

*Complete*

**RESERVOIR SEDIMENTATION DATA SUMMARY**

Pool #19 (Lake Cooper, Keokuk Dam)

25-1

NAME OF RESERVOIR

DATA SHEET NO.

1. OWNER Mississippi River Power Co		2. RIVER Mississippi		3. STATE Iowa-Illinois				
4. SEC. 30 TWP. 65 N RANGE 47		5. NEAREST TOWN Keokuk, Iowa		6. COUNTY Lee-Mancock				
7. STREAM BED ELEV. 482.0		8. TOP OF DAM ELEV.		9. SPILLWAY CREST ELEV. 518.2				
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					May 1913		
	b. POWER Navigation	518.2		479,550	479,550			
	c. WATER SUPPLY			-	-	16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION			-	-			
	e. CONSERVATION			-	-			
	f. INACTIVE						Dec 1918	
17. LENGTH OF RESERVOIR 46.0		MILES		AV. WIDTH OF RESERVOIR 1.14		MILES		
WATERSHED	18. TOTAL DRAINAGE AREA 119,000		SQ. MI.		22. MEAN ANNUAL PRECIPITATION 32.2		INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA		SQ. MI.		23. MEAN ANNUAL RUNOFF 6.98 (67 yr)		INCHES	
	20. LENGTH 1002.0		MILES		AV. WIDTH 118.8		MILES	
	21. MAX. ELEV.		MIN. ELEV. 482.0		24. MEAN ANNUAL RUNOFF 44,300,000 (67 yr)		AC.-FT.	
					25. CLIMATIC CLASSIFICATION 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. ML
	Spring 1913			Range	26		479,550	---
	June 1928	15	15	Range	26		370,300	---
	June 1938	10	25	Range	25		337,000	---
	June 1946	8	33	Range	26	33,500	312,216	---
	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	
	June 1928		42,600,000	64,100,000	645,000,000	42,600,000	645,000,000	
	June 1938		34,800,000	58,600,000	348,000,000	39,400,000	993,000,000	
	June 1946		47,200,000	60,300,000	378,000,000	41,400,000	1,371,000,000	
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.-YR.	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YR.		
June 1928	109,250	7,283	---	109,250	7,283	---		
June 1948	33,300	3,330	---	142,550	5,702	---		
June 1946	24,784	3,098	---	167,334	5,071	---		
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	
June 1928				1.52	22.8			
June 1938				1.19	29.7			
June 1946				1.06	34.9			

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														
June 1946	36	19	19	9	6	6	4	1	0					

45. Calendar								RANGE IN RESERVOIR OPERATION 2/ Calendar							
INDEX YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	INDEX YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.								
1913	515.29	486.99	38.5	1931	518.49	516.69	23.0								
1914	516.19	512.39	36.3	1932	518.49	513.49	32.0								
1915	517.19	512.39	54.6	1933	518.49	515.49	29.8								
1916	517.29	514.04	59.5	1934	518.29	512.79	19.8								
1917	517.64	513.39	42.9	1935	518.49	517.09	40.1								
1918	518.64	512.69	37.8	1936	518.39	517.09	33.3								
1919	518.44	515.49	51.5	1937	518.23	516.99	35.3								
1920	518.69	514.74	47.9	1938	518.48	516.62	54.0								
1921	518.79	516.94	34.8	1939	518.27	516.87	36.5								
1922	518.39	516.34	40.9	1940	518.34	516.59	26.8								
1923	518.44	513.59	28.4	1941	518.24	517.21	49.0								
1924	518.59	516.19	38.3	1942	518.35	516.85	50.4								
1925	518.29	515.44	26.7	1943	518.29	516.09	56.3								
1926	518.44	514.29	40.5	1944	518.39	517.43	53.3								
1927	518.99	516.99	50.3	1945	518.44	516.79	53.4								
1928	518.49	517.14	51.6	1946	518.41	517.16	51.2								
1929	518.49	514.49	49.0	1947	518.59	516.83									
1930	518.39	517.19	28.4	1948	518.69	517.30									

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY

47. REMARKS AND REFERENCES Elevations refer to mean sea level (1912 adjustment).  
 1/ Pool operation is such that the average annual pool elevation is less than 1.0 below authorized pool elevation 518.2. The spillway crest is at elevation 507.2, flow being controlled by 11 ft. high vertical lift gates. Flow from the fore bay into the 15 turbines is effected through 60 intakes of 8 ft. width that slope upward from the approximate river bottom to the top of the draft tube, which is some 26 ft. below pool level. Velocities through the intakes are extremely high. The opportunity for sluicing of sediment through the plant is considered to be good.  
 2/ Inflows are expressed in million acre-feet.

48. AGENCY SUPPLYING DATA Dept of the Army  
 Corps of Engineers, Rock Island District

49. DATE 20 October 1949