UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

RESERVOIR SEDIMENTATION DATA SUMMARY

Lake McMillan — NAME OF RESERVOIR

58-1 — DATA SHEET NO.

DAM

1. OWNER	Bureau of Reclamation	2. RIVER	Pecos	3. STATE	New Mexico
4. SEC.	11&2	TWP. 20S	RANGE 26E	5. NEAREST TOWN	Carlsbad
6. COUNTY	Eddy				
7. STREAM BED ELEV.	3235.7	8. TOP OF DAM ELEV.	3280	9. SPILLWAY CREST ELEV.	3267.7 1/

RESERVOIR

10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL (Flashboard Crest)	12. SURFACE AREA ACRES	13. STORAGE ACRE-FEET	14. ACCUMULATED ACRE-FEET	15. DATE STORAGE BEGAN
a. FLOOD CONTROL	3267.7		38,665	91,000 2/	
b. POWER					Jan. 1894
c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN
d. IRRIGATION					
e. CONSERVATION					
f. INACTIVE					1894

17. LENGTH OF RESERVOIR	7.87 MILES	AV. WIDTH OF RESERVOIR	1.07 MILES

WATERSHED

18. TOTAL DRAINAGE AREA	16,985 4/ SQ. MI.	22. MEAN ANNUAL PRECIPITATION	12.73 7/ INCHES
19. NET SEDIMENT CONTRIBUTING AREA	12,600 SQ. MI.	23. MEAN ANNUAL RUNOFF	INCHES
20. LENGTH 226.8 River (net) MILES	AV. WIDTH 55.5 MILES	24. MEAN ANNUAL RUNOFF	261,620 6/ AC.-FT.
21. MAX. ELEV. 9798	MIN. ELEV. 3216	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.
Jan. 1894	0	0				91,000 2/	5.35
June 1904	10.42	10.42			7,700 Est.	74,000	4.37
Nov. 1910	6.42	16.84			9,100	62,000	3.66
May 1915	4.58	21.42			6,600	45,125	2.66
Dec. 1932	17.58	39.00	Range			40,000	2.36
Jan. 1940	7.08	46.08	Range		5,400	38,665	2.28

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
Jan. 1894	0					Record not Available
June 1904						
Nov. 1910						
May 1915	15.65	334,000	373,900	1,196,380	334,000	1,196,380
Dec. 1932	13.18	296,000	854,000	5,203,000	289,000	6,399,380
Jan. 1940	9.75	228,100	581,600	1,616,780	273,500	8,016,080

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
Jan. 1894	0	0				
June 1904	16,000	1,535	0.122	16,000	1,535	0.1218
Nov. 1910	12,000	1,870	0.148	28,000	1,662	0.1320
May 1915	17,000	3,710	0.295	45,000	2,101	0.1667
Dec. 1932	5,000	285	0.026	50,000	1,282	0.1019
Jan. 1940	1,335	189	0.015	52,335 3/	1,135	0.0900

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. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE
Jan. 1894							
June 1904		199.2	199.2	1.709	17.78	(Flow not	
Nov. 1910		241.8	455.0	1.85	31.10	Available)	
May 1915		492.5	272.0	2.34	45.00	17,080	45,250
Dec. 1932		42.5	166.2	1.426	55.65	1,156	9,410
Jan. 1940	75 lb.	24.5	147.0	1.247	57.50	966	7,840

5/ Streambed at dam
6/ 23 year average (1916-39) based on Artesia [illegible] Mexico Station
7/ Based on records at Pastura, New Mexico. [illegible]rs (1908-49)

1/ Present elevation flashboard crest original elevation was 3266.7
2/ Based on crest elevation of 3267.7, original capacity at 3266.7 = 80,000
3/ Figure does not include 21,880 acre-feet deposited above crest
4/ Includes area above Alamogordo Reservoir

3240.7 3243.7 3243.7 3246.7 3246.7 3249.7 3249.7 3252.7 3252.7 3255.7 3255.7 3258.7 3258.7 3261.7 3261.7 3264.7 3264.7 3267.7

26. DATE OF SURVEY

43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION

PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION

DATE OF SURVEY				27-15	15-12	12-9	9-6	6-3	3-0			
Jan.	1894	0	0	0	0	0	0	0	0			
June	1904	(	64.35	→	15.0	10.0	10.0	3.75	-3.1			
Nov.	1910	←	47.8	→	8.9	16.0	1.5	8.6	17.2			
May	1915	←	32.6	→	10.9	8.7	6.2	14.0	27.6			
Dec.	1932	NO CURVE AVAILABLE IN DENVER OFFICE										
Jan.	1940	(	28.98	→	13.2	10.71	6.51	13.2	27.4			

26. DATE OF SURVEY

44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGH OF RESERVOIR

PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION

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
DATA NOT AVAILABLE IN BUREAU OF RECLAMATION OFFICE, DENVER, COLORADO														

45. RANGE IN RESERVOIR OPERATION

WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
SEE ATTACHED TABULATION SHEET							

46. ELEVATION-AREA-CAPACITY DATA

ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
3252.0		0	3262.0		13,675			
3252.6		2	3263.0		17,255			
3253.0		4	3264.0		21,115			
3254.0		21	3265.0		25,300			
3255.0		124	3266.0		29,875			
3256.0		460	3266.5**		32,318			
3257.0		1,270	3267.0		34,865			
3258.0		2,760	3267.7		38,655*			
3259.0		4,885						

47. REMARKS AND REFERENCES

3260.0	7,475
3261.0	10,415

* Crest of Spillway No. 1
** Crest of Spillway No. 2

48. AGENCY SUPPLYING DATA

49. DATE

RANGE IN RESERVOIR OPERATION

WATER YEAR	MAXIMUM GAGE	MINIMUM GAGE	INFLOW ACRE-FEET	
1950			212,000	
1949			215,600	
1948	22.85	0	126,900	
1947	21.5	0	115,400	
1946	19.8	0	128,900	
1945	20.0	0	127,400	
1944	23.9	0	148,000	
1943	26.2	17.2	264,400	
1942	28.60	18.00	775,600	
1941	29.95	15.2	997,600	
1940	23.45	15.70	181,100	
1939	24.00	18.55	205,000	
1938	22.75	13.75	175,400	
1937	29.65	19.4	581,600	
1936	25.5	0	202,800	
1935	23.2	15.95	190,500	
1934	21.70	0	93,690	
1933	28.1	16.6	176,000	
1932	26.3	19.0	360,000	
1931	26.4	20,9	215,200	
1930	25.3	14.9	261,600	
1929	26.4	18.3	182,400	
1928	23.0	0	243,300	
1927	26.1	0	159,600	
1926	26.2	23.5	281,400	
1925	27.0	0	250,800	
1924	26.3	12.0	204,900	
1923	21.7	0	289,500	
1922	24.9	11.9	136,200	
1921	28.0	17.3	449,700	
1920	26.3	20.3	229,500	
1919	29.6	12.0	754,800	
1918	21.5	0	180,900	
1917	22.1	0	136,300	
1916	24.0	0	265,200	
1915	30.1	0	484,600	
1914	26.25	18.75	373,800	
1913	27.5	19.5	215,600	
1912	25.4	11.4	198,000	
1911	26.8	0	274,600	
1910	22.5	0	193,500	
1909	21.15	0	180,000	Est.
1908	20.1	0	239,800	
1907	(No information)	(No information)	270,300	
1906			281,100	

zero of gage = 3241.6

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

RESERVOIR SEDIMENTATION DATA SUMMARY

McMillan (Lake McMillan)
NAME OF RESERVOIR

58-4a
DATA SHEET NO.

DAM

1. OWNER Bureau of Reclamation	2. RIVER Pecos River	3. STATE New Mexico
4. SEC. 11&2 TWP. 20S RANGE 26E	5. NEAREST TOWN Carlsbad, N.M.	6. COUNTY Eddy
7. STREAM BED ELEV. 3235.7	8. TOP OF DAM ELEV. 3280.0	9. SPILLWAY CREST ELEV. 3267.7

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	None				
b. POWER	None				Jan. 1894
c. WATER SUPPLY	None				16. DATE NORMAL OPER. BEGAN
d. IRRIGATION	3267.7	Unknown	91,000	91,000	
e. CONSERVATION	None				
f. INACTIVE	3241.6 1/	Unknown	Unknown	Unknown	Jan. 1894

17. LENGTH OF RESERVOIR 7.87 MILES | AV. WIDTH OF RESERVOIR 1.07 MILES

WATERSHED

18. TOTAL DRAINAGE AREA 14,950 SQ. MI.	22. MEAN ANNUAL PRECIPITATION (47 yr) 14.7 INCHES
19. NET SEDIMENT CONTRIBUTING AREA 14,950&11,200 SQ. MI.	23. MEAN ANNUAL RUNOFF (52 yr) 0.33 INCHES
20. LENGTH 442 & 227 MILES AV. WIDTH 34.0&49.0 MILES	24. MEAN ANNUAL RUNOFF 264,560 AC.-FT.
21. MAX. ELEV. 13,000&4140 MIN. ELEV. 3235.7	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.
June 1, 1925		31.42	--	--	--	42,000	2.81
Dec. 1, 1932	7.50	38.92	Range	--	--	40,500	2.71
Jan. 1, 1940	7.08	46.00	Range	22 Ranges	5,400	38,655	2.59
July 1, 1956	16.50	62.50	Range*	22 Ranges	5,690	39,400	3.19 4/

*Combination Range and Topographic Survey

26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW ACRE-FEET a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	36. WATER INFL. TO DATE AC-FT. a. MEAN ANNUAL	b. TOTAL TO DATE
June 1, 1925	14.53 in	286,265	754,800	2,885,550	291,940	4,256,430
Dec. 1, 1932	15.02 in	253,010	360,000	1,897,570	278,710	6,154,000
Jan. 1, 1940	15.26 in	229,810	581,600	1,627,070	266,840	7,781,070
July 1, 1956	14.61 in	247,100	1,351,000	4,077,210	259,710	11,858,280

26. DATE OF SURVEY	37. PERIOD SEDIMENT DEPOSITS ACRE-FEET a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	38. TOTAL SED. DEPOSITS TO DATE ACRE-FEET a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR
June 1, 1925	3,500(15,450)	347(1,533)	0.023(0.103)	49,000(62,850)	1,560(2,000)	0.104(0.134)
Dec. 1, 1932	1,500(13,650)	200(1,820)	0.013(0.122)	50,500(76,500)	1,298(1,966)	0.087(0.132)
Jan. 1, 1940	1,845(12,400)	260(1,751)	0.017(0.117)	52,345(88,900)	1,138(1,933)	0.076(0.129)
July 1, 1956	-745(30,700) 5/	-45(1,860)	0.004(0.166)	51,600(119,600)	826(1,914)	0.067(0.165) 4/

26. DATE OF SURVEY	39. AV. DRY WGT. LBS. PER CU. FT.	40. SED. DEP. TONS PER SQ. MI.-YR. a. PERIOD	b. TOTAL TO DATE	41. STORAGE LOSS PCT. a. AV. ANNUAL	b. TOT. TO DATE	42. SED. INFLOW PPM a. PERIOD	b. TOT. TO DATE
June 1, 1925				1.71	53.85		
Dec. 1, 1932				1.43	55.49		
Jan. 1, 1940	70* 6/			1.25	57.52		
July 1, 1956	62.4(21) 7/			0.91	56.70		

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION										
	Bottom to	15	15-12	12-9	9-6	6-3	3-0	0-32.3			
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
Dec. 1, 1932 8/											
Jan. 1, 1940	16.9		7.9	6.4	3.6	7.6	16.4	41.1			
July 1, 1956	12.5		5.9	4.8	2.7	5.6	11.6	56.9			

0 = Spillway Crest, elevation 3267.7
0 + 32.3 = 3300 Contour

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGH 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														

Data for computations not available

45. RANGE IN RESERVOIR OPERATION

WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
		See Sheet 3 attached					

46. ELEVATION-AREA-CAPACITY DATA

ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
		See Sheet 1						

47. REMARKS AND REFERENCES Item 22. Precipitation at Corona, N.M., 1910-56 is considered representative of Pecos Basin above Lake McMillan.
4/Based on weighted average area of 12,360 sq mi (14,950-46.0 + 11,200-16.5)/62.5.
5/Increase in capacity due mainly to compaction.
6/Previously estimated as 75 pounds per cubic foot.
7/Only surface samples (1.0-3.1 ft) in approximately one-third of reservoir area below spillway crest.
8/Area and capacity data not available.
9/Compacted sediment in place. Values in parentheses indicate volume of sediment

48. AGENCY SUPPLYING DATA Bureau of Reclamation, Albuquerque, N. M. 49. DATE September 1961
Hydrology Branch, Project Office

56621

Footnotes continued on page 3.

Bureau of Reclamation

Item 45. Range in McMillan Reservoir Operation Data Sheet No. 58-4a

Calendar year	Gage height in feet 1/ maximum	Gage height in feet 1/ minimum	Inflow 2/ acre-feet	Calendar year	Gage height in feet 1/ maximum	Gage height in feet 1/ minimum	Inflow 2/ acre-feet
1905	3/	3/	717,200	1931	26.40	20.90	215,200
1906	3/	3/	281,100	1932	28.10	19.00	360,000
1907	3/	3/	270,300	1933	25.90	16.60	176,000
1908	20.15	0.00	239,800	1934	21.80	0.00	93,690
1909	21.20	0.00	156,700	1935	25.60	15.90	190,500
1910	22.50	0.00	193,500	1936	24.75	0.00	202,800
1911	26.80	0.00	274,600	1937	29.65	19.40	581,600
1912	25.40	20.00	198,000	1938	22.75	13.80	175,400
1913	27.50	18.80	215,600	1939	24.00	18.55	189,700
1914	26.25	18.80	373,800	1940	23.45	15.10	179,800
1915	30.10	0.00	484,600	1941	29.95	15.30	1,351,000
1916	24.00	17.70	265,200	1942	26.20	18.00	511,700
1917	22.20	0.00	136,300	1943	25.90	16.60	183,900
1918	24.20	0.00	180,900	1944	23.90	13.00	155,800
1919	29.60	20.30	754,800	1945	20.00	0.00	114,100
1920	3/	3/	229,500	1946	21.50	0.00	146,000
1921	28.00	17.50	449,700	1947	19.10	0.00	90,640
1922	24.30	11.90	136,200	1948	22.85	0.00	127,700
1923	26.30	0.00	289,500	1949	24.60	0.00	248,200
1924	26.10	12.00	204,900	1950	25.10	0.00	191,500
1925	27.00	0.00	250,800	1951	20.30	0.00	128,100
1926	26.10	22.70	281,400	1952	18.00	0.00	106,600
1927	26.10	0.00	159,600	1953	16.80	0.00	77,890
1928	26.40	0.00	243,300	1954	28.00	0.00	239,600
1929	26.00	18.30	182,400	1955	26.00	15.65	191,900
1930	26.40	14.90	261,600	1956	25.84	17.10	96,430

1/Zero of gage is 3241.6, spillway crest 3267.7.
2/Runoff of Pecos River near Artesia, record starts January 1905.
3/No record.

Remarks and References--continued
9/--continued. deposited between bottom of reservoir and elevation 3300 feet. Values without parentheses indicate sediment deposited between bottom of reservoir and spillway crest elevation of 3267.7 feet.