DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

oOo

REPORTS OF THE
DIVISION OF WATER RESOURCES
Edward Hyatt, State Engineer

oOo

REPORT ON

WATER MASTER SERVICE

ON

SHASTA RIVER AND TRIBUTARIES

SISKIYOU COUNTY, CALIFORNIA
DURING THE SEASON OF 1939

oOo

BY

F. E. STEPHENSON
ASSISTANT HYDRAULIC ENGINEER

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

CULBERT L. OLSON
GOVERNOR OF CALIFORNIA

FRANK W. CLARK
DIRECTOR

STATE OF CALIFORNIA
Department of Public Works
SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

April 6, 1940

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

Attention: Mr. Gordon Zander,
Supervising Hydraulic Engineer.

Dear Sir:

Herwith is submitted a report covering water master service within the Shasta River Water Master District, Siskiyou County, California, during the 1939 season.

The report presents a general description of the work and a discussion of the results obtained. Records of precipitation, run-off and other pertinent data are included.

Respectfully submitted,

P E Stephenson
Assistant Hydraulic Engineer

TABLE OF CONTENTS

LETTER OF TRANSMITTAL — PAGE

ORGANIZATION

INTRODUCTION 1

DISCUSSION OF RESULTS 3
Precipitation 3
Water Supply 3

DISTRIBUTION 5
Shasta River above confluence of Bolan Creek 6
Shasta River below junction of Boles Creek and Boles Creek..... 7
Shasta River below Lake Dwinnell Reservoir..... 7
Donughan Creek 9
Carrick Creek 10
Big Springs 11
Lower Shasta River 11
Little Shasta River 12

TABLES

1. Average Precipitation at Mount Shasta City and Montague - Monthly, Seasonal and Average Amounts in Inches-1880 to 1939.

2. Monthly Precipitation for Seasonal Year 1938-1939. Compared with mean monthly precipitation 1880 to 1939.

3. Daily Discharge in Cubic Feet Per Second Shasta River Above Edson-Foulke Yreka Ditch.

4. Daily Discharge in Cubic Feet Per Second. Parks Creek Above Duke North Ditch.

5. Daily Discharge in Cubic Feet Per Second Parks Creek at Roberteon Weir.

6. Daily Discharge in Cubic Feet Per Second. Shasta River Below Dennis Ranch.

7. Daily Discharge in Cubic Feet Per Second. Shasta River Near Montague.

8. Daily Discharge in Cubic Feet Per Second. Little Shasta River Above Harp Ditch.

9. Discharge in Cubic Feet Per Second. Carrick Spring.

TABLES (Continued)

10. Discharge in Cubic Feet Per Second - Big Springs.

11. Discharge in Cubic Feet Per Second - Cleland Spring.

12. Discharge in Cubic Feet Per Second - Dow and Hammond-Eddy Creek Ditches.

13. Daily Discharge in Cubic Feet Per Second. Deaugham Creek at Long-Bell Lower Weir.

14. Daily Discharge in Cubic Feet Per Second. M. W. C. D. Parks Creek Canal at Head.

15. Daily Storage on Hand in Acre-Feet Lake Dwinnell Reservoir.

16. Daily Discharge in Cubic Feet per Second. M. W. C. D. Shasta River Canal.

17. Record of Deliveries to Prior Right Owners from Lake Dwinnell Reservoir 1929-1939, inc.

18. Record of Operation of Lake Dwinnell Reservoir, 1929 to 1939, inclusive.

19. Daily Discharge in Cubic Feet Per Second, Shasta River Water Association Pumping Plant.

20. Daily Discharge in Cubic Feet Per Second, Grenada Irrigation District Pumping Plant.

ORGANIZATION

Frank W. Clark, Director of Department of Public Works

Edward Hyatt, State Engineer

Harold Conkling, Deputy State Engineer

Gordon Zander, Supervising Hydraulic Engineer

Harrison Smitherum, Senior Hydraulic Engineer

F. E. Stephenson, Assistant Hydraulic Engineer

REPORT ON

WATER MASTER SERVICE

ON

SHASTA RIVER AND TRIBUTARIES

SISKIYOU COUNTY, CALIFORNIA

DURING SEASON OF 1939

* * * * * * * *

INTRODUCTION

The Shasta River Water Master District was created by order of the Division of Water Resources under date of March 1, 1933 to embrace the water rights on Shasta River and its tributaries in Siskiyou County, California, excepting certain tributaries and springs named in said order, as established by Decree of the Superior Court, Siskiyou County, California, in the Shasta River Proceeding No. 7035, entered on December 30, 1932. Subsequent to creation of the district, the boundaries were changed to exclude the water rights on Willow Creek and its tributaries by "Order Changing Shasta River Water Master District, Siskiyou County, California, and Containing a Description of All of the Lands Within Said District As So Changed," dated December 30, 1935.

Water master service in the Shasta River Water Master District was carried on throughout the 1939 season in accordance with the "Distribution of Water" procedure contained in Sections 37 to 37f, inclusive, of the Water Commission Act. Such service extended over the period from April 1 to October 1. P. E. Stephenson, Deputy Water Master, Shasta River Water Master District, administered the distribution of water from the streams within the district during the entire period. Harrison Smitherum was Supervising Water Master.

DISCUSSION OF RESULTS

Precipitation

Data on precipitation, as compiled from records kept at Mt. Shasta City and Montague are presented in Tables 1 and 2 of this report. Table 1 also sets forth the monthly precipitation at Edgewood from August 1, 1934 to October 1, 1939.

Based upon the data presented in the above mentioned tables, precipitation for the 1938-39 Season was 14.18 inches or about 61 per cent of the mean for the 50 year period 1889 to 1939. Of this total 74 per cent fell during the period October 1 to April 1 as compared to the long time mean of 80 per cent for the same period. The total snowfall as recorded at Mt. Shasta City for the 1938-39 season was 54 inches as compared to the normal of about 104 inches or about 52 per cent of normal.

Water Supply

Measuring stations, equipped with water stage recorders were maintained at the stream gaging stations listed below. Intermittent measurements of the various springs within the area were also obtained. The records of discharge for the several streams and springs are presented in Tables 3 to 11, inclusive, submitted at the end of this report.

Shasta River above Edson-Foulke Yreka Ditch

Parks Creek above Edson-Foulke, Parks Creek Ditch

Parks Creek at Robertson Weir

Shasta River below Dennis Ranch

Shasta River near Montague

Little Shasta River above Harp Ditch

Shasta River near Edgewood

The gaging station on Shasta River near Edgewood is maintained by the Montague Water Conservation District throughout the winter period of each season. During the greater part of the 1938-39 winter, the water level in the river was below the intake pipe to the stilling well and the record of gage heights obtained was very unreliable, hence no record of daily discharge is presented for this station.

Measuring stations equipped with water stage recorders, were also maintained on streams, reservoirs and diversion conduits at critical control points, as an aid in the distribution of the available water supply. A list of these stations follows:

Shasta River at Grenada Pumps

Little Shasta River at Rose Dam

Beaughan Creek at Long Bell Lower Weir

Carrick Creek at Jackson Weir

M.W.C.D. Parks Creek Canal at head

Lake Dwinnell Reservoir

Dennis - Terwilliger Weir

Soule Weir

Dennis - Koller Weir

Jones Weir

M.W.C.D. Shasta River Canal at head

McKee Weir

M.W.C.D. Shasta River Canal at Big Springs - Little Shasta road crossing

Big Springs Lake

Water supply conditions for 1939 throughout the entire stream system, as compared to that for the past six seasons, were the worst since 1934.

Early spring conditions indicated a more serious shortage than occurred during the summer and fall of 1934, however, "holdover ground storage" from the extremely wet season of 1938 apparently contributed to the stream flow throughout the 1939 season. Such a condition was particularly evident on Cleland Springs. A comparison of the runoff for the past six seasons is presented in the following tabulation.

Name of Stream	Run-off in Acre Feet April 1 to October 1					
	1934	1935	1936	1937	1938	1939
Shasta River above Yreka Ditch	4420	8510	7440	13600	19100*	4090
Parks Creek above Duke N Ditch	2550	6100	6560	11000	14400*	4490
Little Shasta River	850	5630	6520	5680	6060**	3270
Beaughan Spring	2020	1960	1860	1820	1950	1810
Big Springs	12400	12200	12100	12100	--	12100
Carrich Spring	2090	2090	2050	2020	2110	2000
Cleland Spring	2400	2420	2400	2410	2790	3060

* Does not include April Run-off

** Period May 14 to September 30 inclusive

Distribution

Distribution for the 1939 season followed the practices initiated during the past five seasons with little modification. The results accomplished in the several sections into which the stream system has been divided follow.

Shasta River above confluence of Boles Creek:

The water supply available to this area is the summation of the flow of Shasta River above the Edson-Foulke Yreka Ditch, Table 3 hereof,

and the combined discharge of the Dow Eddy Creek Ditch and the Hammond-Scott Ditch diverting from Eddy Creek, Table 12 hereof. A summary of the distribution for the 1939 season is set forth in the following tabulation.

	Average Available Water Supply Cu.Ft.Per Sec.	Distribution in per cent of Priority Allotments		
		Hammond-Scott	Foulke et al	Dow
April	39.4	100	93	100
May	31.1	98	73	80
June	15.4	56	36	0
July	5.8	43	14	0
August	1.9	34	9	0
September	3.5	15	8	0

This area experienced a serious shortage of irrigation water in June of this year, the available water supply being approximately 60 per cent of the amount normally expected during the month. This shortage occurred before the various irrigated crops within the area were matured, and as a result some of the meadow lands which normally produce good hay crops were used entirely for pasturage. During the period August 10 to 30, water did not reach the Edson-Foulke Ranch through the Edson-Foulke Yreka Ditch. During the latter part of August practically the entire water shed of Shasta River above the Edson-Foulke Yreka Ditch was burned over by a forest fire. A definite increase in the flow of Shasta River was recorded after the fire.

Shasta River below Junction of Boles Creek and Boles Creek

One hundred per cent allotments were available for all priorities, excepting the storage rights of Montague Water Conservation District, up to about June 20. From June 20 to July 25 an average of approximately 84 per cent of allotments were delivered. Beginning on July 26 and subsequent thereto, the available water was distributed on an equal and correlative basis among water right owners down to and including Frank E. Mills. Under this arrangement an average of 50 per cent of allotments was delivered.

Shasta River below Lake Dwinnell Reservoir

Water master service on this section of the stream system involves the operation of the Montague Water Conservation District's Lake Dwinnell Reservoir. The water master in cooperation with the District exercises control over deliveries from the reservoir both to the District and to the water right owners below the reservoir, who are entitled to water from the reservoir in accordance with agreements with the District.

Delivery of water to the water right owners below the reservoir commenced on April 4 and continued until August 9, when the available water in the reservoir was exhausted. From August 9 to September 25 the water level in the reservoir dropped 1.70 feet below the sill of the outlet structure.

Delivery of water for District use commenced on April 9 and continued to May 5, curtailment on that date being necessary so as not to exhaust the available water before the prior rights below the reservoir were satisfied.

Summaries of the operation of the reservoir during the 1939 season are given in the following tabulations.

Operation of Lake Dwinnell Reservoir during the 1939 Season

Date	Storage: On Hand Acre-feet	Storage: Draft Acre-feet	Inflow to Reservoir Acre-feet	Total Draft Acre-feet	Measured Delivery Acre-feet: District	Measured Delivery Acre-feet: Below Dam	Seepage and Evaporation Loss from Reservoir Acre-feet
April 1	7350						
May 1	4140	3210	730	3940	1944	621	1375
June 1	2385	1755	250	2005	409	776	820
July 1	1190	1195	100	1295	0	745	550
Aug. 1	130	1060	100	1160	0	855	305
Aug. 10	0	130	30	160	0	26	134
Total		7350	1210	8560	2353	3023	3184

Deliveries from Lake Dwinnell Reservoir to Prior Water Right Owners Below Reservoir During 1939 Season

Name of Water Right Owner	Allotment as per Agreement Acre-feet	Amount delivered from Lake Dwinnell Reservoir for 1939 Season: Acre-feet	Per Cent of Allotment
J. L. Jones	198	198	100
John Soule	692	692	100
J. W. and Mary L. Dennis	696	687	99
McKee Company	1200	1138	95
E. S. Terwilliger	596	*308	52
Totals	3382	3023	90

*Accretions to the flow of Shasta River through the Dennis Ranch provides additional water, which is available for diversion by E. S. Terwilliger, in an amount more than sufficient to make up the shortage in the amount delivered from the reservoir.

Submitted at the end of this report in Tables 14, 15, 16, 17 and 18, respectively, are records as follows: daily discharge of M.W.C.D. Parks Creek Canal showing amount of water diverted from Parks Creek to Lake Dwinnell Reservoir during the 1939 season; daily storage on hand in Lake Dwinnell Reservoir for the 1938-39 season; daily discharge of M.W.C.D. Shasta River Canal showing amount of water delivered from Lake Dwinnell Reservoir for District use during the 1939 season; deliveries from Lake Dwinnell Reservoir to water right owners below reservoir from 1929 to 1939, inclusive; and operation of Lake Dwinnell Reservoir from 1929 to 1939, inclusive.

In Table 6 of this report is a record of the flow of Shasta River below the D. S. Dennis Ranch. Subsequent to August 15, the recorded flow is mainly seepage from Lake Dwinnell Reservoir.

Beaughan Creek

Two measurements were made during the 1939 season at the 8.0 rectangular weir, Long Bell Upper Weir, located at the head of the Creek. The results are given below.

Date	Gage Height in feet	Discharge Cu.Ft. per Sec.
April 24, 1939	0.34	5.28
July 31, 1939	0.32	4.79

These amounts of water were sufficient to supply 64 per cent and 58 per cent, respectively, of the Total second priority allotments of 8.28 cubic feet per second. Distribution to the second priority water right owners was made in accordance with these percentages during the 1939 season.

The Longbell Lumber Company diverts practically the entire flow of Beaughan Creek and, after use thereof at its saw mill, the downstream users share of the available water, which is 65 percent of the measured flow at the Longbell Upper Weir, is returned to the creek at the Longbell Lower Weir. Based on the respective measurements, the amounts of water that should have been delivered to the lower users were 3.44 cubic feet per second and 3.12 cubic feet per second. A record of the delivery over the Longbell Lower Weir is presented in Table 9 at the end of this report.

Carrick Creek

Distribution on this stream during the 1939 season was confined largely to the first, second, third, fourth, fifth and ninth priorities from Carrick Creek and the fifth and seventh priorities from Stone Creek. Sufficient water was available to deliver 100 percent allotments to all of these priorities, except the ninth priority, throughout the season. An average of about 35 percent allotment was available to the ninth priority. The discharge in cubic feet per second of Carrick Springs is shown in Table 13 of this report.

Parks Creek

Distribution on Parks Creek for the 1939 season was in accordance with the practices followed during the past five seasons with little modification.

A summary of the distribution made during the 1939 season is set forth in the following tabulation.

Month	Measured Water Supply Cu. Ft. Per Sec.	Distribution in Per Cent of Priority Allotments			
		Duke 1	Caledonia 2	Fouke 3	Robertson 4, 6, 11, 12 and 15
April	40.0	100	100	100	99
May	20.6	100	100	96	60
June	6.7	91	42	8	20
July	3.1	52	0	0	6
Aug.	1.7	28	0	0	0
Sept.	2.5	42	0	0	0

Records of the flow available for the above distribution are given in Tables 4 and 5 of this report.

The fifth priority rights from the North Branch of Parks Creek were supplied with 100 per cent of their allotments until about May 25. however, the water available to these rights failed entirely on about June 1.

The 21st and 24th priority rights of M. A. Silva on the extreme lower end of Parks Creek received 100 per cent allotments throughout the season.

Big Springs

Under agreement between Stallcup and the Big Springs Irrigation District. 7.50 cubic feet per second of water was delivered to the Stallcup Ditch through the Big Springs Irrigation District's pumping plant. The Big Springs plant started operation on April 1 and continued throughout the season until September 26. Water was delivered to Stallcup continuously during the period April 5 to May 24 at which time he turned approximately 6.00 cubic feet per second of water to the District for a period of about 15 days. This practice was repeated for a period of about ten days each in June, July, August and September. Louie Bros. diverted an average of ten cubic feet per second, or 100 per cent allotment, throughout the entire irrigation season April 1 to September 30.

Table 14 sets forth the discharge of Big Springs during the 1939 season.

Lower Shasta River

The following tabulation sets forth the average diversion made by the Shasta River Water Association and the Grenada Irrigation District during the 1939 season along with the water supply available to the water users below Montague Bridge during the same period.

Month	Average Available Water Supply Flock, et al Cu. Ft. Per Second	Average Diversion Shasta River Water Association Cu. Ft. Per Second	Average Diversion Grenada Irrigation District Cu. Ft. Per Second
April	43.8	41.4	21.6
May	42.7	36.4	16.1
June	19.1	41.3	15.4
July	10.1	39.1	12.1
August	16.5	41.1	11.8
September	60.8	35.5	9.1

The daily discharge in cubic feet per second of Shasta River at Montague Bridge is set forth in Table 7 of this report.

The daily diversions in cubic feet per second of Shasta River Water Association and Grenada Irrigation District are set forth in Tables 19 and 20 respectively.

Little Shasta River

A summary of the distribution during the 1939 season is shown in the following tabulation.

Month	Available Water Supply: Cubic Feet Per Second	Available Water Supply: % of Total Allotment	Distribution In Per Cent of Priority Allotments: 1	3	4	5	6	7
April	37.7	48	100	100	100	100	7	0
May	22.9	30	100	100	100	12	0	0
June	13.7	18	100	100	100	0	0	0
July	11.1	14	100	100	50	0	0	0
August	9.8	13	100	100	20	0	0	0
September	9.9	13	100	100	15	0	0	0

*Percent of total allotments for first, third, fourth, fifth, sixth and seventh priorities.

The flow of Little Shasta River above Harp Ditch is set forth in Table 8 of this report.

Intermittent measurements of the discharge of Cleland Springs are recorded in Table 11. It is interesting to note that the flow of these springs was materially increased by the wet season of 1937-38. The average flow for the 1934, 1935, 1936 and 1937 seasons was approximately 6.65 cubic feet per second. This increased to an average of 7.7 cubic feet per second for the 1938 season with a maximum flow of 10.0 cubic feet per second measured on September 29, 1938. The average flow for the 1939 season was 8.44 cubic feet per second with a maximum of 8.8 cubic feet per second recorded on April 20, 1939.

TABLE 1

PRECIPITATION DATA

Average of precipitation at Mount Shasta City and Montague - 1889 to 1939

Monthly, Seasonal and Average Amounts in Inches

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Seasonal
1930-31	0.41	1.26	0.77	3.59	1.19	1.16	0.41	0.24	2.71	0.00	0.00	.94	12.68
1931-32	1.95	.92	6.81	2.32	1.13	1.77	1.39	3.20	.50	.19	.00	.00	20.18
1932-33	.46	3.50	2.35	4.98	.64	5.86	.57	1.28	.34	.12	.00	.20	20.30
1933-34	1.24	.02	5.38	2.13	3.16	1.46	1.64	1.16	1.54	.58	.40	.24	18.95
1934-35	2.77	5.29	1.48	4.00	1.63	1.87	3.96	.34	.05	.22	.26	.31	22.18
1935-36	1.14	.96	3.04	6.00	3.76	.74	1.96	1.46	2.11	.34	.62	.74	22.27
1936-37	.02	.00	2.01	3.92	4.91	6.70	1.86	.50	3.20	.15	.00	.26	23.53
1937-38	2.31	6.88	4.54	4.25	8.17	5.88	1.74	.97	.16	.18	.00	.94	36.02
1938-39	1.80	2.34	1.30	2.08	1.06	1.87	.24	1.27	.14	.20	T	1.88	14.18
Totals	178.53	146.19	179.43	202.71	172.56	143.89	82.24	62.81	36.16	11.43	11.85	33.58	1161.32
Mean yrs.	1.57	2.92	3.59	4.05	3.45	2.88	1.65	1.26	.72	.29	.24	.67	23.23

Precipitation at Edgewood - Elevation 2952

1933-34	-	-								0.38	0.00		
1934-35	1.30	3.53	1.08	1.65	1.15	2.62	2.58	0.43	0.57	0.38	.06	.21	15.56
1935-36	.81	.82	1.51	3.15	1.65	1.22	1.09	1.04	.45	.15	.00	.13	12.02
1936-37	.00	.00	.41	1.90	1.28	3.53	.86	1.06	1.27	.00	.00	.33	10.64
1937-38	1.52	3.49	4.24	3.67	5.45	5.16	.96	.89	.35	.08	.00	.60	26.21
1938-39	1.31	1.75	.44	1.17	.53	1.79	.56	.37	.51	.55	.37	1.27	10.62

TABLE 2

Monthly Precipitation for Seasonal Year 1938-39

Compared with Mean Monthly Precipitation 1889 to 1939

Month	Monthly Mean-46 yrs. Inches	per cent of total	Monthly 1938-39 Inches	per cent of total	Snowfall at Mt. Shasta City in inches Normal	1938-39
October	1.57	6.8	1.80	12.7		
November	2.92	12.6	2.34	16.5		
December	3.59	15.5	1.30	9.2	24.9	0
January	4.05	17.4	2.08	14.7	37.0	19.0
February	3.45	14.8	1.06	7.5	19.4	23.0
March	2.88	12.4	1.87	13.2	17.8	12.0
April	1.65	7.1	.24	1.7	4.4	0
May	1.26	5.4	1.27	8.9		
June	.72	3.1	.14	1.0		
July	.23	1.0	.20	1.4		
August	.24	1.0	T	0		
September	.67	2.9	1.88	13.2		
Totals	23.23	100.0	14.18	100.0	103.5	54.0

TABLE 9

Daily Discharge in Cubic Feet Per Second

SHASTA RIVER ABOVE SPOON-FOULKE YREKA DITCH

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1	29.0	22.3	16.6	8.60	1.50	1.50
2	35.0	22.3	14.6	8.60	1.40	1.50
3	37.0	21.6	14.1	10.0	1.30	1.50
4	37.0	21.6	13.6	11.8	1.20	1.40
5	35.0	20.7	13.1	9.50	.90	1.50
6	34.0	19.6	12.7	6.70	.90	1.50
7	31.2	19.6	11.3	5.60	.90	1.30
8	32.6	22.3	11.3	4.90	.90	1.40
9	28.5	22.3	11.8	4.30	.60	1.30
10	26.0	25.2	12.2	3.30	.40	1.60
11	26.8	25.2	11.8	3.00	.40	2.10
12	27.6	23.0	12.2	2.80	.45	2.80
13	26.0	20.7	11.8	2.80	.45	6.20
14	21.6	20.7	11.3	2.80	.50	6.30
15	20.2	20.7	12.7	2.80	.55	3.60
16	20.2	20.7	13.6	2.80	.55	2.20
17	23.0	20.7	11.8	2.80	.55	1.90
18	24.4	20.2	10.9	2.50	.50	1.80
19	27.6	20.2	9.10	2.50	.65	1.90
20	27.6	18.3	8.60	2.50	.70	2.00
21	32.6	26.8	8.60	2.50	.55	2.50
22	34.0	27.6	7.50	2.10	.40	2.50
23	36.2	24.4	7.10	2.00	.45	2.10
24	32.6	20.2	7.50	1.90	.65	2.10
25	29.4	19.6	7.50	1.90	.70	3.00
26	27.6	18.3	7.10	1.80	.65	3.30
27	26.8	15.6	6.70	1.80	.90	3.00
28	25.2	17.1	6.70	1.70	1.20	2.80
29	26.8	20.2	6.00	1.60	1.50	2.30
30	25.2	20.9	6.70	1.80	1.30	2.00
31		19.0		1.60	1.50	
Total Sec. Ft. Days	866.7	657.6	316.5	121.2	25.6	74.2
Mean Sec. Ft.	28.89	21.21	10.55	3.91	0.83	2.47
Total Ac. Ft.	1720	1300	628	240	51	147

TABLE 4

Daily Discharge in Cubic Feet Per Second

PARKS CREEK ABOVE DUKE NORTH DITCH

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1	34.0	27.5	11.8	5.00	1.50	2.20
2	45.0	25.5	9.70	6.00	1.80	2.20
3	52.0	35.5	9.70	6.00	1.80	2.20
4	52.0	35.5	9.40	6.00	1.80	2.20
5	52.0	24.9	9.70	4.50	1.80	2.20
6	52.0	23.7	10.30	3.70	1.80	2.20
7	51.5	21.9	9.70	3.70	1.80	2.20
8	49.2	22.5	8.70	3.50	1.80	2.20
9	42.8	23.7	8.40	3.20	1.80	2.20
10	38.1	24.3	8.10	3.20	1.80	2.20
11	38.9	22.5	7.20	3.20	1.70	2.20
12	38.0	21.9	6.80	3.10	1.70	2.20
13	32.8	21.6	6.20	2.90	1.70	2.40
14	28.8	19.0	5.70	2.90	1.70	2.80
15	28.8	18.0	6.50	2.90	1.60	2.80
16	32.0	17.5	6.20	2.80	1.60	2.80
17	35.6	16.5	6.40	2.80	1.60	2.80
18	40.4	17.0	6.00	2.70	1.60	2.70
19	43.5	18.5	6.00	2.70	1.60	2.70
20	46.5	18.5	6.00	2.60	1.60	2.70
21	48.7	19.6	5.70	2.60	1.60	2.70
22	45.5	21.6	5.00	2.60	1.60	2.70
23	49.5	23.4	4.50	2.40	1.60	2.70
24	36.9	22.2	4.00	2.30	1.60	2.70
25	33.5	22.8	4.00	2.20	1.60	2.70
26	31.9	19.5	4.00	2.00	1.60	2.70
27	31.2	17.5	4.00	1.90	1.60	2.70
28	31.2	15.7	3.90	1.80	1.60	2.70
29	32.0	14.9	3.90	1.80	1.60	2.70
30	28.2	14.1	3.90	1.80	1.80	2.70
31		13.0		1.80	2.00	
Total Sec. Ft. Days	1155.5	632.7	201.4	96.40	52.60	75.10
Mean Sec. Ft.	39.95	20.62	6.71	3.12	1.70	2.50
Total Ac. Ft.	2300.	1270.	399.	192	104	149

TABLE 5

Daily Discharge in Cubic Feet Per Second

PARKS CREEK AT ROBERTSON WEIR

April 4 to September 30, 1939

Day	Apr.	May	June	July	
1	16.0	13.5	3.70	1.42	
2	16.0	11.4	4.10	1.28	
3	16.0	8.64	4.32	1.28	
4	16.0	9.16	4.52	1.28	
5	16.0	11.4	5.08	2.22	
6	16.0	10.8	4.32	2.06	
7	16.0	11.4	4.32	2.38	
8	16.0	10.8	4.42	2.38	
9	16.0	9.44	3.10	2.06	
10	16.0	9.72	2.47	1.58	
11	16.0	10.3	2.47	1.28	
12	16.0	8.90	2.56	1.14	
13	16.0	8.10	2.56	1.00	
14	16.0	8.64	2.56	.80	
15	16.0	8.90	3.30	.70	
16	16.0	8.36	4.74	.70	
17	16.0	8.10	5.08	.60	
18	16.0	7.60	4.32	.60	
19	16.0	8.36	3.70	.60	
20	16.0	8.64	3.10	.60	
21	16.0	12.0	2.56	.50	
22	16.0	11.1	2.65	.50	
23	16.0	14.4	2.56	.50	
24	16.0	11.4	2.06	.50	
25	16.0	12.0	2.00	.50	
26	16.0	11.5	1.72	.20	
27	16.0	10.3	1.72	.00	
28	15.0	8.90	1.00	.05	
29	14.7	7.08	1.50	.05	
30	14.1	5.20	1.50	.05	
31		4.10		.05	
Total Sec. Ft. Days	475.8	300.14	95.69	28.86	122 day Period
Mean Sec. Feet	15.86	9.68	3.19	0.93	7.98
Min. Sec. Feet	16.00	14.4	5.08	2.38	16.0
Total Ac. Feet	944	595	190	57	1790

TABLE 6

Daily Discharge in Cubic Feet per Second

SHASTA RIVER NEAR DENRIS [illegible]

JUNE 1 TO SEPTEMBER 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.	
1			2.48	4.45	2.94	1.28	
2			2.60	4.72	2.82	1.28	
3			2.94	4.58	2.48	1.28	
4			2.94	4.72	1.95	1.28	
5			2.94	5.75	1.75	1.37	
6			2.26	5.42	1.75	1.37	
7			2.26	5.19	1.75	1.37	
8			2.05	5.42	1.75	1.19	
9			2.26	5.27	1.65	1.19	
10			2.60	4.86	1.55	1.19	
11			2.82	5.27	1.55	1.28	
12			3.06	5.42	1.46	1.46	
13			3.30	5.85	1.37	1.85	
14			3.06	6.29	1.46	1.65	
15			2.71	6.44	1.37	1.55	
16			3.93	6.14	1.28	1.55	
17	No	No	4.72	6.00	1.19	1.55	
18			4.18	5.70	1.37	1.55	
19	Record	Record	4.05	5.56	1.37	1.55	
20			3.06	5.42	1.28	1.46	
21			2.48	5.27	1.19	1.46	
22			4.32	4.99	1.11	1.46	
23			4.72	4.99	1.19	1.46	
24			4.32	4.72	1.37	1.46	
25			4.18	3.30	1.19	1.37	
26			4.45	3.06	1.28	1.37	
27			4.72	2.48	1.19	1.37	
28			4.72	3.42	1.28	1.37	
29			4.72	3.42	1.37	1.37	
30			4.32	3.30	1.37	1.37	
31				3.18	1.28		
Total Sec. Feet			103.17	151.54	47.91	42.31	122 day Period
Mean Sec.Feet			3.44	4.89	1.55	1.37	2.83
Max. Sec. Feet			4.72	6.75	2.94	1.85	6.75
Min. Sec. Feet			2.05	2.48	1.11	1.19	1.11
Total Acre Feet			205	300	95	84	684

TABLE 7

Daily Discharge in Cubic Feet Per Second

SHASTA RIVER NEAR MONTAGUE

April 8 to September 22, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1		50.0	44.0	28.0	13.4	15.6
2		39.9	23.0	31.0	13.4	19.0
3		39.4	21.0	27.0	13.4	35.0
4		50.0	21.0	26.0	13.4	62.2
5		25.0	24.0	31.0	14.0	56.0
6		19.0	24.0	28.0	14.0	53.0
7		19.0	24.0	26.0	13.6	47.1
8	59.0	16.4	20.0	27.0	13.4	37.9
9	56.0	18.1	16.4	19.0	15.6	44.0
10	51.5	17.2	17.2	16.4	14.0	35.0
11	44.0	22.0	16.4	13.4	12.1	33.9
12	37.9	18.1	14.8	11.4	11.4	35.9
13	38.6	12.8	15.6	10.2	13.4	85.5
14	39.9	12.8	19.0	16.4	12.8	94.4
15	31.6	8.60	21.0	10.8	26.0	82.1
16	35.9	17.0	21.0	11.4	19.0	71.9
17	30.0	21.0	25.0	13.4	14.0	83.8
18	28.0	59.6	24.0	16.4	15.6	85.5
19	29.0	50.2	25.0	12.0	14.0	85.5
20	29.0	73.6	18.1	12.1	12.8	85.5
21	39.0	70.3	14.0	30.0	12.8	92.6
22	41.2	59.6	14.0	27.0	21.0	92.6
23	56.0	92.6	10.8	16.4	35.9	
24	60.6	87.3	11.4	10.3	35.9	
25	50.0	82.1	11.4	12.1	16.4	
26	47.1	71.9	12.8	10.2	10.2	
27	54.5	78.7	13.4	14.2	10.2	
28	54.5	60.6	13.4	11.4	9.10	
29	54.5	47.1	14.8	14.0	20.0	
30	54.5	47.1	23.0	23.0	15.6	
31		42.6		13.4	15.6	
Total Sec. Ft. Days	1094.7	1323.0	573.5	560.8	495.6	1397.1
Mean Sec. Ft.	*43.8	43.7	19.1	18.1	16.5	**60.8
Total Ac. Fts.	*2000	2620	1140	1110	980	**2670

* 29 day period
** 22 day period

TABLE 8

Daily Discharge in Cubic Feet Per Second

LITTLE SHASTA RIVER ABOVE HARP DITCH

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1	37.0	21.3	7.60	2.60	1.70	1.60
2	37.0	20.7	7.20	2.60	1.60	1.60
3	37.0	20.1	7.20	2.50	1.50	1.50
4	37.0	19.0	7.00	2.10	1.50	1.20
5	37.0	18.6	6.80	2.10	1.50	1.30
6	37.2	18.1	6.60	2.30	1.50	1.30
7	37.2	17.7	5.90	2.90	1.30	1.30
8	36.9	17.2	5.90	2.80	1.30	1.30
9	31.1	16.8	5.50	2.70	1.50	1.20
10	29.7	17.2	5.30	2.60	1.60	1.30
11	31.1	16.8	5.30	2.50	1.50	1.30
12	29.7	15.9	5.30	2.50	1.50	1.50
13	26.9	14.6	5.10	2.50	1.50	2.20
14	24.9	13.8	5.10	2.50	1.50	2.10
15	24.9	13.8	4.70	2.50	1.40	1.60
16	26.2	13.4	5.90	2.50	1.40	1.40
17	26.9	13.0	6.10	2.50	1.30	1.30
18	25.9	12.7	5.40	2.50	1.30	1.30
19	27.6	13.8	5.30	2.50	1.30	1.30
20	29.7	13.4	5.10	2.50	1.10	1.40
21	29.0	13.8	4.50	2.40	.60	1.50
22	27.6	14.6	4.30	2.30	.70	1.50
23	26.9	14.2	4.10	2.30	1.00	1.30
24	25.5	12.4	3.90	2.10	1.50	1.30
25	24.9	11.2	3.60	2.00	1.40	1.60
26	25.7	10.5	3.60	1.80	1.40	1.50
27	23.1	9.80	3.50	1.80	1.40	1.60
28	22.5	9.30	3.30	1.80	1.50	1.60
29	22.5	8.80	3.30	1.80	1.60	1.60
30	21.9	8.30	3.60	1.90	1.50	1.60
31		7.80		1.70	1.50	
Total Sec. Ft. Days	377.1	448.7	155.4	81.1	44.6	45.0
Mean Sec. Ft.	29.24	14.5	5.21	2.62	1.37	1.50
Total Ac. Feet	1740	890	310	161	84	89

TABLE 2

Discharge in Cubic Feet Per Second

CARRIER SPRING

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1						
2						
3						
4						5.47
5						
6			5.55			
7				5.52	5.52	
8						
9						
10	5.52					
11					5.50	
12						
13						
14					5.47	
15		5.51				
16						
17				5.56		
18					5.47	
19						
20	5.52					
21			5.54			
22						
23						
24	5.55					
25					5.47	
26		5.52				
27				5.53		
28	5.55					
29						
30						
31						
Mean Cfs. Ft.	5.55	5.55	5.55	5.54	5.50	5.47
Total Ac. Ft.	330	341	330	330	298	326

Total Acre Feet - 6 months Period - 2000

TABLE 10

Discharge in Cubic Feet Per Second

BIG SPRINGS

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1						
2						
3						
4						
5	30.1					34.2
6				33.0		
7						
8		33.1	33.1			
9					34.4	
10						
11						
12						
13						
14						
15			32.7			
16						
17	30.9				34.4	
18		33.1				
19	31.6					
20						
21				34.2		
22						
23						34.4
24						
25	33.1					
26						
27		33.1				
28						
29						
30						
31						
Mean Sec. Ft.	31.4	33.1	32.9	33.6	34.4	34.3
Total Ac. Ft.	1870	2030	1960	2070	2110	2040

Total Acre Feet - 6 months Period - 12100

TABLE II

Discharge in Cubic Feet Per Second

CLELAND SPRING

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1		0.78				
2						
3					0.52	
4						
5			0.54			
6						
7		0.71				0.25
8				0.34	0.55	
9						
10						
11				0.23		
12						
13						
14		0.71	0.50		0.32	0.20
15						
16					0.50	
17						
18						
19						
20	0.77	0.63				
21						
22			0.42			
23					0.34	
24						
25				0.01		0.25
26			0.38			
27						
28						
29			0.10			
30		0.54				
31						

Mean Flow 0.44 Cubic Feet Per Second

Total Acre Feet - 6 Months Period 3060

TABLE 12

Discharge in Cubic Feet Per Second

DOW AND RAYMOND-EDDY CREEK DITCHES

April 1 to September 30, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1			8.08			1.16
2		*10.5				
3						
4					1.16	
5						
6						
7	*10.5			2.32		
8						.94
9			5.30			
10						
11					1.06	
12		*10.5				
13						
14				1.78		
15						1.06
16			4.93			
17						
18					.94	
19						
20						
21	*10.5			1.52		
22						.94
23			3.22			
24						
25					.94	
26		**8.08				
27						
28				1.40		.94
29						
30			2.62			
31						
Mean Sec. Ft.	10.5	9.90	4.80	1.90	1.03	1.03
Total Ac. Ft.	630	610	290	110	60	60

*(Dow Eddy Creek Ditch 1.55 cubic feet per second
(Raymond-Scott Ditch 8.91 cubic feet per second

**On May 26 and subsequent thereto the Dow Eddy Creek ditch was dry

6 month period Total Acre-Feet 1760

TABLE 13

Daily Discharge in Cubic Feet Per Second

BEAVERHAN CREEK AT LONG DELL LOWER WEIR

May 1 to September 16, 1939

Day	Apr.	May	June	July	Aug.	Sept.
1		3.51	3.51	3.65	3.36	4.09
2		3.65	3.51	3.65	3.36	3.79
3		3.79	3.51	3.65	3.36	3.79
4		3.94	3.65	3.94	3.36	3.65
5		3.79	3.51	3.94	3.51	3.65
6		4.24	3.51	3.79	3.51	3.65
7		4.40	3.51	3.65	3.65	3.65
8		4.24	3.51	3.51	3.65	3.79
9		3.79	3.51	3.65	3.36	3.79
10		3.79	3.51	3.65	3.51	4.09
11		3.79	3.65	3.51	3.36	4.09
12		3.79	3.65	3.36	3.36	4.09
13		3.79	3.51	3.36	3.36	4.24
14		3.94	3.51	3.36	3.51	4.09
15		3.65	3.65	3.51	3.65	4.09
16		3.51	3.79	3.51	3.65	4.09
17		3.65	3.65	3.51	3.51	
18		3.65	3.36	3.36	3.51	
19		3.79	3.36	3.22	3.36	
20		4.09	3.22	3.50	3.65	
21		4.09	3.09	2.96	3.65	
22		3.79	3.51	3.22	3.51	No
23		3.79	3.65	3.22	3.51	
24		3.65	3.79	3.79	3.79	Record
25		3.79	3.65	3.22	4.09	
26		3.94	3.36	3.22	4.24	
27		3.94	3.36	3.22	3.94	
28		3.79	3.36	3.36	3.65	
29		3.51	3.51	3.51	3.94	
30		3.65	3.51	3.51	4.09	
31		3.65				
Total Sec. Ft. Days		118.38	105.38	107.02	112.20	*627.8
Mean Sec. Ft.		3.82	3.51	3.45	3.62	* 3.92
Total Mo. Ft.		235	209	212	222	124

*16 day period

TABLE 14

Daily Discharge in Cubic Feet Per Second

M.N.C.D. PARKS CREEK CANAL AT HEAD

April 1 to May 10, 1939

Day	Apr.	May	June	Remarks
1		5.2		
2		4.4		
3		8.6		
4	7.5	4.8		
5	15.0	0		
6	15.0	0		
7	15.0	0		
8	16.7	1.1		
9	10.6	2.3		
10	8.60	0		
11	9.60			
12	8.30			
13	5.40			
14	3.20			
15	2.10			
16	3.60			
17	5.00			
18	5.30			
19	7.80			
20	13.8			
21	12.2			
22	16.5			
23	19.7			
24	16.9			
25	12.8			
26	9.2			
27	9.1			
28	7.6			
29	5.7			
30	5.0			
31				
Total Sec. Ft. Days	269.3	*26.4		40 day Period
Mean Sec. Ft.	8.97	* 2.64		7.39
Max. Sec.Ft.	19.7	* 8.60		19.7
Min. Sec.Ft.	.00	* .00		.00
Total Ac. Ft.	535	*52		586

*10 day period

TABLE 15

Daily Storage On Hand in Acre-Feet

LAKE DETHELL RESERVOIR

October 1, 1938 to September 30, 1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2850	2900	3750	5070	5900	6240	7350	4140	2385	1190	130	
2	2850	2925	3900	5070	5940	6280	7350	3990	2340	1150	122	
3	2800	2925	3990	5035	5980	6380	7350	3870	2320	1100	114	
4	2775	2975	4110	5070	5980	6380	7350	3720	2250	1075	106	
5	2800	3000	4200	5175	5980	6380	7305	3585	2210	1050	98	110
6	2775	3000	4260	5280	6020	6420	7305	3500	2170	1025	90	
7	2750	3000	4290	5315	6060	6460	7305	3445	2130	990	82	
8	2750	3025	4290	5350	6020	6500	7305	3390	2090	960	74	
9	2700	3050	4290	5385	6060	6540	7305	3365	2070	930	66	
10	2680	3075	4510	5420	6100	6540	7265	3310	2030	890	58	
11	2680	3125	4545	5455	6100	6670	7140	3255	1990	850	50	
12	2680	3125	4610	5455	6100	6755	7010	3200	1930	810	42	
13	2680	3150	4610	5490	6100	6800	6880	3150	1890	760	35	
14	2655	3175	4640	5525	6100	7010	6710	3100	1830	710	27	
15	2655	3200	4710	5525	6140	7010	6540	3050	1800	660	20	
16	2655	3230	4740	5560	6150	7010	6380	3000	1745	610	13	
17	2680	3255	4770	5560	6180	7010	6220	2925	1710	565	13	
18	2700	3255	4805	5595	6180	7050	6020	2875	1640	521	6	180
19	2700	3280	4805	5595	6180	7095	5860	2825	1620	477	0	
20	2725	3310	4840	5630	6180	7095	5700	2775	1570	435		190
21	2750	3310	4870	5665	6180	7140	5545	2750	1595	390		
22	2750	3340	4900	5700	6220	7140	5385	2680	1490	337		
23	2775	3365	4900	5740	6220	7140	5245	2655	1460	302		
24	2775	3420	4935	5740	6260	7180	5105	2630	1425	276		
25	2800	3420	4935	5740	6300	7180	4970	2610	1410	250		
26	2800	3420	4970	5740	6300	7180	4840	2585	1375	234		
27	2825	3420	4970	5780	6300	7180	4710	2565	1340	210		
28	2850	3420	5000	5820	6300	7265	4545	2520	1300	194		210
29	2825	3530	5000	5860		7305	4380	2500	1260	170		
30	2875	3640	5000	5860		7350	4290	2450	1225	146		
31	2875		5035	5900		7350		2410		138		

TABLE 16

Daily Discharge in Cubic Feet Per Second

U.S.C.D. SCOTT RIVER CANAL
SHOWING DELIVERY TO MONTAGUE WATER CONSERVATION DISTRICT

Day	Apr.	May
1		47.3
2		45.3
3		45.3
4		44.4
5		24.0
6		
7		
8		
9	16.4	
10	38.6	
11	35.2	
12	34.1	
13	38.5	
14	45.4	
15	48.6	
16	49.5	
17	48.5	
18	48.1	
19	47.7	
20	49.0	
21	48.8	
22	48.6	
23	48.1	
24	50.3	
25	51.2	
26	50.8	
27	50.5	
28	49.8	
29	49.0	
30	48.9	
31		
Total Sec. Ft. Days	279.5	206.2
Mean Sec. Ft.	44.5	41.2
Total Ac. Ft.	1040	410

Total acre-feet delivered Montague District 1939 season - 2350

TABLE 17

Record of Deliveries to Prior Right Owners from
Lake Dalmell Reservoir, 1929 to 1939, Inclusive

Year	Jones	Soule	Dennis	McKee	Terwilliger	Total Acre-Feet	% of Allotments
1929	---	---	---	---	---	---	---
1930	190	485	465	923	---	2050	61
1931	198	473	473	909	---	2050	61
1932	---	---	---	---	---	---	---
1933	198	692	687	1130	101	2810	89
1934	159	692	461	922	159	3390	71
1935	198	609	600	1075	234	2720	80
1936	198	637	527	1195	202	2759	82
1937	198	631	489	1200	120	2690	80
1938	198	---	---	1073	---	1271	38
1939	198	692	687	1138	308	3023	90

1929 - Records of deliveries missing

1930-1939 - Records of delivery to Terwilliger missing

1932 - Records missing

1938 - Soule, Dennis and Terwilliger had sufficient water from reservoir seepage to supply irrigation demands.

TABLE 18

Record of Operation of Lake Dalhart Reservoir 1929 to 1939, Inclusive

Year	Reservoir Storage on April 1	Inflow April 1 to Sept. 30	Total Available Water Supply	Maximum Storage in Reservoir: Acre-feet	Maximum Storage in Reservoir: Date	Delivery From Reservoir: N.W.C.D.: Acre-feet	Delivery From Reservoir: N.W.C.D.: Period	Delivery From Reservoir: Prior Rights: Acre-feet	Delivery From Reservoir: Prior Rights: Period	Delivery From Reservoir: Total Acre-feet	Storage in Reservoir when Delivery to N.W.C.D. Ceased	Seepage and Evaporation Loss
1929				4,500		No record		No record		—	—	
1930				10,500	March 14	5,000	May 5 to July 4	2060	Apr. 23 to Sept. 5	7060	2900	
1931				4,250	April 4	0		2050	April 1 to July 25	2050	2800	
1932	5500			5,500	March 20	2,000	May 15 to June 15	No record		2000	2000	
1933	5200			6,500	May 3	4,750	Apr. 21 to July 16	2810	Apr. 10 to Sept. 3	7560	2200	
1934	4850			5,000	Apr. 5	1,500	Apr. 10 to Apr. 23	2390	Apr. 5 to July 22	3890	2800	
1935	5000	4620	9620	5,700	May 10	2,700	May 10 to June 2	2720	Apr. 9 to Aug. 11	5420	3600	4200
1936	5460	4720	10180	6,020	March 3	1,560	Apr. 14 to May 20	2760	Apr. 14 to Aug. 11	4320	3250	5860
1937	5940	14040	19980	9,800	May 6	7,360	May 5 to Sept. 15	2690	Apr. 26 to Sept. 9	10050	0	9930
1938	31600	25440	60040	32,100	May 3	23,910	May 1 to Sept. 30	1270	May 1 to Sept. 30	25180	2850	34860
1939	7350	1210	8560	7350	Apr. 1	2350	Apr. 9 to May 5	3020	Apr. 4 to Aug. 10	5370	3525	3190

* In 1929 the District used water only for puddling its canal.

** Includes 831 acre-feet wasted through outlet to prevent increase in reservoir level and 9980 acre-feet delivered by District to Stallcup and Big Springs Irrigation District.

TABLE 19

Daily Discharge in Cubic Feet Per Second
Shasta River Water Association Pumping Plant

April 6 to September 12, 1939

Day	April	May	June	July	August	September
1		42.0	31.6	28.0	42.0	42.0
2		42.0	42.0	28.0	42.0	42.0
3		42.0	42.0	38.2	42.0	42.0
4		42.0	42.0	32.4	42.0	36.9
5		42.0	42.0	42.0	42.0	38.3
6	*28.0	42.0	42.0	42.0	42.0	21.0
7	42.0	42.0	42.0	42.0	42.0	14.0
8	42.0	42.0	42.0	42.0	42.0	34.4
9	42.0	42.0	42.0	42.0	42.0	42.0
10	42.0	42.0	42.0	42.0	42.0	42.0
11	42.0	42.0	42.0	42.0	42.0	42.0
12	42.0	42.0	42.0	42.0	42.0	**28.9
13	42.0	42.0	42.0	42.0	42.0	
14	42.0	42.0	39.4	42.0	42.0	
15	42.0	42.0	42.0	42.0	42.0	
16	42.0	42.0	42.0	42.0	42.0	
17	42.0	38.4	42.0	42.0	42.0	
18	42.0	9.9	42.0	42.0	42.0	
19	40.3	14.0	42.0	42.0	42.0	
20	42.0	14.0	42.0	42.0	42.0	
21	42.0	23.3	42.0	41.7	42.0	
22	42.0	21.1	42.0	28.0	42.0	
23	42.0	14.0	42.0	38.2	21.0	
24	42.0	14.0	42.0	42.0	30.5	
25	42.0	14.0	42.0	42.0	42.0	
26	42.0	14.0	42.0	42.0	42.0	
27	42.0	14.0	40.2	33.3	42.0	
28	42.0	14.0	42.0	37.2	42.0	
29	42.0	14.0	38.0	28.4	40.0	
30	42.0	14.0	28.0	38.1	42.0	
31		14.0		42.0	42.0	
Total Sec. Ft. Days	1034.3	1128.7	1240.4	1211.5	1277.5	426.1
Mean Sec. Ft.	41.4	36.4	41.3	39.1	41.1	35.5
Total Ac. Ft.	2050	2240	2460	2400	2530	845

* Started operation 8 A.M. April 6

** Stopped operation 4:30 P.M. Sept. 12

TABLE 20

Daily Discharge in Cubic Feet Per Second
Grenada Irrigation District Pumping Plant

April 7 to September 16, 1939

Day	April	May	June	July	August	September
1		0	21.0	11.0	16.0	16.0
2		0	21.0	0	16.0	16.0
3		2.60	17.3	0	16.0	8.0
4		21.3	16.0	0	13.0	0
5		32.0	16.0	0	13.0	0
6		32.0	16.0	10.7	13.0	0
7	*11.3	32.0	16.0	16.0	13.0	0
8	16.0	32.0	16.0	16.0	13.0	0
9	16.0	32.0	16.0	16.0	6.0	0
10	16.0	32.0	16.0	16.0	0	0
11	25.9	32.0	16.0	16.0	0	21.4
12	32.0	32.0	16.0	16.0	0	32.0
13	32.0	32.0	16.0	10.3	0	16.0
14	32.0	32.0	16.0	16.0	0	16.0
15	32.0	22.0	14.7	16.0	12.0	16.0
16	32.0	16.0	16.0	16.0	16.0	4.0**
17	32.0	16.0	16.0	16.0	16.0	
18	32.0	16.0	16.0	12.0	16.0	
19	32.0	0	16.0	16.0	16.0	
20	32.0	0	16.0	8.0	16.0	
21	32.0	0	16.0	0	16.0	
22	32.0	0	16.0	9.30	16.0	
23	28.0	0	13.0	16.0	4.0	
24	16.0	6.70	13.0	16.0	8.0	
25	16.0	0	13.0	16.0	16.0	
26	16.0	0	12.0	16.0	16.0	
27	4.70	0	12.0	16.0	16.0	
28	0	0	12.0	16.0	16.0	
29	0	10.7	12.0	16.0	16.0	
30	0	16.0	12.0	16.0	16.0	
31		19.3		10.7	16.0	
Total Sec. Ft. Days	517.30	498.6	461.0	376.0	367.0	145.4
Mean Sec. Ft.	21.6	16.1	15.4	12.1	11.8	9.1
Total Ac. Ft.	1030	989	914	746	728	288

* 7 A.M. April 8th
** 9 A.M. September 16th