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THE SILT LOAD OF TEXAS STREAMS
(Progress report as of Sept. 30, 1939)

Prepared cooperatively by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

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September, 1940

(Edited and Reprinted, December, 1955)

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for

TEXAS STREAMS

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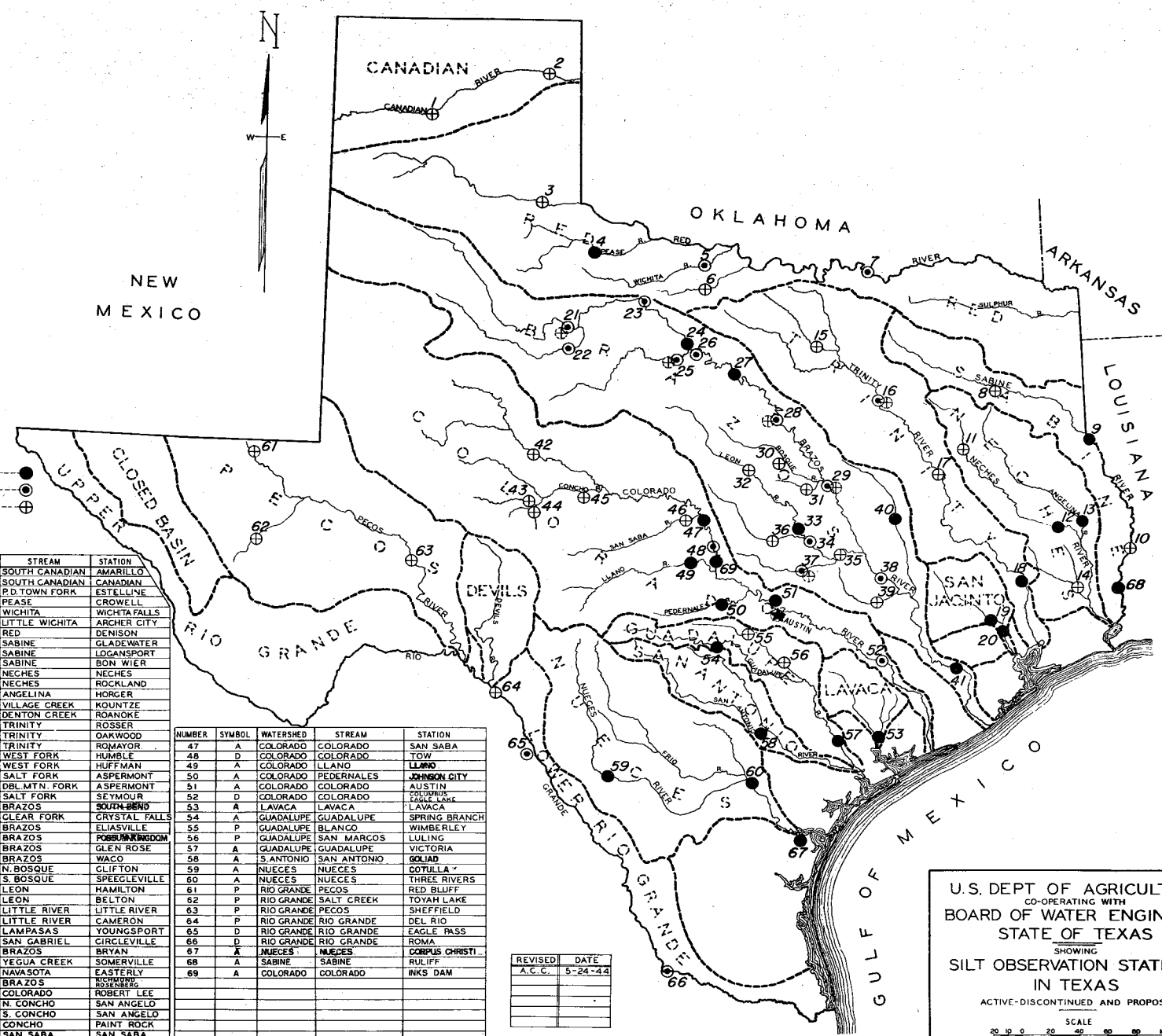
NUMBER	SYMBOL	WATERSHED	STREAM	STATION
1	P	CANADIAN	SOUTH CANADIAN	AMARILLO
2	P	CANADIAN	SOUTH CANADIAN	CANADIAN
3	P	RED	P.D. TOWN FORK	ESTELLINE
4	A	RED	PEASE	CROWELL
5	D	RED	WICHITA	WICHITA FALLS
6	P	RED	LITTLE WICHITA	ARCHER CITY
7	D	RED	RED	DENISON
8	P	SABINE	SABINE	GLADEWATER
9	A	SABINE	SABINE	LDGANSFORD
10	P	SABINE	SABINE	BON WIER
11	P	NECHES	NECHES	NECHES
12	A	NECHES	NECHES	ROCKLAND
13	A	NECHES	ANGELINA	HORGER
14	P	NECHES	VILLAGE CREEK	KOUNTZE
15	P	TRINITY	DENTON CREEK	ROANOKE
16	D-P	TRINITY	TRINITY	ROSSER
17	P	TRINITY	TRINITY	OAKWOOD
18	A	TRINITY	TRINITY	ROMAYOR
19	A	SAN JACINTO	WEST FORK	HUMBLE
20	A	SAN JACINTO	WEST FORK	HUFFMAN
21	D-P	BRAZOS	SALT FORK	ASPERMONT
22	D	BRAZOS	DBL.MTN. FORK	ASPERMONT
23	D	BRAZOS	SALT FORK	SEYMOUR
24	A	BRAZOS	BRAZOS	SOUTH BEND
25	D-P	BRAZOS	CLAIR FORK	CRYSTAL FALLS
26	D	BRAZOS	BRAZOS	ELIASVILLE
27	A	BRAZOS	BOSSUM WOODM	FOSSUM WOODM
28	D-P	BRAZOS	BRAZOS	GLEN ROSE
29	D-P	BRAZOS	BRAZOS	WACO
30	P	BRAZOS	N. BOSQUE	CLIFTON
31	P	BRAZOS	N. BOSQUE	SPEEGLEVILLE
32	P	BRAZOS	SAN GABRIEL	HAMILTON
33	A	BRAZOS	LEON	BELTON
34	D	BRAZOS	LITTLE RIVER	LITTLE RIVER
35	P	BRAZOS	LITTLE RIVER	CAMERON
36	P	BRAZOS	LAMPASAS	YOUNGSPORT
37	D-P	BRAZOS	SAN GABRIEL	CIRCLEVILLE
38	D	BRAZOS	BRAZOS	BRYAN
39	P	BRAZOS	YEGUA CREEK	SOMERVILLE
40	A	BRAZOS	NAVASOTA	EASTERLY
41	A	BRAZOS	BRAZOS	ROSENBERG
42	P	COLORADO	COLORADO	ROBERT LEE
43	P	COLORADO	N. CONCHO	SAN ANGELO
44	P	COLORADO	S. CONCHO	SAN ANGELO
45	P	COLORADO	CONCHO	PAINT ROCK
46	P	COLORADO	SAN SABA	SAN SABA

NUMBER	SYMBOL	WATERSHED	STREAM	STATION
47	A	COLORADO	COLORADO	SAN SABA
48	D	COLORADO	COLORADO	TOW
49	A	COLORADO	LLANO	LLANO
50	A	COLORADO	PERDERNALES	JOHNSON CITY
51	A	COLORADO	COLORADO	AUSTIN
52	D	COLORADO	COLORADO	COLORADO
53	A	LAVACA	LAVACA	LAVACA
54	A	GUADALUPE	GUADALUPE	SPRING BRANCH
55	P	GUADALUPE	BLANCO	WIMBERLEY
56	P	GUADALUPE	SAN MARCOS	LULING
57	A	GUADALUPE	GUADALUPE	VICTORIA
58	A	S. ANTONIO	S. ANTONIO	GOLIAD
59	A	NUECES	NUECES	GOTULLA
60	A	NUECES	NUECES	THREE RIVERS
61	P	RIO GRANDE	PECOS	RED BLUFF
62	P	RIO GRANDE	SALT CREEK	TOYAH LAKE
63	P	RIO GRANDE	PECOS	SHEFFIELD
64	P	RIO GRANDE	RIO GRANDE	DEL RIO
65	D	RIO GRANDE	RIO GRANDE	EAGLE PASS
66	D	RIO GRANDE	RIO GRANDE	ROMA
67	A	NUECES	NUECES	CORPUS CHRISTI
68	A	SABINE	SABINE	RULIFF
69	A	COLORADO	COLORADO	INKS DAM

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 STATE OF TEXAS
 SHOWING
 SILT OBSERVATION STATIONS
 IN TEXAS
 ACTIVE-DISCONTINUED AND PROPOSED

SCALE
 20 0 20 40 60 80 100 MILES



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THE SILT LOAD OF TEXAS STREAMS
(Progress report as of September 30, 1939)

By Dean W. Bloodgood, Associate Irrigation Engineer, Division Of Irrigation, Soil Conservation Service, 1/ and A. A. Meador, Testing Engineer, Board of Water Engineers, and A. C. Cook, Assistant Office Engineer, Board of Water Engineers.

INTRODUCTION

In the greater part of Texas the precipitation varies widely throughout the year and also from year to year. At times long droughts occur, especially in the western part of the state, and at other times the precipitation is excessive. As a result of this erratic precipitation, wide fluctuations occur in the natural flow of the streams, sometimes varying in the course of a few days from only a small flow or even none at all to heavy floods.

It is necessary to establish many reservoirs on the streams of Texas for the regulation and conservation of their waters so that these resources may be developed to their fullest usefulness. Many storages have already been built, such as the Buchanan and Red Bluff reservoirs, and others are now being constructed, among them being the Marshall Ford, Possum Kingdom and Denison reservoirs. Nevertheless, many additional reservoirs, as well as small storages on tributaries, must be created before the water resources of the state become completely available for domestic, livestock, municipal, irrigation, power and other uses, and before the prevention of floods in lower stream channels can be accomplished.

Many Texas streams carry large quantities of silt resulting from erosion on their watersheds, especially at times of heavy precipitation. When a reservoir is established on such a silt-carrying stream, much of the transported material is deposited and the storage capacity of the reservoir reduced accordingly. Hence, when each new reservoir is built, it is necessary to estimate the rate at which it will be filled with silt in order that its economic feasibility may be determined. To obtain accurate information both as to the amounts of silt carried in Texas streams and the manner and conditions of its deposition in reservoirs, a cooperative silt investigation was begun in June 1924. This investigation has been carried on continuously to the present time.

The principal purpose of this cooperative investigation is to obtain the facts regarding the amount of silt carried by Texas streams, from which the length of life of any proposed reservoir may be estimated. Accumulated results show definitely that, as affected by silt deposition, the life of any large reservoir built on major Texas

1/ Under the supervision of W. W. McLaughlin, Chief of Division of Irrigation, Soil Conservation Service, U. S. Department of Agriculture.

streams will be far in excess of that necessary to satisfy the financial and economic consideration involved.

It is also a matter of great importance to Texas cities and towns that will have to, more and more, resort to the streams for increased water supplies, to know the amount of silt being carried by such streams throughout the year. Determining the desirability of the supply and the economic handling and treating such supply depends upon a knowledge of the silt load of the stream. This is also true of the various industries seeking location in Texas. For many large industries, the quality of the water supply is of major importance, and consideration cannot be given to the location of such an industry along a stream unless the quality of water has been determined.

Silt Investigations - Method and Procedure

Sampling equipment: --- An eight-ounce sample is accepted as being both convenient and sufficient in volume for all tests. Narrow mouthed bottles are found to be more convenient for use in the laboratory.

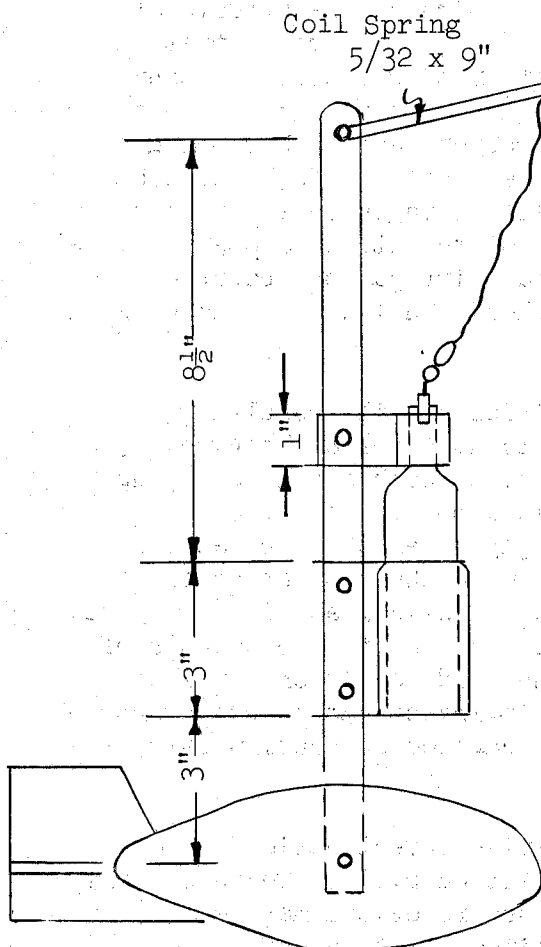


Figure 1--Sampling Apparatus used in Texas

The apparatus adopted for handling bottles in the process of taking samples, shown in Figure 1, consists of a one-eighth by three-quarter by fifteen inch hanger to which a sheet metal bottle container, $2\frac{1}{2}$ inches in diameter, is fastened in such a way that the top of the neck of a round eight-ounce bottle is 0.8 foot above the lower extremity when attached to an old style 15-pound current meter weight. Above the container is a sliding clamp with a loop slightly larger in diameter than the lip of the bottle. In order to prevent the stopper from being removed prematurely by tension produced in the stopper line by the current, a $\frac{5}{32}$ by 9 inch coil spring is attached to the top of the hanger and to the stopper wire in such a manner that the spring takes the tension. A No. 8 sash cord is used as a hand line for lowering and raising the apparatus, and a $\frac{3}{32}$ -inch cotton chalk line is used to remove the stopper. In order to hold the stopper line away from the apparatus and prevent entanglement with the hoisting line, a piece of stiff baling wire $17\frac{1}{2}$ inches long is used as a connection between the rubber stopper and the line.

For sampling flood waters with high velocities, a special hanger made of steel, one-eighth inch thick, one-inch wide, and 16-1/4 inches long, with the vertical bottle container, using a 100 pound weight, was provided. The hoisting line used with this equipment was a 3/16 inch diameter airplane strand cable, and a hand winch with a 4-inch drum attached to a A-frame.

Method of sampling:--A study of many samples taken at various depths throughout a cross-section and at different gage heights showed that a sample from six-tenths the depth gave the mean percentage of silt in the vertical within limits of permissible error. It was further disclosed that the mean percentages of silt by weight in verticals as abscissas and the distances from the edge of the water surface in the cross-section as ordinates showed that the weighted mean of the results obtained from the 6/10 depths at three points in the cross-section, viz., 1/6, 1/2 and 5/6 of the width, gave mean percentages for the cross-section.

Bed load:--That portion of the silt load which is rolled along the bed of the stream by the velocity of the water is not included in this report for the reason that no practicable means have yet been devised for securing reliable measurement.

Samples are taken daily at designated intervals in the cross-section and each sample is immediately labeled for identification, as shown in Figure 2.

		Laboratory method :--(a) Fold
Stream _____	At _____	Whatman No. 2 filter Papers, 24 cm
Date _____	Sampler _____	in diameter, three times; dry in oven
Station _____	Depth _____	at 110° C for 1½ Hours; cool in a
Gage height _____	Color _____	dessicator for one-half hour, and
	Time _____	weigh on analytical balance to
		nearest .005 gram. (b) Weigh eight
		ounce silt laden water samples on torsion
		balance to nearest one-tenth gram. (c)
		Place one of the above oven dried filter
		papers in a No. 16 ribbed glass
		funnel, and into this pour an eight-
		ounce sample whose weight has been recorded.
		(d) Air dry the filter paper containing
		the silt and then transfer to oven where
		procedure is same as outlined in (a).

Then from the above data - oven dry weight of silt divided by wet weight of 8-ounce sample and multiplied by one hundred, gives the percentage of dry silt by weight.

If the sample be taken at the surface of the stream (within the top 10 inches of flow) the percent of silt by weight is multiplied by the factor 1.102 to secure the percentage that should be used for

the six-tenths depth.

The daily average per cent of silt is accepted as - (1) that shown by a single sample when only one sample is received (2) that shown as an average when two samples are received (3) that shown as a weighted average when three samples are received; namely, add together the percentages for the one-sixth and five-sixth intervals, and to this sum add twice the percentage shown at midstream. Divide this total by four to secure weighted average.

Silt data subsequent to December 31, 1930, have been computed in accordance with the procedure used prior to that date and published by the United States Department of Agriculture, Bureau of Agricultural Engineering, as Technical Bulletin No. 382, "The Silt Load of Texas Streams" by O. A. Faris.

Since one cubic foot of run-off (water) is assumed to weigh 62.5 pounds, and one cubic foot of silt deposit in reservoirs is assumed to weigh 70 pounds, it follows that:

- One ac.ft. of runoff = 1361.25 tons
- One ac.ft. of silt = 1524.60 tons

$$\frac{\text{Tons of silt}}{1524.60} = \text{Tons of silt} \times .00065590975 = \text{ac. ft. of silt.}$$

$$\frac{\text{Tons of silt} \times 100}{\text{Ac.ft. of run-off} \times 1361.25} = \frac{\text{Tons of silt}}{\text{Ac.ft. of runoff}} \times .073462$$

= per cent of dry silt by weight.

The average weight of the dry material in silt deposits which are continuously submerged approaches 30 pounds per cubic foot. In those deposits which are occasionally exposed, the average dry weight approaches 70 pounds per cubic foot. In deposits where reservoirs are used exclusively for flood control, the average weight ultimately approaches 90 pounds per cubic foot. After a careful consideration of the volume-weight ratios of silt samples in different degrees of consolidation together with the fact that an indeterminable volume of vegetable matter in the form of logs and brush deposited in reservoirs become water-logged and lasts indefinitely, seventy (70) pounds was selected as the average ultimate weight of the dry material per cubic foot of deposit in reservoirs where the deposits are subjected to alternate wetting and drying.

In order to compute the silt load in acre-feet, the silt sampling station must be located where a stream flow measuring station is maintained.

The discharge records for stations on the Rio Grande were furnished by the International Boundary Commission. The discharge records for all

other streams set up in this report were supplied by the Water Resources Branch of the United States Geological Survey.

The authors also wish to acknowledge the excellent work of Mr. Harry G. Nickle, former Assistant Irrigation Engineer, Division of Irrigation, Bureau of Agricultural Engineering, U. S. Department of Agriculture, for his five year's supervision of the silt investigations in Texas. Mr. Nickle had charge of the investigations from 1934 to 1939.

The following organizations have assisted in the collection of water samples and other associated work:

Water Resources Branch of the United States Geological Survey; International Boundary Commission; Walker-Caldwell Water Company, Breckenridge, Texas; Wichita County Water Improvement District No. One; City of Waco, Texas; City of Houston, Texas; Trinity Improvement Association, Fort Worth, Texas; Works Projects Administration (Project No. 10443) Austin, Texas; and Texas Agricultural and Mechanical College.

SILT RECORD
(As of Sept. 30, 1939)

Compiled from United States Department of Agriculture, Office of Experiment Stations - Bulletin Nos. 119 and 133. (Original data prepared by the late Professor Nagle of Texas Agricultural and Mechanical College).

Stream: WICHITA
Station: WICHITA FALLS

Water year	D i s c h a r g e			Average per cent of silt by volume after one yr. settlement
	Water acre-feet	Silt in ac-ft. after settle-ment for one week	Silt in ac-ft. after settle-ment for one year	
1899-1900 ^{1/}	641,590	7,513	5,635	0.878
1900-1901	497,328	7,298	5,474	1.101
1901-1902 ^{2/}	1,854	0	0	.000
Totals	1,140,772	14,811	11,109	

For period of 2.014 years

Average discharge in acre-feet per year-----	566,421
Average acre-feet of silt per year -----	5,516
Average acre-feet of silt per year per square mile of contributing watershed -----	1.776
Average per cent of silt by volume -----	.974
Drainage area in square miles (net) -----	3,105

^{1/} Station was established February 10, 1900.

^{2/} Station was discontinued February 15, 1902.

Note: A water-year extends from October 1 to the following September 30, inclusive.

Note: Experiments made in an effort to correlate percentages of silt by volume as compared to weight showed the percentages by volume varied from 1.1 to 7.7 times that shown by weight. However, the average of 1246 tests resulted in percentage by volume being 3.3 times the percentage by weight.

SILT DETERMINATIONS

Year	Month	Discharge in Acre-feet	Silt in acre-feet after settlement	
			For one week	For one year
1900	February	6,220	0	0
	March	9,530	0	0
	April	78,550	995	746+
	May	123,900	1,053	790-
	June	72,770	172	129
	July	142,160	3,930	2,948-
	August	74,460	148	111
	September	<u>134,000</u>	<u>1,215</u>	<u>911+</u>
	Totals	<u>641,590</u>	<u>7,513</u>	<u>5,635</u>
		October	138,022	1,980
	November	56,125	679	509+
	December	6,716	0	0
1901	January	2,567	0	0
	February	1,884	0	0
	March	1,483	0	0
	April	1,176	0	0
	May	217,942	3,952	2,964
	June	32,553	281	211-
	July	4,592	0	0
	August	8,067	5	4-
	September	<u>26,201</u>	<u>401</u>	<u>301-</u>
	Totals	<u>497,328</u>	<u>7,298</u>	<u>5,474</u>
	October	620	0	0
	November	408	0	0
	December	390	0	0
1902	January	298	0	0
	February	<u>138</u>	<u>0</u>	<u>0</u>
	Totals	<u>1,854</u>	<u>0</u>	<u>0</u>

SILT RECORD
(As of Oct. 15, 1939).

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: Red
Station: Near Denison (Samples were taken from Highway bridge a short distance upstream from M.K.&T.Ry. bridge, about 5 miles north of Denison)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1929-30 ^{1/}		39,350	26	
1930-31	2,760,000	15,236,210	9,992	.406
1931-32	5,260,000	30,230,330	19,826	.422
1932-33 ^{2/}	3,198,300	17,639,190	11,571	.405
1935-36 ^{3/}	327,000	10,411,920		
1936-37	2,564,000	16,658,200	10,925	.477
1937-38	4,891,000	32,454,470	21,288	.487
1938-39	1,067,750	7,486,690	4,909	.515
1939-40 ^{4/}		10,200	7	
Totals	20,831,880	130,166,560	85,373	

For above period of 6.260

Average run-off in acre-feet per year-----	3,326,780
Average acre-feet of silt per year-----	13,640
Average acre-feet of silt per year per sq.mi. of contributing watershed-----	.415
Average tons of silt per year-----	20,793,380
Average per cent of silt by weight-----	.459
Drainage area in square miles (net)-----	32,840

- 1/ Station was established August 13, 1930
2/ Station was discontinued August 31, 1933
3/ Station was re-opened August 31, 1936
4/ Station was discontinued October 15, 1939

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year		Discharge in acre-feet	Tons of silt	Acre-feet of silt	Percent of silt by wt.
1930	August	35,700	1,810	1	.004
	September	<u>55,900</u>	<u>37,540</u>	<u>25</u>	.049
	Totals	91,600	39,350	26	
	October	602,000	5,503,630	3,610	.672
	November	104,000	215,100	141	.152
	December	498,000	4,010,860	2,630*	.592
1931	January	89,800	18,630	12	.015
	February	312,000	1,176,150	771	.277
	March	271,000	878,290	576	.238
	April	224,000	494,220	324	.162
	May	285,000	1,226,180	804	.316
	June	91,600	286,670	188	.230
	July	205,000	1,393,000	914	.499
	August	52,300	27,110	18	.038
	September	20,800	6,370	4	.022
	Totals	<u>2,755,500</u>	<u>15,236,210</u>	<u>9,992</u>	
1932	October	296,000	2,926,170	1,329	.508
	November	298,000	1,826,530	1,198	.450
	December	290,000	523,700	343	.133
	January	836,000	4,667,500	3,061	.410
	February	679,000	3,302,630	2,166	.357
	March	183,000	117,780	77	.047
	April	183,000	236,670	155	.095
	May	358,000	1,758,540	1,153	.361
	June	958,000	10,481,640	6,875	.804
	July	806,000	4,378,260	2,872	.399
August	159,000	331,360	217	.153	
September	212,000	579,550	380	.201	
Totals	<u>5,258,000</u>	<u>30,230,330</u>	<u>19,826</u>		
1933	October	84,200	39,340	26	.034
	November	38,000	4,830	3	.009
	December	323,000	2,760,750	1,811	.628
	January	176,000	311,890	205	.130
	February	66,100	7,280	5	.008
	March	344,000	1,434,560	941	.306
	April	194,000	889,220	583	.337
	May	1,390,000	10,314,560	6,765	.545
	June	172,000	170,570	112	.073
	July	102,000	40,440	27	.029
August	309,000	1,665,750	1,093	.396	
September	-----	-----	---		
Totals	<u>3,198,300</u>	<u>17,639,190</u>	<u>11,571</u>		

(*) Published record (should be 2630.7).

SILT DETERMINATIONS

Year		Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1936	August	682	37	0	.004	
	September	985,450	10,411,880	6,829	.776	
	Totals	<u>986,132</u>	<u>10,411,917</u>	<u>6,829</u>		
	October	451,800	2,381,430	1,562	.387	
	November	71,600	13,570	9	.014	
1937	December*	86,990	723,320	474	.611	
	January*	155,800	283,790	186	.134	
	February	79,660	24,750	16	.023	
	March	184,500	452,320	297	.180	
	April*	242,600	1,148,940	754	.348	
	May	105,500	243,120	159	.169	
	June	656,500	7,547,390	4,950	.845	
	July	85,890	66,240	43	.057	
	August	261,900	2,831,050	1,857	.794	
	September	180,800	942,280	618	.383	
	Totals	<u>2,563,540</u>	<u>16,658,200</u>	<u>10,925</u>		
	1938	October	232,100	1,696,400	1,113	.537
		November	57,610	29,300	19	.037
December		95,170	199,480	131	.154	
January		161,400	932,310	612	.424	
February		1,100,000	7,550,590	4,953	.504	
March		637,600	3,843,300	2,521	.443	
April		465,000	1,769,920	1,161	.280	
May		1,147,000	9,785,180	6,418	.627	
June		686,400	5,969,930	3,916	.639	
July		158,500	524,940	344	.243	
August		92,780	108,840	71	.086	
September		57,670	44,280	29	.056	
Totals		<u>4,891,230</u>	<u>32,454,470</u>	<u>21,288</u>		
1939	October	32,710	3,180	2	.007	
	November	40,820	22,980	15	.041	
	December	23,770	1,770	1	.005	
	January	102,900	1,019,590	669	.728	
	February	45,250	58,690	38	.095	
	March	61,430	251,540	165	.301	
	April	144,900	688,250	451	.349	
	May	90,290	393,360	258	.320	
	June	241,800	3,389,270	2,223	1.030	
	July	143,500	1,075,380	705	.551	
	August	116,500	570,890	374	.360	
	September	23,880	11,790	8	.036	
	Totals	<u>1,067,750</u>	<u>7,486,690</u>	<u>4,909</u>		

(*) Silt samples were not supplied for Dec. 26 to 31, inclusive; Jan. 1 to 24, inclusive, 27, and 29 to 31, inclusive, and Apr. 1 to 26, inclusive.

SILT DETERMINATIONS

Year	Month	Discharge in acre-feet	Tons of Silt	Acre-feet of Silt	Per cent of silt by wt.
1939	October ^{1/}	13,100	10,200	7	.057
	Totals	<u>13,100</u>	<u>10,200</u>	<u>7</u>	

1/ Station was discontinued October 15, 1939.

SUMMARY OF SILT RECORDS COVERING RED RIVER WATERSHED
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream	Silt Station	Years Samples Taken	Total length of record in years	Run-off in ac-ft per yr.	Silt in ac-ft per yr.	Silt in ac-ft per yr. per sq. mi.net watershed	Silt in tons per yr.	%of silt bywt.	Contributing Watershed in square miles
Wichita	Wichita Falls	1900-02	2.014	566,421	5,516	1.776	-----	.974*	3,105
Red	Denison Denison	1930-33 1936-39	6.260	3,326,780	13,640	.415	20,793,380	.459	32,840

(*) Per cent of silt by volume

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: SABINE

Station: LOGANSPORT (Samples 1/6, 1/2, and, 5/6, were taken from highway bridge in downtown Shreveport)

Water Year	D i s c h a r g e			Average Per cent of Silt by Weight
	Water Acre-feet	Silt Tons	Silt Acre-feet	
1932-33 ^{1/}	2,545,700	503,740	330	.015
1933-34 ^{2/}	69,200	5,780	4	.006
1934-35 ^{3/}	13,910	400	0	.002
1935-36	841,400	137,020	89	.012
1936-37	1,690,000	270,430	176	.012
1937-38	3,155,000	537,990	353	.013
1938-39	<u>1,326,000</u>	<u>291,500</u>	<u>190</u>	.016
Totals	9,641,210	1,746,860	1,142	

For a period of 5.156 years.

Average discharge in acre-feet per year-----	1,869,900
Average acre-feet of silt per year-----	221
Average acre-feet of silt per year per square mile of contributing watershed-----	.045
Average tons of silt per year-----	338,800
Average per cent of silt by weight-----	.013
Drainage area in square miles-----	4,858

^{1/} Station was established December 1, 1932.

^{2/} Station was discontinued December 27, 1933

^{3/} Station was re-established September 1, 1935.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Percent of silt by weight
1932 December	44,500	10,540	7	.017
1933 January	430,000	85,100	56	.014
February	293,000	45,690	30	.011
March	460,000	78,490	51	.013
April	363,000	56,030	37	.011
May	311,000	87,970	58	.021
June	129,000	52,550	34	.030
July	352,000	74,800	49	.016
August	139,000	10,700	7	.006
September	24,200	1,870	1	.006
Totals	2,545,700	503,740	330	
October	15,000	1,580	1	.008
November	15,600	1,390	1	.007
December	38,600	2,810	2	.005
Totals	69,200	5,780	4	
1934	Station not operated during the last nine months of the water year 1933-34			
1935 September	13,910	400	0	.002
October	31,670	3,660	2	.008
November	127,500	21,680	14	.012
December	236,100	27,660	18	.009
1936 January	61,840	3,990	3	.005
February	62,330	4,110	3	.005
March	78,790	7,640	5	.007
April	27,690	3,390	2	.009
May	144,600	54,240	36	.028
June	25,060	2,180	1	.006
July	39,290	8,170	5	.015
August	4,180	190	0	.003
September	2,360	110	0	.003
Totals	841,410	137,020	89	
October	64,170	11,340	7	.013
November	35,880	8,610	6	.018
December	82,630	18,800	12	.017
1937 January	484,100	61,160	40	.009
February	276,100	29,110	19	.008
March	407,800	73,220	48	.013
April	251,220	54,220	36	.016

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of Silt	Acre-feet of silt	Per cent of silt by wt.
1937 May	39,820	11,300	7	.021
June	23,830	1,670	1	.005
July	7,520	300	0	.003
August	6,350	220	0	.003
September	9,960	480	0	.004
Totals	<u>1,689,660</u>	<u>270,430</u>	<u>176</u>	
October	10,850	570	0	.004
November	76,560	18,660	12	.018
December	191,600	30,080	20	.012
1938 January	624,300	92,760	61	.011
February	729,500	122,070	80	.012
March	388,200	100,230	66	.019
April	667,400	89,310	59	.010
May	371,700	75,480	50	.015
June	36,050	3,260	2	.007
July	21,330	1,970	1	.007
August	33,640	3,580	2	.008
September	4,030	19	0	.000
Totals	<u>3,155,000</u>	<u>537,989</u>	<u>353</u>	
October	2,520	7	0	.000
November	24,340	4,040	3	.012
December	28,300	2,210	1	.006
1939 January	236,200	37,320	24	.012
February	361,000	60,210	39	.012
March	408,000	80,050	53	.014
April	139,600	81,300	53	.043
May	79,780	24,270	16	.022
June	29,210	1,480	1	.004
July	12,880	410	0	.002
August	2,360	120	0	.004
September	1,390	78	0	.004
Totals	<u>1,325,580</u>	<u>291,495</u>	<u>190</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: NECHES

Station: NEAR ROCKLAND (Samples were taken from bridge on Woodville-
Lufkin highway - one daily in midstream.)

Water year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
^{1/} 1929-30	10,620	290	0	.002
1930-31	1,490,000	229,220	151	.011
1931-32	2,560,000	193,940	128	.006
1932-33	1,400,000	144,700	95	.008
1933-34	1,550,000	174,070	112	.008
1934-35	2,602,000	297,100	194	.008
1935-36	1,041,000	140,280	91	.010
1936-37	928,400	110,180	71	.009
1937-38	1,400,000	225,940	147	.012
1938-39	854,400	140,590	91	.012
Totals	13,836,420	1,656,310	1,080	

For period of 9.148 years.

Average discharge in acre-feet per year-----	1,512,510
Average acre-feet of silt per year-----	118
Average acre-feet of silt per year per square mile of contributing watershed-----	.033
Average tons of silt per year-----	181,060
Average per cent of silt by weight-----	.009
Drainage area in square miles-----	3,539

^{1/} Station was established August 8, 1930

Note: A Water-year extends from October 1, to the following
September 30, inclusive.

SILT DETERMINATION

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1930 August	3,600	150	0	.003
September	7,020	140	0	.001
Totals	10,620	290	0	
October	56,900	27,160	18	.035
November	40,900	9,030	6	.016
December	230,000	26,050	17	.008
1931 January	259,000	29,670	19	.008
February	254,000	23,900	16	.007
March	257,000	19,880	13	.006
April	145,000	20,910	14	.011
May	204,000	68,280	45	.025
June	22,400	2,320	2	.008
July	9,350	1,150	1	.009
August	7,810	650	0	.006
September	3,890	220	0	.004
Totals	1,490,250	229,220	151	
October	873	76	0	.006
November	10,500	2,500	2	.017
December	208,000	31,340	21	.011
1932 January	719,000	42,520	28	.004
February	805,000	52,480	34	.005
March	514,000	31,460	21	.004
April	156,000	17,810	12	.008
May	84,200	11,070	7	.010
June	30,800	1,990	1	.005
July	16,000	1,460	1	.007
August	6,060	880	1	.011
September	10,500	350	0	.002
Totals	2,560,933	193,936	128	
October	5,920	490	0	.006
November	6,720	350	0	.004
December	50,700	14,790	10	.021
1933 January	151,000	16,750	11	.008
February	262,000	22,290	15	.006
March	314,000	28,650	19	.007
April	286,000	14,280	9	.004
May	152,000	12,670	8	.006
June	58,700	6,760	4	.008
July	71,300	22,780	15	.023
August	17,200	2,400	2	.010
September	20,400	2,490	2	.009
Totals	1,395,940	144,700	95	

SILT RECORD
(As of June 27, 1940)

Prepared by
TEXAS STATE BOARD OF WATER ENGINEERS
AND
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: TRINITY

Station: Rosser (Two samples were taken from highway bridge between
Ennis and Rosser)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Tons of silt	Silt acre-feet	
1938-39 ^{1/}	436,040	853,710	560	.144
1939-40 ^{2/}	779,560	1,551,160	1,016	.146
Totals	1,215,600	2,404,870	1,576	

For period of 1.598 years

Average discharge in acre-feet per year-----	760,700
Average acre-feet of silt per year-----	986
Average acre-feet of silt per year per square mi. of contributing watershed-----	.122
Average tons of silt per year-----	1,504,920
Average per cent of silt by weight-----	.145
Drainage area in square miles (net)-----	8,057

^{1/} Station was established November 15, 1938.
(First samples were taken November 22, 1938).

^{2/} Station was discontinued June 27, 1940.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1938				
November	5,550	390	0	.005
December	5,710	84	0	.000
1939				
January	20,880	14,000	9	.049
February	30,650	110,120	72	.264
March	34,170	94,180	62	.202
April	198,100	359,370	236	.133
May	50,390	152,710	100	.223
June	56,490	110,800	73	.144
July	16,090	11,600	8	.053
August	10,800	420	0	.003
September	7,210	41	0	.000
Totals	<u>436,040</u>	<u>853,715</u>	<u>560</u>	
October	8,000	340	0	.003
November	12,630	490	0	.003
December	6,440	110	0	.001
1940				
January	5,690	130	0	.002
February	9,960	2,120	1	.016
March	11,100	10,560	7	.070
April	188,800	509,920	334	.198
May	253,800	715,420	469	.207
June	<u>283,140</u>	<u>312,070</u>	<u>205</u>	<u>.081</u>
Totals	<u>779,560</u>	<u>1,551,160</u>	<u>1,016</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: TRINITY

Station: ROMAYOR (Three samples were taken from the railroad bridge)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Tons of silt	Silt Acre-feet	
1935-36 ^{1/}	42,130	5,220	4	.009
1936-37	3,901,000	3,481,600	2,285	.066
1937-38	6,753,000	6,741,220	4,423	.073
1938-39	2,165,000	3,199,280	2,099	.109
Totals	12,861,130	13,427,320	8,811	

For period of 3.142 years.

Average discharge in acre-feet per year-----	4,093,290
Average acre-feet of silt per year-----	2,804
Average acre-feet of silt per year per square mile of contributing watershed-----	.163
Average tons of silt per year-----	4,273,490
Average per cent of silt by weight-----	.077
Drainage area in square miles (net)-----	17,190

^{1/} Station was established August 10, 1936.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge Acre-feet	in Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1936 August	20,887	2,720	2	.010
September	21,240	2,500	2	.009
Totals	42,127	5,220	4	
October	677,200	635,750	417	.069
November	362,600	311,080	204	.063
December	367,200	431,680	283	.086
1937 January	845,600	716,250	470	.062
February	333,400	150,520	99	.033
March	671,600	694,290	455	.076
April	307,200	345,420	227	.083
May	79,000	17,690	12	.016
June	105,000	104,930	69	.073
July	226,100	4,420	3	.012
August	27,960	4,320	3	.011
September	98,060	65,250	43	.049
Totals	3,900,920	3,481,600	2,285	
October	56,030	17,620	12	.023
November	119,600	148,870	98	.091
December	319,100	437,050	287	.101
1938 January	802,400	952,120	625	.087
February	1,232,000	1,301,900	853	.078
March	1,354,000	1,085,070	712	.059
April	1,750,000	1,746,710	1,146	.073
May	725,600	711,680	467	.072
June	203,700	297,880	195	.100
July	80,450	16,960	11	.107
August	77,400	24,390	16	.015
September	32,880	1,870	1	.004
Totals	6,753,160	6,741,220	4,423	
October	28,720	840	1	.002
November	46,230	31,870	21	.051
December	42,960	8,280	5	.014
1939 January	294,800	365,240	240	.091
February	419,700	666,980	437	.117
March	283,500	380,100	249	.098
April	304,000	556,150	365	.134
May	238,700	431,420	283	.133
June	333,600	661,230	434	.146
July	132,700	94,080	62	.052
August	23,830	1,920	1	.006
September	16,410	1,170	1	.005
Totals	2,165,150	3,199,280	2,099	

SUMMARY OF SILT RECORDS COVERING TRINITY WATERSHED

Rosser Station as of June 27, 1940

Romayor Station as of Sept. 30, 1939

Prepared by

TEXAS BOARD OF WATER ENGINEERS

and

UNITED STATES DEPARTMENT OF AGRICULTURE

Soil Conservation Service

Division of Irrigation

Stream	Silt Station	Years Samples taken	Total length of record in years	A V E R A G E					Contributing watershed in square miles
				Run-off in ac-ft per yr.	Silt in ac-ft. per yr.	Silt in ac-ft per yr. per sq mi. net watershed	Silt in tons per yr.	% of silt by wt.	
Trinity	Rosser	1938-40	1.598	760,700	986	.122	1,504,920	.145	8,057
Trinity	Romayor	1936-39	3.142	4,093,290	2,804	.163	4,273,490	.077	17,190

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: WEST FORK OF SAN JACINTO
Station: NEAR HUMBLE (Six samples were taken from highway bridge about 2 miles north of Humble)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1932-33 ^{1/}	253,210	144,800	93	.042
1933-34 ^{2/}	7,450	520	0	.005
1936-37 ^{3/}	12,540	1,370	1	.008
1937-38	491,900	150,650	97	.022
1938-39	319,500	120,660	77	.028
Totals	1,084,600	418,000	268	

For period of 3.337 years

Average discharge in acre-feet per year-----	325,020
Average acre-feet of silt per year-----	80
Average acre-feet of silt per year per square mile of water shed-----	.044
Average tons of silt per year-----	125,260
Average per cent of silt by weight-----	.028
Drainage area in square miles-----	1,811

- 1/ Station established December 1, 1932.
2/ Station discontinued December 31, 1933.
3/ Station re-established July 1, 1937.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1932 December	9,780	2,920	2	.022
1933 January	16,400	6,600	4	.030
February	78,900	53,710	35	.050
March	103,000	74,210	49	.053
April	23,400	5,320	3	.017
May	6,700	440	0	.005
June	3,420	280	0	.006
July	3,950	540	0	.010
August	4,140	500	0	.009
September	3,520	280	0	.006
Totals	253,210	144,800	93	
1933 October	2,200	200	0	.007
November	2,120	98	0	.003
December	3,130	220	0	.005
Totals	7,450	518	0	
1937 July	3,320	280	0	.006
August	5,000	570	0	.008
September	4,220	520	0	.009
Totals	12,540	1,370	0	
1937 October	27,660	9,190	6	.024
November	11,540	1,980	1	.013
December	55,100	18,510	12	.025
1938 January	66,960	28,120	18	.031
February	64,440	22,710	15	.026
March	39,780	10,440	7	.019
April	44,470	11,100	7	.018
May	144,900	43,220	28	.022
June	16,150	1,250	1	.006
July	8,480	600	0	.005
August	4,350	430	0	.007
September	8,110	3,100	2	.028
Totals	491,940	150,650	97	
October	2,080	61	0	.002
November	3,830	530	0	.010
December	10,020	2,240	1	.016
1939 January	96,190	36,570	24	.028
February	79,780	40,150	26	.037
March	54,020	24,980	16	.034
April	7,130	990	1	.010
May	5,470	194	0	.003
June	39,960	12,660	8	.023

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1939 July	14,690	1,700	1	.009
August	3,890	360	0	.007
September	2,440	230	0	.007
Totals	<u>319,500</u>	<u>120,665</u>	<u>77</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: SALT FORK OF BRAZOS
Station: NEAR ASPERMONT

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water acre-feet	Silt Tons	Silt acre-feet	
1923-24 ^{1/}	31,917	688,500	452	1.585
1924-25 ^{2/}	105,624	4,631,700	3,037	3.221
TOTALS	<u>137,541</u>	<u>5,320,200</u>	<u>3,489</u>	

For period of 1.238 years.

Average discharge in acre-feet per year----- 111,100
 Average acre-feet of silt per year----- 2,818
 Average acre-feet of silt per year per square mile
 of contributing watershed----- 1,272
 Average tons of silt per year----- 4,297,420
 Average per cent of silt by weight----- 2.842
 Drainage area in square miles (net)----- 2,216

- ^{1/} Station was established June 4, 1924.
^{2/} Station was discontinued August 29, 1925.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1924	June	21,800	423,060	278	1.426
	July	1,370	8,950	6	.480
	August	157	210	0	.098
	September	8,590	256,280	168	2.192
	Totals	31,917	688,500	452	
1924	October	1,240	11,460	7	.679
	November	70	0	0	0
	December	25	0	0	0
1925	January	199	650	0	.240
	February	38	0	0	0
	March	5	0	0	0
	April	59,990	3,203,290	2,101	3.928
	May	13,200	275,700	181	1.534
	June	4,510	84,250	55	1.372
	July	5,300	350,820	230	4.862
	August	21,200	705,530	463	2.445
	September	-----	-----	---	-----
	Totals	105,624	4,631,700	3,037	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: SALT FORK OF BRAZOS
Station: SEYMOUR (Three samples daily)

Water Year	D i s c h a r g e			Average percent of silt by wt.
	Water Acre-feet	Silt tons	Silt Acre-feet	
1923-24 ^{1/}	69,223	1,838,011	1,206	1.951
1924-25 ^{2/}	463,400	15,247,083	10,001	2.417
1925-26	522,000	12,041,499	7,896	1.695
1926-27	415,700	7,468,645	4,897	1.320
1927-28	249,900	6,989,835	4,584	2.055
1928-29	282,300	6,659,131	4,368	1.733
1929-30	433,341	10,289,345	6,747	1.744
Totals	2,435,864	60,533,540	39,699	—

For period of 6.107 years.

Average discharge in acre-feet per year-----	398,864
Average acre-feet of silt per year-----	6,501
Average acre-feet of silt per year per square mile of contributing watershed-----	1,238
Average tons of silt per year-----	9,912,158
Average per cent of silt by weight-----	1.826
Drainage area in square miles (net)-----	5,250

^{1/} Station was established June 5, 1924.

^{2/} Station was discontinued July 13, 1930.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt..	
1924	June July August September Totals	40,540 546 737 27,400 69,223	1,050,172 1,271 4,424 782,144 1,838,011	689 1 3 513 1,206	1.903 .171 .441 2.097
	October November December	6,640 6 0	59,384 0 0	39 0 0	.657 0 0
1925	January February March April May June July August September Totals	282 208 0 133,600 27,030 6,810 3,840 63,100 221,900 463,400	0 0 0 5,772,335 578,780 98,541 34,290 2,254,740 6,449,013 15,247,083	0 0 0 3,786 380 65 22 1,479 4,230 10,001	0 0 0 3.174 1.573 1.063 .656 2.625 2.135
	October November December	17,990 3,960 309	227,746 13,530 25	149 9 0	.930 .251 .006
1926	January February March April May June July August September Totals	797 22 6,910 54,240 37,480 52,510 38,300 267,000 42,500 522,000	749 0 117,578 1,561,591 1,101,515 1,360,251 816,449 5,967,904 874,161 12,041,499	0 0 77 1,024 722 892 536 3,914 573 7,896	.069 0 1.250 2.115 2.159 1.903 1.566 1.642 1.511
	October November December	294,700 8,960 9,760	5,913,097 47,323 47,829	3,878 31 31	1.474 .388 .360
1927	January February March April May June July August September Totals	9,770 6,830 1,910 3,010 8,700 31,710 34,890 1,340 4,120 415,700	77,801 58,015 1,760 6,884 96,756 535,250 642,594 4,761 36,567 7,468,645	51 38 1 5 63 351 421 3 24 4,897	.585 .624 .068 .168 .817 1.240 1.353 .261 .652

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS

and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservat on Service
Division of Irrigation

Stream: DOUBLE MAOUNTAIN FORK OF BRAZOS
Station: NEAR ASPERMONT

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt acre-feet	
1923-24 ^{1/}	8,469	261,580	171	2.269
1924-25	124,992	5,020,770	3,295	2.951
1925-26	145,526	4,549,410	2,984	2.297
1926-27	239,498	5,426,720	3,561	1.665
1927-28	121,315	4,189,820	2,747	2.537
1928-29	112,887	3,448,860	2,261	2.244
1929-30	152,078	6,523,240	4,278	3.151
1930-31	38,100	1,338,210	878	2.584
1931-32	235,000	4,757,200	3,120	1.485
1932-33 ^{2/}	72,630	2,037,450	1,336	2.061
	<u>1,250,495</u>	<u>37,553,260</u>	<u>24,631</u>	

For a period of 9.244 years.

Average discharge in acre-feet per year-----	135,280
Average acrefeet of silt per year-----	2,665
Average acre-feet of silt per year per square mile of contributing watershed-----	1,765
Average tons of silt per year-----	4,062,400
Average per cent of silt by weight-----	2.206
Drainage area in square miles (net)-----	1,510

^{1/} Station was established June 4, 1924.

^{2/} Station was discont mued August 31, 1933.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1924	June July August September Totals	235 764 0 7,470 <u>8,469</u>	600 34,980 0 226,000 <u>261,580</u>	0 23 0 148 <u>171</u>	.188 3.363 - 2.222
1924	October November December	2,470 0 0	60,900 0 0	40 0 0	1.811 - -
1925	January February March April May June July August September Totals	22 0 0 40,000 14,800 1,040 1,660 27,600 <u>37,400</u> 124,992	0 0 0 1,379,610 392,900 12,010 22,130 1,902,120 <u>1,251,100</u> 5,020,770	0 0 0 905 258 8 15 1,248 <u>821</u> 3,295	- - - 2.534 1.950 .848 .979 5.063 2.457
1926	October November December January February March April May June July August September Totals	5,910 1,980 45 30 25 916 14,700 8,320 14,700 17,400 55,800 25,700 <u>145,526</u>	56,050 4,440 0 0 0 3,160 728,440 186,360 457,250 610,860 2,064,920 437,930 <u>4,549,410</u>	37 3 0 0 0 2 478 122 300 401 1,354 287 <u>2,984</u>	.697 .165 0 0 0 .253 3.640 1.645 2.285 2.579 2.718 1.252
1927	October November December January February March April May June July August September Totals	162,000 4,310 11,000 1,770 2,980 1,380 3,990 688 16,200 22,400 8,310 4,470 <u>239,498</u>	3,812,690 0 43,170 0 17,690 2,470 41,260 7,100 463,850 668,720 236,270 133,500 <u>5,426,720</u>	2,501 0 28 0 12 2 27 5 304 439 155 88 <u>3,561</u>	1.729 0 .288 0 .436 .131 .760 .758 2.103 2.193 2.089 2.194

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1927	October	2,370	35,870	23	1.112
	November	4	0	0	0
	December	11	0	0	0
1928	January	85	1,190	1	1.028
	February	1	0	0	0
	March	158	460	0	.214
	April	9	0	0	0
	May	44,800	11,930,490	1,266	3.165
	June	3,840	16,480	11	.315
	July	50,300	1,729,470	1,134	2.526
	August	19,500	475,860	312	1.793
	September	237	0	0	0
	Totals	<u>121,315</u>	<u>4,189,820</u>	<u>2,747</u>	
	October	232	4,050	3	1.282
	November	545	7,490	5	1.010
	December	74	0	0	0
1929	January	25	0	0	0
	February	71	0	0	0
	March	664	14,490	9	1.603
	April	1,070	16,580	11	1.138
	May	23,700	714,310	468	2.214
	June	19,100	564,280	370	2.170
	July	12,600	253,510	166	1.478
	August	6	0	0	0
	September	<u>54,800</u>	<u>1,874,150</u>	<u>1,229</u>	<u>2.512</u>
	Totals	<u>112,887</u>	<u>3,448,860</u>	<u>2,261</u>	
	October	898	4,990	3	.408
	November	52	0	0	0
	December	4	0	0	0
1930	January	2	0	0	0
	February	3	0	0	0
	March	4	0	0	0
	April	28,000	820,670	538	2.153
	May	97,200	5,090,370	3,339	3.847
	June	19,300	531,180	348	2.022
	July	554	3,140	2	.416
	August	111	230	0	.152
	September	<u>5,950</u>	<u>72,660</u>	<u>48</u>	<u>.897</u>
	Totals	<u>152,078</u>	<u>6,523,240</u>	<u>4,278</u>	

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1930	October	11,400	318,500	209	2.052
	November	1,370	5,960	4	.320
	December	12,200	716,110	470	4.312
1931	January	450	120	0	.020
	February	1,780	4,200	3	.173
	March	370	130	0	.026
	April	762	1,930	1	.186
	May	4,130	142,070	93	2.527
	June	2,270	103,720	68	3.357
	July	3,300	45,470	30	1.012
	August	0	0	0	0
	September	20	0	0	0
	Totals	<u>38,052</u>	<u>1,338,210</u>	<u>878</u>	
1931	October	18,100	460,740	302	1.870
	November	9,880	186,800	123	1.389
	December	806	660	0	.060
1932	January	4,040	13,180	9	.240
	February	6,380	108,650	71	1.251
	March	459	50	0	.008
	April	9,040	384,210	252	3.122
	May	14,900	440,520	289	2.172
	June	32,000	1,034,900	679	2.376
	July	23,100	711,530	467	2.263
	August	26,300	785,560	515	2.194
	September	90,400	630,400	413	.512
	Totals	<u>235,405</u>	<u>4,757,200</u>	<u>3,120</u>	
1932	October	4,830	11,950	8	.182
	November	916	0	0	0
	December	14,900	374,430	246	1.846
1933	January	1,810	91	0	.004
	February	502	0	0	0
	March	1,120	1,240	1	.081
	April	11	0	0	0
	May	18,900	697,260	457	2.710
	June	305	0	0	0
	July	5,340	113,310	74	1.559
	August	24,000	839,170	550	2.569
	September	-----	-----	---	---
	Totals	<u>72,634</u>	<u>2,037,451</u>	<u>1,336</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: CLEAR FORK OF BRAZOS
Station: CRYSTAL FALLS

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1924-25 ^{1/}	78,000	295,540	194	.278
1925-26 ^{2/}	111,701	193,345	126	.127
1926-27	175,765	644,072	423	.269
1927-28	338,902	1,728,780	1,133	.375
1928-29 ^{3/}	4,786	2,178	1	.033
Totals	709,154	2,863,915	1,877	

For period of 3.307 years

Average discharge in acre-feet per year-----	214,440
Average acre-feet of silt per year-----	568
Average acre-feet of silt per year per square mile of contributing watershed-----	.131
Average tons of silt per year-----	866,020
Average per cent of silt by weight-----	.297
Drainage area in square miles-----	4,320

^{1/} Station was established September 3, 1925.

^{2/} June record omitted, discharge for three days exceeded rating curve.

^{3/} Station was discontinued Jan. 22, 1929.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1925 September Totals	<u>78,000</u> 78,000	<u>295,540</u> 295,540	<u>194</u> 194	.278
1925 October November December	24,200 3,030 695	35,610 260 63	23 0 0	.108 .006 .007
1926 January February March April May June July August September Totals	577 189 5,930 28,600 18,100 ----- 12,200 7,680 <u>10,500</u> 111,701	35 7 3,150 84,130 34,170 ----- 13,460 7,110 <u>15,350</u> 193,345	0 0 2 55 22 --- 9 5 <u>10</u> 126	.004 .003 .039 .216 .139 ----- .081 .068 .107
1927 October November December January February March April May June July August September Totals	16,600 353 38,900 1,390 3,460 5,670 63,700 495 6,870 25,000 927 <u>12,400</u> 175,765	29,880 38 144,300 110 420 1,220 365,830 44 4,720 48,250 150 <u>49,110</u> 644,072	20 0 95 0 0 1 240 0 3 32 0 <u>32</u> 423	.132 .008 .273 .006 .009 .016 .422 .007 .050 .142 .012 .291
1928 October November December January February March April May June July August September Totals	4,610 333 155 164 0 0 0 197,000 33,700 53,800 47,600 <u>1,540</u> 338,902	3,150 1 9 200 0 0 0 1,196,760 130,080 217,620 179,200 <u>1,760</u> 1,728,780	2 0 0 0 0 0 0 785 85 143 117 <u>1</u> 1,133	.050 .000 .004 .090 0 0 0 .446 .284 .297 .277 .084
October November December Totals	315 3,610 861 <u>4,786</u>	0 2,120 58 <u>2,178</u>	0 1 0 <u>1</u>	0 .043 .005

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: CLEAR FORK OF BRAZOS
Station: NEAR ELIASVILLE

Water year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt acre-feet	
1923-24 ^{1/}	96,665	400,640	262	.304
1924-25 ^{2/}	<u>123,817</u>	<u>605,301</u>	<u>396</u>	.359
Totals	220,482	1,005,941	658	

For period of 1.244 years.

Average discharge in acre-feet per year-----	177,240
Average acre-feet of silt per year-----	529
Average acre-feet of silt per year per square mile of contributing watershed-----	.092
Average tons of silt per year-----	808,630
Average per cent of silt by weight-----	.335
Drainage area in square miles-----	5,740

^{1/} Station was established June 3, 1924.

^{2/} Station was discontinued August 30, 1925.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1924				
June	6,630	2,360	1	.026
July	4	0	0	0
August	131	0	0	0
September	89,900	398,280	261	.325
Totals	<u>96,665</u>	<u>400,640</u>	<u>262</u>	
October	1,370	260	0	.014
November	95	11	0	.009
December	354	0	0	0
1925				
January	417	0	0	0
February	93	0	0	0
March	18	0	0	0
April	16,800	53,170	35	.232
May	83,700	538,420	353	.473
June	4,830	710	0	.011
July	3,240	700	0	.016
August	12,900	12,030	8	.069
September	-----	-----	--	0
Totals	<u>123,817</u>	<u>605,301</u>	<u>396</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: LITTLE RIVER
Station: NEAR LITTLE RIVER

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Tons of silt	Silt Acre-feet	
1923-24 ^{1/}	52,310	23,340	15	.033
1924-25	89,320	345,034	225	.284
1925-26	883,450	2,915,460	1,913	.242
1926-27	554,140	1,284,390	841	.170
1927-28	377,790	857,750	563	.167
1928-29 ^{3/}	126,400	266,377	174	.155
Totals	<u>2,083,410</u>	<u>5,692,351</u>	<u>3,731</u>	

For period of 4.962 years

Average discharge in acre-feet per year-----	419,870
Average acre-feet of silt per year-----	752
Average acre-feet of silt per year per square mile of watershed-----	.143
Average tons of silt per year-----	1,147,190
Average per cent of silt by weight-----	.201
Drainage area in square miles-----	5,253

1/ Station was established June 8, 1924.

2/ Station was discontinued May 27, 1929.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1924					
June	23,100	1,970	1	.006	
July	8,560	180	0	.002	
August	4,150	0	0	0	
September	16,500	21,190	14	.094	
Totals	52,310	23,340	15		
	October	4,000	480	0	.009
	November	3,620	170	0	.003
	December	4,410	170	0	.003
1925					
January	4,000	170	0	.003	
February	3,200	15	0	.000	
March	2,970	78	0	.002	
April	5,010	2,810	2	.041	
May	40,700	189,480	124	.342	
June	2,220	110	0	.004	
July	1,310	57	0	.003	
August	1,380	94	0	.005	
September	16,500	151,400	99	.674	
Totals	89,320	345,034	225		
	October	50,700	309,830	203	.449
	November	93,200	418,770	275	.330
	December	5,820	410	0	.005
1926					
January	38,700	30,610	20	.058	
February	16,300	970	1	.004	
March	99,900	339,740	223	.250	
April	304,000	1,303,880	855	.315	
May	125,000	171,880	113	.101	
June	55,500	96,740	64	.128	
July	74,700	240,260	158	.236	
August	11,400	1,650	1	.011	
September	8,230	720	0	.006	
Totals	883,450	2,915,460	1,913		
	October	21,900	20,890	14	.070
	November	6,790	1,430	0	.005
	December	11,300	750	0	.005
1927					
January	9,980	240	0	.002	
February	99,300	208,610	137	.154	
March	68,500	21,650	14	.023	
April	98,800	359,930	236	.268	
May	65,000	128,270	84	.145	
June	135,000	524,570	344	.285	
July	27,900	18,540	12	.049	
August	5,760	320	0	.004	
September	3,910	190	0	.004	
Totals	554,140	1,284,390	841		

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: SAN GABRIEL
Station: CIRCLEVILLE

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt Acre-feet	
1923-24 ^{1/}	18,660	2,120	1	.008
1924-25	26,103	68,574	44	.193
1925-26	225,750	865,084	567	.282
1926-27	129,810	246,581	161	.140
1927-28	83,209	140,998	93	.124
1928-29	114,074	511,440	336	.329
1929-30 ^{2/}	<u>744</u>	<u>7</u>	<u>0</u>	.001
Totals	598,350	1,834,804	1,202	

For period of 5.403 years.

Average discharge in acre-feet per year-----110,744
 Average acre-feet of silt per year----- 222
 Average acre-feet of silt per year per square mile
 of contributing watershed----- .369
 Average tons of silt per year-----339,590
 Average per cent of silt by weight-----.225
 Drainage area in square miles----- 602

^{1/} Station was established June 7, 1924.
^{2/} Station was discontinued October 31, 1929

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by weight	
1924	June	8,930	420	0	.003
	July	5,480	0	0	0
	August	2,210	210	0	.007
	September	2,040	1,490	1	.054
	Totals	18,660	2,120	1	
	October	1,070	130	0	.009
	November	1,350	130	0	.007
	December	1,420	39	0	.002
1925	January	1,510	150	0	.007
	February	968	0	0	0
	March	962	17	0	.001
	April	1,500	200	0	.010
	May	10,300	63,140	41	.450
	June	252	20	0	.006
	July	221	18	0	.006
	August	2,310	1,260	1	.040
	September	4,240	3,470	2	.060
	Totals	26,103	68,574	44	
	October	20,500	117,760	77	.422
	November	16,400	47,460	31	.213
	December	2,870	94	0	.002
1926	January	23,100	6,000	4	.019
	February	10,800	290	0	.002
	March	27,100	78,840	52	.214
	April	48,900	415,770	273	.625
	May	49,700	179,890	118	.266
	June	11,800	1,500	1	.009
	July	10,000	16,980	11	.125
	August	3,000	370	0	.009
	September	1,580	130	0	.006
	Totals	225,750	865,084	567	
	October	6,270	2,890	2	.034
	November	2,070	110	0	.004
	December	3,700	230	0	.005
1927	January	3,900	110	0	.002
	February	28,300	152,370	100	.396
	March	23,100	22,290	15	.071
	April	31,100	46,340	30	.109
	May	9,590	1,630	1	.012
	June	17,900	20,220	13	.083
	July	2,630	330	0	.009
	August	707	50	0	.005
	September	543	11	0	.001
	Totals	129,810	246,581	161	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: BRAZOS
Station: NEAR MINERAL WELLS.

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Tons of silt	Silt Acre-feet	
1923-24 <u>1/</u>	195,273	1,869,255	1,226	.703
1924-35	1,072,236	19,730,643	12,942	1.352
1925-26	963,790	10,567,250	6,930	.805
1926-27	887,900	9,764,390	6,405	.808
1927-28	990,857	10,650,661	6,986	.790
1928-29	715,654	8,988,640	5,894	.923
1929-30	1,161,332	13,128,166	8,612	.830
1930-31	770,000	5,346,180	3,507	.510
1931-32	2,140,000	16,308,400	10,697	.561
1932-33	759,000	4,975,810	3,263	.481
1933-34 <u>2/</u>	196,000	1,164,690	763	.436
Totals	9,852,042	102,494,085	67,225	

For period of 10.332 years.

Average discharge in acre-feet per year-----	953,550
Average acre-feet of silt per year-----	6,506
Average acre-feet of silt per year per square mile of contributing watershed-----	.468
Average tons of silt per year-----	9,920,060
Average per cent of silt by weight-----	.764
Drainage area in square miles (net)-----	13,910

1/ Station was established June 2, 1924.

2/ Station was discontinued September 30, 1934.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1924				
June	50,100	366,330	240	.537
July	1,060	210	0	.015
August	113	25	0	.016
September	<u>144,000</u>	<u>1,502,690</u>	<u>986</u>	.767
Totals	195,273	1,869,255	1,226	
1925				
October	5,400	1,400	1	.019
November	275	47	0	.013
December	66	0	0	0
January	461	56	0	.009
February	308	0	0	.000
March	6	0	0	0
April	165,000	5,282,960	3,465	2.352
May	372,000	4,238,190	2,780	.837
June	20,500	28,170	18	.101
July	7,020	970	1	.010
August	66,200	1,691,730	1,110	1.877
September	<u>435,000</u>	<u>8,487,120</u>	<u>5,567</u>	1.433
Totals	1,072,236	16,730,643	12,942	
1926				
October	68,700	187,930	123	.201
November	12,700	10,560	7	.061
December	1,560	450	0	.021
January	5,070	2,660	2	.039
February	1,160	150	0	.009
March	20,400	89,290	59	.322
April	115,000	1,557,080	1,021	.995
May	57,200	453,200	297	.582
June	233,000	2,390,720	1,568	.754
July	104,000	1,026,440	673	.725
August	229,000	3,828,560	2,511	1.228
September	<u>116,000</u>	<u>1,020,210</u>	<u>669</u>	.646
Totals	963,790	10,567,250	6,930	
1927				
October	343,000	6,649,990	4,362	1.424
November	20,500	8,230	5	.029
December	124,000	681,390	447	.404
January	18,000	7,070	5	.029
February	25,200	14,460	10	.042
March	43,700	119,420	78	.201
April	129,000	805,220	528	.459
May	10,100	2,960	2	.022
June	82,900	953,140	625	.845
July	66,100	437,050	287	.486
August	13,100	51,800	34	.290
September	<u>12,300</u>	<u>33,660</u>	<u>22</u>	.201
Totals	887,900	9,764,390	6,405	

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1927	October 41,300	237,980	156	.423
	November 1,310	89	0	.005
	December 621	82	0	.010
1928	January 1,600	190	0	.009
	February 828	110	0	.010
	March 738	110	0	.011
	April 3,060	930	1	.022
	May 373,000	4,709,370	3,089	.927
	June 190,000	1,541,560	1,011	.596
	July 196,000	2,821,340	1,850	1.057
	August 156,000	1,228,170	806	.578
	September 26,400	110,730	73	.308
	Totals <u>990,857</u>	<u>10,650,661</u>	<u>6,986</u>	
	October 781	450	0	.042
	November 13,200	15,390	10	.086
	December 3,070	300	0	.007
1929	January 11,600	49,310	32	.312
	February 983	110	0	.008
	March 7,010	1,570	1	.016
	April 15,700	36,840	24	.172
	May 224,000	2,734,920	1,794	.897
	June 64,900	809,800	531	.917
	July 48,100	286,470	188	.438
	August 1,310	140	0	.008
	September <u>325,000</u>	<u>5,053,340</u>	<u>3,314</u>	<u>1.142</u>
	Totals 715,654	8,988,640	5,894	
	October 46,900	163,270	107	.256
	November 7,140	970	1	.010
	December 3,480	1,020	1	.022
1930	January 1,060	120	0	.008
	February 1,420	160	0	.008
	March 812	66	0	.006
	April 60,700	1,411,820	926	1.709
	May 604,000	8,516,250	5,586	1.036
	June 369,000	2,801,300	1,837	.558
	July 20,800	21,170	14	.075
	August 6,820	900	1	.010
	September 39,200	211,120	139	.396
	Totals <u>1,161,332</u>	<u>13,128,166</u>	<u>8,612</u>	
	October 450,000	3,861,610	2,533	.630
	November 18,800	37,640	25	.147
	December 125,000	1,161,510	762	.683

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1931					
January	10,600	1,730	1	.012	
February	59,400	91,400	60	.113	
March	27,700	13,360	9	.035	
April	13,100	2,390	2	.013	
May	19,900	33,870	22	.125	
June	18,000	44,440	29	.181	
July	25,500	97,670	64	.281	
August	2,110	560	0	.019	
September	23	3	0	.010	
Totals	<u>770,133</u>	<u>5,346,183</u>	<u>3,507</u>		
	October	260,000	2,246,210	1,473	.635
	November	66,600	520,230	341	.574
	December	55,700	145,550	95	.192
1932					
January	74,400	79,110	52	.078	
February	73,000	232,740	153	.234	
March	16,300	37,120	24	.167	
April	15,300	53,550	35	.257	
May	219,000	1,676,410	1,100	.562	
June	209,000	1,815,200	1,191	.638	
July	426,000	2,683,350	1,760	.463	
August	25,500	205,130	135	.591	
September	696,000	6,613,800	4,338	.698	
Totals	<u>2,136,800</u>	<u>16,308,400</u>	<u>10,697</u>		
	October	41,900	11,260	7	.020
	November	10,800	1,890	1	.013
	December	114,000	792,510	520	.511
1933					
January	40,000	52,510	34	.096	
February	10,800	1,480	1	.010	
March	36,000	52,150	34	.106	
April	24,300	64,840	43	.196	
May	307,000	2,277,910	1,494	.545	
June	19,900	35,650	23	.132	
July	9,100	2,680	2	.022	
August	83,600	1,207,600	792	1.061	
September	61,900	475,330	312	.564	
Totals	<u>759,300</u>	<u>4,975,810</u>	<u>3,263</u>		
	October	13,800	62,560	41	.333
	November	6,310	440	0	.005
	December	3,870	880	1	.017

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1934 January	11,600	8,050	5	.051
February	6,110	1,650	1	.020
March	68,900	404,610	265	.431
April	64,300	642,510	421	.734
May	5,740	1,190	1	.015
June	1,620	360	0	.016
July	0	0	0	0
August	0	0	0	0
September	14,000	42,440	28	.223
Totals	<u>196,250</u>	<u>1,164,690</u>	<u>763</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: BRAZOS
Station: NEAR GLEN ROSE

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt acre-feet	
1923-24 ^{1/}	211,070	1,943,350	1,275	.676
1924-25	987,028	15,915,050	10,438	1.184
1925-26	1,384,610	17,568,740	11,522	.932
1926-27	1,089,200	13,226,230	8,674	.892
1927-28 ^{2/}	551,960	4,221,400	2,769	.562
1928-29 ^{3/}	518,690	5,731,490	3,759	.812
^{4/} Totals	4,742,558	58,606,260	38,437	

For period of 4.588 years

Average discharge in acre-feet per year-----	1,181,370
Average acre-feet of silt per year-----	8,378
Average acre-feet of silt per year per square mile of contributing watershed-----	.537
Average tons of silt per year-----	12,773,810
Average per cent of silt by weight-----	.794
Drainage area in square miles (net)-----	15,600

^{1/} Station was established June 1, 1924.

^{2/} Silt record being incomplete, was omitted January to June, incl.

^{3/} Station was discontinued August 31, 1929.

^{4/} Silt record, being incomplete, was omitted for Oct, Nov., and Dec.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1924					
June	86,300	570,240	374	.485	
July	1,660	0	0	0	
August	1,110	0	0	0	
September	122,000	1,373,110	901	.827	
Totals	<u>211,070</u>	<u>1,943,350</u>	<u>1,275</u>		
	October	12,400	6,070	4	.036
	November	3,040	0	0	0
	December	1,440	0	0	0
1925					
January	1,680	0	0	0	
February	1,220	0	0	0	
March	368	0	0	0	
April	127,000	3,082,670	2,022	1.783	
May	412,000	5,348,960	3,508	.954	
June	16,800	650	0	.003	
July	7,780	0	0	0	
August	46,300	1,228,960	806	1.950	
September	357,000	6,247,740	4,098	1.286	
Totals	<u>987,028</u>	<u>15,915,050</u>	<u>10,438</u>		
	October	119,000	901,610	591	.557
	November	26,500	39,100	26	.108
	December	4,130	560	0	.010
1926					
January	19,200	87,060	57	.333	
February	2,680	370	0	.010	
March	24,100	108,980	71	.332	
April	168,000	2,672,510	1,753	1.169	
May	113,000	1,108,670	727	.721	
June	314,000	4,667,450	3,061	1.092	
July	137,000	1,309,200	859	.702	
August	239,000	3,829,520	2,512	1.177	
September	218,000	2,843,710	1,865	.958	
Totals	<u>1,384,610</u>	<u>17,568,740</u>	<u>11,522</u>		
	October	354,000	6,262,690	4,108	1.300
	November	40,100	22,690	15	.042
	December	143,000	1,689,600	1,108	.868
1927					
January	24,900	8,940	6	.026	
February	32,800	17,300	11	.039	
March	71,300	329,670	216	.340	
April	175,000	2,413,990	1,583	1.013	
May	30,000	197,260	129	.483	
June	102,000	1,518,980	996	1.094	
July	72,400	659,770	433	.669	
August	24,700	79,570	52	.237	
September	19,000	25,770	17	.100	
Totals	<u>1,089,200</u>	<u>13,226,230</u>	<u>8,674</u>		

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1927				
October	87,900	728,830	478	.609
November	3,360	0	0	0
December	10,200	4,990	3	.036
1928				
January	-----	-----	---	----
February	-----	-----	---	----
March	-----	-----	---	----
April	-----	-----	---	----
May	-----	-----	---	----
June	-----	-----	---	----
July	197,000	2,286,630	1,500	.853
August	201,000	1,083,460	711	.396
September	52,500	117,490	77	.164
Total	551,960	4,221,400	2,769	
1929				
October	1,790	0	0	0
November	-----	-	-	-
December	-----	--	-	-
January	36,600	283,330	186	.569
February	16,400	76,720	50	.344
March	20,400	14,960	10	.053
April	44,300	393,060	258	.652
May	236,000	3,440,840	2,257	1.071
June	114,000	1,299,110	852	.837
July	44,100	220,160	144	.367
August	4,700	3,310	2	.052
September	-----	-----	---	----
Totals	518,690	5,731,490	3,759	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: BRAZOA
Station: WACO

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water acre-feet	Silt tons	Silt acre-feet	
1923-24 ^{1/}	255,200	1,934,190	1,268	.556
1924-25	1,057,290	17,411,530	11,421	1.210
1925-26	2,083,990	22,300,100	14,627	.786
1926-27	1,756,000	17,446,770	11,444	.730
1927-28	1,476,610	16,537,210	10,847	.823
1928-29	1,300,480	13,637,120	8,943	.770
1929-30	1,569,920	16,060,470	10,534	.752
1930-31	1,870,000	10,157,680	6,664	.399
1931-32	3,370,000	22,207,310	14,566	.484
1932-33 ^{2/}	1,150,800	7,984,210	5,238	.510
Totals	15,890,290	145,676,590	95,552	

For period 9.254

Average discharge in acre-feet per year-----	1,717,130
Average acre-feet of silt per year-----	10,325
Average acre-feet of silt per year per square mile of contributing watershed-----	.536
Average tons of silt per year-----	15,742,010
Average per cent of silt by weight-----	.673
Drainage area in square miles (net)-----	19,260

^{1/} Station was established May 31, 1924. (Silt sampling started June 1, 1924.)

^{2/} Station was discontinued August 31, 1933.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1924				
June	130,000	776,880	510	.439
July	5,610	460	0	.006
August	4,590	2,090	1	.033
September	115,000	1,154,760	757	.738
Totals	<u>255,200</u>	<u>1,934,190</u>	<u>1,268</u>	
	October	21,980	14	.087
	November	2,420	2	.017
	December	1,010	1	.008
1925				
January	8,980	0	0	0
February	3,500	0	0	0
March	2,080	0	0	0
April	79,300	1,843,960	1,210	1.708
May	499,000	7,657,020	5,022	1.127
June	18,500	5,530	4	.022
July	4,660	860	1	.014
August	43,200	876,980	575	1.491
September	360,000	7,001,770	4,592	1.429
Totals	<u>1,057,290</u>	<u>17,411,530</u>	<u>11,421</u>	
	October	1,265,840	830	.560
	November	205,570	135	.240
	December	1,390	1	.011
1926				
January	94,800	387,950	255	.301
February	19,600	3,920	3	.015
March	111,000	669,550	439	.443
April	407,000	4,418,640	2,898	.798
May	184,000	1,768,300	1,160	.706
June	346,000	4,384,480	2,876	.931
July	220,000	2,019,260	1,324	.674
August	166,000	3,189,260	2,092	1.411
September	286,000	3,985,940	2,614	1.024
Totals	<u>2,083,990</u>	<u>22,300,100</u>	<u>14,627</u>	
	October	6,979,080	4,578	1.544
	November	53,460	35	.101
	December	690,500	453	.497
1927				
January	34,100	22,620	.15	.049
February	68,400	74,240	49	.080
March	112,000	509,300	334	.334
April	271,000	1,998,030	1,311	.542
May	126,000	772,190	506	.450
June	508,000	5,719,080	3,751	.827
July	105,000	477,370	313	.334
August	39,100	134,690	88	.253
September	19,700	16,210	11	.060
Totals	<u>1,756,000</u>	<u>17,446,770</u>	<u>11,444</u>	

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1927	October	142,000	1,096,550	719	.567
	November	7,910	510	0	.005
	December	12,700	9,470	6	.055
1928	January	11,200	4,280	3	.028
	February	57,500	181,670	119	.232
	March	25,000	18,600	12	.055
	April	111,000	970,920	637	.643
	May	347,000	6,140,810	4,028	1.300
	June	330,000	3,400,330	2,230	.757
	July	162,000	2,522,830	1,655	1.144
	August	209,000	1,882,270	1,235	.662
	September	61,300	308,970	203	.370
	Totals	1,476,610	16,537,210	10,847	
	October	5,140	630	0	.009
	November	9,940	4,690	3	.035
	December	46,100	167,760	110	.267
1929	January	45,700	251,310	165	.404
	February	24,700	113,320	74	.337
	March	52,200	134,280	88	.189
	April	138,000	703,070	461	.374
	May	361,000	4,208,230	2,760	.856
	June	177,000	1,429,230	937	.593
	July	41,600	163,120	107	.288
	August	10,100	28,540	19	.208
	September	389,000	6,432,940	4,219	1.215
	Totals	1,300,480	13,637,120	8,943	
	October	50,500	220,670	145	.321
	November	24,500	10,290	7	.031
	December	16,000	3,980	3	.018
1930	January	7,620	680	0	.007
	February	28,800	89,180	58	.227
	March	16,500	42,860	28	.191
	April	26,400	250,180	164	.696
	May	922,000	12,511,440	8,206	.997
	June	359,000	2,752,210	1,805	.563
	July	41,100	8,360	6	.015
	August	14,400	5,680	4	.029
	September	63,100	164,940	108	.192
	Totals	1,569,920	16,060,470	10,534	

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1930	October	633,000	6,198,480	4,066	.719
	November	70,200	170,060	112	.178
	December	278,000	1,953,460	1,281	.516
1931	January	118,000	184,900	121	.115
	February	254,000	589,410	387	.170
	March	159,000	219,420	144	.101
	April	106,000	96,990	64	.067
	May	114,000	266,510	175	.172
	June	83,300	440,600	289	.389
	July	29,200	29,100	19	.073
	August	12,400	7,480	5	.044
	September	8,930	1,270	1	.010
	Totals	1,866,030	10,157,680	6,664	
	October	275,000	2,866,240	1,880	.766
	November	90,400	605,210	397	.492
	December	84,800	315,160	207	.273
1932	January	341,000	1,672,660	1,097	.360
	February	472,000	1,099,160	721	.171
	March	216,000	283,560	186	.096
	April	53,300	49,970	33	.069
	May	416,000	2,734,410	1,794	.483
	June	255,000	1,571,090	1,030	.453
	July	504,000	4,625,840	3,034	.674
	August	42,500	128,480	84	.222
	September	619,000	6,255,530	4,103	.742
	Total	3,369,000	22,207,310	14,566	
	October	56,400	17,760	12	.023
	November	21,200	1,800	1	.006
	December	101,000	970,020	636	.706
1933	January	94,700	268,320	176	.208
	February	22,500	2,900	2	.009
	March	132,000	402,430	264	.224
	April	55,400	103,120	68	.137
	May	429,000	4,361,260	2,861	.747
	June	91,000	484,900	318	.391
	July	65,200	449,260	295	.506
	August	82,400	922,440	605	.822
	September	-----	-----	-----	-----
	Totals	1,150,800	7,984,210	5,238	

SILT RECORD
(As of Sept. 30, 1939)

Compiled from United States Department of Agriculture, Office of Experiment Stations, Bulletins Nos. 119 and 133 (Original data were prepared by the late Professor Nagle of Texas Agricultural and Mechanical College).

Stream: BRAZOS

Station: JONES BRIDGE (Near Bryan)

Water Year	Water acre-feet	D i s c h a r g e		Average per cent of silt by volume after one year of settlement
		Silt in ac-ft. after settle-ment for one week	Silt in ac-ft. after settle-ment for one year	
1898-99 ^{1/}	138,680	1,396	1,047	0.755
1899-1900	8,901,780	113,827	85,370	0.959
1900-01	1,738,073	23,016	17,263	0.993
1901-02	2,377,704	30,261	22,696	0.955
1902-03 ^{2/}	<u>1,055,642</u>	<u>9,822</u>	<u>7,366</u>	0.698
Totals	14,211,879	178,322	133,742	

For period of 3.419 years

Average discharge in acre-feet per year-----	4,156,736
Average acre-feet of silt per year-----	39,117
Average acre-feet of silt per year per square mile of contributing watershed-----	1,340
Average per cent of silt by volume at end of one year-----	0.941
Drainage area in square miles (net)-----	29,190

^{1/} Station was established August 1, 1899

^{2/} Station was discontinued December 31, 1902

Note: A water-year extends from October 1 to the following September 30, inclusive.

Note: Experiments made in an effort to correlate percentages of silt by volume as compared to weight, showed the percentages by volume varied from 1.1 to 7.7 times that shown by weight. However, the average of 1246 tests resulted in percentage by volume being 3.3 times the percentage by weight.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Silt in acre-feet after settlement		
		For one Week	For one year	
1899	August September Totals	108,410 30,270 <u>138,680</u>	1,320 76 <u>1,396</u>	990 57 <u>1,047</u>
1900	October November December January February March April May June July August September Totals	117,880 464,850 443,890 530,570 115,860 321,830 2,601,220 2,043,600 751,150 172,850 167,270 1,170,810 <u>8,901,780</u>	1,010 5,639 2,045 4,554 0 1,810 49,371 21,662 8,268 1,491 1,070 16,907 <u>113,827</u>	758 4,229 1,534 3,416 0 1,358 37,028 16,246 6,201 1,118 802 12,680 <u>85,370</u>
1901	October November December January February March April May June July August September Totals	498,130 256,244 77,452 52,701 57,002 48,252 78,108 281,449 276,060 28,118 38,104 46,453 <u>1,738,073</u>	7,412 3,337 0 0 16 7 114 4,378 7,643 12 0 97 <u>23,016</u>	5,559 2,503 0 0 12 5 86 3,284 5,732 9 0 73 <u>17,263</u>
1902	October November December January February March April May June July August September Totals	24,717 27,150 18,488 14,448 12,944 69,696 140,939 334,692 174,063 765,515 638,370 156,682 <u>2,377,704</u>	0 0 0 0 0 552 2,106 6,955 3,217 11,542 5,041 848 <u>30,261</u>	0 0 0 0 0 414 1,580 5,216 2,413 8,656 3,781 636 <u>22,696</u>

SILT DETERMINATIONS

Year	Discharge in acre-feet	Silt in acre-feet after settlement		
		For one week	For one year	
1902	October	145,767	1,567	1,175
	November	633,603	6,919	5,189
	December	276,272	1,336	1,002
	Totals	<u>1,055,642</u>	<u>9,822</u>	<u>7,366</u>

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: BRAZOS
Station: ROSENBERG-RICHMOND

Water Year	D i s c h a r g e			Average Per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt Acre-feet	
1923-24 ^{1/}	494,900	714,220	468	.106
1924-25	1,237,300	12,676,710	8,314	.753
1925-26	8,762,800	44,939,350	29,476	.377
1926-27	5,562,600	34,377,320	21,739	.454
1927-28	3,318,400	28,163,890	18,472	.623
1928-29	6,000,000	32,284,200	21,174	.395
1929-30	5,218,900	38,686,330	25,373	.545
1930-31	5,640,000	27,766,660	18,212	.362
1931-32 ^{2-3/}	8,040,000	63,649,510	41,749	.582
1932-33	2,560,000	15,175,520	9,954	.435
1933-34	3,370,000	23,318,780	15,294	.508
1934-35	7,334,000	63,472,990	41,633	.636
1935-36	6,032,000	40,330,500	26,453	.491
1936-37	5,406,000	25,531,710	16,747	.347
1937-38	7,204,000	55,656,280	36,544	.568
1938-39	1,966,000	14,742,470	9,668	.551
Totals	78,146,900	521,486,440	341,270	

For period of 15.306 Years.

Average discharge in acre-feet per year-----	5,105,640
Average acre-feet of silt per year-----	22,296
Average acre-feet of silt per year per square mile of contributing watershed-----	.640
Average tons of silt per year-----	34,070,720
Average per cent of silt by weight-----	.490
Drainage area in square miles (net)-----	34,810

^{1/} Station was established at Rosenberg June 11, 1924.

^{2/} Station was discontinued at Rosenberg April 12, 1932.

^{3/} Station was established at Richmond April 13, 1932.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1927	October	599,000	4,953,910	3,249	.608
	November	81,500	8,440	5	.008
	December	82,400	27,970	18	.025
1928	January	85,500	32,100	21	.028
	February	318,000	3,278,570	2,150	.757
	March	298,000	423,230	278	.104
	April	214,000	562,750	369	.193
	May	295,000	5,009,890	3,286	1.248
	June	815,000	9,028,140	5,922	.814
	July	161,000	1,074,180	705	.490
	August	264,000	3,423,140	2,245	.953
	September	105,000	341,570	224	.239
	Totals	3,318,400	28,163,890	18,472	
1929	October	37,600	5,160	3	.010
	November	40,800	5,480	4	.010
	December	231,000	700,140	459	.223
	January	328,000	948,760	622	.212
	February	96,100	60,540	40	.046
	March	296,000	933,750	612	.232
	April	708,000	5,458,680	3,580	.566
	May	1,130,000	9,950,970	6,527	.647
	June	2,360,000	8,074,860	5,296	.251
	July	322,000	471,810	309	.108
	August	57,500	5,340	4	.007
	September	393,000	5,668,710	3,718	1.060
	Totals	6,000,000	32,284,200	21,174	
1930	October	86,100	31,800	21	.027
	November	555,000	1,978,010	1,297	.262
	December	97,800	31,270	20	.023
	January	214,000	423,770	278	.145
	February	408,000	877,950	576	.158
	March	238,000	318,600	209	.098
	April	134,000	72,880	48	.040
	May	2,600,000	30,476,030	19,989	.861
	June	582,000	4,357,970	2,858	.550
	July	128,000	76,570	50	.044
	August	58,000	3,120	2	.004
	September	118,000	38,360	25	.024
	Totals	5,218,900	38,686,330	25,373	
	October	916,000	8,317,770	5,456	.667
	November	212,000	540,620	355	.187
	December	935,000	6,314,890	4,142	.496

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1931	January	713,000	3,128,350	2,052	.322
	February	783,000	3,788,410	2,485	.355
	March	867,000	2,765,620	1,814	.234
	April	378,000	806,320	529	.157
	May	416,000	1,384,730	908	.245
	June	218,000	634,970	416	.214
	July	96,500	73,560	48	.056
	August	59,500	6,530	4	.008
	September	45,000	4,890	3	.008
	Totals	<u>5,639,000</u>	<u>27,766,660</u>	<u>18,212</u>	
	October	175,000	1,481,980	972	.622
	November	152,000	805,970	529	.390
	December	180,000	639,170	419	.261
1932	January	1,750,000	10,953,250	7,184	.460
	February	1,470,000	9,573,050	6,279	.478
	March	972,000	5,018,270	3,292	.379
	April	165,000	54,300	36	.024
	May	928,000	10,253,050	6,725	.812
	June	425,000	1,741,020	1,142	.301
	July	550,000	6,171,770	4,048	.824
	August	124,000	124,990	82	.074
	September	1,150,000	16,832,690	11,041	1.075
	Totals	<u>8,041,000</u>	<u>63,649,510</u>	<u>41,749</u>	
	October	163,000	227,150	149	.102
	November	68,400	6,860	4	.007
	December	106,000	291,020	191	.202
1933	January	282,000	1,195,300	784	.311
	February	270,000	897,760	589	.244
	March	434,000	2,065,170	1,355	.350
	April	220,000	818,360	537	.273
	May	383,000	5,166,540	3,389	.991
	June	330,000	3,447,560	2,261	.767
	July	39,700	5,310	3	.010
	August	153,000	880,630	578	.423
	September	114,000	173,860	114	.112
	Totals	<u>2,563,100</u>	<u>15,175,520</u>	<u>9,954</u>	
	October	57,200	40,080	26	.051
	November	48,400	4,330	3	.007
	December	34,100	3,620	2	.008
1934	January	330,000	1,748,630	1,147	.389
	February	514,000	2,064,100	1,354	.295
	March	787,000	6,273,520	4,115	.586
	April	1,330,000	12,898,430	8,460	.712
	May	183,000	266,360	175	.107
	June	35,900	1,630	1	.003

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1934	July August September Totals	13,600 8,670 30,800 <u>3,372,670</u>	260 350 17,470 <u>23,318,780</u>	0 0 11 <u>15,294</u>	.001 .003 .042
1935	October November December January February March April May June July August September Totals	37,480 155,000 229,900 207,600 443,500 197,300 208,800 3,309,000 1,416,000 415,400 153,000 561,500 <u>7,334,480</u>	5,960 925,870 1,270,850 473,410 3,003,260 344,380 497,050 31,663,440 17,098,910 2,366,500 276,010 5,547,350 <u>63,472,990</u>	4 607 834 311 1,970 226 326 20,768 11,215 1,552 181 3,639 <u>41,633</u>	.012 .439 .406 .168 .497 .128 .175 .703 .887 .418 .133 .726
1936	October November December January February March April May June July August September Totals	329,000 285,100 1,213,000 201,400 144,500 118,400 79,580 1,196,000 832,500 1,087,000 91,160 453,900 <u>6,031,540</u>	1,190,060 420,830 8,838,280 60,300 35,380 4,220 23,500 10,384,600 4,224,400 7,128,120 23,420 7,997,390 <u>40,330,500</u>	781 276 5,797 40 23 3 15 6,811 2,771 4,675 15 5,246 <u>26,453</u>	.266 .108 .535 .022 .018 .003 .022 .638 .373 .482 .019 1.294
1937	October November December January February March April May June July August September Totals	1,443,000 466,200 784,600 850,100 380,700 582,700 237,700 108,200 265,200 115,700 51,590 120,100 <u>5,405,790</u>	13,069,190 976,290 3,826,800 3,680,110 281,750 1,229,250 92,690 21,010 1,242,950 141,340 17,710 952,620 <u>25,531,710</u>	8,572 640 2,510 2,414 185 806 61 14 815 93 12 625 <u>16,747</u>	.665 .154 .358 .318 .054 .155 .029 .014 .344 .090 .025 .583

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1937	October	170,000	783,630	514	.339
	November	177,500	517,350	339	.214
	December	430,700	1,906,960	1,251	.325
1938	January	1,140,000	10,433,460	6,843	.672
	February	1,047,000	10,167,140	6,669	.713
	March	509,100	1,091,810	716	.158
	April	1,188,000	13,961,630	9,158	.863
	May	1,158,000	7,027,840	4,610	.446
	June	665,000	4,966,740	3,258	.603
	July	346,000	2,824,930	1,853	.600
	August	355,600	2,028,630	1,331	.419
	September	76,700	3,070	2	.003
	Totals	7,203,600	55,656,280	36,544	
	October	48,050	230	0	.000
	November	38,300	550	0	.001
	December	40,000	640	0	.001
1939	January	165,200	214,570	141	.095
	February	155,100	267,340	175	.127
	March	168,600	394,680	259	.172
	April	71,260	14,590	10	.015
	May	542,700	8,286,870	5,435	1.122
	June	452,800	4,408,870	2,891	.715
	July	201,800	1,153,130	756	.420
	August	38,010	990	1	.002
	September	44,290	500	0	.001
	Totals	1,966,110	14,742,470	9,668	

SUMMARY OF SILT RECORDS COVERING BRAZOS WATERSHED

(As of Sept. 30, 1939)

Prepared by
 TEXAS BOARD OF WATER ENGINEERS
 and
 UNITED STATES DEPARTMENT OF AGRICULTURE
 Soil Conservation Service
 Division of Irrigation

Stream	Silt Station	Years samples taken	Total length of record in years	A V E R A G E					Contributing water shed in square miles.
				Run-off in ac.ft. per year	Silt in ac.-ft. per year	Silt in ac-ft per yr. per sq. mi. of net watershed	Silt in tons per yr.	% of silt by wt.	
Salt Fk.	Aspermont	1924-25	1.238	111,100	2,818	1.272	4,297,420	2.842	2,216
" "	Seymour	1924-30	6.107	337,790	5,450	1.038	8,309,370	1.807	5,250
Dbl.Mt.Fk.	Aspermont	1924-33	9.244	135,280	2,665	1.765	406,240	2.206	1,510
Clear Fk.	Crystal Falls	1925-29	3.307	214,440	568	.131	866,020	.297	4,320
Clear Fk.	Eliasville	1924-25	1.244	177,240	529	.092	808,630	.335	5,740
Little R.	Little River	1924-29	4.962	419,870	752	.143	1,147,190	.201	5,253
San Gabr.	Circleville	1924-29	5.403	110,744	222	.369	339,590	.225	602
Brazos	Mineral W.	1924-34	10.332	953,550	6,506	.468	9,920,060	.764	13,910
Brazos	Glen Rose	1924-29	4.588	1,181,370	8,378	.537	12,773,810	.794	15,600
Brazos	Waco	1924-33	9.254	1,717,130	10,325	.536	15,742,010	.673	19,260
Brazos	Jones Br.*	1899-02	3.419	4,156,736	39,117	1.340		.941	29,190
Brazos	Richmond-Rosenberg	1924-39	15.306	5,105,640	22,296	.640	34,070,720	.490	34,810

(*) The measurement of silt at Jones Bridge, near Bryan, was by volume. All other stations in this watershed had silt measurement by weight.

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: COLORADO

Station: NEAR SAN SABA (Samples were taken from Red Bluff bridge
about midway between San Saba and Lometa)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt Acre-feet	
1929-30 ^{1/}	24,000	143,140	94	.439
1930-31	1,373,750	5,136,520	3,369	.275
1931-32	2,220,000	9,934,850	6,516	.328
1932-33	475,000	1,303,620	855	.201
1933-34	504,000	2,121,550	1,391	.309
1934-35	2,564,000	14,423,520	9,459	.413
1935-36	2,276,000	7,520,550	4,933	.243
1936-37	1,197,000	2,688,230	1,764	.165
1937-38	2,809,000	8,923,940	5,853	.233
1938-39	819,400	3,709,100	2,432	.333
Totals	14,258,400	55,905,020	36,666	

For period of 9.055 years.

Average discharge in acre-feet per year-----	1,574,640
Average acre-feet of silt per year-----	4,049
Average acre-feet of silt per year per square mile of contributing watershed-----	.215
Average tons of silt per year-----	6,173,940
Average per cent of silt by weight-----	.288
Drainage area in square miles (net)-----	18,800

^{1/} Station was established September 11, 1930

Note: A water-year extends from October 1, to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1930 September	24,000	143,140	94	.438
October	941,000	4,204,830	2,758	.328
November	31,100	3,290	2	.008
December	75,000	343,220	225	.336
1931 January	36,900	17,470	11	.035
February	74,400	59,560	39	.059
March	35,400	8,790	6	.018
April	18,600	3,000	2	.012
May	34,100	46,550	31	.100
June	90,400	430,920	283	.350
July	17,000	3,300	2	.014
August	8,550	2,250	1	.019
September	11,300	13,340	9	.087
Totals	<u>1,373,750</u>	<u>5,136,520</u>	<u>3,369</u>	
October	205,000	1,433,500	940	.514
November	38,300	241,350	158	.463
December	23,400	12,620	8	.040
1932 January	67,000	240,790	158	.264
February	95,500	167,860	110	.129
March	37,500	31,270	21	.061
April	44,100	175,510	115	.293
May	522,000	3,061,620	2,008	.431
June	188,000	754,120	495	.295
July	482,000	1,441,150	945	.220
August	50,100	127,660	84	.187
September	471,000	2,247,400	1,474	.351
Totals	<u>2,223,900</u>	<u>9,934,850</u>	<u>6,516</u>	
October	50,300	124,170	81	.181
November	28,900	3,290	2	.008
December	45,000	49,520	32	.081
1933 January	46,200	52,030	34	.083
February	19,400	1,720	1	.007
March	22,500	2,210	1	.007
April	22,800	7,130	5	.023
May	172,000	879,120	577	.375
June	14,000	7,800	5	.041
July	8,300	2,580	2	.023
August	21,100	52,800	35	.184
September	24,800	121,250	80	.359
Totals	<u>475,300</u>	<u>1,303,620</u>	<u>855</u>	

SILT DETERMINATION

Year	Discharge in		Acre-feet of silt	Percent of silt by wt.
	Acre-feet	Tons of silt		
1933				
October	18,900	70,760	46	.275
November	9,880	410	0	.003
December	7,130	470	0	.005
1934				
January	12,600	2,730	2	.016
February	13,800	5,690	4	.030
March	36,500	99,520	65	.200
April	257,000	1,674,200	1,098	.479
May	36,500	137,760	90	.277
June	14,300	10,060	7	.052
July	74,400	62,570	41	.062
August	15,100	56,120	37	.273
September	8,270	1,260	1	.011
Totals	504,380	2,121,550	1,391	
October	2,700	100	0	.003
November	32,370	58,260	38	.132
December	6,500	580	0	.007
1935				
January	14,000	49,290	32	.259
February	73,800	827,080	542	.823
March	12,030	2,980	2	.018
April	103,800	1,036,500	680	.734
May	777,100	4,211,960	2,763	.398
June	651,200	4,151,960	2,723	.468
July	145,100	1,033,890	678	.523
August	58,690	99,060	65	.124
September	687,000	2,951,860	1,936	.316
Totals	2,564,290	14,423,520	9,459	
October	86,370	258,830	170	.220
November	40,740	8,780	6	.016
December	32,700	530	0	.001
1936				
January	18,070	370	0	.002
February	11,550	380	0	.002
March	19,180	5,520	4	.021
April	9,650	900	1	.007
May	115,800	388,730	255	.247
June	41,780	45,430	30	.080
July	66,850	165,370	108	.182
August	8,710	680	0	.006
September	1,825,000	6,645,030	4,359	
Totals	2,276,400	7,520,550	4,933	

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1936	October	523,800	1,476,090	968	.207
	November	90,760	15,910	10	.013
	December	85,520	31,400	21	.027
1937	January	56,440	3,050	2	.004
	February	41,660	1,720	1	.003
	March	40,980	3,950	3	.007
	April	27,660	860	1	.002
	May	44,500	19,440	13	.032
	June	216,500	941,210	617	.319
	July	21,150	2,890	2	.010
	August	30,790	187,760	123	.448
	September	17,340	3,950	3	.017
	Totals	1,197,100	2,688,230	1,764	
	October	30,300	40,570	27	.098
	November	13,480	400	0	.002
	December	60,230	82,820	54	.101
1938	January	154,200	461,240	303	.220
	February	84,200	543,750	357	.474
	March	33,430	12,760	8	.028
	April	119,700	590,280	387	.362
	May	70,950	97,160	64	.101
	June	121,800	785,820	515	.474
	July	1,981,000	6,199,750	4,066	.230
	August	103,100	107,650	71	.077
	September	36,950	1,740	1	.003
	Totals	2,809,340	8,923,940	5,853	
	October	21,000	480	0	.002
	November	18,590	190	0	.001
	December	18,980	150	0	.001
1939	January	72,410	206,280	135	.209
	February	18,470	1,440	1	.006
	March	24,900	13,820	9	.041
	April	23,790	13,260	9	.041
	May	199,800	1,284,850	643	.472
	June	248,100	1,409,840	925	.417
	July	62,920	413,840	271	.483
	August	93,390	362,870	238	.285
	September	17,080	2,080	1	.009
	Totals	819,430	3,709,100	2,432	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: COLORADO

Station: NEAR TOW (This is now submerged by Buchanan reservoir)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Tons of silt	Silt Acre-feet	
1927-28 ^{1/}	1,061,800	5,220,390	3,423	.361
1928-29	700,820	3,422,076	2,246	.359
1929-30	831,140	4,153,723	2,724	.367
1930-31	1,430,000	4,195,890	2,754	.216
1931-32	2,320,000	9,396,260	6,162	.298
1932-33 ^{2/}	85,200	54,120	35	.047
Totals	<u>6,428,960</u>	<u>26,442,459</u>	<u>17,344</u>	

For period of 5.162 years.

Average discharge in acre-feet per year-----	1,245,440
Average acre-feet of silt per year-----	3,360
Average acre-feet of silt per year per square mile of contributing watershed-----	.174
Average tons of silt per year-----	5,122,520
Average per cent of silt by weight-----	.302
Drainage area in square miles (net)-----	19,300

^{1/} Station was established October 3, 1927

^{2/} Station was discontinued November 30, 1932

Note: A water year extends from October 1, to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1927	October 189,000	804,380	528	.313
	November 15,400	640	0	.003
	December 13,800	490	0	.003
1928	January 11,400	330	0	.002
	February 15,900	1,540	1	.007
	March 12,000	830	1	.005
	April 21,100	9,410	6	.033
	May 248,000	1,855,970	1,217	.550
	June 159,000	870,560	571	.402
	July 173,000	1,087,460	713	.462
	August 133,000	433,350	284	.239
	September 70,200	155,430	102	.163
	<u>Totals 1,061,800</u>	<u>5,220,390</u>	<u>3,423</u>	
	October 19,100	3,760	2	.014
	November 16,400	2,560	2	.011
	December 16,900	3,000	2	.013
1929	January 15,200	2,620	2	.013
	February 10,100	670	0	.005
	March 35,600	14,550	10	.030
	April 61,300	124,860	82	.150
	May 322,000	2,445,390	1,604	.558
	June 66,000	148,830	98	.166
	July 22,500	4,010	3	.013
	August 4,720	56	0	.001
	September <u>111,000</u>	<u>671,770</u>	<u>441</u>	<u>.445</u>
	<u>Totals 700,820</u>	<u>3,422,076</u>	<u>2,246</u>	
	October 94,100	470,170	308	.367
	November 10,900	1,320	1	.009
	December 8,550	430	0	.004
1930	January 7,500	250	0	.002
	February 6,280	580	0	.007
	March 9,780	1,080	1	.008
	April 5,630	220	0	.003
	May 406,000	2,290,470	1,502	.414
	June 233,000	1,285,130	843	.405
	July 7,500	13	0	.000
	August 13,600	1,070	1	.006
	September <u>28,300</u>	<u>102,990</u>	<u>68</u>	<u>.267</u>
	<u>Totals 831,140</u>	<u>4,153,723</u>	<u>2,724</u>	
	October 916,000	3,495,620	2,293	.280
	November 34,600	3,050	2	.006
	December 95,300	275,600	181	.212

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1931					
January	43,700	14,730	10	.025	
February	88,300	43,130	28	.036	
March	48,000	5,570	4	.009	
April	22,100	910	1	.003	
May	41,600	221,470	14	.038	
June	98,800	326,500	214	.243	
July	20,000	4,510	3	.017	
August	10,600	810	1	.006	
September	13,600	3,990	3	.022	
Totals	<u>1,432,600</u>	<u>4,195,890</u>	<u>2,754</u>		
	October	204,000	1,345,420	882	.484
	November	39,800	75,980	50	.140
	December	23,400	14,340	9	.045
1932					
January	70,700	220,990	145	.230	
February	106,000	196,550	129	.136	
March	52,000	30,160	20	.043	
April	48,900	155,200	102	.233	
May	556,000	3,261,950	2,140	.431	
June	201,000	591,840	388	.216	
July	490,000	1,424,390	934	.214	
August	52,500	58,600	38	.082	
September	478,000	2,020,840	1,325	.311	
Totals	<u>2,322,300</u>	<u>9,396,260</u>	<u>6,162</u>		
	October	54,200	51,920	34	.070
	November	31,000	2,200	1	.005
	Totals	<u>85,200</u>	<u>54,120</u>	<u>35</u>	

SILT RECORD
(As of September 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: COLORADO

Station: AUSTIN (Samples were taken from Congress Avenue or
Montopolis bridges)

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1936-37 ^{1/}	48,040	1,830	1	.003
1937-38*	3,610,000	8,881,220	5,826	.181
1938-39	986,600	735,150	481	.055
Totals	<u>4,644,640</u>	<u>9,618,200</u>	<u>6,308</u>	

For period of 2.164 years.

Average discharge in acre-feet per year-----	2,146,320
Average acre-feet of silt per year-----	2,915
Average acre-feet of silt per year per square mile of contributing watershed-----	.111
Average tons of silt per year-----	4,444,640
Average per cent of silt by weight-----	.152
Drainage area in square miles (net)-----	26,350

^{1/} Station was established August 2, 1937

Note: A water-year extends from October 1 to the following
September 30, inclusive.

(*) Rehabilitation of the old Austin Dam (now termed Tom Miller Dam)
was started August 1, 1938. This construction at times doubtless
distorted the silt load of samples which were taken from 1-1/2 to 4 miles
downstream therefrom.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1937	August	31,070	1,390	1	.003
	September	16,970	440	0	.002
	Totals	<u>48,040</u>	<u>1,830</u>	<u>1</u>	
1938	October	49,680	40,520	272	.060
	November	32,790	3,210	2	.007
	December	151,100	203,700	134	.099
	January	281,300	468,660	307	.122
	February	105,600	3,510	2	.002
	March	59,680	780	1	.001
	April	107,300	79,610	52	.055
	May	105,200	13,270	9	.009
	June	87,980	10,430	7	.009
	July	2,221,000	7,959,520	5,221	.263
	August	360,500	96,380	63	.020
	September	47,440	1,630	1	.003
	Totals	<u>3,609,570</u>	<u>8,881,220</u>	<u>5,826</u>	
1939	October	32,420	450	0	.001
	November	30,630	340	0	.001
	December	35,410	420	0	.001
	January	55,570	3,490	2	.005
	February	64,540	9,850	6	.011
	March	50,300	4,430	3	.006
	April	67,760	16,740	11	.018
	May	106,200	62,840	41	.043
	June	200,500	165,860	109	.061
	July	210,100	359,510	236	.126
	August	77,400	63,130	41	.060
	September	55,800	48,090	32	.063
	Totals	<u>986,630</u>	<u>735,150</u>	<u>481</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: COLORADO
Station: COLUMBUS - EAGLE LAKE

Water year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt Tons	Silt Acre-feet	
1929-30 ^{1/}	69,500	20,020	13	.021
1930-31	3,360,000	13,104,840	8,597	.287
1931-32	3,690,000	15,526,560	10,183	.309
1932-33 ^{2/}	1,179,800	2,772,790	1,819	.173
1937-38 ^{3/}	4,067,000	11,791,610	7,735	.213
1938-39	1,135,100	230,470	151	
Totals	13,501,400	43,446,290	28,498	

For period of 4.912 years.

Average discharge in acre-feet per year-----	2,748,660
Average acre-feet of silt per year-----	5,802
Average acre-feet of silt per year per square mile of contributing watershed-----	.199
Average tons of silt per year-----	8,844,930
Average per cent of silt by weight-----	.236
Drainage area in square miles (net)-----	29,140

- ^{1/} Station was established at Columbus August 3, 1930.
^{2/} Station was discontinued at Columbus August 31, 1933.
^{3/} Station was established at Eagle Lake, December 1, 1937.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.	
1930	August September Totals	19,200 50,300 69,500	660 19,360 20,020	0 13 13	.003 .028
1931	October November December January February March April May June July August September Totals	1,160,000 168,000 274,000 315,000 383,000 339,000 109,000 241,000 133,000 81,200 41,500 27,600 3,272,300	7,231,960 560,870 825,410 1,416,140 1,179,800 987,440 13,130 657,920 185,660 41,490 3,090 1,930 13,104,840	4,744 368 541 929 774 648 9 432 122 27 2 1 8,597	.458 .245 .221 .330 .226 .214 .009 .201 .103 .038 .005 .005
1932	October November December January February March April May June July August September Totals	153,000 89,800 76,200 403,000 286,000 240,000 62,500 553,000 228,000 664,000 100,000 833,000 3,688,500	1,009,460 154,760 44,760 1,526,280 1,069,900 602,100 18,990 3,626,600 625,480 3,135,210 88,940 3,624,080 15,526,560	662 102 29 1,001 702 395 12 2,379 410 2,056 58 2,377 10,183	.485 .127 .043 .278 .275 .184 .022 .482 .202 .347 .065 .320
1933	October November December January February March April May June July August September Totals	164,000 65,500 59,000 149,000 84,400 142,000 69,000 248,000 103,000 35,000 60,900 ----- 1,179,800	67,970 5,950 7,010 244,130 135,260 303,790 37,960 1,522,130 133,970 38,010 276,610 ----- 2,772,790	45 4 5 160 89 199 25 998 88 25 181 ----- 1,819	.030 .007 .009 .120 .118 .157 .040 .451 .096 .080 .334 -----

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1937 December	111,000	68,430	45	.045
1938 January	413,200	1,533,130	1,006	.273
February	156,800	69,910	46	.033
March	90,980	3,290	2	.003
April	427,600	1,489,700	977	.256
May	286,500	446,520	293	.114
June	131,700	33,210	22	.019
July	1,581,000	6,735,590	4,418	.313
August	616,900	1,410,210	925	.168
September	96,910	1,620	1	.001
Totals	<u>3,912,590</u>	<u>11,791,610</u>	<u>7,735</u>	
Ocotber	59,630	210	0	.000
November	48,690	640	0	.001
December	53,050	2,400	2	.003
1939 January	70,850	6,310	4	.007
February	84,750	28,610	19	.025
March	63,630	8,200	5	.009
April	78,100	6,180	4	.006
May	108,900	16,710	11	.011
June	174,260	32,620	21	.014
July	248,100	112,490	74	.033
August	86,480	12,140	8	.010
September	58,660	3,960	3	.005
Totals	<u>1,135,100</u>	<u>230,470</u>	<u>151</u>	

SUMMARY OF SILT RECORDS COVERING COLORADO RIVER WATERSHED
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream	Silt Station	Years Samples taken	Total length of record in years	A V E R A G E					Contributing watershed in sq. miles
				Run-off in ac-ft. per year	Silt in ac-ft. per yr.	Silt in ac-ft per yr. per sq. mi. net watershed	Silt in tons per year	% of silt by wt	
Colorado	San Saba	1930-39	9.055	1,574,640	4,049	.215	6,173,940	.288	18,800
Colorado	Tow	1927-32	5.162	1,245,440	3,360	.174	5,122,520	.302	19,300
Colorado	Austin	1937-39	2.169	2,146,320	2,915	.111	4,444,640	.152	26,350
Colorado	Columbus-Eagle Lake	1937-39	4.912	2,748,660	5,802	.199	8,844,930	.236	29,140

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: SAN ANTONIO
Station: NEAR FALLS CITY

Water year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Tons of Silt	Silt Acre-feet	
1926-27 ^{1/}	2,940	1,080	1	.027
1927-28	109,570	266,166	175	.178
1928-29	186,850	538,680	352	.212
1929-30	93,880	60,639	41	.047
1930-31	126,000	160,720	104	.094
1931-32	121,000	107,390	70	.065
1932-33 ^{2/}	118,310	158,550	104	.098
Totals	<u>758,550</u>	<u>1,293,225</u>	<u>847</u>	

For period of 5.967 years.

Average discharge in acre-feet per year-----	127,120
Average acre-feet of silt per year-----	142
Average acre-feet of silt per year per square mile of contributing watershed-----	.069
Average tons of silt per year-----	216,730
Average per cent of silt by weight-----	.125
Drainage area in square miles-----	2,070

^{1/} Station was established September 13, 1927.

^{2/} Station was discontinued August 31, 1933.

Note: A water-year extends from October 1 to the following September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1927 September	2,940	1,080	1	.027
October	10,700	14,700	10	.101
November	4,090	36	0	.001
December	7,190	530	0	.005
1928 January	7,440	790	1	.008
February	5,810	530	0	.007
March	9,960	10,160	7	.075
April	8,090	9,940	7	.090
May	20,500	107,360	70	.385
June	17,000	105,380	69	.455
July	5,400	830	1	.011
August	3,190	150	0	.003
September	10,200	15,760	10	.114
Totals	109,570	266,166	175	
October	7,690	6,780	4	.065
November	12,400	25,730	17	.152
December	9,650	5,710	4	.043
1929 January	7,930	2,270	1	.021
February	6,660	390	0	.004
March	10,000	21,050	14	.155
April	11,800	39,340	26	.245
May	81,800	398,150	261	.358
June	13,800	27,320	18	.145
July	14,100	10,890	7	.057
August	4,590	370	0	.006
September	6,430	680	0	.008
Totals	186,850	538,680	352	
October	8,120	3,820	3	.035
November	6,720	1,000	1	.011
December	9,220	2,480	2	.020
1930 January	8,670	200	0	.002
February	7,160	1,240	1	.013
March	8,120	490	0	.004
April	7,740	960	1	.009
May	12,100	25,520	17	.155
June	12,600	23,060	15	.134
July	6,460	1,400	1	.016
August	3,540	69	0	.001
September	3,430	400	0	.009
Totals	93,880	60,639	41	

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1930				
October	6,050	1,770	1	.021
November	6,070	550	0	.007
December	5,260	81	0	.001
1931				
January	12,500	15,730	10	.092
February	10,400	2,550	22	.018
March	21,900	108,070	71	.363
April	10,400	3,390	2	.024
May	12,600	4,580	3	.027
June	9,400	1,740	1	.014
July	17,500	21,180	14	.089
August	7,990	620	0	.006
September	6,310	460	0	.005
Totals	<u>126,380</u>	<u>160,721</u>	<u>104</u>	
October	5,490	570	0	.008
November	7,320	540	0	.005
December	9,040	810	1	.007
1932				
January	13,800	15,210	10	.081
February	12,900	11,040	7	.063
March	9,220	1,810	1	.014
April	8,270	5,350	4	.048
May	10,800	24,140	16	.164
June	5,770	280	0	.004
July	10,000	7,460	5	.055
August	7,500	4,920	3	.048
September	20,800	35,260	23	.125
Totals	<u>120,910</u>	<u>107,390</u>	<u>70</u>	
October	12,500	6,690	4	.039
November	9,580	680	0	.005
December	10,800	820	1	.006
1933				
January	10,000	1,250	1	.009
February	12,200	1,680	1	.010
March	9,780	1,240	1	.009
April	8,570	9,730	6	.083
May	12,100	27,360	18	.166
June	10,000	12,060	8	.089
July	13,000	84,800	56	.479
August	9,780	12,240	8	.092
September	-----	-----	-----	-----
Totals	<u>118,310</u>	<u>158,550</u>	<u>104</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: NUECES

Station: NEAR THREE RIVERS (Samples were taken 2 miles south of
Three Rivers from railroad bridge, except at
extreme low stage when samples were taken at
low dam.)

Water Year	D i s c h a r g e			Average per cent of silt by wt.
	Water Acre-feet	Silt tons	Silt Acre-feet	
1927-28 ^{1/}	318,927	617,917	405	.142
1928-29	741,299	1,303,605	855	.129
1929-30	596,507	721,443	473	.089
1930-31	456,000	443,420	291	.071
1931-32	1,010,000	581,880	381	.042
1932-33	287,000	275,050	179	.070
1933-34	254,000	668,320	438	.193
1934-35	2,547,000	2,383,630	1,565	.069
1935-36	768,200	752,320	494	.072
1936-37	318,000	142,270	94	.033
1937-38	479,700	771,540	506	.118
1938-39	306,600	450,960	297	.108
Totals	8,083,233	9,112,355	5,978	

For period of 12.000 years.

Average discharge in acre-feet per year-----	673,600
Average acre-feet of silt per year-----	498
Average acre-feet of silt per year per square mile of contributing watershed-----	.032
Average tons of silt per year-----	759,360
Average per cent of silt by weight-----	.083
Drainage area in square miles-----	15,600

^{1/} Station was established October 1, 1927

Note: A water-year extends from October 1 to the following
September 30, inclusive.

SILT DETERMINATIONS

Year	Discharge in acre- feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1927				
October	118,000	178,670	117	.111
November	362	34	0	.007
December	713	1,630	1	.168
1928				
January	251	43	0	.013
February	771	350	0	.033
March	2,810	14,250	9	.372
April	2,230	11,140	7	.367
May	108,000	199,840	131	.136
June	48,100	105,000	69	.160
July	2,290	5,910	4	.190
August	14,800	25,440	17	.125
September	20,600	75,610	50	.270
Totals	<u>318,927</u>	<u>617,917</u>	<u>405</u>	
October	30,900	22,370	15	.053
November	8,630	36,280	24	.309
December	5,730	14,920	10	.191
1929				
January	4,950	23,490	15	.349
February	179	15	0	.006
March	82,400	333,400	219	.297
April	56,800	173,710	114	.225
May	225,000	524,440	344	.171
June	280,000	69,120	45	.018
July	25,900	72,100	47	.204
August	3,310	3,420	2	.076
September	17,500	30,340	20	.127
Totals	<u>741,299</u>	<u>1,303,605</u>	<u>855</u>	
October	56,800	18,880	12	.024
November	2,760	2,260	1	.060
December	14,800	40,580	27	.201
1930				
January	873	82	0	.007
February	475	97	0	.015
March	7,690	11,760	8	.112
April	50,800	168,730	111	.244
May	210,000	314,510	206	.110
June	209,000	129,500	85	.046
July	42,900	34,680	23	.059
August	46	4	0	.006
September	363	360	0	.073
Totals	<u>596,507</u>	<u>721,443</u>	<u>473</u>	
October	28,500	39,980	26	.103
November	21,200	25,830	17	.090
December	539	45	0	.006

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1931				
January	13,300	38,030	25	.210
February	48,400	32,840	22	.050
March	3,200	1,360	1	.031
April	4,700	9,740	6	.152
May	144,000	128,010	84	.065
June	40,600	48,630	32	.088
July	120,000	93,360	61	.057
August	30,900	25,560	17	.061
September	539	32	0	.004
Totals	<u>455,878</u>	<u>443,417</u>	<u>291</u>	
October	0	0	0	.000
November	0	0	0	.000
December	1,990	5,110	3	.189
1932				
January	3,590	5,880	4	.120
February	7,080	14,480	9	.150
March	2,220	1,340	1	.044
April	12,000	37,460	25	.229
May	21,300	32,360	21	.112
June	619	220	0	.026
July	510,000	238,270	156	.034
August	15,400	32,330	21	.154
September	<u>432,000</u>	<u>214,430</u>	<u>141</u>	.036
Totals	<u>1,006,199</u>	<u>581,880</u>	<u>381</u>	
October	149,000	35,580	23	.018
November	17,900	3,430	2	.014
December	11,200	700	0	.005
1933				
January	11,500	1,680	1	.011
February	10,900	3,720	2	.025
March	7,190	740	0	.008
April	4,090	2,350	2	.042
May	5,440	19,530	13	.264
June	17,700	39,550	26	.164
July	12,500	65,180	43	.383
August	15,700	53,410	35	.250
September	<u>24,000</u>	<u>49,180</u>	<u>32</u>	.151
Totals	<u>287,120</u>	<u>275,050</u>	<u>179</u>	
October	4,160	4,080	3	.072
November	1,150	1,620	1	.103
December	355	43	0	.009
1934				
January	84,200	296,090	194	.258
February	21,600	45,100	30	.153
March	7,440	27,860	18	.275
April	38,500	146,890	96	.280
May	8,670	7,550	5	.064

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1934 June	7,020	10,840	7	.113
July	33,400	81,160	53	.179
August	31,500	18,420	12	.043
September	15,800	28,670	19	.133
Totals	253,795	668,323	438	
October	20,350	67,450	44	.243
November	100,500	140,220	92	.102
December	18,380	74,160	49	.296
1935 January	7,780	8,550	6	.081
February	25,920	77,420	51	.219
March	16,030	69,620	46	.319
April	68,390	157,320	103	.169
May	211,900	467,900	307	.162
June	1,501,000	807,590	530	.040
July	128,400	98,150	64	.056
August	142,200	51,580	34	.027
September	306,300	363,670	239	.087
Totals	2,547,150	2,383,630	1,565	
October	62,770	28,360	19	.033
November	8,860	4,440	3	.037
December	13,040	9,430	6	.053
1936 January	8,890	2,840	2	.023
February	4,210	150	0	.003
March	26,230	76,460	50	.214
April	8,750	8,270	5	.069
May	99,180	260,170	171	.193
June	49,010	96,240	63	.144
July	341,000	196,560	129	.042
August	6,760	1,430	1	.016
September	139,500	67,970	45	.036
Totals	768,200	752,320	494	
October	184,200	67,080	44	.027
November	28,800	2,110	1	.005
December	19,400	180	0	.001
1937 January	12,550	300	0	.002
February	7,520	190	0	.002
March	7,570	770	1	.007
April	4,510	140	0	.002
May	4,880	5,610	4	.084
June	21,940	31,730	21	.106
July	3,590	2,960	2	.061
August	16,790	23,700	16	.104
September	6,300	7,500	5	.087
Totals	318,050	142,270	94	

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1937				
October	2,550	4,000	3	.115
November	831	15	0	.001
December	88,070	261,530	172	.218
1938				
January	171,600	203,260	133	.087
February	8,420	1,890	1	.016
March	5,090	1,770	1	.026
April	100,500	189,300	124	.138
May	46,070	63,070	41	.101
June	3,240	250	0	.006
July	1,340	270	0	.015
August	47,380	42,000	28	.065
September	4,640	4,180	3	.066
Totals	<u>479,731</u>	<u>771,535</u>	<u>506</u>	
October	177	3	0	.001
November	3,490	8,610	6	.181
December	10,380	31,890	21	.226
1939				
January	2,650	1,190	1	.033
February	1,420	64	0	.003
March	1,150	28	0	.002
April	295	7	0	.002
May	117,600	73,790	48	.046
June	59,800	106,130	70	.130
July	50,610	114,040	75	.166
August	19,830	23,660	16	.088
September	<u>39,200</u>	<u>91,550</u>	<u>60</u>	.172
Totals	<u>306,602</u>	<u>450,962</u>	<u>297</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: RIO GRANDE

Station: EAGLE PASS (Samples were taken from railroad bridge at
1/6, 1/2, and 5/6 starting from the American Side).

Water Year	D i s c h a r g e			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1933-34 ^{1/}	956,000	2,666,280	1,749	.205
1934-35 ^{2/}	2,722,260	9,872,380	6,474	.266
1935-36	3,068,000	12,763,170	8,373	.306
1936-37	2,177,600	12,789,460	8,389	.431
1937-38	4,237,100	26,546,130	17,410	.460
1938-39	<u>2,189,100</u>	<u>4,037,870</u>	<u>2,649</u>	.136
Totals	15,350,060	68,675,290	45,044	

For period of 5.405 years

Average discharge in acre-feet per year-----	2,839,970
Average acre-feet of silt per year-----	8,334
Average acre-feet of silt per square mile of contributing watershed-----	.067
Average tons of silt per year-----	12,705,880
Average per cent of silt by weight-----	.329
Drainage area in square miles (net)-----	125,260

^{1/} Station was established April 2, 1934.

^{2/} May 15 to June 17 both inclusive excluded because of insufficient
Sampling.

Note: A water-year extends from October 1 to the following
September 30, inclusive.

Note: The weight of a cubic foot of dried silt is recorded in the report
of the International Boundary Commission as being sixty six and seven
tenths (66.7) pounds, whereas in this report the weight is assumed to be
seventy (70) pounds.

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1934 April	144,000	13,740	9	.007
May	175,000	313,530	206	.132
June	189,000	1,110,060	728	.431
July	143,000	244,940	161	.126
August	139,000	318,760	209	.168
September	166,000	665,250	436	.294
Totals	956,000	2,666,280	1,749	
October	121,000	99,090	65	.060
November	109,000	23,150	15	.016
December	112,000	1,380	1	.001
1935 January	116,000	570	0	.000
February	99,200	4,180	3	.003
March	108,000	273,020	179	.186
April	118,000	352,680	231	.220
May (1-14)	32,160	4,320	3	.010
June(18-30)	147,900	431,920	283	.215
July	267,000	472,620	310	.130
August	207,000	602,720	395	.214
September	1,285,000	7,606,730	4,989	.435
Totals	2,722,260	9,872,380	6,474	
October	384,000	795,530	522	.152
November	230,000	189,710	124	.061
December	180,000	3,820	3	.002
1936 January	173,000	170	0	.000
February	143,000	4,030	3	.002
March	161,000	21,210	14	.010
April	121,000	58,050	38	.035
May	211,000	761,960	500	.265
June	287,000	731,320	480	.187
July	249,000	460,600	302	.136
August	167,000	882,060	579	.388
September	762,000	8,854,710	5,808	.854
Totals	3,068,000	12,763,170	8,373	
October	376,000	869,220	570	.170
November	180,000	40,790	27	.017
December	181,000	21,970	14	.009
1937 January	158,000	5,360	4	.002
February	134,000	20,990	14	.012

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1937 March	136,000	40,670	27	.022
April	99,600	18,610	12	.014
May	117,000	48,980	32	.031
June	274,000	3,808,140	2,498	1.021
July	125,000	146,700	96	.086
August	136,000	1,231,680	808	.665
September	261,000	6,536,350	4,287	1.840
Totals	<u>2,177,600</u>	<u>12,789,460</u>	<u>8,389</u>	
October	284,000	2,107,120	1,382	.545
November	139,000	297,800	195	.157
December	166,000	122,360	80	.054
1938 January	189,000	180,660	118	.070
February	143,000	16,790	11	.009
March	128,000	7,170	5	.004
April	98,100	44,810	29	.034
May	102,000	47,020	31	.034
June	169,000	3,158,030	2,071	1.373
July	1,255,000	11,268,990	7,391	.660
August	493,000	1,927,620	1,264	.287
September	1,071,000	7,367,760	4,833	.505
Totals	<u>4,237,100</u>	<u>26,546,130</u>	<u>17,410</u>	
October	383,000	551,590	362	.106
November	186,000	20,550	13	.008
December	165,000	7,140	5	.003
1939 January	156,000	7,930	5	.004
February	145,000	9,160	6	.005
March	133,000	13,020	9	.007
April	92,100	4,410	3	.004
May	155,000	221,020	145	.105
June	117,000	33,240	22	.021
July	138,000	189,150	124	.101
August	381,000	2,891,500	1,897	.558
September	138,000	89,160	58	.047
Totals	<u>2,189,100</u>	<u>4,037,870</u>	<u>2,649</u>	

SILT RECORD
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Division of Irrigation

Stream: RIO GRANDE
Station: ROMA

(Samples taken from bridge).

Water Year	D I S C H A R G E			Average per cent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1928-29 ^{1/}	1,581,200	7,702,590	5,052	.358
1929-30	2,716,000	13,606,340	8,924	.368
1930-31	3,833,390	12,546,450	8,230	.240
1931-32	5,068,870	29,277,200	19,204	.424
1932-33	7,181,930	25,814,910	16,930	.264
1933-34	2,958,430	5,007,560	3,285	.124
1934-35	5,224,000	28,338,410	18,588	.399
1935-36	3,964,000	18,267,040	11,982	.339
1936-37	2,528,000	10,169,180	6,671	.296
1937-38	4,612,600	30,704,920	20,141	.489
1938-39	2,830,500	8,725,140	5,721	.226
Totals	42,498,920	190,159,740	124,728	

For period of 10.518 years

Average discharge in acre-feet per year-----	4,040,590
Average acre-feet of silt per year-----	11,859
Average acre-feet of silt per year per square square mile of contributing watershed-----	.075
Average tons of silt per year-----	18,079,460
Average per cent of silt by weight-----	.329
Drainage area in square miles (net)-----	157,204

^{1/} Station was established March 26, 1929

Note: A water-year extends from October 1 to the following September 30, inclusive.

Note: The weight of a cubic foot of dried silt is recorded in the report of the International Boundary Commission as being sixty six and seven tenths (66.7) pounds, whereas in this report the weight is assumed to be seventy (70) pounds.

SILT DETERMINATIONS

Year	Discharge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1929				
March	32,200	17,080	11	.039
April	185,000	405,340	266	.161
May	326,000	1,594,050	1,046	.359
June	184,000	321,660	211	.128
July	240,000	1,169,860	767	.358
August	276,000	1,392,130	913	.371
September	338,000	2,802,470	1,838	.609
Totals	1,581,200	7,702,590	5,052	
October	252,000	553,060	363	.161
November	171,000	294,590	193	.127
December	192,000	467,050	306	.179
1930				
January	146,000	24,580	16	.012
February	138,000	176,740	116	.094
March	99,000	26,810	18	.020
April	223,000	1,947,290	1,277	.641
May	406,000	3,578,820	2,347	.648
June	595,000	3,940,640	2,585	.487
July	131,000	71,260	47	.040
August	246,000	2,293,620	1,504	.685
September	117,000	231,880	152	.146
Totals	2,716,000	13,606,340	8,924	
October	732,000	4,573,880	3,000	.459
November	336,000	409,650	269	.090
December	213,000	42,950	28	.015
1931				
January	208,000	70,160	46	.025
February	220,000	44,160	29	.015
March	201,000	60,430	40	.022
April	180,000	211,710	139	.086
May	473,000	2,112,720	1,386	.328
June	290,000	590,710	387	.150
July	542,520	3,332,170	2,186	.451
August	285,100	1,035,050	679	.267
September	152,740	62,860	41	.030
Totals	3,833,360	12,546,450	8,230	
October	180,820	193,500	127	.079
November	151,820	26,820	18	.013
December	192,580	74,580	49	.028
1932				
January	166,910	34,840	23	.015
February	152,330	47,590	31	.023
March	155,070	68,430	45	.032
April	133,470	345,320	226	.190
May	233,460	924,940	607	.291
June	112,700	84,740	56	.055

SILT DETERMINATIONS

Year	Dis charge in acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1932 July	195,410	679,970	446	.256
August	228,080	2,491,170	1,634	.802
September	3,166,220	24,305,300	15,942	.564
Totals	5,068,870	29,277,200	19,204	
October	2,432,240	13,450,700	8,822	.406
November	735,960	422,400	277	.042
December	565,140	211,770	139	.028
1933 January	467,370	125,650	82	.020
February	349,000	93,320	61	.020
March	260,610	38,610	25	.011
April	223,560	95,460	63	.031
May	195,530	138,360	91	.052
June	178,240	76,960	50	.032
July	265,390	540,060	354	.149
August	242,620	252,270	165	.076
September	1,266,270	10,369,350	6,801	.602
Totals	7,181,930	25,814,910	16,930	
October	673,950	1,972,110	1,294	.215
November	253,890	65,840	43	.019
December	207,590	18,030	12	.006
1934 January	219,000	73,260	48	.025
February	177,000	24,060	16	.010
March	174,000	20,410	13	.009
April	239,000	526,230	345	.162
May	219,000	281,010	184	.094
June	253,000	642,350	421	.187
July	189,000	338,110	222	.131
August	157,000	165,420	109	.077
September	196,000	880,730	578	.330
Totals	2,958,430	5,007,560	3,285	
October	163,000	247,920	163	.112
November	127,000	162,590	107	.094
December	114,000	9,750	6	.006
1935 January	119,000	2,740	2	.002
February	108,000	14,580	10	.010
March	126,000	131,750	86	.077
April	164,000	627,440	412	.281
May	570,000	3,394,990	2,227	.438
June	1,586,000	10,576,040	6,937	.490
July	400,000	1,407,360	923	.258
August	248,000	458,070	300	.136
September	1,499,000	11,305,180	7,415	.554
Totals	5,224,000	28,338,410	18,588	

SILT DETERMINATIONS

Year	Discharge in Acre-feet	Tons of silt	Acre-feet of silt	Per cent of silt by wt.
1938 October	504,000	1,319,090	865	.192
November	190,000	6,290	4	.002
December	178,000	24,550	16	.010
1939 January	170,000	3,800	2	.002
February	147,000	3,120	2	.002
March	132,000	1,770	1	.001
April	125,500	194,190	127	.114
May	454,000	2,477,450	1,625	.401
June	193,000	589,230	386	.224
July	136,000	28,240	19	.015
August	402,000	3,527,910	2,314	.645
September	199,000	549,500	360	.203
Totals	<u>2,830,500</u>	<u>8,725,140</u>	<u>5,721</u>	

SUMMARY OF SILT RECORDS COVERING RIO GRANDE WATERSHED
(As of Sept. 30, 1939)

Prepared by
TEXAS BOARD OF WATER ENGINEERS
and
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF IRRIGATION

Stream	Silt Station	Years samples taken	Total length of record in years	Run-off in ac-ft. per year	Silt in ac-ft. per year	Silt in ac-ft per yr. per sq.mi. of net watershed	Silt in tons per year	% of silt by wt.	Contributing watershed in sq. mi.
Rio Grande	Eagle Pass	1934-39	5.405	2,839,970	8,334	.067	12,705,880	.329	125,260
Rio Grande	Roma	1929-39	10.518	4,040,590	11,589	.075	18,079,460	.329	157,204

SUMMARY OF SILT RECORDS COVERING MAJOR STREAMS OF TEXAS

Prepared by TEXAS BOARD OF WATER ENGINEERS and UNITED STATES DEPARTMENT OF AGRICULTURE

Watershed	Stream	Silt Station	Years samples taken	Total length record years	Average					
					Run-off in ac-ft. per yr.	Silt in ac-ft. per yr.	Silt in ac-ft. per yr. per sq.mi.net watershed	Silt in tons per yr.	% of silt by wt.	Net drainage area in sq. mi.
Red	Red	Denison	1930-33							
Red	Wichita	Wichita Fls	1936-39	6.260	3,326,780	13,640	.415	20,793,380	.459	52,840
		Logans-	1900-02	2.014	566,420	5,516	1.776	-----	.974*	3,105
		port, La.	1932-33							
Sabine	Sabine	port, La.	1935-39	5.156	1,869,900	221	.045	338,800	.013	4,858
Neches	Neches	Rockland	1930-39	9.148	1,512,510	118	.033	181,060	.009	3,539
Trinity	Trinity	Rosser	1938-40	1.598	760,700	986	.122	1,504,920	.145	8,057
Trinity	Trinity	Romayor	1936-39	3.142	4,093,290	2,804	.163	4,273,490	.077	17,190
San			1932-33							
Jancinto	W.Fork	Humble	1937-39	3.337	325,020	80	.044	125,260	.028	1,811
Brazos	Salt Fk.	Aspermont	1924-25	1.238	111,100	2,818	1.272	4,297,420	2.842	2,216
Brazos	Salt Fk.	Seymour	1924-30	6.107	398,864	6,501	1.238	9,912,158	1.826	5,250
Brazos	Dbl.Mt.Fk.	Aspermont	1924-33	9.244	135,280	2,665	1.765	4,062,400	2.206	1,510
Brazos	Clear Fk.	Crystal Fls	1925-29	3.307	214,440	568	.131	866,020	.297	4,320
Brazos	Clear Fk.	Eliasville	1924-25	1.244	177,240	529	.092	808,630	.335	5,740
Brazos	Little R.	Little R.	1924-29	4.962	419,870	752	.143	1,147,190	.201	5,253
Brazos	San Gabriel	Circleville	1924-29	5.403	110,744	222	.369	339,590	.225	602
Brazos	Brazos	Mineral Wells	1924-34	10.332	953,550	6,506	.468	9,920,060	.764	13,910
Brazos	Brazos	Glen Rose	1924-29	4.588	1,181,370	8,378	.537	12,773,810	.794	15,600
Brazos	Brazos	Waco	1924-33	9.254	1,717,130	10,325	.536	15,742,010	.673	19,260
Brazos	Brazos	Bryan	1899-02	3.419	4,156,736	39,117	1.340	-----	.941*	29,190
		Richmond-								
Brazos	Brazos	Rosenberg	1924-39	15.306	5,105,640	22,296	.640	34,070,720	.490	34,810
Colorado	Colorado	San Saba	1930-39	9.055	1,574,640	4,049	.215	6,173,940	.288	18,800
Colorado	Colorado	Tow	1927-32	5.162	1,245,440	3,360	.174	5,122,520	.302	19,300
Colorado	Colorado	Austin	1937-39	2.164	2,146,320	2,915	.111	4,444,640	.152	26,350
		Columbus	1930-33							
Colorado	Colorado	Eagle Lake	1937-39	4.912	2,748,660	5,820	.199	8,844,930	.236	29,140
San Antonio	San Antonio	Falls City	1927-33	5.967	127,120	142	.069	216,730	.125	2,070
Nueces	Nueces	Three River	1927-39	12.000	673,600	498	.032	759,360	.083	15,600
Rio Grande	Rio Grande	Eagle Pass	1934-39	5.405	2,840,030	8,334	.067	12,705,880	.329	125,260
Rio Grande	Rio Grande	Roma	1929-39	10.518	4,040,590	11,859	.075	18,079,460	.329	157,204

(*) Per cent of silt by volume.

