

THE SILT LOAD OF TEXAS STREAMS -- PART IX
(A Progress Report as of October 1, 1946 to
September 30, 1947)

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

Compiled by
Dean W. Bloodgood, Irrigation Engineer
Ivan M. Stout, Testing Engineer

BOARD OF WATER ENGINEERS
E. V. Spence, Chairman
John W. Pritchett
H. A. Beckwith

Austin, Texas

August, 1948

C O N T E N T S

	<u>Page</u>
INTRODUCTION	1-4
SUSPENDED SILT LOAD DETERMINATIONS	
<u>Brazos River Watershed</u>	
✓ Belton Station (Leon River)	5
✓ Easterly Station (Navasota River)	7
✓ South Bend Station (Brazos River)	9
✓ Possum Kingdom Dam Station (Brazos River)	11
✓ Richmond Station (Brazos River).	13
<u>Colorado River Watershed</u>	
✓ Llano Station (Llano River)	15
✓ Johnson City Station (Pedernales River)	17
✓ San Saba Station (Colorado River)	19
✓ Inks Dam Station (Colorado River)	21
✓ Austin Station (Colorado River).	23
<u>Guadalupe River Watershed</u>	
✓ Spring Branch Station (Guadalupe River)	25
✓ Victoria Station (Guadalupe River).	27
<u>Lavaca River Watershed</u>	
✓ Edna Station (Lavaca River)	29
<u>Neches River Watershed</u>	
✓ Horgan Station (Angelina River).	31
✓ Rockland Station (Neches River).	33
<u>Nueces River Watershed</u>	
✓ Cotulla Station (Nueces River)	35
✓ Threse Rivers Station (Nueces River)	37
✓ Corpus Christi Dam Station (Nueces River)	39
<u>Red River Watershed</u>	
✓ Crowell Station (Pease River)	41
<u>Sabine River Watershed</u>	
✓ Logansport, La. Station (Sabine River)	43

(continued next page)

C O N T E N T S (Cont'd.)

	<u>Page</u>
<u>San Antonio River Watershed</u>	
Goliad Station (San Antonio River)	45
<u>San Jacinto River Watershed</u>	
Huffman Station (San Jacinto River).	47
Humble Station (West Fork San Jacinto River).	49
<u>Trinity River Watershed</u>	
Romayor Station (Trinity River)	51
SUMMARY OF ALL TEXAS SILT STATIONS, ACTIVE AND DISCONTINUED . . .	53-54

NEW MEXICO



LEGEND

- A - ACTIVE ----- ●
- D - DISCONTINUED ----- ○
- P - PROPOSED ----- ⊕

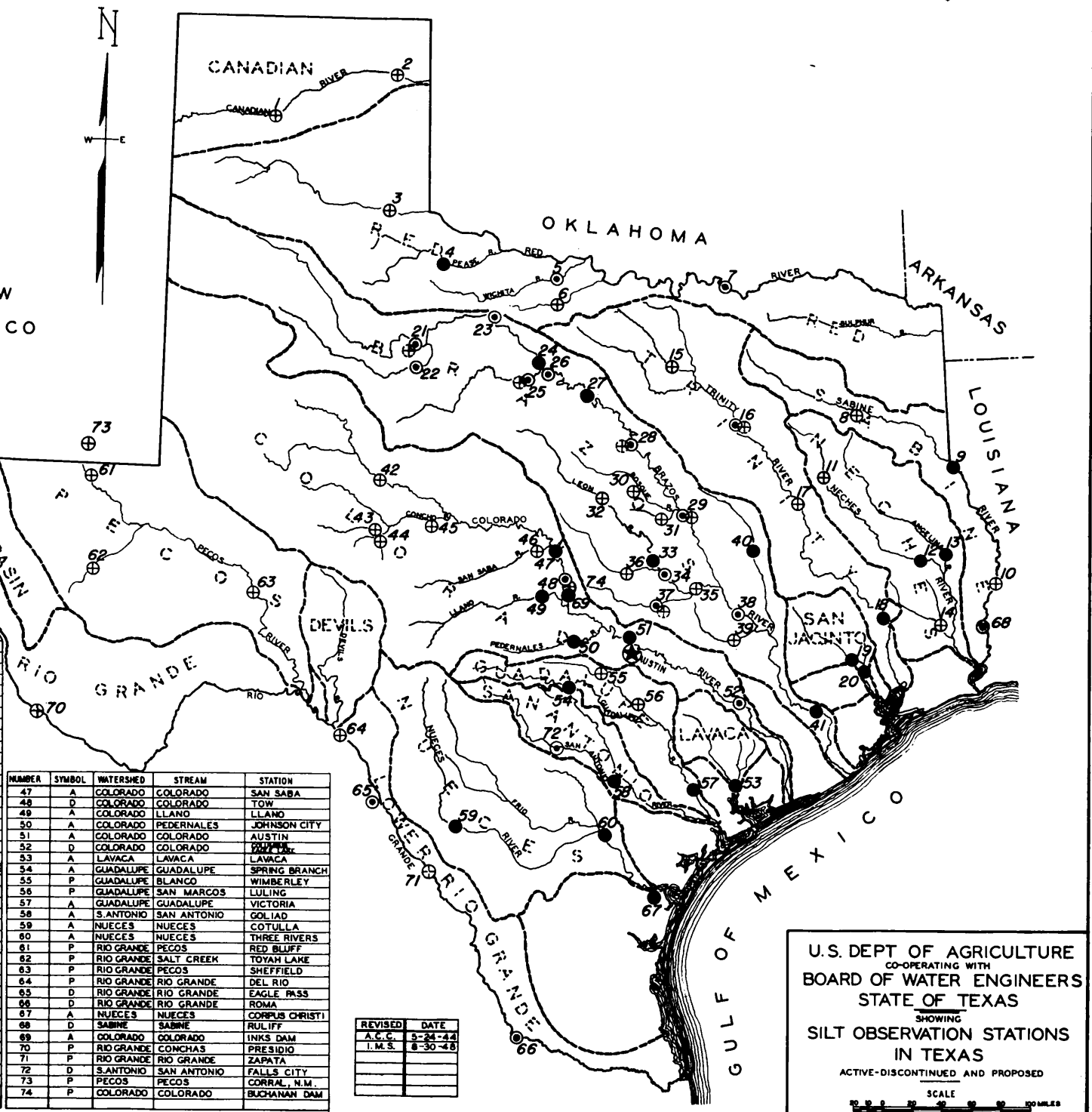
NUMBER	SYMBOL	WATERSHED	STREAM	STATION
1	P	CANADIAN	SOUTH CANADIAN	AMARILLO
2	P	CANADIAN	SOUTH CANADIAN	CANADIAN
3	P	RED	P.D. TOWN FORK	ESTELLINE
4	A	RED	FEASE	CROWELL
5	D	RED	WICHITA	WICHITA FALLS
6	P	RED	LITTLE WICHITA	ARCHER CITY
7	D	RED	RED	DENISON
8	P	SABINE	SABINE	GLADEWATER
9	A	SABINE	SABINE	LOGANSPORT
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	ROANOK
16	D-P	TRINITY	TRINITY	ROSSER
17	P	TRINITY	TRINITY	OSAWOOD
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	CLEAR FORK	CRYSTAL FALLS
26	D	BRAZOS	BRAZOS	ELIASVILLE
27	A	BRAZOS	BRAZOS	POSSUM KINGDOM
28	D-P	BRAZOS	BRAZOS	GLEN ROSE
29	D-P	BRAZOS	BRAZOS	WAGO
30	P	BRAZOS	N. BOSQUE	CLIFTON
31	P	BRAZOS	S. BOSQUE	SPEEGLEVILLE
32	P	BRAZOS	LEON	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	CIRCVILLE
38	D	BRAZOS	BRAZOS	BRYAN
39	P	BRAZOS	YEGUA CREEK	SOMERVILLE
40	A	BRAZOS	NASA SOTA	EASTERLY
41	A	BRAZOS	BRAZOS	RICHMOND
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	PEDERNALES	JOHNSON CITY
51	A	COLORADO	COLORADO	AUSTIN
52	D	COLORADO	COLORADO	PAINT ROCK
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	SAN ANTONIO	GOLIAD
59	A	NUECES	NUECES	COTULLA
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	LITTLE RIVER	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	D	SABINE	SABINE	RULIFF
69	A	COLORADO	COLORADO	INKS DAM
70	P	RIO GRANDE	CONCHAS	PRESIDIO
71	P	RIO GRANDE	RIO GRANDE	ZAPATA
72	D	S. ANTONIO	SAN ANTONIO	FALLS CITY
73	P	PECOS	PECOS	CORRAL, N.M.
74	P	COLORADO	COLORADO	BUCHANAN DAM

REVISED	DATE
A.C.C.	5-24-44
I.M.S.	8-30-48

U.S. DEPT OF AGRICULTURE
 CO-OPERATING WITH
 BOARD OF WATER ENGINEERS
 STATE OF TEXAS
 SHOWING
 SILT OBSERVATION STATIONS
 IN TEXAS
 ACTIVE-DISCONTINUED AND PROPOSED

SCALE
 0 10 20 30 40 50 60 70 80 90 100 MILES



THE SILT LOAD OF TEXAS STREAMS
(Progress Report as of September 30, 1947)

By Dean W. Bloodgood, Irrigation Engineer, Division of Irrigation, Soil Conservation Service ^{1/} and Ivan M. Stout, Testing Engineer, State Board of Water Engineers.

INTRODUCTION

The purpose of the silt studies is to make a determination of the characteristics of the suspended silt load of Texas.

The objectives are as follows:

1. To determine the relationship between the suspended silt load and the discharge of Texas streams.
2. To establish criteria for planning surface reservoir storage based on the suspended silt load to be handled.
3. To determine the characteristics of silt deposits in reservoirs for use in evaluation of the life of a given reservoir.
4. To secure data necessary to determine the effect of silt load on the cost of preparing water for domestic and industrial use, i.e., a number of the large cities using river water must spend considerable to de-silt the water they use for domestic and industrial purposes.
5. To determine the relationship between the silt load and the management of the tributary watersheds, i.e., can or is the silt now carried modified by different watershed management practices?

The following procedure is used to make the above basic determinations:

1. Establish silt collecting stations on the streams of the principal watersheds of Texas at or near established U. S. G. S. gaging stations. See map showing location of stations.
2. Collect water samples for silt determinations daily at one or more points in the cross section of the stream. All samples are taken in the surface foot (U.S.D.A. Technical Bulletin 382, Silt Load of Texas Streams, by O. A. Faris.)
3. Make silt determinations of water samples using standard laboratory methods (U.S.D.A. Technical Bulletin 382.)

^{1/} Under the supervision of George D. Clyde, Chief of Division of Irrigation, Soil Conservation Service, U. S. Department of Agriculture.

4. Convert silt in samples to equivalent acre feet based on 70 pounds per cubic foot (U.S.D.A. Technical Bulletin 382 and U.S.D.A. Technical Bulletin 67, Silt in the Colorado River and its Relation to Irrigation, by S. Fortier and H. F. Blaney).
5. Calculate the amount of silt carried in suspension during given time interval; that is, water year, October 1 to September 30 by a given stream.
6. Analyze the relationship of suspended silt load and the stage of flow rising or falling together with rates of rise or fall.
7. Determine by means of analyses the effect of suspended silt load on such facilities as canals, control structures, turbines, pumps, water treatment plants, etc.

A knowledge of the silt load of streams is as essential to the designing engineer of dams and other hydraulic structures and others interested in the development of surface water resources as a knowledge of available stream flow, run-off, watershed areas and other factors relating to water storage purposes. The economic life of a reservoir is important in determining the feasibility of water storage development on streams. It is also important and useful to have available basic silt data and information of streams before some proposed research silt investigation is planned or undertaken.

Since World War II plans are being made to establish many large reservoirs on the streams of Texas for the regulation and conservation of surface waters so that this resource may be developed to its fullest usefulness. Some large storages have been constructed. Nevertheless, other large reservoirs as well as smaller storages on the tributaries of the larger streams 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 the lower stream channels can be accomplished.

Some of the Texas streams carry large quantities of silt resulting from erosion on the 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 it is reduced accordingly. Hence, when each new reservoir is contemplated, it is necessary to estimate the rate at which it will be filled with silt in order that its economic feasibility may be determined.

From one to three or more water samples are taken at daily intervals from each silt station for silt determinations. The number depends on the width of the stream during low water and flood stage periods. The samples are obtained with a simple sampling device known as the Department of Agriculture or Texas type which was designed by an engineer of the Division of Irrigation. In order to obtain suspended silt of streams the water samples are taken within the top surface foot and preferably at the six-tenths foot depth. The silt sample collectors are instructed to avoid getting any bed load material in the water samples, although at times on some of the streams that are wide and shallow and where there is considerable bank and stream erosion, some of the coarser materials are included with the suspended silt load.

Erosion of soil materials in the form of sediment is always associated with stream flow in earthen channels. Sediment is usually divided into three classifications, namely, fine, medium and coarse-grained materials. The fine-grained material is composed of soil particles of 1/16 mm. or under in size and forming silt and clay; medium-grained material of 1/16 to 2 mm. in size and forming sand; and coarse-grained material of more than 2 mm. in size and forming granules, pebbles, cobbles, and boulders (usually known as gravels). The larger size particles of the fine-grained material of less than 1/16 mm. in size are defined as silt, while the smaller particles of 1/256 mm. in size are clay. The greater part of the suspended silt load of streams and most of the material deposited in reservoirs is of the fine-grained soil and is of such fineness that it will pass a Tyler standard No. 300 sieve.

In connection with the silt investigations in Texas we are primarily concerned with the fine-grained sediment that is usually deposited fairly uniformly in the reservoir and directly behind the dam or obstruction. Most of the coarse-grained material is usually deposited near the upper end of the reservoir in a delta that is formed and which gradually extends upstream. This material, known as bed load, does not materially affect the storage capacity of the reservoir. The fine-grained sediment contains large quantities of colloidal clay which remains in suspension in the water for longer periods until finally it settles to the bed of the reservoir above the dam and determines its economic life.

The weight per cubic foot of silt deposition in reservoirs varies according to water storage conditions behind the dam during drought or flood periods. In determining the silt load of streams it is not possible to know whether the reservoir to be constructed will be completely filled at all times, partially filled, or emptied at times. In calculating the space occupied by silt deposited in a reservoir it is necessary to have some knowledge of the weight of one cubic foot of soil material. The average weight of dry material in silt deposits which are continuously submerged approaches 30 pounds per cubic foot. In those deposits which are occasionally exposed the average weight approaches 70 pounds per cubic foot. In deposits where the reservoir is used exclusively for flood control the average weight ultimately approaches 90 pounds per cubic foot. In the silt calculations for Texas streams, where it is not known whether the deposits will be subject to alternate wetting or drying, 70 pounds per cubic foot of dry silt is used. This amount appears reasonable for the purpose for which it is used by some of the foremost silt authorities in the United States.

Since 1924, when the investigation was started, a total of 44 silt stations have been established on some of the principal watersheds of Texas. Some of the stations have been abandoned on account of lack of sufficient funds or personnel for their maintenance. For the water year ending September 30, 1947, 24 silt stations are in active operation on 11 watersheds of Texas. In order to determine the silt load of all the major streams it is planned to establish 73 stations on 13 of the watersheds. The Three Rivers station on the Nueces River, with a record of over 20 years, and the Rosenberg-Richmond station on the Brazos River with a record of over 23 years, are believed to be the stations with the longest continuous daily silt records in the United States. Six new stations were established in September, 1945. The other stations (16) have been in continuous active operation from 5 to 17 years. The Crowell station on the Pease River was discontinued on June 30, 1947 because

the U. S. Geological Survey, Surface Water Division, discontinued the stream gaging station. Eight annual progress silt reports have been made and mimeographed since 1940 and are available for distribution.

A more detailed discussion of the technique used in the silt determinations of Texas streams is contained in Progress Report Part I, Silt Data for Texas Streams, 1899-1939, and Progress Reports Part V to Part VIII. No attempt is made to analyze the silt data contained in this report (Part IX) according to the above approved outlines, but to obtain basic silt data that might be used for analyses of future progress reports.

The discharge records for Inks Dam were furnished by the Lower Colorado River Authority; at Possum Kingdom Dam by the Brazos River Conservation and Reclamation District, and that at Lake Corpus Christi by the Water Department, City of Corpus Christi. The discharge records for all other stations set up in this report were supplied by the Water Resources Branch of the United States Geological Survey.

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

Water Resources Branch of the United States Geological Survey, Austin, Texas; the Brazos River Conservation and Reclamation District, Mineral Wells, Texas; Lower Colorado River Authority, Austin, Texas; City of Houston, Houston, Texas; and City of Corpus Christi, Corpus Christi, Texas.

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: LEON
Station: BELTON
Sampler: N. H. Hander

(Samples taken from Highway Bridge
on State Highway 317)

2/

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
Total to Sept. 30, 1945	10,380 ^{1/}	26,320 ^{1/}	17 ^{1/}	.186
1945-46	664,000	1,187,070	779	.131
1946-47	<u>362,500</u>	<u>280,030</u>	<u>216</u>	<u>.057</u>
TOTALS	1,036,880	1,493,420	1,012	

For period of 2.083 years

Average discharge in acre-feet per year -----	497,782
Average acre-feet of silt per year -----	486
Average acre-feet of silt per year per square mile of contributing watershed -----	.137
Average tons of silt per year -----	716,956
Average per cent of silt by weight -----	.106
Drainage area in square miles (net) -----	3,547

^{1/} One-month record. Station was established September 1, 1945.

^{2/} Prior to October 1, 1945, samples were taken from inlet to
pumping plant north of Belton -- located about $\frac{1}{4}$ mile upstream
from bridge on U. S. Highway No. 81.

SILT RECORD

Leon River at Belton (Brazos River Watershed)

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	7,010	570	0	.006
November	26,860	47,710	31	.130
December	28,640	25,200	17	.065
(1947)				
January	65,540	58,300	38	.065
February	25,340	8,180	5	.024
March	89,180	115,540	76	.095
April .	42,750	22,560	15	.039
May	57,210	51,060	33	.066
June	11,970	1,140	1	.070
July	5,000	660	0	.010
August	1,790	140	0	.006
September	1,190	30	0	.002
TOTALS	362,500	280,030	216	.057

U. S. G. S. yearly discharge in acre-feet -----	362,500
Total silt for year in acre-feet -----	216
Acre-feet of silt per year per sq. mile of contributing watershed -----	.061
Average percent of silt by weight for year -----	.057
Drainage area in square miles (net) -----	3,547

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: NAVASOTA
Station: EASTERLY (Samples taken from bridge on
Sampler: Goree King U. S. Highway No. 79)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	199,800	142,600	94	.052
1942-43	84,820	59,600	39	.052
1943-44	592,700	889,340	584	.110
1944-45	556,100	607,980	400	.080
1945-46	618,000	513,050	337	.061
1946-47	<u>441,200</u>	<u>193,110</u>	<u>127</u>	<u>.032</u>
TOTALS	2,492,620	2,405,680	1,581	

For period of 5.748 years.

Average discharge in acre-feet per year -----	433,650
Average acre-feet of silt per year -----	275
Average acre-feet of silt per year per square mile of contributing watershed -----	.290
Average tons of silt per year -----	418,525
Average percent of silt by weight -----	.071
Drainage area in square miles (net) -----	949

^{1/} Station was established January 1, 1942.

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

SILT RECORD

Navasota River at Easterly (Brazos River Watershed)

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	731	440	0	.044
November	89,370	61,910	41	.051
December	15,070	5,520	4	.027
(1947)				
January	78,560	19,430	13	.018
February	5,680	2,020	1	.026
March	81,250	39,840	26	.036
April	13,260	2,350	2	.013
May	131,200	50,330	33	.028
June	23,800	10,520	7	.032
July	737	120	0	.012
August	1,160	560	0	.035
September	370	70	0	.014
TOTALS	441,200	193,110	127	.032

U. S. G. S. yearly discharge in acre-feet -----	441,200
Total silt for year in acre-feet -----	127
Acre-feet of silt per year per sq. mile of contributing watershed -----	.134
Average percent of silt by weight for year -----	.032
Drainage area in square miles (net) -----	949

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: BRAZOS
Station: SOUTH BEND
Sampler: O. W. Hill

(Samples taken from bridge on
State Highway No. 67)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	672,200	4,581,930	3,005	.501
1942-43	491,100	3,846,100	2,523	.575
1943-44	171,400	1,071,620	703	.459
1944-45	394,500	2,258,250	1,482	.421
1945-46	363,900	3,116,920	2,044	.629
1946-47	<u>747,000</u>	<u>4,414,900</u>	<u>2,897</u>	<u>.434</u>
TOTALS	2,840,100	19,289,720	12,654	

For period of 5.710 years

Average discharge in acre-feet per year -----	497,391
Average acre-feet of silt per year -----	2,216
Average acre-feet of silt per year per square mile of contributing watershed -----	.179
Average tons of silt per year -----	3,378,235
Average per cent of silt by weight -----	.499
Drainage area in square miles (net) -----	12,360

1/ Station was established January 15, 1942.

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

SILT RECORD

Brazos River at South Bend

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	90,930	795,130	522	.642
November	38,300	150,980	99	.290
December	66,450	228,070	150	.252
(1947)				
January	6,850	2,900	2	.031
February	2,080	770	1	.027
March	3,720	1,730	1	.034
April	3,630	1,720	1	.035
May	488,800	3,198,280	2,098	.481
June	36,410	31,510	21	.064
July	6,410	2,030	1	.023
August	175	50	0	.021
September	3,280	1,730	1	.039
TOTALS	747,000	4,414,900	2,897	.434

U. S. G. S. yearly discharge in acre-feet -----	747,000
Total silt for year in acre-feet -----	2,897
Acre-feet of silt per year per sq. mile of contributing watershed -----	.234
Average percent of silt by weight for year -----	.434
Drainage area in square miles (net) -----	12,360

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: BRAZOS
Station: POSSUM KINGDOM DAM (Samples taken in tailrace and
Sampler: J. P. Cochran over spillway)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	588,000	55,070	36	.007
1942-43	851,300	625,770	410	.054
1943-44	92,040	15,590	10	.012
1944-45	307,410	51,350	32	.012
1945-46	293,110	41,250	27	.010
1946-47	<u>1,878,100</u>	<u>149,340</u>	<u>99</u>	<u>.006</u>
TOTALS	4,009,960	938,370	614	.

For period of 5.710 years

Average discharge in acre-feet per year -----	702,270
Average acre-feet of silt per year -----	108
Average acre-feet of silt per year per square mile of contributing watershed -----	.008
Average tons of silt per year -----	164,338
Average percent of silt by weight -----	.017
Drainage area in square miles (net) -----	13,310

^{1/} Station was established Jan. 15, 1942.

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

SILT RECORD

Brazos River at Possum Kingdom Dam

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	309,917	16,580	11	.004
November	120,873	13,150	9	.008
December	107,385	13,280	9	.009
(1947)				
January	107,246	7,860	5	.005
February	53,018	5,000	3	.007
March	26,856	3,830	3	.010
April	37,924	1,750	1	.003
May	736,760	49,870	33	.005
June	145,289	11,630	8	.006
July	90,347	4,830	3	.004
August	74,241	9,340	6	.009
September	68,212	12,220	8	.013
TOTALS	1,878,100	149,340	99	.006

U. S. G. S. yearly discharge in acre-feet -----	1,878,100
Total silt for year in acre-feet -----	99
Acre-feet of silt per year per sq. mile of contributing watershed -----	.007
Average percent of silt by weight for year -----	.006
Drainage area in square miles (net) -----	13,310

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: BRAZOS
Station: RICHMOND (Samples taken from bridge on
Sampler: S. J. Butler U. S. Highway No. 90)

Water Year	D i s c h a r g e			Average percent 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
^{2-3/}				
1931-32	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
1939-40	3,161,000	23,679,220	15,531	.550
1940-41	16,120,000	97,306,510	63,824	.443
1941-42	8,523,000	71,490,110	46,891	.616
1942-43	3,255,000	11,426,360	7,496	.258
1943-44	7,627,000	46,735,630	30,654	.450
1944-45	9,805,000	57,254,020	37,555	.429
1945-46	7,400,000	35,484,230	23,275	.352
1946-47	6,346,000	21,011,530	13,783	.243
TOTALS	140,383,900	885,874,050	580,279	
For period of 23.306 years				
Average discharge in acre-feet per year -----				6,023,508
Average acre-feet of silt per year -----				24,898
Average acre-feet of silt per year per square mile of contributing watershed -----				.715
Average tons of silt per year -----				38,010,557
Average percent of silt by weight -----				.464
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.

SILT RECORD

Brazos River at Richmond

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	318,149	352,480	231	.081
November	1,044,516	4,293,900	2,816	.302
December	565,845	2,065,320	1,355	.268
(1947)				
January	1,026,625	4,050,010	2,656	.290
February	323,702	167,310	110	.038
March	812,450	2,844,300	1,866	.257
April	433,448	848,530	557	.144
May	853,884	3,513,610	2,305	.302
June	357,660	620,170	407	.127
July	101,792	28,730	19	.021
August	363,864	2,112,780	1,386	.427
September	143,837	114,390	75	.058
TOTALS	6,346,000	21,011,530	13,783	.243

U. S. G. S. yearly discharge in acre-feet -----	6,346,000
Total silt for year in acre-feet -----	13,783
Acre-feet of silt per year per sq. mile of contributing watershed -----	.396
Average percent of silt by weight for year -----	.243
Drainage area in square miles (net) -----	34,810

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: LLANO (Samples were taken at U. S. Gaging
Station: LLANO Station $\frac{1}{2}$ mile downstream from
Sampler: Mrs. Tracy M. Ward bridge on State Highway No. 16)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	66,000	252,700	166	.281
1942-43	235,500	381,560	250	.119
1943-44	196,100	120,450	79	.045
1944-45	156,900	90,120	60	.042
1945-46	142,700	249,740	164	.129
1946-47	<u>141,600</u>	<u>28,750</u>	<u>18</u>	<u>.015</u>
TOTALS	938,800	1,123,320	737	

For period of 5.167 years

Average discharge in acre-feet per year -----	181,692
Average acre-feet of silt per year -----	143
Average acre-feet of silt per year per square mile of contributing watershed -----	.036
Average tons of silt per year -----	217,403
Average percent of silt by weight -----	.088
Drainage area in square miles (net) -----	4,000

^{1/} Station was established August 1, 1942.

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

SILT RECORD

Llano River at Llano (Colorado River Watershed)

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	12,296	1,530	1	.009
November	6,262	650	0	.008
December	5,486	440	0	.006
(1947)				
January	41,728	13,790	9	.024
February	10,262	1,180	1	.008
March	18,829	3,300	2	.013
April	10,266	1,010	1	.007
May	14,559	2,970	2	.015
June	14,356	3,000	2	.015
July	3,640	340	0	.007
August	2,170	280	0	.009
September	1,676	260	0	.011
TOTALS	141,600	28,750	18	.015

U. S. G. S. yearly discharge in acre-feet -----	141,600
Total silt for year in acre-feet -----	18
Acre-feet of silt per year per sq. mile of contributing watershed -----	.005
Average percent of silt by weight for year -----	.015
Drainage area in square miles (net) -----	4,000

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: PEDERNALES (Samples were taken from highway
Station: JOHNSON CITY bridge on U. S. Highway No. 281,
Sampler: John W. Grisham about 1½ miles north of Johnson
City)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	22,630	107,030	70	.347
1942-43	79,850	150,740	99	.139
1943-44	167,700	724,550	476	.317
1944-45	187,000	191,740	126	.075
1945-46	94,140	132,430	88	.103
1946-47	<u>128,500</u>	<u>107,670</u>	<u>71</u>	<u>.062</u>
TOTALS	679,820	1,414,160	930	

For period of 5.167 years

Average discharge in acre-feet per year -----	131,570
Average acre-feet of silt per year -----	.180
Average acre-feet of silt per year per square mile of contributing watershed -----	.190
Average tons of silt per year -----	273,691
Average percent of silt by weight -----	.153
Drainage area in square miles (net) -----	947

^{1/} Station was established August 1, 1942.

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

SILT RECORD

Pedernales River at Johnson City (Colorado River Watershed)

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	8,100	19,330	13	.175
November	17,042	33,810	22	.146
December	15,068	25,230	17	.123
(1947)				
January	32,458	16,510	11	.037
February	11,833	950	1	.006
March	11,956	1,350	1	.008
April	10,897	3,710	2	.025
May	8,656	1,180	1	.010
June	7,688	2,170	1	.021
July	1,547	120	0	.006
August	2,652	3,280	2	.091
September	566	30	0	.004
TOTALS	128,500	107,670	71	.062

U. S. G. S. yearly discharge in acre-feet -----	128,500
Total silt for year in acre-feet -----	71
Acre-feet of silt per year per sq. mile of contributing watershed -----	.075
Average percent of silt by weight for year -----	.062
Drainage area in square miles (net) -----	947

Note: A Water Year extends from October 1 to the following September 30, incl. Note: Water samples were discontinued at old Red Bluff bridge and started one-half mile upstream at the new Red Bluff bridge on May 24, 1940.

Station was established September 11, 1930

Average discharge in acre-feet per year ----- 1,245,570
 Average acre-feet of silt per year ----- 3,148
 Average acre-feet of silt per year per square mile of contributing watershed ----- 167
 Average tons of silt per year ----- 4,800,287
 Average percent of silt by weight ----- .283
 Drainage area in square miles (net) ----- 18,800

For period of 17.055 years

Water Year	Discharge	Silt tons	Silt	Average percent of silt by weight
1929-30	24,000	143,140	94	.439
1930-31	1,370,000	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
1939-40	773,700	3,191,810	2,094	.303
1940-41	2,053,000	8,613,430	5,650	.308
1941-42	1,286,000	4,571,140	2,998	.261
1942-43	475,100	703,520	461	.109
1943-44	592,790	2,129,300	1,397	.264
1944-45	870,400	2,655,490	1,743	.224
1945-46	416,300	1,511,040	992	.267
1946-47	517,500	2,538,150	1,696	.367
TOTALS	21,243,190	81,668,900	53,697	

1/

Average percent of silt by weight

Stream: COLORADO Station: NEAR SAN SABA Sampler: Robert A. Broyles (Samples were taken from Red Bluff bridge about midway between San Saba and Lometa)

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

Prepared by

SILT RECORD (As of Sept. 30, 1947)

SILT RECORD

Colorado River at San Saba

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	52,707	261,020	171	.364
November	23,538	115,390	76	.360
December	36,918	171,520	112	.341
(1947)				
January	23,375	3,540	2	.011
February	17,669	2,390	2	.010
March	24,528	22,560	15	.068
April	23,620	15,260	10	.047
May	256,848	1,912,290	1,254	.546
June	34,643	64,770	42	.137
July	12,276	17,450	11	.104
August	2,930	340	0	.009
September	8,884	1,620	1	.013
TOTALS	517,500	2,588,150	1,696	.367

U. S. G. S. yearly discharge in acre-feet -----	517,500
Total silt for year in acre-feet -----	1,696
Acre-feet of silt per year per sq. mile of contributing watershed -----	.090
Average percent of silt by weight for year -----	.367
Drainage area in square miles (net) -----	18,800

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: COLORADO
Station: INKS DAM (Samples were taken from tailrace)
Sampler: T. A. Jones

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	285,200	41,270	27	.011
1942-43	662,400	67,090	44	.007
1943-44	768,040	127,980	84	.012
1944-45	751,950	157,540	104	.015
1945-46	678,460	134,030	88	.015
1946-47	<u>499,000</u>	<u>27,870</u>	<u>20</u>	<u>.004</u>
TOTALS	3,645,050	555,780	367	

For period of 5.167 years

Average discharge in acre-feet per year -----	705,448
Average acre-feet of silt per year -----	71
Average acre-feet of silt per year per square mile of contributing watershed -----	.004
Average tons of silt per year -----	107,563
Average percent of silt by weight -----	.011
Drainage area in square miles (net) -----	19,490

^{1/} Station was established August 1, 1942.

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

SILT RECORD

Colorado River at Inks Dam

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	51,168	1,020	1	.001
November	68,920	1,240	1	.001
December	60,198	3,020	2	.004
(1947)				
January	18,563	820	1	.003
February	13,991	860	1	.005
March	45,542	3,530	2	.006
April	35,334	2,360	2	.005
May	17,758	400	0	.002
June	35,580	2,130	1	.004
July	52,564	9,950	7	.014
August	47,092	1,210	1	.002
September	52,268	1,330	1	.002
TOTALS	499,000	27,870	20	.004

U. S. G. S. yearly discharge in acre-feet -----	499,000
Total silt for year in acre-feet -----	20
Acre-feet of silt per year per sq. mile of contributing watershed -----	.001
Average percent of silt by weight for year -----	.004
Drainage area in square miles (net) -----	19,490

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: COLORADO
Station: AUSTIN (Samples taken from Congress
Sampler: Mrs. G. L. Pfler Avenue or Montopolis Bridge) 2/

Water Year	D i s c h a r g e			Average percent 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
1939-40*	1,334,000	906,750	596	.050
1940-41	3,869,000	979,240	642	.019
1941-42	986,400	121,570	80	.009
1942-43	1,788,000	328,050	215	.013
1943-44	1,392,380	186,590	122	.010
1944-45	1,751,000	444,540	292	.019
1945-46	1,554,930	256,770	170	.012
1946-47	<u>1,523,000</u>	<u>234,770</u>	<u>155</u>	<u>.011</u>
TOTALS	18,843,350	13,076,480	8,580	

For period of 10.164 years

Average discharge in acre-feet per year -----	1,853,931
Average acre-feet of silt per year -----	844
Average acre-feet of silt per year per square mile of contributing watershed -----	.032
Average tons of silt per year -----	1,286,549
Average percent of silt by weight -----	.051
Drainage area in square miles (net) -----	26,360

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

^{2/} All samples for 1945-46 taken from Montopolis Bridge.

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 $1\frac{1}{2}$ to 4 miles downstream therefrom. Rehabilitation was completed and the impounding of water was begun on January 7, 1940.

SILT RECORD

Colorado River at Austin

1946-47

Month	Water Acre-feet	Silt tons	Silt Acre-feet	Silt percent by weight
(1946)				
October	149,969	21,550	14	.011
November	162,724	84,040	55	.038
December	146,063	5,540	4	.003
(1947)				
January	175,458	19,230	13	.008
February	123,292	9,530	6	.006
March	113,613	23,250	15	.015
April	86,785	10,460	7	.009
May	104,945	14,540	10	.010
June	124,463	5,280	3	.003
July	124,800	5,420	4	.003
August	119,028	26,810	18	.017
September	91,934	9,120	6	.007
TOTALS	1,523,000	234,770	155	.011

U. S. G. S. yearly discharge in acre-feet -----	1,523,000
Total silt for year in acre-feet -----	155
Acre-feet of silt per year per sq. mile of contributing watershed -----	.006
Average percent of silt by weight for year -----	.011
Drainage area in square miles (net) -----	26,360

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: GUADALUPE (Samples taken 4 miles southeast of
Station: SPRING BRANCH Spring Branch from bridge on old
Sampler: Alfred Beierle Highway No. 46)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	167,150	164,150	108	.072
1942-43	145,600	79,630	52	.040
1943-44	272,800	401,650	262	.108
1944-45	304,900	190,830	126	.046
1945-46	185,100	148,700	96	.059
1946-47	<u>308,000</u>	<u>128,040</u>	<u>84</u>	<u>.031</u>
TOTALS	1,383,550	1,113,000	728	

For period of 5.748 years

Average discharge in acre-feet per year -----	240,701
Average acre-feet of silt per year -----	127
Average acre-feet of silt per year per square mile of contributing watershed -----	.089
Average tons of silt per year -----	193,633
Average percent of silt by weight -----	.059
Drainage area in square miles (net) -----	1,432

^{1/} Station was established January 1, 1942.

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

SILT RECORD

Guadalupe River at Spring Branch

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	23,940	12,080	8	.037
November	45,110	48,380	32	.079
December	27,470	7,350	5	.020
(1947)				
January	59,290	6,860	4	.008
February	33,610	3,330	2	.007
March	26,570	2,860	2	.008
April	24,680	2,900	2	.009
May	21,180	2,430	2	.008
June	26,440	40,220	26	.112
July	10,440	840	1	.006
August	5,740	680	0	.009
September	3,490	110	0	.002
TOTALS	308,000	128,040	84	.031

U. S. G. S. yearly discharge in acre-feet -----	308,000
Total silt for year in acre-feet -----	84
Acre-feet of silt per year per sq. mile of contributing watershed -----	.059
Average percent of silt by weight for year -----	.031
Drainage area in square miles (net) -----	1,432

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: GUADALUPE
Station: VICTORIA (Samples taken from bridge on
Sampler: A. E. Anders U. S. Highway No. 59)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1944-45 ^{1/}	38,430	19,480	13	.037
1945-46	1,320,000	949,130	624	.053
1946-47	<u>1,595,000</u>	<u>777,690</u>	<u>511</u>	<u>.036</u>
TOTALS	2,953,430	1,746,300	1,148	

For period of 2.083 years

Average discharge in acre-feet per year -----	1,417,873
Average acre-feet of silt per year -----	551
Average acre-feet of silt per year per square mile of contributing watershed -----	.097
Average tons of silt per year -----	838,358
Average percent of silt by weight -----	.043
Drainage area in square miles (net) -----	5,676

^{1/} Station was started on September 1, 1945. Record for one month.

SILT RECORD

Guadalupe River at Victoria

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	254,400	117,510	77	.034
November	218,100	173,100	114	.058
December	137,800	31,680	21	.017
(1947)				
January	220,600	90,550	59	.030
February	118,900	19,120	13	.012
March	133,000	83,340	55	.046
April	130,000	78,690	52	.044
May	132,800	100,850	66	.056
June	69,420	13,210	9	.014
July	55,790	11,400	7	.015
August	83,070	52,540	34	.046
September	41,240	5,700	4	.010
TOTALS	1,595,000	777,690	511	.036

U. S. G. S. yearly discharge in acre-feet -----	1,595,000
Total silt for year in acre-feet -----	511
Acre-feet of silt per year per sq. mile of contributing watershed -----	.090
Average percent of silt by weight for year -----	.036
Drainage area in square miles (net) -----	5,676

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: LAVACA
Station: EDNA
Sampler: Mrs. Ida Berryhill

(Samples taken from bridge on U. S.
Highway No. 59 between Victoria
and Edna)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1944-45	980	570	0	---
1945-46	266,300	327,240	215	.090
1946-47	<u>250,300</u>	<u>192,850</u>	<u>126</u>	<u>.057</u>
TOTALS	517,580	520,660	341	

For period of 2.083 years

Average discharge in acre-feet per year -----	248,478
Average acre-feet of silt per year -----	164
Average acre-feet of silt per square mile of contributing watershed -----	.185
Average tons of silt per year -----	249,957
Average percent of silt by weight -----	.074
Drainage area in square miles (net) -----	887

1/ Station established September 1, 1945.

SILT RECORD

Lavaca River at Edna

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	86,853	34,500	23	.029
November	39,389	36,770	24	.069
December	10,813	8,220	5	.056
(1947)				
January	39,063	27,090	18	.051
February	6,777	4,430	3	.048
March	12,645	13,370	9	.078
April	10,153	4,730	3	.034
May	35,947	62,990	41	.129
June	4,101	200	0	.004
July	2,007	220	0	.008
August	1,616	260	0	.012
September	1,002	70	0	.005
TOTALS	250,300	192,850	126	.057

U. S. G. S. yearly discharge in acre-feet -----	250,300
Total silt for year in acre-feet -----	126
Acre-feet of silt per year per sq. mile of contributing watershed -----	.142
Average percent of silt by weight for year -----	.057
Drainage area in square miles (net) -----	887

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: ANGELINA
Station: HORGER
Sampler: D. W. Moye

(Samples taken from bridge on
State Highway No. 63 between
Zavalla and Jasper)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1944-45 ^{1/}	19,470	11,020	7	.042
1945-46	3,869,000	1,826,050	1,198	.035
1946-47	<u>3,201,000</u>	<u>393,530</u>	<u>259</u>	<u>.009</u>
TOTALS	7,089,470	2,230,600	1,464	

For period of 2.083 years

Average discharge in acre-feet per year -----	3,403,490
Average acre-feet of silt per year -----	703
Average acre-feet of silt per year per square mile of contributing watershed -----	.205
Average tons of silt per year -----	1,070,859
Average per cent of silt by weight -----	.023
Drainage area in square miles (net) -----	3,435

^{1/} Station established September 1, 1945.

SILT RECORD

Angelina River at Horger

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	45,334	3,470	3	.006
November	389,905	87,160	57	.016
December	331,339	32,210	21	.007
(1947)				
January	729,858	55,440	36	.006
February	276,377	46,780	31	.012
March	538,512	76,820	50	.010
April	321,084	19,250	13	.004
May	305,613	46,920	31	.011
June	200,390	19,180	13	.007
July	38,196	4,160	3	.008
August	13,662	1,500	1	.008
September	10,475	640	0	.004
TOTALS	3,201,000	393,530	259	.009

U. S. G. S. yearly discharge in acre-feet -----	3,201,000
Total silt for year in acre-feet -----	259
Acre-feet of silt per year per sq. mile of contributing watershed -----	.075
Average percent of silt by weight for year -----	.009
Drainage area in square miles (net) -----	3,435

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: NECHES (Samples were taken from bridge on
Station: NEAR ROCKLAND U. S. Highway 69 between Woodville
Sampler: George W. Jones and Lufkin)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1929-30 ^{1/}	10,620	290		.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
1939-40	1,098,000	227,590	149	.015
1940-41	3,578,000	586,140	384	.012
1941-42	2,522,000	550,920	361	.016
1942-43	748,500	316,090	207	.031
1943-44	3,230,410	1,865,580	1,223	.042
1944-45	3,396,000	1,967,220	1,290	.043
1945-46	3,535,000	1,285,240	845	.027
1946-47	3,256,000	379,210	249	.009
TOTALS	35,200,330	8,834,300	5,788	

For period of 17.148 years

Average discharge in acre-feet per year -----	2,052,737
Average acre-feet of silt per year -----	338
Average acre-feet of silt per year per square mile of contributing watershed -----	.096
Average tons of silt per year -----	515,180
Average percent of silt by weight -----	.018
Drainage area in square miles (net) -----	3,539

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

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

SILT RECORD

Neches River near Rockland

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	59,514	9,020	6	.011
November	664,881	73,330	48	.008
December	344,688	26,930	18	.006
(1947)				
January	648,655	39,960	26	.005
February	225,402	30,410	20	.010
March	516,377	107,330	70	.015
April	242,380	16,670	11	.005
May	375,273	51,090	34	.010
June	212,370	17,110	11	.006
July	47,232	5,560	4	.009
August	10,042	1,450	1	.011
September	8,541	350	0	.003
TOTALS	3,256,000	379,210	249	.009

U. S. G. S. yearly discharge in acre-feet -----	3,256,000
Total silt for year in acre-feet -----	249
Acre-feet of silt per year per sq. mile of contributing watershed -----	.070
Average percent of silt by weight for year -----	.009
Drainage area in square miles (net) -----	3,539

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: NUECES
Station: COTULLA (Samples taken from highway bridge
Sampler: Joe G. Jennings in Cotulla)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	141,400	64,130	42	.033
1942-43	64,240	33,270	22	.038
1943-44	482,500	367,860	241	.056
1944-45	82,440	65,460	43	.058
1945-46	347,600	284,210	186	.060
1946-47	<u>92,610</u>	<u>16,550</u>	<u>11</u>	<u>.013</u>
TOTALS	1,210,790	831,480	545	

For period of 5.748 years

Average discharge in acre-feet per year -----	210,645
Average acre-feet of silt per year -----	95
Average acre-feet of silt per year per square mile of contributing watershed -----	.018
Average tons of silt per year -----	144,656
Average per cent of silt by weight -----	.050
Drainage area in square miles (net) -----	5,260

1/ Station was established January 1, 1942.

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

SILT RECORD
 Nueces River at Cotulla
 1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	23,460	1,850	1	.006
November	57	0	0	0
December	10	0	0	0
(1947)				
January	31	0	0	0
February	3	0	0	0
March	0	0	0	0
April	0	0	0	0
May	6,020	2,710	2	.033
June	50,360	10,350	7	.015
July	11,980	1,590	1	.010
August	434	20	0	.003
September	251	30	0	.009
TOTALS	92,610	16,550	11	.013

U. S. G. S. yearly discharge in acre-feet -----	92,610
Total silt for year in acre-feet -----	11
Acre-feet of silt per year per sq. mile of contributing watershed -----	.002
Average percent of silt by weight for year -----	.013
Drainage area in square miles (net) -----	5,260

SILT RECORD
(As of Sept. 30, 1947)

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

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

Water Year	D i s c h a r g e			Average percent of silt by weight
	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
1939-40	840,200	1,035,600	679	.091
1940-41	1,301,000	1,635,320	1,073	.092
1941-42	1,108,000	987,340	648	.065
1942-43	260,500	323,990	213	.091
1943-44	700,090	668,660	439	.070
1944-45	297,100	590,010	387	.146
1945-46	927,400	1,134,770	744	.090
1946-47	810,100	578,310	379	.052
TOTALS	14,327,623	16,066,355	10,540	

For period of 20,000 years

Average discharge in acre-feet per year -----	716,381
Average acre-feet of silt per year -----	527
Average acre-feet of silt per year per square mile of contributing watershed -----	.034
Average tons of silt per year -----	803,318
Average percent of silt by weight -----	.082
Drainage area in square miles (net) -----	15,600

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

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

SILT RECORD

Nueces River at Three Rivers

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	504,800	270,400	177	.039
November	8,770	2,530	2	.021
December	3,965	480	0	.009
(1947)				
January	6,560	2,900	2	.032
February	2,390	780	1	.024
March	5,710	5,270	3	.068
April	15,090	29,470	19	.143
May	145,200	158,330	104	.080
June	41,020	28,340	19	.051
July	51,990	34,810	23	.049
August	22,890	44,640	29	.143
September	1,680	360	0	.016
TOTALS	810,100	578,310	379	.052

U. S. G. S. yearly discharge in acre-feet -----	810,100
Total silt for year in acre-feet -----	379
Acre-feet of silt per year per sq. mile of contributing watershed -----	.024
Average percent of silt by weight for year -----	.052
Drainage area in square miles (net) -----	15,600

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: NUECES
Station: CORPUS CHRISTI DAM (Samples taken below and adjacent
Sampler: Eddie Wright to outlet gates)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	1,203,000	546,500	358	.033
1942-43	249,600	44,790	29	.013
1943-44	740,310	323,550	212	.032
1944-45	273,800	125,070	81	.034
1945-46	936,900	350,430	231	.027
1946-47	<u>921,500</u>	<u>244,730</u>	<u>160</u>	<u>.020</u>
TOTALS	4,325,110	1,635,070	1,071	

For period of 5.660 years

Average discharge in acre-feet per year -----	764,154
Average acre-feet of silt per year -----	189
Average acre-feet of silt per year per square mile of contributing watershed -----	.011
Average tons of silt per year -----	288,892
Average percent of silt by weight -----	.028
Drainage area in square miles (net) -----	16,660

1/ Station was established February 2, 1942.

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

SILT RECORD

Nueces River at Corpus Christi Dam

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	589,543	201,980	132	.025
November	14,214	2,290	2	.012
December	5,149	620	0	.009
(1947)				
January	5,433	550	0	.007
February	4,655	1,160	1	.018
March	5,118	590	0	.008
April	9,905	1,040	1	.008
May	171,814	28,350	19	.012
June	40,497	1,680	1	.003
July	53,786	4,810	3	.007
August	15,384	1,320	1	.006
September	6,010	340	0	.004
TOTALS	921,500	244,730	160	.020

U. S. G. S. yearly discharge in acre-feet -----	921,500
Total silt for year in acre-feet -----	160
Acre-feet of silt per year per sq. mile of contributing watershed-----	.010
Average percent of silt by weight for year -----	.020
Drainage area in square miles (net) -----	16,660

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: PEASE (Samples were taken from highway bridge
Station: CROWELL about 10 miles north of Crowell on
Sampler: J. F. Bailey U. S. Highway No. 283)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	36,630	485,320	318	.973
1942-43	80,680	601,090	394	.547
1943-44	54,190	908,130	596	1.231
1944-45	96,060	1,591,185	1,043	1.217
1945-46	83,922	1,261,850	826	1.105
1946-47 ^{2/}	<u>215,800</u>	<u>2,719,620</u>	<u>1,783</u>	<u>.926</u>
TOTALS	567,282	7,567,195	4,960	

For period of 5.002 years

Average discharge in acre-feet per year -----	113,411
Average acre-feet of silt per year -----	992
Average acre-feet of silt per year per square mile of contributing watershed -----	.412
Average tons of silt per year -----	1,512,834
Average percent of silt by weight -----	.980
Drainage area in square miles (net) -----	2,410

1/ Station was established July 1, 1942.

2/ Station was discontinued June 30, 1947.

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

SILT RECORD

Pease River at Crowell

(Red River Watershed)

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	53,326	697,090	457	.960
November	2,048	3,800	2	.136
December	1,749	2,680	2	.113
(1947)				
January	928	670	0	.053
February	243	260	0	.079
March	503	450	0	.066
April	4,111	16,060	11	.287
May	149,435	1,985,230	1,302	.976
June ^{1/}	3,445	13,380	9	.285
TOTALS	215,800	2,719,620	1,783	.926

U. S. G. S. yearly discharge in acre-feet -----	215,800
Total silt for year in acre-feet -----	1,783
Acre-feet of silt per year per sq. mile of contributing watershed -----	.740
Average percent of silt by weight for year -----	.926
Drainage area in square miles (net) -----	2,410

1/ Station was discontinued June 30, 1947.

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: SABINE
Station: LOGANSFORT, LA. (Samples were taken from U. S.
Sampler: R. E. Davenport Highway 84 bridge in downtown
Logansport, La.)

Water Year	D i s c h a r g e			Average percent 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	1,326,000	291,500	190	.016
1939-40	1,303,000	458,990	301	.026
1940-41	4,876,000	825,330	541	.012
1941-42	3,817,000	1,439,880	944	.028
1942-43	1,717,000	999,370	655	.043
1943-44	4,193,000	3,002,050	1,969	.053
1944-45	5,997,000	4,502,820	2,953	.055
1945-46	5,137,000	2,650,320	1,738	.038
1946-47	3,318,000	553,900	363	.012
TOTALS	39,999,210	16,179,520	10,606	

For period of 13.156 years

Average discharge in acre-feet per year -----	3,040,378
Average acre-feet of silt per year -----	806
Average acre-feet of silt per year per square mile of contributing watershed -----	.166
Average tons of silt per year -----	1,229,821
Average per cent of silt by weight -----	.030
Drainage area in square miles (net) -----	4,858

- ^{1/} Station was established December 1, 1932
^{2/} Station was discontinued December 27, 1933
^{3/} Station was reestablished September 1, 1935

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

SILT RECORD

Sabine River at Logansport

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	35,170	3,870	3	.008
November	667,900	108,130	71	.012
December	422,300	49,170	32	.009
(1947)				
January	477,000	72,050	47	.011
February	271,300	54,810	36	.015
March	459,200	90,830	60	.015
April	486,500	59,090	39	.009
May	327,100	77,140	51	.017
June	80,990	14,450	9	.013
July	46,380	18,350	12	.029
August	8,710	690	0	.006
September	35,770	5,320	3	.011
TOTALS	3,318,000	553,900	363	.012

U. S. G. S. yearly discharge in acre-feet -----	3,318,000
Total silt for year in acre-feet -----	363
Acre-feet of silt per year per sq. mile of contributing watershed -----	.075
Average percent of silt by weight for year -----	.012
Drainage area in square miles (net) -----	4,858

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: SAN ANTONIO
Station: GOLIAD
Sampler: Polo Perez

(Samples were taken near Goliad
from bridge on State Highway No. 29)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1941-42 ^{1/}	699,600	848,340	556	.089
1942-43	453,200	581,740	382	.094
1943-44	365,100	725,630	475	.146
1944-45	352,500	567,440	371	.118
1945-46	663,080	1,387,180	910	.154
1946-47	<u>699,600</u>	<u>719,770</u>	<u>472</u>	<u>.076</u>
TOTALS	3,233,080	4,830,100	3,166	

For period of 5.748 years

Average discharge in acre-feet per year -----	562,470
Average acre-feet of silt per year -----	550
Average acre-feet of silt per year per square mile of contributing watershed -----	.140
Average tons of silt per year -----	840,310
Average percent of silt by weight -----	.110
Drainage area in square miles (net) -----	3,918

^{1/} Station was established January 1, 1942.

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

SILT RECORD

San Antonio River at Goliad

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	340,100	339,340	223	.073
November	55,180	64,180	42	.085
December	34,520	11,340	7	.024
(1947)				
January	48,880	35,490	23	.053
February	28,640	6,000	4	.015
March	34,010	26,400	17	.057
April	27,000	22,240	15	.061
May	57,390	179,580	118	.230
June	20,520	4,480	3	.016
July	15,780	3,000	2	.014
August	21,370	24,130	16	.083
September	16,170	3,590	2	.016
TOTALS	699,600	719,770	472	.076

U. S. G. S. yearly discharge in acre-feet -----	699,600
Total silt for year in acre-feet -----	472
Acre-feet of silt per year per sq. mile of contributing watershed -----	.120
Average percent of silt by weight for year -----	.076
Drainage area in square miles (net) -----	3,918

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: SAN JACINTO
Station: HUFFMAN
Sampler: H. B. Scott

(Samples were taken at Sheldon
Pumping Plant, City of Houston)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
1944-45	221,940 ^{1/}	163,730	107	.054
1945-46	2,247,000	1,345,020	881	.044
1946-47	<u>2,467,000</u>	<u>2,096,730</u>	<u>1,377</u>	<u>.062</u>
TOTALS	4,935,940	3,605,480	2,365	

For period of 2.083 years

Average discharge in acre-feet per year -----	2,369,630
Average acre-feet of silt per year -----	1,135
Average acre-feet of silt per year per square mile of contributing watershed -----	.407
Average tons of silt per year -----	1,730,907
Average per cent of silt by weight -----	.054
Drainage area in square miles (net) -----	2,791

1/ Station established September 1, 1945.

SILT RECORD

San Jacinto River at Huffman

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	85,160	26,010	17	.022
November	1,186,000	1,649,900	1,082	.102
December	120,500	16,120	11	.010
(1947)				
January	553,700	218,830	144	.029
February	46,600	7,100	5	.011
March	208,700	92,880	61	.033
April	33,590	1,610	1	.004
May	167,200	75,630	50	.033
June	28,740	4,840	3	.012
July	14,800	1,570	1	.008
August	11,980	1,450	1	.009
September	9,570	790	1	.006
TOTALS	2,467,000	2,096,730	1,377	.062

U. S. G. S. yearly discharge in acre-feet -----	2,467,000
Total silt for year in acre-feet -----	1,377
Acre-feet of silt per year per sq. mile of contributing watershed -----	.493
Average percent of silt by weight for year -----	.062
Drainage area in square miles (net) -----	2,791

SILT RECORD
(As of Sept. 30, 1947)

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 (Samples were taken from highway bridge
Station: NEAR HUMBLE about 2 miles north of Humble)
Sampler: L. C. Clark

Water Year	D i s c h a r g e			Average percent 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
1939-40	282,700	162,070	105	.042
1940-41	2,566,000	896,050	588	.026
1941-42	909,200	373,670	245	.030
1942-43	545,800	290,820	191	.039
1943-44	881,200	660,570	434	.055
1944-45	1,577,400	1,241,490	815	.058
1945-46	1,320,330	774,810	509	.043
1946-47	<u>1,325,000</u>	<u>345,140</u>	<u>228</u>	<u>.019</u>
TOTALS	10,492,230	5,162,620	3,383	

For period of 11.337 years

Average discharge in acre-feet per year -----	925,486
Average acre-feet of silt per year -----	298
Average acre-feet of silt per year per square mile of contributing watershed -----	.165
Average tons of silt per year -----	455,378
Average percent of silt by weight -----	.036
Drainage area in square miles (net) -----	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 RECORD

San Jacinto River at Humble

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	65,330	4,350	3	.005
November	568,403	144,090	95	.019
December	55,793	5,160	3	.007
(1947)				
January	311,742	76,950	50	.018
February	26,928	2,580	2	.007
March	119,720	28,220	19	.017
April	14,545	950	1	.005
May	129,358	77,610	51	.044
June	19,137	3,010	2	.012
July	7,795	870	1	.009
August	6,260	770	1	.009
September	5,490	580	0	.008
TOTALS	1,325,000	345,140	228	.019
U. S. G. S. yearly discharge in acre-feet -----				1,325,000
Total silt for year in acre-feet -----				228
Acre-feet of silt per year per sq. mile of contributing watershed -----				.126
Average percent of silt by weight for year -----				.019
Drainage area in square miles (net) -----				1,811

SILT RECORD
(As of Sept. 30, 1947)

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

Stream: TRINITY
Station: ROMAYOR (Samples taken from the railroad
Sampler: Claud Allen bridge)

Water Year	D i s c h a r g e			Average percent of silt by weight
	Water Acre-feet	Silt tons	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
1939-40	3,218,000	4,999,040	3,280	.114
1940-41	12,260,000	9,657,990	6,335	.058
1941-42	9,901,000	9,447,990	6,197	.070
1942-43	4,298,000	4,914,950	3,224	.084
1943-44	7,588,000	11,433,850	7,501	.111
1944-45	12,200,000	13,559,310	8,893	.082
1945-46	8,392,000	8,643,330	5,670	.076
1946-47	7,009,000	5,290,980	3,468	.055
TOTALS	77,727,130	81,374,760	53,379	

For period of 11.142 years

Average discharge in acre-feet per year -----	6,976,048
Average acre-feet of silt per year -----	4,791
Average acre-feet of silt per year per square mile of contributing watershed -----	.279
Average tons of silt per year -----	7,303,425
Average percent of silt by weight -----	.077
Drainage area in square miles (net) -----	17,200

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

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

SILT RECORD

Trinity River at Romayor

1946-47

Month	D i s c h a r g e			Silt percent by weight
	Water Acre-feet	Silt tons	Silt Acre-feet	
(1946)				
October	80,150	22,940	15	.021
November	1,637,000	1,738,540	1,140	.078
December	795,400	517,510	339	.048
(1947)				
January	1,197,000	608,570	399	.037
February	284,900	105,970	70	.027
March	954,100	788,960	517	.061
April	614,500	411,480	270	.049
May	723,600	615,350	404	.062
June	250,900	147,000	96	.043
July	234,300	178,750	117	.056
August	59,030	9,390	6	.012
September	178,300	146,520	95	.060
TOTALS	7,009,000	5,290,980	3,468	.055

U. S. G. S. yearly discharge in acre-feet -----	7,009,000
Total silt for year in acre-feet -----	3,468
Acre-feet of silt per year per sq. mile of contributing watershed -----	.020
Average percent of silt by weight for year -----	.055
Drainage area in square miles (net) -----	17,200

SUMMARY OF SILT RECORDS COVERING MAJOR STREAMS OF TEXAS
 Prepared by TEXAS BOARD OF WATER ENGINEERS and UNITED STATES DEPARTMENT OF AGRICULTURE
 Austin, Texas As of September 30, 1947

Water-shed	Stream	Silt Station	Years Samples Taken	Total Length Record	Average per Year			Silt per sq. mi. of water-shed		Net drainage area
					Run-off	Silt		sq. mi.	weight per-cent	
				Years	ac-ft	ac-ft	tons	ac-ft	per-cent	sq. mi.
Brazos	Salt Fork	Aspermont <u>1/</u>	1924-25	1.238	111,100	2,818	4,297,420	1.272	2.842	2,216
Brazos	Salt Fork	Seymour <u>1/</u>	1924-30	6.107	337,790	5,450	8,309,370	1.038	1.807	5,250
Brazos	Dbl.Mt.Fk.	Aspermont <u>1/</u>	1924-33	9.244	135,280	2,665	406,240	1.765	2.206	1,510
Brazos	Clear Fork	Crystal Falls <u>1/</u>	1925-29	3.307	214,440	568	866,020	.131	.297	4,320
Brazos	Clear Fork	Eliasville <u>1/</u>	1924-25	1.244	177,240	529	808,630	.092	.335	5,740
Brazos	Little River	Little River <u>1/</u>	1924-29	4.962	419,870	752	1,147,190	.143	.201	5,253
Brazos	San Gabriel	Circleville <u>1/</u>	1924-29	5.403	110,744	222	339,590	.369	.225	602
Brazos	Leon	Belton <u>2/</u>	1945-47	2.083	497,782	486	716,956	.137	.106	3,547
Brazos	Navasota	Easterly	1942-47	5.748	433,650	275	418,525	.290	.071	949
Brazos	Brazos	South Bend	1942-47	5.710	497,391	2,216	3,378,235	.179	.499	12,360
Brazos	Brazos	Possum King. Dam	1942-47	5.710	702,270	108	164,338	.008	.017	13,310
Brazos	Brazos	Mineral Wells <u>1/</u>	1924-34	10.332	953,550	6,506	9,920,060	.468	.764	13,910
Brazos	Brazos	Glen Rose <u>1/</u>	1924-29	4.588	1,181,370	8,378	12,773,810	.537	.794	15,600
Brazos	Brazos	Waco <u>1/</u>	1924-33	9.254	1,717,130	10,325	15,742,010	.536	.673	19,260
Brazos	Brazos	Bryan <u>1/</u>	1899-02	3.419	4,156,736	39,117	-----	1.340	.941 *	29,190
Brazos	Brazos	Richmond	1924-47	23.306	6,023,508	24,898	38,010,557	.715	.464	34,810
Colorado	Llano	Llano	1942-47	5.167	181,692	143	217,403	.036	.088	4,000
Colorado	Pedernales	Johnson City	1942-47	5.167	131,570	180	273,691	.190	.153	947
Colorado	Colorado	San Saba	1930-47	17.055	1,245,570	3,148	4,800,287	.167	.283	18,800
Colorado	Colorado	Tow <u>1/</u>	1927-32	5.162	1,245,440	3,360	5,122,520	.174	.302	19,300
Colorado	Colorado	Inks Dam	1942-47	5.167	705,448	71	107,563	.004	.011	19,490
Colorado	Colorado	Austin	1937-47	10.164	1,853,931	844	1,286,549	.032	.051	26,360
Colorado	Colorado	Columbus-E.Lake <u>4/</u>	30-33;37-41	6.997	3,167,710	5,898	8,991,960	.202	.209	29,140
Guadalupe	Guadalupe	Spring Branch	1942-47	5.748	240,701	127	193,633	.089	.059	1,432
Guadalupe	Guadalupe	Victoria	1945-47	2.083	1,417,873	551	838,358	.097	.043	5,676

* Percent of silt by volume

1/ 4/ Progress reports by numbers showing data by months when station was discontinued.
2/ Station established September 1, 1945.

(continued)

Watershed	Stream	Silt station	Years samples taken	Total Length Record	Average per year			Silt per sq mi of watershed	Silt by weight	Net drainage area
					Run-off	Silt				
				Years	ac-ft	ac-ft	tons	ac-ft.	per-cent	sq mi
Lavaca	Lavaca	Edna	1945-47	2.033	248,478	164	249,957	.185	.074	387
Neches	Angelina	Horger	1945-47	2.033	3,403,490	703	1,070,859	.205	.023	3,435
Neches	Neches	Rockland	1930-47	17.143	2,052,737	338	515,130	.096	.013	3,539
Nueces	Nueces	Cotulla	1942-47	5.743	210,645	95	144,656	.018	.050	5,260
Nueces	Nueces	Three Rivers	1927-47	20.000	716,331	527	803,313	.034	.032	15,600
Nueces	Nueces	Corpus Chr. Dam	1942-47	5.660	764,154	139	288,892	.011	.023	16,660
Rio Grande	Rio Grande	Eagle Pass ^{3/}	1934-43	9.063	3,130,057	9,776	14,904,545	.073	.344	125,260
Rio Grande	Rio Grande	Roma ^{3/}	1929-43	14.134	4,166,619	12,538	19,192,311	.080	.333	157,204
Red	Pease	Crowell ^{6/}	1942-47	5.002	113,411	992	1,512,334	.412	.930	2,410
Red	Wichita	Wichita Falls ^{1/}	1900-02	2.014	566,420	5,516	---	1.776	.974 *	3,105
Red	Red	Denison ^{1/}	30-33;36-39	6.260	3,326,730	13,640	20,793,330	.415	.459	32,840
Sabine	Sabine	Logansport, La.	32-33;35-47	131.56	3,040,373	306	1,229,321	.166	.030	4,353
Sabine	Sabine	Ruliff ^{2/ 7/}	1945-46	1.033	11,139,040	3,124	5,771,404	.003	.039	9,440
San Antonio	San Antonio	Falls City ^{1/}	1927-33	5.967	127,120	142	216,730	.069	.125	2,070
San Antonio	San Antonio	Goliad	1942-47	5.743	562,470	550	340,310	.140	.110	3,913
San Jacinto	West Fork	Humble	32-33;37-47	11.337	925,436	293	455,373	.165	.036	1,311
San Jacinto	San Jacinto	Huffman ^{2/}	1945-47	2.033	2,369,630	1,135	1,730,907	.407	.054	2,791
Trinity	Trinity	Rosser ^{1/}	1933-40	1.593	760,700	933	1,504,920	.122	.145	3,057
Trinity	Trinity	Romayor	1936-47	11.142	3,976,043	4,791	7,303,425	.279	.077	17,200

^{1/} Silt progress reports by numbers showing data by months when station was discontinued.

^{2/} Station established September 1, 1945.

^{3/} Station discontinued May 31, 1943.

^{6/} Station discontinued June 30, 1947.

^{7/} Station discontinued September 30, 1946.