

RESERVOIR SEDIMENTATION
DATA SUMMARY

ELEPHANT BUTTE
NAME OF RESERVOIR

57-1
DATA SHEET NO

DAM	1. OWNER Bureau of Reclamation			2. RIVER Rio Grande		3. STATE New Mexico			
	4. SEC. <u>1</u> TWP. <u>135</u> RANGE <u>4W</u>			5. NEAREST TOWN Hot Springs		6. COUNTY Sierra			
	7. STREAM BED ELEV. <u>4214</u>			8. TOP OF DAM ELEV. <u>4414</u>		9. SPILLWAY CREST ELEV. <u>4407</u>			
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	<u>4407</u>	<u>36,772</u>		<u>2,197,600</u>				
	b. POWER					Jan. 6, 1915			
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN			
	d. IRRIGATION								
	e. CONSERVATION								
	f. INACTIVE	<u>4231.5</u>	<u>Negligible</u>	<u>Negligible</u>			1915		
17. LENGTH OF RESERVOIR <u>4.1</u> MILES			AV. WIDTH OF RESERVOIR <u>1.75</u> MILES						
WATERSHED	18. TOTAL DRAINAGE AREA <u>25,923</u> SQ. MI.			22. MEAN ANNUAL PRECIPITATION <u>10 to 15</u> INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA <u>25,866</u> SQ. MI.			23. MEAN ANNUAL RUNOFF _____ INCHES					
	20. LENGTH <u>305</u> MILES		AV. WIDTH <u>85</u> MILES		24. MEAN ANNUAL RUNOFF <u>1,100,000 (51)</u> AC.-FT.				
	21. MAX. ELEV. <u>12,000</u>		MIN. ELEV. <u>4407</u>		25. CLIMATIC CLASSIFICATION <u>Semi-arid</u>				
	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. 6, 1915		0	0	Contour	10 feet	40,060	2,634,800	102	
Dec. 1916		1.9	1.9				2,584,865	100	
Aug. 1920		3.7	5.6				2,498,850	96	
Aug. 1925		5.0	10.6	Contour		39,406	2,389,380	92	
April 1935		9.7	20.3	Contour	5 feet	38,140	2,270,300	88	
Oct. 1940		5.5	25.8	Contour		37,670	2,219,000	86	
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	d. MEAN ANNUAL	e. TOTAL TO DATE
	Jan. 6, 1915								
	Dec. 1916				1,573,665		3,005,700	1,573,665	3,005,700
	Aug. 1920				1,413,845	2,250,100	5,188,810	1,463,305	8,194,510
	Aug. 1925				1,130,348	1,690,900	5,651,742	1,306,250	13,846,252
	April 1935				853,428	1,444,200	8,252,648	1,088,616	22,098,900
	Oct. 1940				945,761	1,597,000	5,201,730	1,058,164	27,300,630
	April 28, 1947				1,154,862	2,440,000	7,506,600	1,077,623	34,807,230
	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		
Jan. 6, 1915									
Dec. 1916		49,900	26,300	1.02	49,900	26,300	1.02		
Aug. 1920		86,000	23,200	0.899	136,000	24,300	0.939		
Aug. 1925		109,000	21,900	0.846	245,000	23,200	0.895		
April 1935		119,000 (125,000)	12,300 (12,900)	0.475 (0.498)	365,000 (370,000)	18,000 (18,200)	0.694 (0.705)		
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	c. AV. ANNUAL	d. TOT. TO DATE	e. PERIOD	f. TOT. TO DATE	
Jan 6, 1915									
Dec. 1916					0.998	1.89			
Aug. 1920					0.922	5.16			
Aug. 1925					0.881	9.30			
April 1935		60 (est.)	621 (651)	907 (921)	0.683	13.9	13,900 (14,600)	15,900 (16,100)	

1/ Sections not determined--Located in Amendariz Grant No. 33

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION												
	193-15	5-15	5-17	167-117	117-127	127-107	107-87	87-67	67-47	47-27	27-11	crest	crest-3
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
Jan. 6, 1915													
Dec. 1916													
Aug. 1920													
Aug. 1925	1.26	-0.057	7.18	11.1	9.03	5.86	9.19	14.3	25.1	8.99	4.53		
April 1935	0.869	0.380	5.70	8.38	7.22	4.81	8.14	16.4	27.1	12.9	6.54	1.46	
Oct. 1940	0.760	0.330	5.10	7.45	6.83	5.06	8.32	15.4	26.1	16.3	6.69	1.70	
Apr. 28, 1947	0.719	0.321	4.75	7.07	6.53	5.64	8.66	15.0	24.9	16.0	8.14	2.21	

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.
1915	4321.81		1,443,900	1923	4374.20*	4368.3*	964,500
1916	4346.85	4307.29*	1,420,900	1924	4395.80	4370.4*	1,690,900
1917	4354.0	4331.0*	1,310,600	1925	4379.20	4354.7*	320,800
1918	4326.28	4290.30*	379,100	1926	4378.10	4355.68*	1,120,900
1919	4364.0	4267.70*	1,527,000	1927	4371.96*	4363.02*	1,178,400
1920	4393.87	4351.5*	2,250,100	1928	4379.10	4359.70*	772,700
1921	4392.5	4378.2*	1,607,300	1929	4374.80	4354.00*	1,238,900
1922	4389.50*	4377.5*	1,069,100	1930	4384.5	4372.27*	930,200

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
4214			4290	6219	129,100	4380	24,998	1,363,700
4220			4300	7670	198,700	4390	29,124	1,633,300
4230			4310	8917	281,300	4396	32,055	1,817,000
4231.5			4320	10,622	378,900	4400	34,089	1,949,400
4240	11	10	4330	12,344	493,700	4407	36,772	2,197,600
4250	523	1,900	4340	13,950	625,000	4410	37,848	2,309,500
4260	1869	13,800	4350	16,019	774,600			
4270	2972	37,900	4360	17,960	944,500			
4280	4555	75,300	4370	20,621	1,136,100			

47. REMARKS AND REFERENCES
 1925 and 1940 surveys (partial surveys) Upper two-thirds of reservoir surveyed and curves drawn from these data were extended over the lower one-third of the reservoir.
 *Values given are mean monthly elevations.
 United States Department of Agriculture. Technical Bulletin No. 524, August 1939
 United States Department of the Interior, Bureau of Reclamation, Branch of Project Planning, Hydrology Division "Sedimentation Surveys of Elephant Butte Reservoir" February 1949.

48. AGENCY SUPPLYING DATA Bureau of Reclamation

49. DATE Sept. 14, 1949

RESERVOIR SEDIMENTATION
DATA SUMMARY

ELEPHANT BUTTE (CONTINUED)

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER			2. RIVER			3. STATE														
	4. SEC.		TWP.		RANGE		5. NEAREST TOWN			6. COUNTY											
	7. STREAM BED ELEV.				8. TOP OF DAM ELEV.				9. SPILLWAY CREST ELEV.												
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										16. DATE NORMAL OPER. BEGAN										
	d. IRRIGATION																				
	e. CONSERVATION																				
f. INACTIVE																					
WATERSHED	17. LENGTH OF RESERVOIR						MILES			AV. WIDTH OF RESERVOIR			MILES								
	18. TOTAL DRAINAGE AREA						SQ. MI.			22. MEAN ANNUAL PRECIPITATION						INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA						SQ. MI.			23. MEAN ANNUAL RUNOFF						INCHES					
	20. LENGTH			MILES			AV. WIDTH			MILES			24. MEAN ANNUAL RUNOFF						AG.-FT.		
	21. MAX. ELEV.						MIN. ELEV.			25. CLIMATIC CLASSIFICATION											
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.						
	April 28, 1947		6.5		32.3		Range		90 feet		36,772		2,197,600		85						
	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								
	Oct. 1940		51,300		9,330		0.361		416,000		16,100		0.623								
	April 28, 1947		21,400 (43,000)		3,290 (6,620)		0.127 (0.256)		437,000 (465,000)		13,500 (14,400)		0.523 (0.556)								
	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		c. AV. ANNUAL		d. TOT. TO DATE		e. PERIOD		f. TOT. TO DATE							
Oct. 1940				182		751		0.611		15.8											
April 28, 1947		65.9 (Est)		(367)		(798)		0.512		16.6		(3,010 (6,050))		(14,100)							

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 (Continued)							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1931	4374.17	4351.66*	417,900	1940	4357.04	4323.2	333,100
1932	4384.5	4353.26*	1,444,200	1941	4399.2	4324.3	2,440,500
1933	4377.9	4365.02*	716,800	1942	4409.19	4397.00	2,322,000
1934	4367.2	4325.00*	298,300	1943	4398.96	4380.82	441,600
1935	4342.2	4324.50*	917,700	1944	4385.68	4369.16	982,500
1936	4354.90	4331.83	872,800	1945	4385.60	4372.28	851,500
1937	4380.7	4336.48*	1,597,400	1946	4375.66	4339.52	224,900
1938	4377.1	4365.6	1,003,500	1947	4339.36	4311.94	419,200
1939	4378.4	4348.6	615,700				

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

47. REMARKS AND REFERENCES

48. AGENCY SUPPLYING DATA

49. DATE _____

RESERVOIR SEDIMENT
DATA SUMMARY

Elephant Butte
NAME OF RESERVOIR

16
57-18
DATA SHEET NO.

DAM	1. OWNER U.S. Dept. of Int. Bur. of Recl.			2. STREAM Rio Grande		3. STATE New Mexico		
	4. SEC. 30 TWP. 13S RANGE 3W		5. NEAREST P.O. Elephant Butte, N. Mex. 0.6NW			6. COUNTY Sierra		
	7. LAT. 33° 9' 16" LONG. 107° 11' 29"			8. TOP OF DAM ELEVATION 4414		9. SPILLWAY CREST ELEV. 4407		
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					Jan. 6, 1915		
	b. MULTIPLE USE ³	4407	40,064	2,631,585	2,634,800			
	c. POWER					16. DATE NORMAL OPER. BEGAN		
	d. WATER SUPPLY							
	e. IRRIGATION							
	f. CONSERVATION							
	g. INACTIVE	4231.5	420	3,215	3,215	1915		
WATERSHED	17. LENGTH OF RESERVOIR 41 MILES			AV. WIDTH OF RESERVOIR 1.39 MILES				
	18. TOTAL DRAINAGE AREA 25,923 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 15.1 (8-22) INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 25,866 SQ. MI.		23. MEAN ANNUAL RUNOFF 0.67 INCHES					
	20. LENGTH 305 MILES	AV. WIDTH 85 MILES	24. MEAN ANNUAL RUNOFF 923,430 (73) AC.-FT.					
	21. MAX. ELEV. 12,000	MIN. ELEV. 4210	25. ANNUAL TEMP: MEAN 52.3 RANGE 38.8-61.2					
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.
	Jan. 6, 1915			Contour (D)	10 ft (CI)	40,064	2,634,800	
	Feb. 12, 1957 ⁶	-	42.1	Range (D)	73 (R) 10 ft (CI)	36,584	2,206,780	2.20
	Apr. 1, 1969	12.2	54.3	Range (D)	60 (R)	36,569	2,137,219	2.31
	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. 6, 1915							
	Feb. 12, 1957		918,439	2,440,000	38,647,900	918,439	38,647,900.	
	Apr. 1, 1969		537,075	1,391,000	6,552,317	832,416	45,200,217	
	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		
Jan. 6, 1915								
Feb. 12, 1957	7	-	-	428,000	10,200	0.390		
Apr. 1, 1969	69,561 ⁸ (69,925)	5,702 (5,732)	0.220 (0.222)	497,581 (508,065)	9,164 (9,357)	0.354 (0.362)		
26. DATE OF SURVEY	39. AV. DRY WGT., LBS. PER CU. FT.	40. SED. DEP., TONS PERSQ. 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	
Jan. 6, 1915								
Feb. 12, 1957	60	-	-	0.463	19.4	-	-	
Apr. 1, 1969	62	357 (402)	478 (489)	0.348 (0.339)	18.9 (18.4)	12,650 (14,250)	10,940 (11,170)	

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	193- 175.5	175.5- 167	167- 147	147- 127	127- 107	107- 87	87- 67	67- 47	47- 27	27- 11	11- Cr.	Cr. +3
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Apr. 1, 1969	0.6	0.3	5.1	9.5	11.6	8.2	8.7	12.6	19.5	14.4	7.4	2.1

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														
Apr. 1, 1969	0.8	4.1	8.3	13.1	8.3	8.8	10.0	16.6	22.4	7.6					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
⁹ 1915	4321.81		1,302,250	1930	4384.5	4372.27	930,000
1916	4346.85	4306.6	1,421,000	1931	4374.17	4349.74	418,000
1917	4353.8	4331.8	1,305,000	1932	4384.5	4351.75	1,440,000
1918	4337.0	4290.30	379,100	1933	4377.9	4365.02	717,000
1919	4358.8	4285.5	1,527,000	1934	4367.8	4325.00	298,300
1920	4393.87	4350.9	1,970,000	1935	4342.2	4322.80	917,600
1921	4392.5	4377.5	1,470,000	1936	4354.90	4331.83	872,900
1922	4389.5	4370.7	1,044,000	1937	4380.7	4333.87	1,597,000
1923	4377.4	4366.5	964,000	1938	4377.1	4365.6	1,004,000
1924	4395.8	4368.9	1,662,000	1939	4378.4	4351.20	615,700
1925	4382.1	4354.7	321,000	1940	4357.04	4323.2	333,100
1926	4378.10	4354.6	1,120,000	1941	4399.2	4324.3	2,440,000
1927	4373.95	4363.02	1,180,000	1942	4409.15	4397.00	2,322,000
1928	4379.10	4359.70	773,000	1943	4398.96	4380.82	441,600
1929	4374.80	4353.70	1,240,000	1944	4385.68	4369.16	982,500

46. ELEVATION-AREA-CAPACITY DATA									
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	
1915 Survey			4300	8,923	285,400	4400	37,328	2,363,900	
4210	0	0	4310	10,202	380,800	4407	40,060	2,634,800	
4220	98	490	4320	11,894	490,800	4410	41,283	2,756,600	
4230	376	2,960	4330	14,240	621,400	1969 Survey			
4240	671	4,660	4340	16,595	775,600				
4250	1,684	15,800	4350	19,194	954,400		4250	369	0
4260	3,157	39,700	4360	22,563	1,162,100		4260	1,510	9,395
4270	4,691	78,600	4370	26,620	1,408,000		4270	2,197	27,930
4280	6,145	132,800	4380	30,191	1,692,800		4280	3,050	54,165
4290	7,715	202,100	4390	33,451	2,010,300		4290	4,679	92,810

47. REMARKS AND REFERENCES

- ¹ Sections projected. Dam located in Pedro Armendariz Grant No. 33 which is unsurveyed.
- ² All elevations listed are based on project datum. Add 43.3 feet to adjust elevations to msl.
- ³ Irrigation and power.
- ⁴ Estimated by interpolation.
- ⁵ Rio Grande at San Marcial, New Mexico.
- ⁶ For intermediate surveys see Data Sheets 57-1 and 57-1a.
- ⁷ Total storage showed gain of 9,180 acre-feet since 1947 survey.
- ⁸ Values in parentheses at elevation 4410.
- ⁹ From January 1915 through September 1915.

48. AGENCY MAKING SURVEY U.S. Dept. of the Interior, Bureau of Reclamation, Rio Grande Project, New Mexico-Texas.
 49. AGENCY SUPPLYING DATA Bureau of Reclamation, U.S. Dept. of the Interior 50. DATE October 15, 1971

45. RANGE IN RESERVOIR OPERATION

WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1945	4385.60	4372.28	851,500	1957	4337.12	4269.10	
1946	4375.66	4339.52	224,900	1958		4336.20	1,391,000
1947	4339.36	4311.94	419,200	1959	4362.80	4334.46	341,900
1948	4349.22	4313.08	1,036,000	1960	4339.04	4322.40	563,400
1949	4351.30	4329.69	1,031,000	1961	4329.10	4301.99	437,700
1950	4346.01	4315.46	364,100	1962	4329.80	4304.38	748,100
1951	4315.79	4262.30	132,900	1963	4327.52	4282.07	405,500
1952	4324.59	4261.64	967,000	1964	4299.23	4275.51	164,200
1953	4320.49	4283.19	286,800	1965	4323.01	4277.46	821,700
1954	4297.30	4258.03	198,500	1966	4338.30	4311.03	725,340
1955	4295.46	4276.58	257,900	1967	4321.84	4293.03	391,600
1956	4304.40	4268.44	174,800	1968	4319.70	4295.09	646,230

46. ELEVATION-AREA-CAPACITY DATA

ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
4300	6,271	147,560	4400	34,064	1,890,005			
4310	8,241	220,120	4407	36,569	2,137,219			
4320	10,010	311,375	4410	37,642	2,248,535			
4330	12,162	422,235						
4340	13,799	552,040						
4350	16,122	701,715						
4360	18,422	874,434						
4370	21,328	1,073,035						
4380	25,257	1,305,960						
4390	28,744	1,575,965						

RESERVOIR SEDIMENT
DATA SUMMARY

Elephant Butte

NAME OF RESERVOIR

57-16 C

DATA SHEET NO.

DAM	1. OWNER USBR Dept. of Interior			2. STREAM Rio Grande			3. STATE New Mexico					
	4. SEC. 30 TWP. 13S RANGE 3W			5. NEAREST P. O. Truth or Consequences, NM 47			6. COUNTY Sierra					
	7. LAT 33° 09' 15" LONG 107° 11' 28"			8. TOP OF DAM ELEVATION 4,414			9. SPILLWAY CREST ELEV. 4,407					
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 ²		4,407		40,064		2,631,585		2,634,800		Jan. 6, 1915	
	c. POWER										16. DATE NORMAL OPER. BEGAN	
	d. WATER SUPPLY											
	e. IRRIGATION											
	f. CONSERVATION											
	g. INACTIVE		4,231.5		3,420		3,215		3,215		Feb. 1, 1915	
WATERSHED	17. LENGTH OF RESERVOIR 4.1 MILES				AV. WIDTH OF RESERVOIR 1.39 MILES							
	18. TOTAL DRAINAGE AREA 25,923 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 15.1 (8-22) INCHES							
	19. NET SEDIMENT CONTRIBUTING AREA 411,803 SQ. MI.				23. MEAN ANNUAL RUNOFF .65 INCHES							
	20. LENGTH 305 MILES		AV. WIDTH 85 MILES		24. MEAN ANNUAL RUNOFF 5,904,900 (79) AC.-FT.							
	21. MAX. ELEV. 12,000		MIN. ELEV. 4,210		25. ANNUAL TEMP MEAN 52.3 RANGE 38.8-61.2							
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.			
	Jan. 6, 1915				Contour (D)	10 ft (CI)	40,064	2,634,800				
	Feb. 12, 1957 ⁶		-	42.1	Range (D)	73 (R) 10 ft (CI)	35,584	2,206,780	2.20			
	Apr. 1, 1969		12.2	54.3	Range (D)	60 (R)	36,569	2,137,219	2.31			
	Jan. 24, 1980		10.8	65.1	Range (D)	81 (R)	36,897	2,110,298	2.33			
	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. 6, 1915											
	Feb. 12, 1957				918,439	2,440,000	38,647,900	918,439	38,647,900			
	Apr. 1, 1969				537,075	1,391,000	6,552,317	832,416	45,200,217			
	Jan. 24, 1980				700,818	1,554,710	7,568,829	810,584	52,769,046			
	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				
	Jan. 6, 1915											
	Feb. 12, 1957		7	-	-	428,000	10,200	0.390				
Apr. 1, 1969		69,561	5,702	0.220	497,581	9,164	0.354					
Jan. 24, 1980		26,921	2,493	0.211	524,500	8,057	0.311					
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					
Jan. 6, 1915												
Feb. 12, 1957		60	-	0.463	19.4	-	-					
Apr. 1, 1969		62	357	478	0.348	18.9	12,650	10,940				
Jan. 24, 1980		62*	285	420	0.305	19.9	3,532	9,876				

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION													
	193- 175.5	175.5- 167	167- 147	147- 127	127- 107	107- 87	87- 67	67- 47	47- 27	27- 7	CR	CR +3		
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Jan. 24, 1980	0.6	0.2	5.0	9.4	11.4	8.6	10.4	13.7	19.0	14.0	7.3	2.0		
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.							
⁸ 1915	4321.81		1,302,250	1930	4384.5	4372.27	930,000							
1916	4346.85	4306.6	1,421,000	1931	4374.17	4349.74	418,000							
1917	4353.8	4331.8	1,305,000	1932	4384.5	4351.75	1,440,000							
1918	4337.0	4290.3	379,100	1933	4377.9	4365.02	717,000							
1919	4358.8	4285.5	1,527,000	1934	4367.8	4325.0	298,300							
1920	4393.87	4350.9	1,970,000	1935	4342.2	4322.8	917,600							
1921	4392.5	4377.5	1,470,000	1936	4354.9	4331.83	872,900							
1922	4389.5	4370.7	1,044,000	1937	4380.7	4333.87	1,597,000							
1923	4377.4	4366.5	964,000	1938	4377.1	4365.6	1,004,000							
1924	4395.8	4368.9	1,662,000	1939	4378.4	4351.2	615,700							
1925	4382.1	4354.7	321,000	1940	4357.04	4323.2	333,100							
1926	4378.1	4354.6	1,120,000	1941	4399.2	4324.3	2,440,000							
1927	4373.95	4363.02	1,180,000	1942	4409.15	4397.0	2,322,000							
1928	4379.10	4359.70	773,000	1943	4398.96	4380.82	441,600							
1929	4374.8	4353.7	1,240,000	1944	4385.68	4369.16	982,500							
46. ELEVATION-AREA-CAPACITY DATA														
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY						
1915 Survey			4320	11,894	490,800	1980 Survey								
4210	0	0	4330	14,240	621,400	4250	185	0						
4220	98	490	4340	16,595	775,600	4260	894	5,395						
4230	376	2,960	4350	19,194	954,400	4270	2,120	20,465						
4240	671	4,660	4360	22,563	1,162,100	4280	2,577	43,950						
4250	1,684	15,800	4370	26,620	1,408,000	4290	4,200	77,835						
4260	3,157	39,700	4380	30,191	1,692,800	4300	6,114	129,405						
4270	4,691	78,600	4390	33,451	2,010,300	4310	7,493	197,440						
4280	6,145	132,800	4400	37,328	2,363,900	4320	9,636	283,085						
4290	7,715	202,100	4407	40,060	2,634,800	4330	11,211	387,320						
4300	8,923	285,400	4410	41,283	2,756,600	4340	13,306	509,905						
4310	10,202	380,800												
47. REMARKS AND REFERENCES														
¹ All elevations are project datum. Add 43.3' to adjust to m.s.l. ² Irrigation and power. ³ Estimated by interpolation. ⁴ Represents loss of contributing area since closing of Albiqiu in 1963, Galisteo in 1970, and Cochiti in 1973. ⁵ Rio Grande at San Marcial. ⁶ For intermediate survey. See data sheet 57-1 and 57-1a. ⁷ Total storage showed gain of 9,180 acres-feet since 1947 survey. ⁸ From Jan. 1915 through Sept. 1915.														
48. AGENCY MAKING SURVEY - Bureau of Reclamation														
49. AGENCY SUPPLYING DATA - Bureau of Reclamation														
50. DATE March 15, 1982														

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.
1945	4385.60	4372.28	851,500	1960	4339.04	4322.40	563,400
1946	4375.66	4339.52	224,900	1961	4329.10	4301.99	437,700
1947	4339.36	4311.94	419,200	1962	4329.80	4304.38	748,100
1948	4349.22	4313.08	1,036,000	1963	4327.52	4282.07	405,500
1949	4351.3	4329.69	1,031,000	1964	4299.23	4275.51	164,200
1950	4346.01	4315.46	364,100	1965	4323.01	4277.46	821,700
1951	4315.79	4262.30	132,900	1966	4338.30	4311.03	725,340
1952	4324.59	4261.64	967,000	1967	4321.84	4293.03	391,600
1953	4220.49	4283.19	286,800	1968	4319.70	4295.09	646,230
1954	4297.30	4258.03	198,500	1969	4335.0	4308.77	787,600
1955	4295.46	4276.58	257,900	1970	4339.43	4303.02	729,200
1956	4304.40	4268.44	174,800	1971	4326.41	4271.19	413,100
1957	4337.12	4267.10		1972	4319.02	4279.67	427,900
1958		4336.2	1,391,000	1973	4355.52	4319.22	1,309,000
1959	4362.8	4334.46	341,900	1974	4360.94	4321.20	451,400
				1975	4345.91	4326.08	875,900

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
4350	15,710	654,985						
4360	18,537	826,220						
4370	21,746	1,027,635						
4380	25,588	1,264,305						
4390	29,688	1,540,685						
4400	34,357	1,860,910						
4407	36,897	2,110,298						
4410	37,985	2,222,620						

47. REMARKS AND REFERENCES

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.								
1976	4353.05	4318.02	580,900												
1977	4325.18	4295.78	243,200												
1978	4314.70	4290.20	385,100												
1979	4364.95	4305.88	1,427,000												
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
47. REMARKS AND REFERENCES															
48. AGENCY MAKING SURVEY - Bureau of Reclamation								50. DATE <u>March 15, 1982</u>							
49. AGENCY SUPPLYING DATA - Bureau of Reclamation															

UNITED STATES
DEPARTMENT OF THE INTERIOR
RESERVOIR SEDIMENTATION
DATA SUMMARY

Caballo

BUREAU OF RECLAMATION

57-2

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER Interior - U.S.B.R.		2. RIVER Rio Grande		3. STATE New Mexico			
	4. SEC. 19 TWP. 16-S RANGE 4-W		5. NEAREST TOWN Truth or Consequences		6. COUNTY Sierra			
	7. STREAM BED ELEV. 4143.8		8. TOP OF DAM ELEV. 4233.3		9. SPILLWAY CREST ELEV. 4204.3			
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	4225.3	11,532	100,000	345,872	Jan. 6, 1938		
	b. POWER							
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION	4215.68	9,357	245,872	245,872			
	e. CONSERVATION					Feb. 8, 1938		
	f. INACTIVE	4147.3	0	0	0			
17. LENGTH OF RESERVOIR 16.5 MILES		AV. WIDTH OF RESERVOIR 1.09 MILES						
WATERSHED	18. TOTAL DRAINAGE AREA 30,700 2/ SQ. MI.		22. MEAN ANNUAL PRECIPITATION 11.6(57) INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 1,237 3/ SQ. MI.		23. MEAN ANNUAL RUNOFF INCHES					
	20. LENGTH 27.5 MILES AV. WIDTH 45.0 MILES		24. MEAN ANNUAL RUNOFF 774,600 AC.-FT.					
	21. MAX. ELEV. 10,000 MIN. ELEV. 4143.8		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. 6, 1938			Contour	5 ft	11,532	345,872	
	Nov. 1957	19.9	19.9	Contour	5 ft	11,613	343,990	
	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	
	Nov. 1957	9.6" 4/	697,300	1,819,000	13,946,200	697,300	13,946,200	
	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	
	Nov. 1957	1,882	94.1	0.0761	1882	94.1	0.0761	
	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	
Nov. 1957				0.0272	0.5441			

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION														
	Crest-2	2-12	12-22	22-32	32-42	42-47	47-52	52-57	57-62	62-67	67-72	72-77			
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Nov. 1957	-8.71	39.69	51.12	52.98	60.68	-7.28	31.14	64.08	84.17	82.57	48.56	9.94			
28. 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.								
See attached sheet															
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
See attached sheet															
47. REMARKS AND REFERENCES															
Note: All elevations are to sea level datum (U.S.G.S.) Subtract 43.3 for U.S.R.S. datum															
1/ Automatic radial gate permits storage up to elevation 4225.3															
2/ Includes 2,940 square miles in closed basin in San Luis Valley, Colorado															
3/ Drainage area between gaging station below Elephant Butte Dam and gaging station below Caballo Dam less original water surface area of Caballo Reservoir at elevation 4225.3															
4/ Does not include annual totals for 1947 & 1949															
48. AGENCY SUPPLYING DATA Interior - U.S.B.R.-Rio Grande Project DATE November 1961															

45.

RANGE IN RESERVOIR OPERATION

Water Year	Max. Elev.	Min. Elev.	Inflow Ac.-Ft.	Water Year	Max. Elev.	Min. Elev.	Inflow Ac.-Ft.
1938	4172.7	4153.5	738,600	1948	4208.95	4168.48	742,800
1939	4198.49	4151.4	915,600	1949	4208.09	4175.07	754,600
1940	4197.5	4167.2	714,300	1950	4218.48	4175.80	720,800
1941	4202.1	4163.04	692,800	1951	4205.54	4165.24	451,100
1942	4225.36	4176.98	1,930,000	1952	4196.71	4163.27	543,000
1943	4224.4	4162.5	807,000	1953	4207.75	4165.32	553,700
1944	4219.7	4166.44	875,800	1954	4181.87	4167.38	245,400
1945	4221.38	4163.94	843,200	1955	4179.09	4164.84	211,800
1946	4219.2	4164.42	858,800	1956	4174.52	4164.56	253,600
1947	4222.07	4162.49	707,900	1957	4177.14	4163.51	384,400

46.

ELEVATION - AREA - CAPACITY DATA

Elevation	Area	Capacity	Elevation	Area	Capacity
4148.3	0	0	4193.3	4,915	80,761
4153.3	0.2	0.6	4198.3	6,139	108,230
4158.3	1.8	5.6	4203.3	7,154	141,660
4163.3	698	1,796	4208.3	7,823	179,140
4168.3	1,256	6,675	4213.3	8,878	220,850
4173.3	1,964	14,699	4218.3	10,029	268,100
4178.3	2,540	26,008	4223.3	11,190	321,190
4183.3	3,200	40,312	4225.3	11,613	343,990
4188.3	4,044	58,369			

**RESERVOIR SEDIMENT
DATA SUMMARY**

Elephant Butte

NAME OF RESERVOIR

57

DATA SHEET NO.

DAM	1. OWNER USBR Dept. of Interior		2. STREAM Rio Grande		3. STATE New Mexico			
	4. SEC. 30 TWP. 13S RANGE 3W		5. NEAREST P. O. Truth or Consequences NM 47		6. COUNTY Sierra			
	7. LAT. 33° 09' 15" LONG 107° 11' 28"		8. TOP OF DAM ELEVATION 4,414 ¹		9. SPILLWAY CREST ELEV. 4,407			
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 ²		4,407	40,064	2,631,585	2,634,800		
	c. POWER						Jan. 6, 1915	
	d. WATER SUPPLY						16. DATE NORMAL OPER. BEGAN	
	e. IRRIGATION							
	f. CONSERVATION							
	g. INACTIVE		4,231.5	420 ³	3,215	3,215	Feb. 1, 1915	
WATERSHED	17. LENGTH OF RESERVOIR 41 MILES				AV. WIDTH OF RESERVOIR 1.39 MILES			
	18. TOTAL DRAINAGE AREA 25,923 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 15.1(8-22)INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA 11,966 ⁴ SQ. MI.				23. MEAN ANNUAL RUNOFF .65 INCHES			
	20. LENGTH 305 MILES		AV. WIDTH 85 MILES		24. MEAN ANNUAL RUNOFF 920,800(92) ⁵ AC.-FT.			
	21. MAX. ELEV. 12,000		MIN. ELEV. 4,210		25. ANNUAL TEMP.: MEAN 52.3 RANGE 38.8-61.2			
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.
	Jan. 6, 1915			Contour (D)	10 ft (CD)	40,064	2,634,800	
	Feb. 12, 1957 ⁶	-	42.1	Range (D)	73 (R) 10 ft (CD)	35,584	2,206,780	2.20
	Apr. 1, 1969	12.1	54.2	Range (D)	60 (R)	36,569	2,137,219	2.31
	Jan. 24, 1980	10.8	65.0	Range (D)	81 (R)	36,897	2,110,298	2.33
	Feb. 17, 1988	8.1	73.1	Range (D)	82 (R)	36,643	2,065,010	2.24
	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. 6, 1915							
	Feb. 12, 1957		926,137 ⁷	2,440,000	38,990,350 ⁷	926,137 ⁷	38,990,350 ⁷	
	Apr. 1, 1969		646,121 ⁷	1,391,000	7,818,070 ⁷	863,624 ⁷	46,808,420 ⁷	
	Jan. 24, 1980		710,204 ⁷	1,427,000	7,670,200 ⁷	838,133 ⁷	54,478,620 ⁷	
	Feb. 17, 1988		1,189,815 ⁷	1,732,000	9,637,500 ⁷	877,102 ⁷	64,116,120 ⁷	
	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.-YR.	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YR.	
	Jan. 6, 1915							
	Feb. 12, 1957		-	-	428,020	10,167	0.393 ⁹	
	Apr. 1, 1969	69,561	5,749	0.257 ⁹	497,581	9,180	0.363 ⁹	
	Jan. 24, 1980	26,921	2,493	0.208 ⁹	524,502	8,069	0.337 ⁹	
	Feb. 17, 1988	45,288	5,591	0.480 ⁹	569,790	7,795	0.351 ⁹	
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		
Jan. 6, 1915								
Feb. 12, 1957	60	-	0.386	16.2	-	-	-	
Apr. 1, 1969	62	416 ⁹	0.348	18.9	10,600 ⁹	10,562 ⁹		
Jan. 24, 1980	62*	281 ⁹	0.306	19.9	3,490 ⁹	9,566 ⁹		
Feb. 17, 1988	62*	631 ⁹	0.296	21.6	4,670 ⁹	8,830 ⁹		

*assumed

RESERVOIR SEDIMENT DATA SUMMARY (Continued)

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION										
	193-175.5	175.5-167	167-147	147-127	127-107	107-87	87-67	67-47	47-27	27-11	11-CR
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Feb. 17, 1988	0.6	0.3	5.2	9.4	11.5	9.1	10.3	14.3	18.6	13.2	7.5 ¹⁰

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.
1915 ¹¹	4321.81		1,302,250	1930	4384.5	4372.27	930,000
1916	4346.85	4306.6	1,421,000	1931	4374.17	4349.74	418,000
1917	4353.8	4331.8	1,305,000	1932	4384.5	4351.75	1,440,000
1918	4337.0	4290.3	379,100	1933	4377.9	4365.02	717,000
1919	4358.8	4285.5	1,527,000	1934	4367.8	4325.0	298,300
1920	4393.87	4350.9	1,970,000	1935	4342.2	4322.8	917,600
1921	4392.5	4377.5	1,470,000	1936	4354.9	4331.83	872,900
1922	4389.5	4370.7	1,044,000	1937	4380.7	4333.87	1,597,000
1923	4377.4	4366.5	964,000	1938	4377.1	4365.6	1,004,000
1924	4395.8	4368.9	1,662,000	1939	4378.4	4351.2	615,700
1925	4382.1	4354.7	321,000	1940	4357.04	4323.2	333,100
1926	4378.1	4354.6	1,120,000	1941	4399.2	4324.3	2,440,000
1927	4373.95	4363.02	1,180,000	1942	4409.15	4397.0	2,322,000
1928	4379.10	4359.70	773,000	1943	4398.96	4380.82	441,600
1929	4374.8	4353.7	1,240,000	1944	4385.68	4369.16	982,500

46. ELEVATION-AREA-CAPACITY DATA

ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1915 Survey			1915 Survey					
4210	0	0	4320	11,894	490,800			
4220	98	490	4330	14,240	621,400			
4230	376	2,960	4340	16,595	775,600			
4240	671	4,660	4350	19,194	954,400			
4250	1,684	15,800	4360	22,563	1,162,100			
4260	3,157	39,700	4370	26,620	1,408,000			
4270	4,691	78,600	4380	30,191	1,692,800			
4280	6,145	132,800	4390	33,451	2,010,300			
4290	7,715	202,100	4400	37,328	2,363,900			
4300	8,923	285,400	4407	40,060	2,634,800			
4310	10,202	380,800	4410	41,283	2,756,600			

47. REMARKS AND REFERENCES

¹ All elevations are project datum. Add 43.3' to adjust to m.s.l.

² Irrigation and power.

³ Estimated by interpolation.

⁴ Represents loss of contributing area since closing of Jemez in 1953 (1,034 mi²), Galisteo in 1970 (596 mi²), Cochiti in 1973 (11,960 mi²), noncontributing area (310 mi²), and reservoir area (57 mi²).

⁵ Rio Grande at San Marcial.

⁶ For intermediate survey. See data sheet 57-1 and 57-1a.

⁷ Revised values from U.S. Geological Survey Water Supply Paper 1,732, totalled from item 45.

48. AGENCY MAKING SURVEY
49. AGENCY SUPPLYING DATA

50. DATE February 16, 1989

RESERVOIR SEDIMENT DATA SUMMARY (Continued)

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.
1945	4385.60	4372.28	851,500	1960	4339.04	4322.40	563,400
1946	4375.66	4339.52	224,900	1961	4329.10	4301.99	437,700
1947	4339.36	4311.94	419,200	1962	4329.80	4304.38	748,100
1948	4349.22	4313.08	1,036,000	1963	4327.52	4282.07	405,500
1949	4351.3	4329.69	1,031,000	1964	4299.23	4275.51	164,200
1950	4346.01	4315.46	364,100	1965	4323.01	4277.46	821,700
1951	4315.79	4262.30	132,900	1966	4338.30	4311.03	725,340
1952	4324.59	4261.64	967,000	1967	4321.84	4293.03	391,600
1953	4220.49	4283.19	286,800	1968	4319.70	4295.09	646,230
1954	4297.30	4258.03	198,500	1969	4335.0	4308.77	787,600
1955	4295.46	4276.58	257,900	1970	4339.43	4303.02	729,200
1956	4304.40	4268.44	174,800	1971	4326.41	4271.19	413,100
1957	4337.12	4267.10	972,300	1972	4319.02	4279.67	427,900
1958	4373.34	4336.2	1,391,000	1973	4355.52	4319.22	1,309,000
1959	4362.8	4334.46	341,900	1974	4360.94	4321.20	451,400

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

47. REMARKS AND REFERENCES

⁸Total storage showed gain of 9,180 acre-feet since 1947 survey.

⁹Adjusted for upstream dams reducing contributing drainage areas Abiquiu closed in 1963 (2,146 mi²) and see footnote 4.

¹⁰Values sum to 100.0 percent of deposits (569,790 acre-feet) at crest El. 4407.

¹¹From Jan. 1915 through Sept. 1915.

RESERVOIR SEDIMENT DATA SUMMARY (Continued)

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.
1975	4345.91	4326.08	875,900				
1976	4353.05	4318.02	580,900				
1977	4325.18	4295.78	243,200				
1978	4314.70	4290.20	385,100				
1979	4364.95	4305.88	1,427,000				
1980	4380.48	4363.81	1,280,000				
1981	4378.14	4354.31	341,700				
1982	4364.69	4354.30	824,300				
1983	4383.60	4364.77	1,262,000				
1984	4392.31	4381.05	1,052,000				
1985	4404.35	4392.01	1,542,000				
1986	4407.21	4402.84	1,576,000				
1987	4406.60	4402.69	1,732,000				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1988 Survey			1988 Survey					
4250	55	160	4350	14,872	652,300			
4260	971	5,293	4360	18,011	816,715			
4270	2,142	20,861	4370	20,994	1,011,742			
4280	2,660	44,873	4380	24,890	1,241,164			
4290	4,263	79,490	4390	28,697	1,509,096			
4300	6,205	131,833	4400	33,433	1,819,744			
4310	7,503	200,374	4407	36,643	2,065,010			
4320	9,535	285,562	4410	38,019	2,177,003			
4330	11,260	389,537						
4340	13,210	511,890						

47. REMARKS AND REFERENCES

CAPACITYSEDIMENT VOLUMESEDIMENT VOLUME IN PERCENT

Depth Below Crest	<u>CAPACITY</u>					<u>SEDIMENT VOLUME</u>				<u>SEDIMENT VOLUME IN PERCENT</u>			
	Orig.	1925	1935	1940	1947	1925	1935	1940	1947	1925	1935	1940	1947
193	0	0	0	0	0								
	3,215	0	0	0	0	3,215	3,215	3,215	3,215	1.26	0.869	0.760	0.719
175.5	3,215	0	0	0	0								
	1,445	1,590	40	50	10	-145	1,405	1,395	1,435	0.057	0.380	0.330	0.321
167	4,660	1,590	40	50	10								
	35,040	16,760	13,960	13,450	13,790	18,280	21,080	21,590	21,250	7.18	5.70	5.10	4.75
147	39,700	18,350	14,000	13,500	13,800								
	93,100	64,950	62,100	61,600	61,500	28,150	31,000	31,500	31,600	11.1	8.38	7.45	7.07
127	132,800	83,300	76,100	75,100	75,300								
	152,600	129,620	125,900	123,700	123,400	22,980	26,700	28,900	29,200	9.03	7.22	6.83	6.53
107	285,400	212,920	202,000	193,800	198,700								
	205,400	190,490	187,600	184,000	180,200	14,910	17,800	21,400	25,200	5.86	4.81	5.06	5.64
87	490,800	403,410	389,600	382,800	378,900								
	284,800	261,410	254,700	249,600	246,100	23,390	30,100	35,200	38,700	9.19	8.14	8.32	8.66
67	775,600	664,820	644,300	632,400	625,000								
	386,500	350,060	325,700	321,400	319,500	36,440	60,800	65,100	67,000	14.3	16.4	15.4	15.0
47	1,162,100	1,014,880	970,000	953,800	944,500								
	530,700	466,890	430,400	420,400	419,200	63,810	100,300	110,300	111,500	25.1	27.1	26.1	24.9
27	1,692,800	1,481,770	1,400,400	1,374,200	1,363,700								
	525,000	502,130	477,100	456,100	453,300	22,870	47,900	68,900	71,700	8.99	12.9	16.3	16.0
11	2,217,800	1,983,900	1,877,500	1,830,300	1,817,000								
	417,000	405,480	392,800	388,700	380,600	11,520	24,200	28,300	36,400	4.53	6.54	6.69	8.14
Crest	2,634,800	2,389,380	2,270,300	2,219,000	2,197,600	254,420							
	121,800		116,400	114,600	111,900		5,400	7,200	9,900		1.46	1.70	2.21
3	2,756,600		2,386,700	2,333,600	2,309,500		369,900	423,000	447,100				

RESERVOIR SEDIMENTATION
DATA SUMMARY

Elephant Butte
NAME OF RESERVOIR

57-1a
DATA SHEET NO.

DAM	1. OWNER Bureau of Reclamation			2. RIVER Rio Grande		3. STATE New Mexico 1/			
	4. SEC. 2/ TWP. 135 RANGE 4W			5. NEAREST TOWN Truth or Consequences		6. COUNTY Sierra			
	7. STREAM BED ELEV.			8. TOP OF DAM ELEV.		9. SPILLWAY CREST ELEV. 4407			
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	4407	40,060		2,634,800	Jan. 6, '15			
	b. POWER								
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN			
	d. IRRIGATION								
	e. CONSERVATION								
	f. INACTIVE	4231.5	Negligible	Negligible		1915			
17. LENGTH OF RESERVOIR 41 MILES			AV. WIDTH OF RESERVOIR 1.69 MILES						
WATERSHED	18. TOTAL DRAINAGE AREA 25,923 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 10 to 15 INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA 25,866 SQ. MI.		23. MEAN ANNUAL RUNOFF INCHES						
	20. LENGTH 305 MILES	AV. WIDTH 85 MILES	24. MEAN ANNUAL RUNOFF 1,004,000 (60) AC.-FT.						
	21. MAX. ELEV. 12,000	MIN. ELEV. 4407	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. 6, 1915	0	0	Contour	10 feet	40,060	2,634,800	102	
	Dec. 1916	1.9	1.9				2,584,865	100	
	Aug. 1920	3.7	5.6				2,498,850	96	
	Aug. 1925	5.0	10.6	Contour		39,406	2,389,380	92	
	April 1935	9.7	20.3	Contour	5 feet	38,140	2,270,300	88	
	Oct. 1940	5.5	25.8	Contour		37,670	2,219,000	86	
	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			
	Jan. 6, 1915								
	Dec. 1916		1,573,665		3,005,700	1,573,665	3,005,700		
	Aug. 1920		1,413,845	2,250,100	5,188,810	1,463,305	8,194,510		
	Aug. 1925		1,130,348	1,690,900	5,651,742	1,306,250	13,846,252		
	April 1935		853,428	1,444,200	8,252,648	1,088,616	22,098,900		
	Oct. 1940		945,761	1,597,000	5,201,730	1,058,164	27,300,630		
	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		
	Jan. 6, 1915								
	Dec. 1916	49,900	26,300	1.02	49,900	26,300	1.02		
	Aug. 1920	86,000	23,200	0.899	136,000	24,300	0.939		
Aug. 1925	109,000	21,900	0.846	245,000	23,200	0.895			
April 1935	119,000	12,300	0.475	365,000	18,000	0.694			
	(125,000)	(12,900)	(0.498)	(370,000)	(18,200)	(0.705)			
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. 6, 1915									
Dec. 1916				0.998	1.89				
Aug. 1920				0.922	5.16				
Aug. 1925				0.881	9.30				
April 1935	60 (est.)	621	907	0.683	13.9	13,900	15,900		
		(651)	(921)			(14,600)	(16,100)		

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
	193- 75.5	175-57 167-	147-	137- 107-	127- 87-	107- 87-	87-	67-47	47-27	27-11	11-Cr	Cr 3
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
Aug. 1925	1.26	-0.057	7.18	11.1	9.03	5.86	9.19	14.3	25.1	8.99	4.53	
April 1935	0.869	0.380	5.70	8.38	7.22	4.81	8.14	16.4	27.1	12.9	6.54	1.46
Oct. 1940	0.760	0.330	5.10	7.45	6.83	5.06	8.32	15.4	26.1	16.3	6.69	1.70
Apr. 28, 1947	0.719	0.321	4.75	7.07	6.53	5.64	8.66	15.0	24.9	16.0	8.14	2.21
Feb. 12, 1957	0.734	0.325	6.04	10.0	7.64	5.42	7.83	13.1	22.5	15.6	8.40	2.31

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															
Data not available due to contour method of sediment computation.															

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1915	4321.81		1,443,900	1923	4374.20*	4368.3*	964,500
1916	4346.85	4307.29*	1,420,900	1924	4395.80	4370.4*	1,690,900
1917	4354.0	4331.0*	1,310,600	1925	4379.20	4354.7*	320,800
1918	4326.28	4290.30*	379,100	1926	4378.10	4355.68*	1,120,900
1919	4364.0	4267.70*	1,527,000	1927	4371.96*	4363.02*	1,178,700
1920	4393.87	4351.5*	2,250,100	1928	4379.10	4359.70*	772,700
1921	4392.5	4378.2*	1,607,300	1929	4374.80	4354.00*	1,238,900
1922	4389.50*	4377.5*	1,069,100	1930	4384.5	4372.27*	930,200

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
4220	1	1	4310	8,993	259,940	4390	29,226	1,542,790
4240	4	22	20	10,804	358,450	4396	32,140	1,826,570
50	312	1,298	30	12,556	475,150	4400	34,117	1,959,060
60	1,220	8,590	40	14,290	608,930	07	36,584	2,206,780
70	2,343	26,253	4350	16,506	762,940	4410	37,884	2,318,460
80	4,004	57,680	60	18,504	937,850			
90	6,005	107,730	70	21,328	1,135,660			
4300	7,698	176,810	80	25,455	1,369,870			

47. REMARKS AND REFERENCES
1/Headquarters for operation of dam located at El Paso, Texas.
2/Sections not determined--Located in Amendariz Grant No. 33.
*Mean monthly elevations

48. AGENCY SUPPLYING DATA	49. DATE
Bureau of Reclamation	Jan. 8, 1959

RESERVOIR SEDIMENTATION
DATA SUMMARY

Elephant Butte (Continued)

57-1a

NAME OF RESERVOIR

DATA SHEET NO. -

DAM	1. OWNER			2. RIVER			3. STATE					
	4. SEC.	TWP.	RANGE	5. NEAREST TOWN			6. COUNTY					
	7. STREAM BED ELEV.			8. TOP OF DAM ELEV.			9. SPILLWAY CREST ELEV.					
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								16. DATE NORMAL OPER. BEGAN			
	d. IRRIGATION											
	e. CONSERVATION											
	f. INACTIVE											
WATERSHED	17. LENGTH OF RESERVOIR			MILES			AV. WIDTH OF RESERVOIR			MILES		
	18. TOTAL DRAINAGE AREA			SQ. MI.			22. MEAN ANNUAL PRECIPITATION			INCHES		
	19. NET SEDIMENT CONTRIBUTING AREA			SQ. MI.			23. MEAN ANNUAL RUNOFF			INCHES		
	20. LENGTH		MILES		AV. WIDTH		MILES		24. MEAN ANNUAL RUNOFF		AC.- FT.	
	21. MAX. ELEV.			MIN. ELEV.			25. CLIMATIC CLASSIFICATION					
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.				
	Apr. 28, 1947	6.5	32.3	Range	90	36,772	2,197,600	85				
	Feb. 12, 1957	9.75	42.1	Contour	10 feet	36,584	2,206,780	85				
	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				
	Apr. 28, 1947			1,154,862	2,440,000	7,506,600	1,077,623	34,807,230				
	Feb. 12, 1957			441,776	1,036,000	4,307,318	930,191	39,114,548				
	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					
	Oct. 1940	51,300	9,330	0.361	416,000	16,100	0.623					
Apr. 28, 1947	21,400 (43,000)	3,290 (6,620)	0.127 (0.256)	437,000 (465,000)	13,500 (14,400)	0.523 (0.556)						
Feb. 12, 1957	3/			428,000	10,200	0.390						
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	c. PERIOD	d. TOT. TO DATE					
Oct. 1940				0.611	15.8							
Apr. 28, 1947	65.9 (Est)	182 (367)	751 (798)	0.512	16.6	3,010 (6,050)	13,300 (14,100)					
Feb. 12, 1957	60.0	3/		0.463	19.4							

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.
1931	4374.17	4351.66*	417,900	1948	4349.22	4313.08	1,036,000
1932	4384.5	4353.26*	1,444,200	1949	4351.30	4329.69	1,031,000
1933	4377.9	4365.02*	716,800	1950	4346.01	4315.46	364,100
1934	4367.2	4325.00*	298,300	1951	4315.79	4262.30	132,900
1935	4342.2	4324.50*	917,700	1952	4324.59	4261.64	487,500
1936	4354.90	4331.83	872,800	1953	4320.49	4283.19	286,600
1937	4380.7	4336.48*	1,597,400	1954	4297.30	4258.03	198,500
1938	4377.1	4365.6	1,003,500	1955	4295.46	4276.58	257,900
1939	4378.4	4348.6	615,700	1956	4304.40	4268.44	174,830
1940	4357.04	4323.2	333,100				
1941	4399.2	4324.3	2,440,500				
1942	4409.15	4397.00	2,322,000				
1943	4398.96	4380.82	441,600				
1944	4385.68	4369.16	982,500				
1945	4385.60	4372.28	851,500				
1946	4375.66	4339.52	224,900				
1947	4339.36	4311.94	419,200				

47. REMARKS AND REFERENCES
 Values listed in parentheses include above crest deposits.
 3/ Total storage shows a gain of 9,180 acre-feet since 1947 survey attributable primarily to compaction.
 U.S.D.A. Technical Bulletin No. 524, August 1939, "Siltng of Reservoirs."
 Bureau of Reclamation, February 1949, "Sedimentation Surveys of Elephant Butte Reservoir." Only the upper two-thirds of the reservoir was surveyed in 1925 and 1940. Curves from these data were extended over the remaining lower one-third of the reservoir.

48. AGENCY SUPPLYING DATA _____ 49. DATE _____

Depth below crest	CAPACITY						SEDIMENT VOLUME										
	Original	1925	1935	1940	1947	1957	1925	1935	1940	1947	1957	1925	1935	1940	1947	1957	
193	0	0	0	0	0	0											
	3,215	0	0	0	0	0	3,215	3,215	3,215	3,215	3,215	1.26	0.869	0.760	0.719	.734	
175.5	3,215	0	0	0	0	1											
	1,445	1,590	40	50	10	21	-145	1,405	1,395	1,435	1,424	0.057	0.380	0.330	0.321	.325	
167	4,660	1,590	40	50	10	22											
	35,040	16,760	13,960	13,450	13,790	8,568	18,280	21,080	21,590	21,250	26,472	7.18	5.70	5.10	4.75	6.04	
147	39,700	18,350	14,000	13,500	13,800	8,590											
	93,100	64,950	62,100	61,600	61,500	49,090	28,150	31,000	31,500	31,600	44,010	11.1	8.38	7.45	7.07	10.0	
127	132,800	83,300	76,100	75,100	75,300	57,680											
	152,600	129,620	125,900	123,700	123,400	119,130	22,980	26,700	28,900	29,200	33,470	9.03	7.22	6.83	6.53	7.64	
107	285,400	212,920	202,000	198,800	198,700	176,810											
	205,400	190,490	187,600	184,000	180,200	181,640	14,910	17,800	21,400	25,200	23,760	5.86	4.81	5.06	5.64	5.42	
87	490,800	403,410	389,600	382,800	378,900	358,450											
	284,800	261,410	254,700	249,600	246,100	250,480	23,390	30,100	35,200	38,700	34,320	9.19	8.14	8.32	8.66	7.83	
67	775,600	664,820	644,300	632,400	625,000	608,930											
	386,500	350,060	325,700	321,400	319,500	328,920	36,440	60,800	65,100	67,000	57,580	14.3	16.4	15.4	15.0	13.1	
47	1,162,100	1,014,880	970,000	953,800	944,500	937,850											
	530,700	466,890	430,400	420,400	419,200	432,020	63,810	100,300	110,300	111,500	98,680	25.1	27.1	26.1	24.9	22.5	
27	1,692,800	1,481,770	1,400,400	1,374,200	1,363,700	1,369,870											
	525,000	502,130	477,100	456,100	453,300	456,700	22,870	47,900	68,900	71,700	68,300	8.99	12.9	16.3	16.0	15.6	
11	2,217,800	1,983,900	1,877,500	1,830,300	1,817,000	1,826,570											
	417,000	405,480	392,800	388,700	380,600	380,210	11,520	24,200	28,300	36,400	26,790	4.53	6.54	6.69	8.14	8.40	
Crest	2,634,800	2,389,380	2,270,300	2,219,000	2,197,600	2,206,780	254,420										
	121,800		116,400	114,600	111,900	111,680											
3	2,756,600		2,386,700	2,333,600	2,309,500	2,318,460		5,400	7,200	9,900	10,120		1.46	1.70	2.21	2.31	
								369,900	423,000	447,100	438,140						