

RESERVOIR SEDIMENT

DATA SUMMARY

Site 6, Olmitos & Garcias Creeks Watershed

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

34 Rev. 6-66

NAME OF RESERVOIR

55-1

DATA SHEET NO.

Co.

DAM	1. OWNER E. Guerra; Standard Trust			2. STREAM El Gato Creek		3. STATE Texas		
	4. SEC. TWP. RANGE		5. NEAREST P. O. Rio Grande City			6. COUNTY Starr		
	7. LAT. " LONG.		8. TOP OF DAM ELEVATION 208.3			9. SPILLWAY CREST ELEV. 203.5		
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	203.5 1/2	160.71	1927.50	2258.11	6-28-62		
	b. MULTIPLE USE					16. DATE NORMAL OPER. BEGAN		
	c. POWER					6-28-62		
	d. WATER SUPPLY							
	e. IRRIGATION							
	f. CONSERVATION	184.1 2/3	42.71	69.18	330.60			
g. INACTIVE	182.3 3/4	34.31	261.42	261.42				
WATERSHED	17. LENGTH OF RESERVOIR 1.25 MILES			AV. WIDTH OF RESERVOIR 0.20 MILES				
	18. TOTAL DRAINAGE AREA 13.19 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 17.69 (63) INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 12.94 SQ. MI.		23. MEAN ANNUAL RUNOFF 0.15 INCHES					
	20. LENGTH 8.40 MILES		AV. WIDTH 1.57 MILES		24. MEAN ANNUAL RUNOFF 105 AC.-FT.			
	21. MAX. ELEV.		MIN. ELEV. 168.07		25. ANNUAL TEMP: MEAN RANGE Semiarid			
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.V. RATIO, AC.-FT. PER SQ. MI.
	6-28-62	-	-	Range-Contour	17 R	160.71	2258.11	171.20
	9-28-66	4.25	4.25	(D)	2 CI	160.71	2252.08	170.74
	6-28-62	-	-			42.71	330.60	
	9-28-66	4.25	4.25			42.71	324.52	
	6-28-62	-	-			34.31	261.42	
9-28-66	4.25	4.25			34.31	255.34		
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		
1/2/3/ 9-28-66	6.08	1.43	0.11	6.08	1.43	0.11		
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/ 9-28-66	-	-	0.06	0.27	-	-		
2/ 9-28-66	-	-	0.43	1.84	-	-		
3/ 9-28-66	75*	179.69	0.55	2.32	-	-		

*Assumed

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
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. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
			See attached.					

47. REMARKS AND REFERENCES
1/ All pools (up to elev. 203.5).
2/ Principal Spillway crest (including sediment pool and sediment reserve to elev. 182.3)
3/ Sediment Pool (below port at elev. 182.3)
Land Use: Rangeland 88.5%; cropland 11%; orchard 0.5%.
Resource area: Rio Grande Plain.
Geology: Goliad Formation.

48. AGENCY MAKING SURVEY Soil Conservation Service
49. AGENCY SUPPLYING DATA Temple, Texas
50. DATE January 1968

Site No. 6, Olmitos and Garcias Creeks Watershed

46. Elevation - Area - Capacity Data

1962

Elevation	Area	Capacity	Elevation	Area	Capacity
162.0	0.03	0.02	184.1	42.71	330.60
166.0	5.24	11.34	188.0	62.79	532.78
170.0	8.67	38.84	192.0	88.70	837.61
174.0	13.46	83.86	196.0	112.84	1239.71
178.0	18.70	147.81	200.0	135.61	1740.38
182.3	34.31	261.42	203.5	160.71	2258.10

1966

166.0	4.84	9.50	188.0	62.79	526.70
170.0	8.37	35.73	192.0	88.70	831.53
174.0	13.14	79.21	196.0	112.84	1233.63
178.0	18.70	141.73	200.0	135.61	1734.30
182.3	34.31	255.34	203.5	160.71	2252.03
184.1	42.71	324.52			

RESERVOIR SEDIMENT
DATA SUMMARY

Olmitos and Garcias Creeks Watershed, Site 6

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CS-34 Rev. 6-66

NAME OF RESERVOIR

55 - 1a

DATA SHEET NO.

DAM	1. OWNER E. Guerra; Std. Trust Cd	2. STREAM El Gato Creek		3. STATE Texas				
	4. SEC.	TWP.	RANGE	5. NEAREST P.O. Rio Grande City	6. COUNTY Starr			
	7. LAT. 26° 20' 58" LONG. 98° 41' 37"		8. TOP OF DAM ELEVATION 208.3		9. SPILLWAY CREST ELEV. 203.5			
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	203.5	160.71	1927.51	2258.11	6-28-62		
	b. MULTIPLE USE							
	c. POWER							
	d. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	e. IRRIGATION							
	f. CONSERVATION	184.1	42.71	69.18	330.60	6-28-62		
	g. INACTIVE	182.3	34.31	261.42	261.42			
WATERSHED	17. LENGTH OF RESERVOIR 1.25 MILES			AV. WIDTH OF RESERVOIR 0.20 MILES				
	18. TOTAL DRAINAGE AREA 13.19 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 17.69 (63) INCHES				
	19. NET SEDIMENT CONTRIBUTING AREA 12.94 SQ. MI.			23. MEAN ANNUAL RUNOFF 0.15 INCHES				
	20. LENGTH 8.40 MILES		AV. WIDTH 1.57 MILES		24. MEAN ANNUAL RUNOFF 105.51 AC.-FT.			
	21. MAX. ELEV.		MIN. ELEV. 168.07		25. ANNUAL TEMP: MEAN 72°F RANGE 58° - 86° F			
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.
	1-1/1 6-28-62	-	-	Range-	17 R	160.71	2258.11	21.40
	1-1/1 9-28-66	4.25	4.25	Contour	2' CI	160.71	2252.03	21.34
	1-1/1 4-28-76	9.58	13.83	(D)		160.71	2145.50	20.33
	2-2/2 6-28-62	-	-			42.71	330.60	
	2-2/2 9-28-66	4.25	4.25			42.71	324.52	
	2-2/2 4-28-76	9.58	13.83			39.69	297.04	
	3-3/3 26. DATE OF SURVEY	PERIOD	ACCL.	TYPE OF SURVEY	NO. OF RANGES OR CONTOUR INT.	SURFACE AREA, ACRES	CAPACITY, ACRE-FEET	C/I. RATIO, AC.-FT. PER AC.-FT.
	3-3/3 6-28-62	-	-			34.31	261.42	
	3-3/3 9-28-66	4.25	4.25			34.31	255.34	
	3-3/3 4-28-76	9.58	13.83			33.37	231.37	
	3-3/3 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	
	1-1/1 4-28-76	106.53	11.12	0.86	112.61	8.14	0.63	
	1-2/2 4-28-76	27.48	2.87	0.22	33.56	2.43	0.19	
1-3/3 4-28-76	23.97	2.50	0.19	30.05	2.17	0.17		
3-3/3 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	
1-1/1 4-28-76			1091.53	0.36	4.99			
1-2/2 4-28-76	Det.P 86.7		830.86					
1-3/3 4-28-76	Det.P 86.7		37.77		10.15			
3-3/3 4-28-76	Sed.P 60.2		222.90	0.83	11.49			

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. 1976 ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
166.0	2.03	1.35	180.0	23.59	166.19	194.0	95.12	944.12							
168.0	5.89	8.94	182.3	33.37	231.37	196.0	107.32	1146.44							
170.0	7.61	22.40	184.1	39.69	297.04	198.0	122.03	1375.63							
172.0	10.18	40.13	186.0	48.04	380.26	200.0	133.14	1630.72							
174.0	12.74	63.00	188.0	57.01	485.18	202.0	149.32	1913.03							
176.0	15.26	90.96	190.0	70.15	612.11	203.5	160.71	2145.50							
178.0	18.27	124.44	192.0	83.53	765.60										
47. REMARKS AND REFERENCES															
1/ All pools up to elevation 203.5.															
2/ Principal spillway crest (all pools up to elevation 184.1).															
3/ Sediment pool (below elevation 182.3).															
4/ Detention pool only (above elevation 184.1).															
5/ Pool between elevation 182.3 and 184.1.															
Land Resource Area: Rio Grande Plain.															
Geology: Site is located upon an outcrop of the Goliad Formation, Pliocene Age, Upper Tertiary.															
Land Use: 48% cultivated, 51% rangeland, 1% miscellaneous.															
Trap efficiency: 98%.															
48. AGENCY MAKING SURVEY				SCS, Temple, Texas											
49. AGENCY SUPPLYING DATA				SCS, Temple, Texas											
						50. DATE Feb. 1977									