

RESERVOIR SEDIMENT
DATA SUMMARY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Bernalillo Retarding Dam #1

SCS-34 Rev. 6-66

NAME OF RESERVOIR

57 - 22

DATA SHEET NO.

DAM	1. OWNER Santa Fe-Sandoval SCD		2. STREAM Piedra Lisa		3. STATE New Mexico											
	4. SEC. 33 TWP. 13N RANGE 4E		5. NEAREST P.O. Bernalillo		6. COUNTY Sandoval											
	7. LAT 35° 18' 49" LONG 106° 31' 37"		8. TOP OF DAM ELEVATION 5205		9. SPILLWAY CREST ELEV. 5197											
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, ACRES											
	a. FLOOD CONTROL		5197		21.80											
	b. MULTIPLE USE				148.18											
	c. POWER				310.55											
	d. WATER SUPPLY															
	e. IRRIGATION															
	f. CONSERVATION		5189		15.79											
g. INACTIVE				162.37												
				162.37		15. DATE STORAGE BEGAN 1955										
						16. DATE NORMAL OPER. BEGAN 1955										
WATERSHED	17. LENGTH OF RESERVOIR				0.21 MILES		AV. WIDTH OF RESERVOIR		0.16 MILES							
	18. TOTAL DRAINAGE AREA				4.1 SQ. MI.		22. MEAN ANNUAL PRECIPITATION				12 INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA				4.07 SQ. MI.		23. MEAN ANNUAL RUNOFF				0.4 INCHES					
	20. LENGTH		6.2 MILES		AV. WIDTH		0.66 MILES		24. MEAN ANNUAL RUNOFF				87.5 AC.-FT.			
	21. MAX. ELEV.		-		MIN. ELEV.		5167		25. ANNUAL TEMP.: MEAN				54 RANGE			
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.	
	8-55		-		-		R		18		21.80		310.6		3.55	
	5-67		11.75		11.75		R		10		22.02		298.1		3.41	
	1-76		9.25		21 2/		Range Con- tour 3/		8R 2 ft. C.I		22.12		293.99		3.36	
	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			
	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			
	8-67		12.5		1.06		0.26		12.5		1.06		0.26			
1-76		4.11		0.44		0.109		16.61		0.79		0.19				
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				
8-67		94.6 1/		536.9		536.9		0.34 4.01								
1-76		90 4/		181		372		0.25 5.33								

26. DATE OF SURVEY	43. 6 DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION														
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
	8-67	4	16	38	42										
2-76	8	20	37	33											
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.								
Dry - Pool															
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
5175.5	0	0				5189	16.12	142.43							
5176	0.53	0.089				5191	17.39	175.94							
5177	2.52	1.43	5182	11.32	41.88	5193	18.90	212.24							
5178	6.36	5.72	5184	12.74	65.94	5195	20.35	251.51							
5180	9.30	21.28	5186	14.29	96.97	5197	22.12	293.99							
			5188	15.42	126.68										
47. REMARKS AND REFERENCES															
1/ Average of 10 samples															
2/ 21 runoff seasons.															
3/ Range-contour method of computation selected as resulting in more realistic results. Note also 1976 contours and ranges plotted on results of sediment pool survey only.															
4/ Based on 7 samples representative of all fractions.															
5/ Sub-committee on Sedimentation (ICWR) instr. for compiling the Reservoir Sedimentation Data Summary form 3/66.															
6/ Corrections in 8-67 survey based on ARS revised 1955 contour map.															
Land Use: 488 ac. private range 73 ac. rurban development, and 2,063 ac. Forest Service land with permanent stock exclusion.															
48. AGENCY MAKING SURVEY Soil Conservation Service															
49. AGENCY SUPPLYING DATA SCS and ARS															
50. DATE February 1976															

RESERVOIR SEDIMENT DATA SUMMARY

Sandia Mountain Tributaries
Bernalillo Retarding Dam #1

57-22a

DATA SHEET NO.

NAME OF RESERVOIR
Trib. of Rio Grande

DAM	1. OWNER Santa Fe-Sandoval SCD		2. STREAM Piedra Lisa Arroyo		3. STATE New Mexico											
	4. SEC. 33 TWP. 13 N RANGE 4 E		5. NEAREST P.O. Bernalillo, 1E		6. COUNTY Sandoval											
	7. LAT. 35° 18' 49" LONG. 106° 31' 37"		8. TOP OF DAM ELEVATION 5205		9. SPILLWAY CREST ELEV. 5197											
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		5197		21.80		148.18		310.55		8-1 1955					
	b. MULTIPLE USE										16. DATE NORMAL OPER. BEGAN					
	c. POWER										8-1 1955					
	d. WATER SUPPLY															
	e. IRRIGATION															
	f. CONSERVATION		5189		15.79		162.37		162.37							
g. INACTIVE																
WATERSHED	17. LENGTH OF RESERVOIR 0.21 MILES				AV. WIDTH OF RESERVOIR 0.16 MILES											
	18. TOTAL DRAINAGE AREA 4.1 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 12 INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA 4.07 SQ. MI.				23. MEAN ANNUAL RUNOFF 0.4 INCHES											
	20. LENGTH 6.2 MILES		AV. WIDTH 0.66 MILES		24. MEAN ANNUAL RUNOFF 87.5 AC.-FT.											
	21. MAX. ELEV. 9350 feet		MIN. ELEV. 5167		25. ANNUAL TEMP.: MEAN 54 RANGE											
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.	
	8-55		0		0		R		18		21.8		310.6		3.55	
	1-57		1.4		1.4		R		10		22.06		309.8		3.54	
	5-67		10.35		11.75		R		10		22.02		298.1		3.41	
	1-76		8.75		20.5		Range and Contour 2/		8 R 10 CI		22.12		293.99		3.36	
	9-87		11.6		32.1		R		8		22.18		289.39		3.31	
	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			
	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			
	1-57		.75		.54		.13		.75		.54		.13			
	5-67		12.5		1.06		0.26		12.5		1.06		0.26			
	1-76		4.11		0.44		0.113		16.61		0.81		0.2			
	9-87		4.6		0.40		0.1		21.2		0.66		0.16			
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		
1-57		98.1		277.8		277.8				0.24						
5-67		94.6 1/		535.7		813.5		0.34		4.02						
1-76		90.0 3/		392		1205.5		0.25		5.35						
9-87		92.1 5/		321		1526.5		0.21		6.83						

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.
Dry - Pool							

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
5175.5	0	0				5189	16.12	142.43
5176	0.53	0.089				5191	17.39	175.94
5177	2.52	1.43	5182	11.32	41.88	5193	18.90	212.24
5178	6.36	5.72	5184	12.74	65.94	5195	20.35	251.51
5180	9.30	21.28	5186	14.29	96.97	5197	22.12	293.99
			5188	15.42	126.68			

REMARKS AND REFERENCES

- 1/ Average of 10 samples (chg. from original document unsubstantiated).
- 2/ Range-contour method of computation selected as resulting in more realistic results. 1967 contour map does not agree with 1967 profile plottings. Note also 1976 contours and ranges plotted on results of sediment pool survey only.
- 3/ Based on 7 samples representative of all fractions.
- 4/ Subcommittee on Sedimentation (ICWR) instr. for compiling the Reservoir Sedimentation Data Summary form 3/66.
- 5/ Based on results of in-place density tests (Balloon Method).

48. AGENCY MAKING SURVEY _____

49. AGENCY SUPPLYING DATA _____

50. DATE _____