

RESERVOIR SEDIMENT
DATA SUMMARY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LOWER HANKS (1-B)

SCS-34 Rev. 6-66

NAME OF RESERVOIR

63-14

DATA SHEET NO.

DAM	1. OWNER USDI BLM		2. STREAM/TRIB. OF BADGER WASH		3. STATE COLO.			
	4. SEC. 25 TWP. 8 S. RANGE 104 W.		5. NEAREST P.O. MACK, COLO.		6. COUNTY MESA			
	7. LAT 39° 20' " LONG. 108° 56' "		8. TOP OF DAM ELEVATION 5,025		9. SPILLWAY CREST ELEV. 5,019.5			
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	5,019.5	4.09	19.80	19.80	16. DATE NORMAL OPER. BEGAN		
	e. IRRIGATION							
	f. CONSERVATION					Dec. 1953		
	g. INACTIVE							
WATERSHED	17. LENGTH OF RESERVOIR .092		MILES		AV. WIDTH OF RESERVOIR .069		MILES	
	18. TOTAL DRAINAGE AREA .084		SQ. MI.		22. MEAN ANNUAL PRECIPITATION 8.75(38 yr)		INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA .084		SQ. MI.		23. MEAN ANNUAL RUNOFF .51 (17 yr)		INCHES	
	20. LENGTH .42		MILES		AV. WIDTH .20		MILES	
	24. MEAN ANNUAL RUNOFF 2.28 (17 yr)						AC.-F.T.	
21. MAX. ELEV. 5,115		MIN. ELEV. 5,010		25. ANNUAL TEMP.: MEAN 51°F 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.
	12-6-53	--	--	Range D	5	4.14	19.80	8.69
	7-28-55	1.6	1.6	"	5	4.09	19.17	8.41
	11-4-56	1.3	2.9	"	5	"	"	8.41
	10-25-57	1.0	3.9	"	5	"	"	8.41
	11-20-58	1.1	5.0	"	5	"	"	8.41
	11-12-59	1.0	6.0	"	5	4.08	"	8.41
	11-2-61	2.0	8.0	"	5	4.07	18.85	8.27
	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		
	12-6-53	--	--	--	--	--		
	7-28-55	11.3	4.72	4.25	7.55	4.72	7.55	
	11-4-56	7.4	.31	.40	.40	2.74	7.95	
	10-25-57	13.9	5.74	5.74	5.74	3.51	13.69	
	11-20-58	9.2	0	0	0	2.74	13.69	
11-12-59	6.0	.88	.88	.88	2.43	14.75		
11-2-61	18.8	3.31	6.28	6.62	2.65	21.19		
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	.63	.39	4.65	.63	.39	4.64		
11-4-56	0	0	0	.63	.22	2.62		
10-25-57	0	0	0	.63	.16	1.91		
11-20-58	0	0	0	.63	.13	1.55		
11-12-59	0	0	0	.63	.10	1.12		
11-2-61	.32	.16	1.90	.95	.12	1.43		
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	--	--	--	--	--	--	--	
2-28-55	90*	9,095	9,095	1.97	3.18	119,133	120,352	
11-4-56	"	--	5,136	1.11	3.18	--	114,296	
10-25-57	"	--	3,744	0.81	3.18	--	66,374	
11-20-58	"	--	3,038	0.66	3.18	--	66,374	
11-12-59	"	--	2,195	0.50	3.18	--	61,604	
11-2-61	"	3,734	2,803	0.61	4.80	69,727	64,662	

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION												
	12-10	10-8	8-6	6-4	4-2	2-0							
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
10-25-57	0	46	45	7	2	0							
11-10-63	0	27	32	19	15	7							
10-25-67	0	20	45	17	12	6							

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	20	38	18	14	5	5	0	0	0	0					
11-10-63	15	24	21	17	7	7	4	3	1	1					
10-25-67	16	25	19	15	7	8	3	3	2	2					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1954		8.5		1966	11.95	10.6	.84
1955	13.50	9.9	3.70	1967	12.40	10.8	2.33
1956	--	--	0	1968	16.17	11.3	9.86
1957	12.40	10.2	5.54	1969	--	--	0
1958	--	--	0	1970	--	--	0
1959	11.48	10.2	.88				
1960	10.60	10.2	.12				
1961	14.28	10.3	6.28				
1962	12.23	10.2	1.47				
1963	11.11	10.3	.29				
1964	12.21	10.4	1.16				
1965	12.87	10.7	2.54				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
ORIGINAL CAPACITY 1953			CAPACITY 1968					
8.5	0	0	11.3	0	0			
9.0	.15	.04	12.0	.75	.32			
10.0	.37	.29	14.0	1.44	2.05			
12.0	.90	1.55	16.0	2.44	6.31			
14.0	1.68	4.12	17.0	2.96	9.00			
16.0	2.56	8.32	18.0	3.38	12.00			
18.0	3.41	14.31	20.0	4.27	19.74			
20.0	4.30	22.05						

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.
 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

LOWER HANKS (1-B)--Cont.

SCS-34 Rev. 6-66

NAME OF RESERVOIR

63-14

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		4.08	18.74		8.22			
	11-5-64		1.0	11.0	"	5		"	18.72		8.21			
	11-4-65		1.0	12.0	"	5		"	18.38		8.06			
	11-3-66		1.0	13.0	"	5		"	18.42		8.08			
	10-25-67		1.0	14.0	"	6		"	18.25		8.00			
	11-9-68		1.0	15.0	"	5		"	17.63		7.73			
	11-4-69		1.0	16.0	"	6		"	17.60		7.72			
	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				
11-10-63		17.4		0.91	1.47	1.83		2.30	23.02					
11-5-64		5.2		1.16	1.16	1.16		2.20	24.18					
11-4-65		11.6		2.54	2.54	2.54		2.22	26.72					
11-3-66		7.0		0	0	0		2.05	26.72					
10-25-67		11.4		2.36	2.36	2.36		2.08	29.08					
11-9-68		13.3		9.86	9.86	9.86		2.60	38.94					
11-4-69		11.4		0	0	0		2.43	38.94					
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		.11	.05	.59		1.06	.11	1.31						
11-5-64		.02	.02	.24		1.08	.10	1.12						
11-4-65		.34 ^{3/}	.34 ³	4.05		1.42	.12	1.43						
11-3-66		.06 ^{2/}	.06	--		1.42	.11	1.31						
10-25-67		.17	.17	2.02		1.59	.11	1.31						
11-9-68		.62	.62	7.38		2.21	.15	1.78						
11-4-69		.03	.03	.36		2.24	.15	1.78						
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*	1,283	2,568	0.56	5.35	86,669	66,414						
11-5-64		"	467	2,195	0.50	5.45	24,884	64,421						
11-4-65		"	7,934	2,803	0.61	7.17	193,071	76,650						
11-3-66		"	--	2,568	0.56	7.17 ^{4/}	--	76,650						
10-25-67		"	3,967	2,568	0.56	8.03	103,898	78,861						
11-9-68		"	14,468	3,489	0.76	11.16	90,700	81,857						
11-4-69		"	700	3,489	0.76	11.31	--	82,968						

4/ Capacity increase was not considered in computations of storage loss.

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

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Lower Hanks (1-B)

63-14 a

SCS-34 Rev. 6-66

NAME OF RESERVOIR

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								19.8		15. 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				.084 SQ. MI.		23. MEAN ANNUAL RUNOFF				INCHES	
	20. LENGTH		MILES		AV. WIDTH		MILES		24. MEAN ANNUAL RUNOFF		2.28 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	17.0	Range D	6	4.08	17.60	7.7				
	11-17-71	1	18.0	"	6	"	17.59	7.7				
	11-09-72	1	19.0	"	6	"	17.62	7.7				
	10-19-73	1	20.0	"	6	"	17.59	7.7				
	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	8.59		0	0	0	2.29		38.94			
	11-17-71	8.38		.22	.22	.22	2.18		39.16			
	11-09-72	6.69		.29	.29	.29	2.08		39.45			
10-19-73	10.37		.52	.52	.52	2.00		39.97				
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	2.24		.13	1.55				
11-17-71	.01		.01	.12	2.25		.12	1.43				
11-09-72	-.03 ^{3/}		-.03 ^{3/}	--	2.25		.12	1.43				
10-19-73	.03		.03	.36	2.28		.11	1.31				
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	3,038	.67	11.31	--	--					
11-17-71	"	235	2,803	.63	11.36	--	--					
11-09-72	"	--	2,803	.60	11.36	--	--					
10-19-73	"	706	2,568	.58	11.52	--	--					

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
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 U. S. Geological Survey														
50. DATE <u>January 1977</u>														