

**RESERVOIR SEDIMENT
DATA SUMMARY**

SCS-34 Rev. 6-62

Frog Hollow Detention Reservoir
NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

62-7

DATA SHEET NO.

DAM	1. OWNER Bench Lake Irrig. Co.		2. STREAM Frog Hollow Wash		3. STATE Utah			
	4. SEC. 24 TWP. 24S RANGE 13W		5. NEAREST TOWN Hurricane		6. COUNTY Washington			
	7. STREAM BED ELEVATION 64.0 ^x		8. TOP OF DAM ELEVATION 102.5 ^x		9. SPILLWAY CREST ELEV. 96.0 ^x			
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					Spring 1957		
	b. FLOOD CONTROL 1/	96.0	31.7	223.0	223.0			
	c. POWER							
	d. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	e. IRRIGATION							
	f. CONSERVATION					Spring 1958		
	g. SEDIMENT							
	h. INACTIVE							
17. LENGTH OF RESERVOIR 0.5 MILES		AV. WIDTH OF RESERVOIR 0.1 MILES						
WATERSHED	18. TOTAL DRAINAGE AREA 9.2 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 11 INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 9.2 SQ. MI.		23. MEAN ANNUAL RUNOFF 0.3 ^x INCHES					
	20. LENGTH 4.0 MILES AV. WIDTH 2.3 MILES		24. MEAN ANNUAL RUNOFF 147 ^x AC.-FT.					
	21. MAX. ELEV. 5800 MIN. ELEV. 4200		25. CLIMATIC CLASSIFICATION Semi-Arid					
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/W RATIO AC.-FT. PER SQ. MI.
	1-20-57	0	0	range (R)	12	31.7	223.0	24.2
	1-20-58 2/	1 ^x	1 ^x	Contour (D)	2'	31.7	216.4	23.6
	11-18-65	7.8	8.8 ^x	Contour (D)	2'	31.3	140.8	15.3
	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 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	
	1-20-58	6.6	6.6	0.72	6.6	6.6	0.72	
	11-18-65	75.6	9.7	1.05	82.2	9.34	1.02	
	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
	1-20-58	80 ^x	1,255	1,255	2.96	2.96		
	11-18-65	80 ^x	1,830	1,777	4.19	36.86		

x Assumed or approximate

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION														
			98-96	96-94	94-92	92-90	90-88	88-86	86-84	84-82	82-80	80-78			
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											3/			
11-18-65			0.8	1.6	2.8	7.3	18.0	27.4	20.9	13.2	5.8	2.2			
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.								
Land use in watershed: Approximately 20% wasteland and 80% range.															
Geology: 48% Quaternary alluvium, 12% Quaternary Basalt, and 40% Moenkopi formation. The Virgin limestone member of the Moenkopi formation is exposed over 16% of the watershed.															
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
Capacity - 1958															
98	37.30	285.43	82	3.27	6.10	92	18.30	42.80							
96	31.70	216.43	80	1.26	1.57	90	11.59	12.92							
94	25.10	159.63	78	0.31	0	88	0.98	0.34							
92	19.88	114.65				87.3	0	0							
90	15.00	79.77	Capacity - 1965												
88	11.93	52.84	98	37.05	209.14										
86	8.92	31.99	96	31.29	140.80										
84	6.85	16.22	94	24.20	85.30										
47. REMARKS AND REFERENCES															
1/ A gate was installed on the outlet pipe in the spring of 1958 to reduce the outflow and permit temporary irrigation storage.															
2/ A survey was made in 1958 of the sediment deposits to measure deposition which occurred during 1957. At the same time, a contour map was made of the basin to determine the original capacity and establish a reference for future surveys.															
3/ 1.1 acre feet deposited in channels above elevation 98.0 not included.															
48. AGENCY MAKING SURVEY															
49. AGENCY SUPPLYING DATA SCS, WPS, Salt Lake City, Utah										50. DATE 12-15-65					