					
	11-4-65		1.0	12.0	"	6	"	12.06	2.50					
	11-3-66		1.0	13.0	"	9	"	12.10	2.51					
	10-25-67		1.0	14.0	"	9	"	11.53	2.39					
	11-9-68		1.0	15.0	"	9	"	10.56	2.09					
	11-4-69		1.0	16.0	"	9	"	10.64	2.10					
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW, ACRE-FEET <u>2/</u>			36. WATER INFL. TO DATE, AC.-FT.						
					a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE					
	11-10-63		17.6		3.09	3.41	6.18	5.22	52.22					
	11-5-64		5.0		5.07	5.07	5.07	5.20	57.29					
	11-4-65		10.7		5.12	5.12	5.12	5.20	62.41					
	11-3-66		6.2		0	0	0	4.80	62.41					
	10-25-67		16.9		7.23	7.23	7.23	4.97	69.64					
11-9-68		20.8		13.16	13.16	13.16	5.52	82.80						
11-4-69		16.9		0	0	0	5.17	82.80						
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							
11-10-63		.34	.17	1.15	4.18	.42	2.84							
11-5-64		1.13	1.13	7.64	5.31	.48	3.24							
11-4-65		.33 ^{3/}	.33 ^{3/}	2.23	5.64	.47	3.18							
11-3-66		-.04 ^{3/}	-.04 ^{3/}	--	5.64	.43	2.90							
10-25-67		.57	.57	3.85	6.21	.44	2.98							
11-9-68		.97 ^{3/}	.97 ^{3/}	6.55	7.18	.48	3.24							
11-4-69		-.08 ^{3/}	-.08 ^{3/}	--	7.18	.45	3.04							
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						
11-10-63		90*	2,252	5,567	6.67	66.35	79,353	115,451						
11-5-64		"	14,966	6,351	7.62	84.28	321,473	133,682						
11-4-65		"	4,371	6,233	7.46	89.52	92,968	130,342						
11-3-66		"	--	5,684	6.82	89.52	--	130,342						
10-25-67		"	7,549	5,841	6.98	98.57	113,711	128,615						
11-9-68		"	12,847	6,351	7.62	113.97	106,317	125,070						
11-4-69		"	--	5,959	7.14	113.97	--	125,070						

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															
48. AGENCY MAKING SURVEY															
49. AGENCY SUPPLYING DATA USGS															
50. DATE 11/71															

RESERVOIR SEDIMENT
DATA SUMMARY

SCS-34 Rev. 6-66

West Twin (2-A)

NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

63-9 a

DATA SHEET NO.

DAM	1. OWNER			2. STREAM			3. STATE					
	4. SEC.		TWP.		RANGE		5. NEAREST P. O.			6. COUNTY		
	7. LAT.			" LONG.			8. TOP OF DAM ELEVATION			9. SPILLWAY CREST ELEV.		
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											
	b. MULTIPLE USE											
	c. POWER											
	d. WATER SUPPLY								6.3		16. DATE NORMAL OPER. BEGAN	
	e. IRRIGATION											
	f. CONSERVATION											
	g. INACTIVE											
WATERSHED	17. LENGTH OF RESERVOIR				MILES		AV. WIDTH OF RESERVOIR				MILES	
	18. TOTAL DRAINAGE AREA				SQ. MI.		22. MEAN ANNUAL PRECIPITATION				INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA				.148		23. MEAN ANNUAL RUNOFF				INCHES	
	20. LENGTH		MILES		AV. WIDTH		MILES		24. MEAN ANNUAL RUNOFF		4.82 AC.-FT.	
	21. MAX. ELEV.		MIN. ELEV.		25. ANNUAL TEMP. MEAN				RANGE			
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.
	10-28-70		1	17	Range D		9	3.10		10.64		2.21
	11-16-71		1	18	"		9	"		10.74		2.23
	11-07-72		1	19	"		9	"		10.59		2.20
	10-18-73		1	20	"		9	"		10.69		2.22
	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			
	10-28-70		7.43		0	0	0	4.87	82.80			
	11-16-71		7.88		0	0	0	4.60	82.80			
	11-07-72		6.60		.22	.22	.22	4.37	83.02			
10-18-73		9.65		0	0	0	4.15	83.02				
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					
10-28-70		0	0	0	7.18	.42	2.84					
11-16-71		-.10 ^{3/4}	-.10 ^{3/4}	--	7.18	.40	2.70					
11-07-72		.15	.15	1.01	7.33	.39	2.64					
10-18-73		-.10 ^{3/4}	-.10 ^{3/4}	--	7.33	.37	2.50					
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			
10-28-70		90*		0	5,567	6.67	113.97	--	--			
11-16-71		"		--	5,293	6.34	113.97 ^{1/2}	--	--			
11-07-72		"		1,980	5,175	6.19	116.34	--	--			
10-18-73		"		--	4,901	5.87	116.34 ^{1/2}	--	--			

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															
4/ Capacity increase was not considered in computations for storage loss.															
48. AGENCY MAKING SURVEY															
49. AGENCY SUPPLYING DATA U. S. Geological Survey															
50. DATE January 1977															