

RESERVOIR SEDIMENTATION
DATA SUMMAR

FERN DEBRIS BASIN

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER LACFCD				2. RIVER Fern Canyon		3. STATE Calif.									
	4. SEC. TWP. 1 N		RANGE 12 W		5. NEAREST TOWN Altadena		6. COUNTY Los Angeles									
	7. STREAM BED ELEV. 1462.4				8. TOP OF DAM ELEV. 1480.5		9. SPILLWAY CREST ELEV. 1470.2									
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															
	b. POWER															
	c. WATER SUPPLY															
	d. IRRIGATION										16. DATE NORMAL OPER. BEGAN					
	e. CONSERVATION										Dec. 1935					
	f. INACTIVE															
WATERSHED	17. LENGTH OF RESERVOIR .09 MILES				AV. WIDTH OF RESERVOIR .02 MILES											
	18. TOTAL DRAINAGE AREA .30 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 24.6 INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA .30 SQ. MI.				23. MEAN ANNUAL RUNOFF INCHES											
	20. LENGTH 1.46 MILES		AV. WIDTH .21 MILES		24. MEAN ANNUAL RUNOFF AC.-FT.											
	21. MAX. ELEV. 3150		MIN. ELEV. 1462.4		25. CLIMATIC CLASSIFICATION Subhumid											
SURVEY DATA	26. DATE OF SURVEY		27. PERIOD YEARS		28. ACCL. YEARS		26. DATE OF SURVEY		27. PERIOD YEARS		28. ACCL. YEARS		32. CAPACITY ACRE- ¹ FEET		33. C/W RATIO AC.-FT. PER SQ. MI.	
	Sept. 1936		1		1		Sept. 1946		1		11					
	" 1938		2		3		" 1947		1		12					
	" 1941		3		6		" 1948		1		13					
	" 1942		1		7		" 1949		1		14					
	" 1943		1		8		" 1950		1		15					
	" 1944		1		9		" 1952		2		17					
	" 1945		1		10											
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE- ¹ FEET							
	Sept. 1936		20.6		Sept. 1946		20.8		No record of inflow.							
	" 1938		46.4		" 1947		24.7									
	" 1941		32.8		" 1948		11.3									
	" 1942		16.1		" 1949		13.4									
	" 1943		41.5		" 1950		16.4									
	" 1944		28.9		" 1952		25.6									
" 1945		22.3														
26. DATE OF SURVEY		37. PERIOD SEDIMENT DEPOSITS ACRE- ² FEET		38. TOTAL SED. DEPOSITS TO DATE ACRE- ² FEET												
		a. PERIOD TOTAL		b. AV. ANNUAL		c. PER SQ. MI.-YR.		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YR.				
Sept. 1936		9.37		9.37		31.2		9.37		9.37		31.2				
" 1938		21.74		12.4		41.3		34.1		11.4		38.0				
" 1941		2.98		.99		3.30		37.1		6.18		20.6				
" 1942		0		0		0		37.1		5.30		17.7				
" 1943		6.59		6.59		22.0		43.7		5.46		18.2				
" 1944		1.85		1.85		6.17		45.5		5.06		16.9				
" 1945		.92		.92		3.07		46.5		4.65		15.5				
Sept. 1946		.83		.83		2.77		47.3		4.30		11.3				
" 1947		.13		.13		0.43		47.4		3.95		13.2				
" 1948		0		0		0		47.4		3.65		12.2				
" 1949		0		0		0		47.4		3.69		11.3				
" 1950		0		0		0		47.4		3.16		10.5				
" 1952		3.27		1.64		5.47		50.67		2.98		9.93				
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. ANNUAL		b. TO DATE		a. PERIOD		b. TO DATE		

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, 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
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

1/ Item 32. Capacity of debris basin varies. Debris excavated at various times.

2/ Item 37. Sedimentation values computed by LACFCD are based on complete water year.

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

FERN DEBRIS BASIN (Revised)

NAME OF RESERVOIR

70-43c

DATA SHEET NO.

DAM	1. OWNER LACFGD			2. STREAM Fern Canyon			3. STATE Calif									
	4. SEC. 33 TWP. 2N RANGE 12W			5. NEAREST P.O. Altadena			6. COUNTY Los Angeles									
	7. LAT. 34° 12' 55" LONG. 118° 08' 50"			8. TOP OF DAM ELEVATION 1480.5			9. SPILLWAY CREST ELEV. 1470.2									
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										Dec 35					
	f. CONSERVATION															
g. INACTIVE																
17. LENGTH OF RESERVOIR 0.09			MILES			AV. WIDTH OF RESERVOIR 0.02			MILES							
18. TOTAL DRAINAGE AREA .30			SQ. MI.			22. MEAN ANNUAL PRECIPITATION 24.6			INCHES							
19. NET SEDIMENT CONTRIBUTING AREA .30			SQ. MI.			23. MEAN ANNUAL RUNOFF			INCHES							
20. LENGTH 1.46		MILES		AV. WIDTH .21		MILES		24. MEAN ANNUAL RUNOFF AC.-FT.								
21. MAX. ELEV. 3450		MIN. ELEV. 1470.2		25. ANNUAL TEMP MEAN 62.2° RANGE 48.8°-75.6°												
WATERSHED	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.	
	Sep 36		0.83		0.83											
	Sep 38		2.0		2.83											
	Sep 41		3.0		5.83											
	Sep 43		2.0		7.83											
	Sep 52		9.0		16.83											
	Sep 64		12.0		28.83											
	Sep 66		2		30.83											
SURVEY DATA	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								
	Sep 36		22.39		No record of inflow.											
	Sep 38		46.40													
	Sep 41		32.80													
	Sep 43		28.80													
	Sep 52		21.01													
	Sep 64		17.37													
	Sep 66		26.32													
	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											
Sep 36		7.68 9.25 30.84			7.68 9.25 30.84											
Sep 38		26.41 13.21 44.02			34.09 12.05 40.15											
Sep 41		2.98 .99 3.30			37.07 6.36 21.20											
Sep 43		6.03 3.01 10.03			43.10 5.50 18.33											
Sep 52		6.84 0.76 2.53			49.94 2.97 9.90											
Sep 64		4.42 0.37 1.23			54.36 1.89 6.30											
Sep 66		10.02 5.01 16.70			64.38 2.09 6.96											
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								

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
	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														
<p>1/ Item 25 - Temperature taken at Pasadena, California.</p> <p>2/ Item 32 - Capacity of debris basin varies. Debris excavated at various times.</p> <p>3/ Item 37 - Sedimentation values computed by LACFCD are based on complete water Year.</p>														
48. AGENCY MAKING SURVEY	LACFCD													
49. AGENCY SUPPLYING DATA	C of E													
50. DATE	8 Feb 72													

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CORPS OF ENGINEERS

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	7. LAT. 34° 12' 55" "LONG 118° 08' 50"			8. TOP OF DAM ELEVATION 1480.5			9. SPILLWAY CREST ELEV. 1470.2					
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	a. FLOOD CONTROL											
	b. MULTIPLE USE											
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WATERSHED	17. LENGTH OF RESERVOIR 0.09 MILES				AV. WIDTH OF RESERVOIR 0.02 MILES							
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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.			
	Sep 68		2	32.83								
	Sep 69		1	33.83								
	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		
	Sep 68		26.44		No record of inflow.							
	Sep 69		47.50									
	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		
	Sep 68		6.30	3.15	10.50	70.68		2.15		7.17		
Sep 69		14.29	14.29	47.63	84.97		2.51		8.37			
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		

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															
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48. AGENCY MAKING SURVEY				LACFCD				50. DATE				8 Feb 72			
49. AGENCY SUPPLYING DATA				C of E											