

RESERVOIR SEDIMENTATION
DATA SUMMARY

Mill Canyon

NAME OF RESERVOIR

66-12

DATA SHEET NO.

DAM	1. OWNER			2. RIVER Mill Canyon			3. STATE Utah			
	4. SEC. 1 & 2 TWP. 24S RANGE 2W			5. NEAREST TOWN Glenwood			6. COUNTY Sevier			
	7. STREAM BED ELEV. 5550			8. TOP OF DAM ELEV. 5598			9. SPILLWAY CREST ELEV. 5592			
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	5592	14.5	208	208	Dec. 1957				
	b. POWER									
	c. WATER SUPPLY									
	d. IRRIGATION					16. DATE NORMAL OPER. BEGAN				
	e. CONSERVATION									
	f. INACTIVE					Dec. 1957				
WATERSHED	17. LENGTH OF RESERVOIR 0.23 MILES			18. AV. WIDTH OF RESERVOIR 0.1 MILES						
	19. TOTAL DRAINAGE AREA 19.5 SQ. MI.			20. MEAN ANNUAL PRECIPITATION 8-24 INCHES						
	21. NET SEDIMENT CONTRIBUTING AREA 19.5 SQ. MI.			22. MEAN ANNUAL RUNOFF 1/8* INCHES						
	23. LENGTH 8.5 MILES		24. AV. WIDTH 2.3 MILES		25. MEAN ANNUAL RUNOFF 130* AG.-FT.					
	26. MAX. ELEV. 9200		27. MIN. ELEV. 5550		28. CLIMATIC CLASSIFICATION Semi-arid					
SURVEY DATA	29. DATE OF SURVEY	30. PERIOD YEARS	31. ACCL. YEARS	32. TYPE OF SURVEY	33. NO. OF RANGES OR CONTOUR INT.	34. SURFACE AREA ACRES	35. CAPACITY ACRE- FEET	36. C/W RATIO AC.-FT. PER SQ. MI.		
	Dec. 1957	0	0	Contour (R)	2	14.5	208	10.68		
	Dec. 1960	3.0	3.0	Range (R)	20	14.0*	186	9.55		
	29. DATE OF SURVEY	30. PERIOD ANNUAL PRECIPITATION	31. PERIOD WATER INFLOW ACRE- FEET			32. WATER INFL. TO DATE AC.-FT.				
			a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE			
	Dec. 1960	8-24	130*	--	358*	130*	356*			
	29. DATE OF SURVEY	30. PERIOD SEDIMENT DEPOSITS ACRE- FEET			31. 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			
	Dec. 1960	21.7	7.24	0.37	21.7	7.24	0.37			
	29. DATE OF SURVEY	30. AV. DRY WGT. LBS. PER CU. FT.	31. SED. DEP. TONS PER SQ. MI.-YR.		32. STORAGE LOSS PCT.		33. SED. INFLOW PPM			
		a. PERIOD	b. TOTAL TO DATE	a. AV. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE			
Dec. 1960	70*	564	564	3.5	10.4	67,997	67,997			

* Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
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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														
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45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
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46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
5558	0	0	5578	7.50	53.42			
60	.12	.12	80	8.65	69.57			
62	.24	.48	82	9.70	87.92			
64	.56	1.28	84	10.67	108.29			
66	1.30	3.14	86	11.48	130.44			
68	2.01	6.45	88	12.40	154.32			
70	3.05	11.51	90	13.41	180.13			
72	4.00	18.56	92	14.51	208.05			
74	5.35	27.91	94	15.85	238.41			
76	6.33	39.25						

47. REMARKS AND REFERENCES

Majority of sediment was deposited during a summer flash flood which occurred on Sept. 5, 1960.

48. AGENCY SUPPLYING DATA Soil Conservation Service

49. DATE 9-20-61

**RESERVOIR SEDIMENT
DATA SUMMARY**

SCS-34 Rev. 6-62

Mill Canyon Retarding Structure
NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

66- 12a

DATA SHEET NO.

DAM	1. OWNER				2. STREAM Mill Canyon				3. STATE Utah						
	4. SEC. 1 & 2 TWP. 24S RANGE 2W				5. NEAREST TOWN Glenwood				6. COUNTY Sevier						
	7. STREAM BED ELEVATION 5550				8. TOP OF DAM ELEVATION 5598				9. SPILLWAY CREST ELEV. 5592						
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. MULTIPLE USE										Dec. 1957				
	b. FLOOD CONTROL		5592		14.5		208		208						
	c. POWER										16. DATE NORMAL OPER. BEGAN				
	d. WATER SUPPLY														
	e. IRRIGATION														
	f. CONSERVATION														
	g. SEDIMENT										Dec. 1957				
h. INACTIVE															
17. LENGTH OF RESERVOIR 0.23 MILES				AV. WIDTH OF RESERVOIR 0.1 MILES											
WATERSHED	18. TOTAL DRAINAGE AREA 19.5 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 8-24 INCHES										
	19. NET SEDIMENT CONTRIBUTING AREA 19.5 SQ. MI.				23. MEAN ANNUAL RUNOFF 1/8* INCHES										
	20. LENGTH 8.5 MILES		AV. WIDTH 2.3 MILES		24. MEAN ANNUAL RUNOFF 130* AC.-FT.										
	21. MAX. ELEV. 9,200		MIN. ELEV. 5,550		25. CLIMATIC CLASSIFICATION Semi-arid										
	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.
Dec. 1957		0		0		Contour (R)		2		14.5		208		10.68	
Dec. 1960		3.0		3.0		Range (R)		20		14.0*		186		9.55	
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			
Dec. 1960		8-24		130*		--		390*		130*		390*			
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			
Dec. 1960		22.0		7.33		0.38		22.0		7.33		0.38			
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. AN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE	
Dec. 1960		70*		578		578		3.5		10.6		63,280		63,280	

* Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION												
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
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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														
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45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
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46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
5594	15.85	238.41	5572	4.00	18.57			
92	14.51	208.05	70	3.05	11.51			
90	13.41	180.13	68	2.01	6.45			
88	12.40	154.32	66	1.30	3.14			
86	11.48	130.44	64	.56	1.28			
84	10.67	108.29	62	.24	.48			
82	9.70	87.92	60	.12	.12			
80	8.65	69.57	58	0	0			
78	7.50	53.42						
76	6.33	39.59						
74	5.35	27.91						

47. REMARKS AND REFERENCES

Majority of sediment was deposited during a summer flash flood which occurred on September 5, 1960.

48. AGENCY MAKING SURVEY

49. AGENCY SUPPLYING DATA SCS, WPS, Salt Lake City, Utah

50. DATE 9-20-61

RESERVOIR SEDIMENT

DATA SUMMARY

SCS-34 Rev. 6-66

Mill Canyon Retarding Structure

NAME OF RESERVOIR

(Mill Canyon-Sage Flat)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

66-12b

DATA SHEET NO.

DAM	1. OWNER <u>Glenwood City</u>			2. STREAM <u>Mill Canyon</u>			3. STATE <u>Utah</u>									
	4. SEC. <u>1</u> TWP. <u>24S.</u> RANGE <u>2W.</u>			5. NEAREST P.O. <u>Glenwood</u>			6. COUNTY <u>Sevier</u>									
	7. LAT <u>38° 45' - "</u> LONG <u>112° - "</u>			8. TOP OF DAM ELEVATION <u>5,598</u>			9. SPILLWAY CREST ELEV. <u>5,592</u>									
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		5,592		16.42		177		224							
	b. MULTIPLE USE										11/57					
	c. POWER															
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN					
	e. IRRIGATION															
	f. CONSERVATION															
	g. INACTIVE		5,577.5		8.18		47		47		11/57					
WATERSHED	17. LENGTH OF RESERVOIR <u>0.25</u> MILES			AV. WIDTH OF RESERVOIR <u>0.10</u> MILES												
	18. TOTAL DRAINAGE AREA <u>18.92</u> SQ. MI.			22. MEAN ANNUAL PRECIPITATION <u>12-24*</u> INCHES												
	19. NET SEDIMENT CONTRIBUTING AREA <u>13.72</u> SQ. MI.			23. MEAN ANNUAL RUNOFF <u>0.1</u> INCHES												
	20. LENGTH <u>8.5</u> MILES			AV. WIDTH <u>2.2</u> MILES			24. MEAN ANNUAL RUNOFF <u>101</u> AC.-FT.									
	21. MAX. ELEV. <u>9,800</u>			MIN. ELEV. <u>5,552</u>			25. ANNUAL TEMP: MEAN <u>49.4</u> RANGE <u>-28°</u> to <u>104°</u>									
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.	
	6/59		--		--		Contour D		2		16.42		223.99		2.22	
	12/60		1.5		1.5		Range R		20		--		202.29		2.20	
	5/63		2.42		3.92		Range R		14		16.85		202.03		2.00	
	5/68		5.0		8.92		Range R		14		16.74		199.64		1.98	
	9/74		6.33		15.25		Range R		14		16.73		191.11		1.89	
	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			
	12/60		21.7		14.47		1.05		21.7		14.47		1.05			
	5/63		0.26 ^{3/4}		0.11		0.01		21.96		5.60		0.41			
	5/68		2.39		0.48		0.03		24.35		2.73		0.20			
	9/74		8.53		1.35		0.10		32.88		2.16		0.16			
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				
12/60		84.9 ^{4/4}		1960.1		1960.1		6.46		9.69						
5/63		84.9 ^{4/4}		18.49		758.14		2.50		9.80						
5/68		84.9 ^{4/4}		74.0		369.82		1.22		10.87						
9/74		84.9 ^{4/4}		184.91		295.86		0.96		14.68						

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION												
				Total	92-88	88-84	84-80	80-74.5	74.5-74	74-70	70-66	66-62	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
6/59				--	--	--	--	--	--	--	--	--	
12/60				--	--	--	--	--	--	--	--	--	
5/63				100	--	5	5	5	16	38	27	4	
5/68				100	2	7	6	7	15	36	24	3	
9/74				100	3	7	7	8	18	36	18	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	-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
1959 Capacity 5/			76.0	7.14	35.22	88.0	13.69	131.23
5592.0	16.42	223.99	74.0	5.47	22.64	86.0	12.36	105.18
90.0	15.27	192.30	72.0	3.92	13.28	84.0	11.20	81.61
88.0	14.19	162.83	70.0	2.64	6.76	82.0	9.91	60.50
86.0	12.96	135.68	68.0	1.36	2.58	80.0	8.81	41.78
84.0	11.66	111.05	66.0	0.51	0.87	77.5	6.78	22.35
82.0	10.48	88.91	64.0	0.18	0.23	76.0	5.45	13.19
80.0	9.54	68.89	1974 Capacity 6/			74.0	3.76	4.03
78.0	8.44	50.92	5592.0	16.73	191.81	72.0	0.64	0.06
77.0	7.92	42.74	90.0	15.08	160.00	5571.7	0	0

47. REMARKS AND REFERENCES 1/ Subtracted 5.18 sq. mi. because sediment is being trapped in 3 different tributaries by stock ponds. Also, 0.02 sq. mi. was subtracted for the reservoir area. The primary sediment producing area is 4.1 sq. mi. immediately upstream from the structure. Soft Jurassic, Tertiary and Quaternary sediments are exposed in this area. The remainder of the drainage is covered mainly by Tertiary Volcanics.

2/ A large flood occurred on Sept. 5, 1960 and it filled the reservoir to elevation 79.5. This gives a water and sediment volume of approx. 65.0 ac.ft. Maximum out-flow through the 27 inch outlet pipe was approx. 80 cfs. This flow continued approx. 2 hours before it diminished. Runoff ranges from 0 inches in the valley to approx. 2 inches on the mountains. The average annual runoff from 1964 to 1974 was 8 acre feet.

48. AGENCY MAKING SURVEY SCS 3/ Obtained by difference. 4/ Average of 5 samples collected in 1963. 50. DATE 6-28-76

49. AGENCY SUPPLYING DATA SCS 5/ As constructed. 6/ Contour adjusted only where sediment deposition occurred.