

RESERVOIR SEDIMENT
DATA SUMMARY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SCS-34 Rev. 6-66

Site No. 12, Tehuacana Creek

NAME OF RESERVOIR

53-50

DATA SHEET NO.

DAM	1. OWNER Pippin		2. STREAM Trib. of Tehuacana Cr.		3. STATE Texas											
	4. SEC. TWP. RANGE		5. NEAREST P. O. Waco		6. COUNTY McLennan											
7. LAT. 31° 41' 10" N LONG 96° 59' 52" W			8. TOP OF DAM ELEVATION 487.2		9. SPILLWAY CREST ELEV. 482.0											
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, ACRES											
	a. FLOOD CONTROL		482.0 1/		214.81											
	b. MULTIPLE USE				2118.52*											
	c. POWER				2621.45*											
	d. WATER SUPPLY															
	e. IRRIGATION															
	f. CONSERVATION		467.2 2/		73.88 2/											
	g. INACTIVE		462.9 3/		44.75 3/											
				250.18 2/												
				502.93 2/												
				252.75 3/												
				252.75 3/												
15. DATE STORAGE BEGAN		7-2-63														
16. DATE NORMAL OPER. BEGAN		7-2-63														
WATERSHED	17. LENGTH OF RESERVOIR		1.54 MILES		AV. WIDTH OF RESERVOIR											
	18. TOTAL DRAINAGE AREA		5.93 SQ. MI.		22. MEAN ANNUAL PRECIPITATION											
	19. NET SEDIMENT CONTRIBUTING AREA		5.59 SQ. MI.		23. MEAN ANNUAL RUNOFF											
	20. LENGTH		6.28 MILES		24. MEAN ANNUAL RUNOFF											
	21. MAX. ELEV.		600.0		25. ANNUAL TEMP: MEAN 66°F RANGE 47°F - 85°F											
		MIN. ELEV.		446.0												
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.	
	1/ 8-18-71		8.1		8.1		Range-		92R		214.81		2621.45*		1.44	
	2/ 7-7-65		2.0		-		Contour				73.88		502.93		--	
	3/ 8-18-71		6.1		8.1		(D)		2' CI		73.88		493.49		--	
	4/ 7-7-65		2.0		-						44.75		252.75		--	
	5/ 8-18-71		6.1		8.1						44.75		246.25		--	
	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/ 8-18-71		None - original capacity revised due to addition of 19 ranges														
2/ 8-18-71		9.44		1.55		0.27		9.44		1.17		0.20				
3/ 8-18-71		6.50		1.07		0.18		6.50		0.80		0.14				
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								
2/ 8-18-71		-		-		0.23		1.88								
3/ 8-18-71		-		-		0.31		2.57								

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.								
46. <u>1971</u> ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
448.0	0.67	0.45	466.0	63.23	411.70	482.0	214.81	2621.45							
450.0	4.12	4.75	467.2	73.88	493.49										
452.0	7.05	15.79	470.0	98.28	733.61										
454.0	9.28	32.08	472.0	116.83	948.56										
456.0	13.17	54.43	474.0	136.22	1201.49										
458.0	18.83	86.28	476.0	157.23	1494.84										
460.0	31.55	136.14	478.0	178.14	1830.16										
462.9	44.75	246.25	480.0	199.12	2207.41										
47. REMARKS AND REFERENCES															
<p>1/ All pools up to elevation 482.0. * Revised upward due to an additional 19 ranges run in 1971, most of which are above principal spillway crest elevation.</p> <p>2/ Principal spillway crest elevation.</p> <p>3/ Sediment pool only.</p> <p>Physiographic Area - Black Prairie Geology - Cretaceous - Taylor Group Land Use - Pastureland 88%, cropland 5%, woodland 7%.</p>															
48. AGENCY MAKING SURVEY				Soil Conservation Service											
49. AGENCY SUPPLYING DATA				Temple, Texas				50. DATE				2-73			

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Site No. 12, Tehuacana Creek
NAME OF RESERVOIR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
53 - 50a
DATA SHEET NO.

DAM	1. OWNER Pippin			2. STREAM Trib. of Tehuacana			3. STATE Texas											
	4. SEC. TWP. RANGE			5. NEAREST P.O. Waco			6. COUNTY McLennan											
	7. LAT. 31° 41' 10" LONG. 96° 59' 52"			8. TOP OF DAM ELEVATION 487.2			9. SPILLWAY CREST ELEV. 482.0											
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		482.0		214.81		1/ 2118.52		5/ 2621.45		7- 2-63							
	b. MULTIPLE USE																	
	c. POWER																	
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN							
	e. IRRIGATION										7- 2-63							
	f. CONSERVATION		467.2		73.88		2/ 250.18		502.93									
g. INACTIVE		462.9		44.75		3/ 252.75		252.75										
WATERSHED	17. LENGTH OF RESERVOIR				1.54 MILES				AV. WIDTH OF RESERVOIR				0.22 MILES					
	18. TOTAL DRAINAGE AREA				5.93 SQ. MI.				22. MEAN ANNUAL PRECIPITATION				32.08 (89) INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA				5.59 SQ. MI.				23. MEAN ANNUAL RUNOFF				5.7 INCHES					
	20. LENGTH				6.28 MILES				AV. WIDTH				0.94 MILES					
	21. MAX. ELEV.				600.0				MIN. ELEV.				446.0					
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.			
	8-18-71		8.1		8.1		Range-		92 R		214.81		5/ 2621.45		1.45			
	7-20-78		6.9		15.0		Contour (D)		2' CI		214.81		2596.54		1.44			
	7- 7-65		2.0		2.0						73.88		502.93					
	8-18-71		6.1		8.1						73.88		493.49					
	7-20-78		6.9		15.0						73.80		483.17					
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. MEAN ANNUAL PRECIPITATION		36. PERIOD WATER INFLOW, ACRE-FEET		37. MEAN ANNUAL WATER INFLOW		38. MAX. ANNUAL WATER INFLOW		39. PERIOD TOTAL WATER INFLOW		40. MEAN ANNUAL WATER INFLOW		41. TOTAL TO DATE	
	7- 7-65		2.0		2.0		44.75		- 252.75		44.75		246.25		44.75		238.10	
	8-18-71		6.1		8.1		44.75		246.25		44.75		246.25		44.75		238.10	
	7-20-78		6.9		15.0		44.75		238.10		44.75		238.10		44.75		238.10	
	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					
	7-20-78		24.91		3.61		0.65		24.91		1.66		0.30					
7-20-78		10.32		1.50		0.27		19.76		1.32		0.24						
7-20-78		8.15		1.18		0.21		14.65		0.98		0.17						
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						
7-20-78		-		367.7		367.7		0.06		0.95								
7-20-78 Det P 88		4/ 249.2		4/ 249.2		0.26		3.93										
7-20-78 Sed P 32		118.5		118.5		0.39		5.80										

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.

46. 1978 ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
448	0.25	0.17	467.2	73.80	483.17			
450	3.85	3.56	470	98.11	723.04			
452	6.15	13.47	472	115.80	936.71			
454	8.10	27.68	474	135.10	1187.36			
456	12.85	48.45	476	156.21	1478.41			
458	18.41	79.54	478	176.10	1810.52			
460	31.19	128.58	480	197.72	2184.13			
462.9	44.75	238.10	482	214.81	2596.54			
466	61.50	402.10						

47. REMARKS AND REFERENCES

- 1/ Total reservoir below emergency spillway crest elevation (482.0').
- 2/ Reservoir below principal spillway crest elevation (467.2').
- 3/ Sediment pool only (below elevation 462.9').
- 4/ Figure represents sediment reserve and detention pool deposits.
- 5/ Original capacity revised upward by the addition of 19 ranges during the 1971 survey.

Land Resource Area: Texas Blackland Prairie.
 Geology: Taylor Group, Cretaceous Age.
 Land Use: pastureland 89%, cropland 10%, miscellaneous 1%.

48. AGENCY MAKING SURVEY SCS, Temple, Texas
 49. AGENCY SUPPLYING DATA SCS, Temple, Texas
 50. DATE 1-79