

RESERVOIR SEDIMENTATION  
DATA SUMMARY

Morena Reservoir

70-15

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER City of San Diego		2. RIVER Cottonwood Creek		3. STATE California			
	4. SEC. 14 TWP. 17 S RANGE 4 E		5. NEAREST TOWN San Diego		6. COUNTY San Diego			
	7. STREAM BED ELEV. 2882		8. TOP OF DAM ELEV. 3049		9. SPILLWAY CREST ELEV. 3039.4			
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					March 1910		
	b. POWER							
	c. WATER SUPPLY	3044.9	1,687	66,767	66,767 1/	16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION							
	e. CONSERVATION							
f. INACTIVE								
WATERSHED	17. LENGTH OF RESERVOIR 3.9		MILES	AV. WIDTH OF RESERVOIR		MILES		
	18. TOTAL DRAINAGE AREA 112.0		SQ. MI.	22. MEAN ANNUAL PRECIPITATION 26		INCHES		
	19. NET SEDIMENT CONTRIBUTING AREA 109.4		SQ. MI.	23. MEAN ANNUAL RUNOFF		INCHES		
	20. LENGTH		MILES	AV. WIDTH		MILES	24. MEAN ANNUAL RUNOFF	
	21. MAX. ELEV. 6000		MIN. ELEV. 2882		25. CLIMATIC CLASSIFICATION		Sub-humid	
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.
	March 1910	-	-	-	-	1687	66,767 1/	596
	Dec. 1935	25.7	25.7	Range Detailed	29	1669	60,699 1/	542
	July 1948	12.6	38.3	"	29	1650	58,933 1/	526
	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	d. MEAN ANNUAL	e. 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	d. TOTAL TO DATE	e. AV. ANNUAL	f. PER SQ. MI.-YEAR	
	Dec. 1935	6068	236	2.16	6068	236	2.16	
July 1948	1766	140	1.28	7834	204.5	1.87		
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 P P M		
		a. PERIOD	b. TOTAL TO DATE	a. AV. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE	
Dec. 1935	60 *	2823	2823	0.35	9.09			
July 1948		1673	2444	0.31	11.73			

\* Assumed

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	-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. <u>2/</u> ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
3,039.4	1,540	50,129	3,000	491	11,725	2,960	101	1,253
3,030	1,232	37,140	2,990	367	7,454	2,950	60	458
3,020	982	26,107	2,980	252	4,379	2,940	24	49
3,010	711	17,691	2,970	140	2,449			

47. REMARKS AND REFERENCES  
1/ Based on revised 1935 range survey and resurvey of ranges in 1948 to gage elevation 162.5, spillway level in 1935 (3044.9).  
2/ Contour map prepared in 1948. Capacity to present spillway gage elevation of 157.0.

Barnes, F. F., Kraebel, C. J., and LaMotte, R.S. Effect of accelerated erosion on silting in Morena Reservoir, San Diego County, California. In cooperation with the Forest Service. U.S. Dept. Agr. Tech. Bul. 639. 21 pp., illus., Washington, D.C., U.S. Govt. print. off., 1939.

48. AGENCY SUPPLYING DATA Region 7, Soil Conservation Service 49. DATE August 31, 1950