

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

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EARL WARREN, Governor

G. H. PURCELL, Director of Public Works

A. D. EDMONSTON, State Engineer

SHACKLEFORD CREEK ADJUDICATION

R E P O R T O N
W A T E R M A S T E R S E R V I C E

ON

SHACKLEFORD CREEK AND TRIBUTARIES

SISKIYOU COUNTY, CALIFORNIA

1949 SEASON

MARCH 1950

SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF PUBLIC WORKS

I, L. C. Jopson, Supervising Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, hereby submit the within contained report entitled "Report on Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1949 Season".

/s/ L. C. JOPSON
Supervising Hydraulic Engineer

I, Gordon Zander, Principal Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, hereby approve the within contained report entitled "Report on Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1949 Season".

/s/ GORDON ZANDER
Principal Hydraulic Engineer

I, A. D. Edmonston, State Engineer and Chief of the Division of Water Resources, Department of Public Works of the State of California, hereby approve and adopt the within contained report entitled "Report on Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1949 Season", as a report of the Department of Public Works.

WITNESS my hand and the seal of the Department of Public Works of the State of California, this 24th day of March, 1950.

DEPARTMENT OF PUBLIC WORKS

By /s/ A. D. EDMONSTON
A. D. EDMONSTON
State Engineer

SEAL

ORGANIZATION

C. H. Purcell Director of Public Works
A. D. Edmonston State Engineer
P. H. Van Etten Assistant State Engineer
Gordon Zander . . Principal Hydraulic Engineer



This report was prepared under the direction of

L. C. JOPSON
Supervising Hydraulic Engineer

By

PAUL E. STEPHENSON
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INTRODUCTION

The petition initiating the Shackleford Creek adjudication proceeding dated January 15, 1944, was filed with the Department of Public Works of the State of California, Division of Water Resources, State Engineer on January 18, 1944. Subsequent steps in the proceeding up to and including the 1948 irrigation season are set forth in "Report on Water Supply and Use of Water on Shackleford Creek and Tributaries, Siskiyou County, California, January, 1945", "Report on Investigation and Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1946 Season", "Report on Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1947 Season", and "Report on Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1948 Season", on file in the proceeding in the office of the Department, Sacramento, California.

On April 22, 1949, at 2.00 P.M., a conference of the claimants in the proceeding and representatives of the Department was held in Fort Jones, California, to discuss the advisability of watermaster service on the stream system during the 1949 season. The conference resulted in the adoption of "Agreement for Watermaster Service during the 1949 Season".

The agreement provided for the distribution of the water of Shackleford Creek during the 1949 season on the basis of the rights set forth in the "Stipulation for Order of Determination" referred to in "Report on Watermaster Service on Shackleford Creek and Tributaries, Siskiyou County, California, 1947 Season". The priorities of, and allocations of water to, the various

water rights involved in the 1949 distribution on Shackelford Creek are given in Schedules 1, 2, 3 and 4 of the 1949 Agreement. A copy of the 1949 agreement is included as an appendix to this report.

Administration of the diversions from the stream system under the 1949 agreement covered the period from about July 1 to September 30, 1948. Paul E. Stephenson, Senior Hydraulic Engineer, was designated by the Department as Watermaster and served in that capacity in conjunction with his duties as watermaster in the Shasta River Watermaster Service Area in Shasta Valley.

WATER SUPPLY

Precipitation

Records of precipitation at Yreka and at Etna are presented in Table 1 of this report. A comparison of the precipitation at these two stations for the nine-year period 1940-41 to 1948-49, indicates that the average seasonal precipitation at Etna is 140 per cent of that at Yreka. Applying this percentage to the 33-year mean seasonal precipitation of 16.18 inches at Yreka, it is deduced that the 33-year mean seasonal precipitation at Etna is about 22.6 inches. The 1948-49 precipitation at Etna was approximately 92 per cent of this deduced mean. At Yreka the precipitation for the same season was about 73 per cent of the 33-year mean for that station. A further comparison shows that the 1948-49 precipitation at Etna and Yreka was 80 and 56 per cent of the 1947-48 precipitation for the respective stations. Assuming that the precipitation at these two stations is indicative of the runoff conditions on the Shackelford Creek watershed, it appears that the water supply for the Shackelford Creek area during the 1949 season was about 20 per cent less than for the 1948 season and about 8 per cent below normal expectancy.

Stream Flow

A stream flow measuring station and water stage recorder was maintained for the period from July 1 to September 30, 1949, on Shackleford Creek below the Camp Ditch. Records of daily discharge at this station are submitted at the end of this report in Table 2.

Supplemental to this measuring station and as an aid to distribution, water stage recorders were installed and maintained on the R. Eastlick, Shackleford, Howard-Jones, and Camp Ditches. Records of daily discharge for these ditches are set forth in Tables 3, 4, 5 and 6, at the end of this report.

A tabulation showing the total water supply available in Upper Shackleford Creek above all diversions for the period from July 1 to September 30, 1949, is submitted in Table 7. A comparison of the record with that in 1948 indicates that the flow in 1949 was about 56 per cent of that for the same period in 1948.

DISTRIBUTION OF WATER

Distribution for the 1949 season was based on Schedules 1, 2, 3, and 4 of the 1949 agreement. As a necessary adjunct to distribution, weirs have been installed in all ditches where it was practical to do so and intermittent measurements were made thereon.

Upper Shackleford Creek

Cliff and Campbell Lakes and the Ralph Eastlick, Shackleford, Howard-Jones, Camp, Whittle, Hobart Domestic, Hobart and Dangel Shackleford Ditches are located within this section of Shackleford Creek. The distribution of water for these ditches was based on the allotments set forth in Schedule 1 of the 1949 agreement.

There was sufficient water available to supply all demands of the first five priority classes from Upper Shackleford Creek until about July 15. Subsequent to this date it was necessary to regulate certain of these ditches in accordance with the amounts and priorities set forth in Schedule 1.

The regulation of the several ditches in accordance with these amounts and priorities resulted in an orderly distribution of the available water supply.

A statement of the conditions encountered and of the regulations of the various ditches follows:

Cliff and Campbell Lakes (Diversion 1 and 2) These lakes are maintained and operated to supply supplemental water for rediversion through the Shackleford Ditch during the latter part of the irrigation season. During the 1949 season, water was released through the Campbell Lake Dam from about July 1 to August 15 in order to make repairs to the outlet structure. This released water was diverted through the Shackleford Ditch in addition to its natural flow entitlement. The measured outflow on July 4, 1949, was 3.7 cubic feet per second and the natural flow tributary to the Lakes on this date was estimated to be about 2.0 cubic feet per second.

Inspection of the Campbell Lake and Cliff Lake dams and outlet structures was made on July 2, 1949, by D. S. Cleavinger and Paul E. Stephenson accompanied by Mr. George Zwanziger representative of the owners. Mr. Zwanziger was instructed by Mr. Cleavinger to make repairs to the outlet structure of Campbell Lake Dam prior to or at the end of the 1949 irrigation season. The headgate at Campbell Lake Dam was opened on about July 4 in order to lower the lake for the purpose of repairing the dam and outlet works.

Ralph Eastlick Ditch (Diversion 3) There was sufficient flow up to about July 15, to satisfy full fourth priority entitlements. Subsequent to this date until about August 15 when the ditch was closed, the available water supply was insufficient for full entitlements and regulation was made in accordance with the percentage of flow available for the fourth priority class as set forth in Schedule 1 of the 1949 agreement. The Shackleford Ditch was closed on about August 27 and upon the suggestion of the lessee of the property to which the Shackleford Ditch serves a portion of the water available therefor was apportioned between the two ditches in the fourth priority class for the remainder of the season. The record of daily discharge for the period from July 1 to September 30 is shown in Table 4.

Shackleford Ditch (Diversion 4) There was sufficient flow up to about July 10 to satisfy full second and fifth priority entitlements of eleven cubic feet per second allotted for use through this ditch in Schedule 1 of the 1949 agreement.

The outlet gate of Campbell Lake was partially opened on July 4 and at subsequent dates during July and early August the gate opening was increased in order to drain the impounded storage from the lake for the purpose of repairing the dam and outlet works. The lake water level was below the intake by about August 15 after which time outlet pipe was uncovered at the upstream toe of the dam. Inspection was made by D. S. Cleavenger accompanied by Mr. George Zwanziger on August 20 and plans were outlined for the installation of a control gate. Subsequently a 12-inch screw stem gate was installed during the first two weeks of October.

The water released from Campbell Lake was allocated to the Shackelford Ditch in addition to the entitlement from the natural flow of Shackelford Creek. It was found during the period August 15 to August 25 that, with about 3.0 cubic feet per second being diverted, water would not reach the owners place of use, therefore with the permission of the lessee of this property the head of the ditch was closed by the watermaster for the remainder of the season and the water apportioned to the other priorities. Objections were raised by parties along this ditch, not parties to the proceeding, but inasmuch as they had not shown any claim of right the ditch remained closed.

The record of daily discharge for the period from July 1 to September 30 is shown in Table 5.

Howard-Jones Ditch (Diversion 5) There was sufficient flow up to about July 15, to satisfy the full fourth priority entitlements. Subsequent to this date until about August 15 when the ditch was closed the available water supply was insufficient for full entitlements and regulation was made in accordance with the percentage of flow available for the fourth priority class as set forth in Schedule 1 of the 1949 agreement. After the Shackelford Ditch was closed on about August 27 and upon the suggestion of the lessee a portion of the water available for the Shackelford Ditch was turned into the Howard-Jones Ditch. The record of daily discharge for the period from July 1 to September 30 is shown in Table 6.

Camp Ditch (Diversion 6) There was sufficient flow up to about August 10 to satisfy full first and third priority entitlements of five cubic feet per second allotted for use through this ditch in Schedule 1 of the 1949

agreement. Subsequent to August 10 and until about September 10 an average flow of about four cubic feet per second was maintained. Subsequent, and to the end of the season, an average flow of about three cubic feet per second was diverted which was sufficient to satisfy all irrigation and domestic demands during this period.

Whipple Ditch (Diversion 7) This ditch was not operated after July 1 of this season.

Hobart Ditch (Diversion 9) There was no water available for this ditch after July 1.

Dangel Shackleford Ditch (Diversion 10) There was no water available for this ditch after July 1.

Lower Shackleford Creek

There are seven ditches diverting from this section of Shackleford Creek. In order downstream they are the Freitas, Chester, Hammond-Crawford-Lewis, Burton-Meamber, Goodale, Burton West Side and Burton East Side. The allotments for these ditches are set forth in Schedule 2 of the 1949 Agreement.

Freitas Ditch (Diversion 17) This upper portion of this ditch was repaired prior to this season which resulted in more efficient operation although restricted ditch section a short distance downstream from the fish screen prevented full entitlement being diverted through the ditch. Water was available for all priorities until about August 1. Subsequent thereto, and until the end of the season, the third priority rights of Edward Burton and United States of America and the first priority right of Jack E. Schulz was available for diversion through this ditch.

Chester Ditch (Diversion 18) There was sufficient water available throughout the season to satisfy full entitlement of this ditch. Repairs made prior to the 1949 irrigation season afforded somewhat more efficient operation however, flumes near the place of use should be repaired or replaced in order to insure proper use of this ditch.

Hammond-Crawford-Lewis Ditch This ditch was used during the 1949 season in the same manner as during the past several years for the irrigation of 6.9 acres and 11.9 acres on the Chester and Miller properties, respectively. A weir was installed and the ditch was regulated in accordance with the rights set forth in Schedule 2 of the 1949 agreement.

Burton-Meamber Ditch (Diversion 20) Water was available to satisfy full entitlements for this ditch throughout the 1949 season. Edward Burton elected to use his entitlement in this ditch through the Freitas Ditch during August and September. It will be necessary to repair the division box in this ditch prior to the 1950 season in order to insure proper regulation.

Goodale Ditch (Diversion 21) This ditch was regulated in accordance with the rights set forth in Schedule 2 of the 1949 agreement. Water was available for the second priority right throughout the season. Water was used for the irrigation of about 45 acres on the Rivallier ranch west of the county road under the fourth priority right until about August 1.

Burton West Side Ditch (Diversion 22) This ditch received its full entitlement set forth in Schedule 2 of the 1949 agreement throughout the season.

Burton East Side Ditch (Diversion 23) This ditch was used during early season by the Rivallier ranch for the diversion of a portion of their

entitlement set forth in Schedule 2 of the 1949 agreement. It was necessary, however, to restrict the use of this ditch by these interests to times when surplus flow was available in Lower Shackelford Creek in order to insure proper regulation in accordance with the rights set forth in Schedule 2 of the agreement.

Upper Mill Creek

Eastlick (Mill Creek) Ditch and the Couch Ditch are the only diversions from this section of the stream. The allotments for these ditches are set forth in Schedule 3 of the 1949 agreement.

Eastlick (Mill Creek) Ditch (Diversion 11) The entire flow of Mill Creek was diverted by this ditch subsequent to July 1. There were about 7.0 cubic feet per second available on that date which decreased to about 1.0 cubic foot per second by the end of September. The Couch interests received water for domestic purposes.

Couch Ditch (Diversion 12) This ditch had an average of about 0.15 cubic foot per second available at all times after July 1.

Hobart West Spring Ditch (Diversion 26) and Hobart East Spring Ditch (Diversion 27) These ditches divert from a spring channel tributary to this section of Mill Creek, and normally take the entire flow available in that source. No regulation was necessary during the season.

Lower Mill Creek

Springs and rising water in the stream channel form the main sources of water for the sustained flow of this section of Mill Creek. Additional water is contributed by return flow from irrigation on the Alber, Eastlick and Davis Ranches.

Four ditches divert from this section of the stream system, namely, in order downstream: Mulloy Spring Ditch (Diversion 13), China Ditch (Diversion 14), Dangel Mill Creek Ditch (Diversion 15) and Denny Bar Ditch (Diversion 16). Sufficient flow was available throughout the season to satisfy the full entitlements of these ditches as set forth in Schedule 4 of the 1949 agreement.

Hobart West Spring Ditch (Diversion 26) and Hobart East Spring Ditch (Diversion 27) These ditches divert from a spring channel tributary to this section of Mill Creek, and normally take the entire flow available in that source. No regulation was necessary during the season.

SUMMARY

Distribution problems were encountered on the two sections of Shackleford Creek during the 1949 season.

The water right owners cooperated at all times with the watermaster in the regulation of the various ditches in accordance with the amounts of water set forth in the 1949 agreement.

TABLE 1

PRECIPITATION AT YREKA, SISKIYOU COUNTY - ELEVATION 2,625 FEET

Monthly, Seasonal and Average Amounts in Inches

: Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Seasonal
:1940-41	1.34	.98	4.13	2.85	2.99	1.51	2.07	1.66	.95	.70	.54	.81	20.53
:1941-42	1.01	1.84	8.01	1.88	2.65	.33	1.60	3.96	.30	.00	.13	.47	22.18
:1942-43	.34	6.26	5.01	4.22	1.41	1.21	1.07	.66	1.07	.09	.01	.00	21.35
:1943-44	2.24	1.17	.85	1.25	1.43	1.44	1.00	.73	.68	.60	.25	.22	11.86
:1944-45	.45	2.86	1.15	.96	2.87	1.53	.69	4.06	.07	.13	.05	T	14.82
:1945-46	2.06	2.86	4.55	2.25	1.99	1.13	.57	.89	.89	.41	T	.08	17.83
:1946-47	1.07	3.15	.76	1.16	.93	1.84	.35	.73	1.13	.26	.85	.00	12.23
:1947-48	2.46	.99	.74	5.35	1.36	1.56	2.50	.90	1.33	.29	2.54	.98	21.00
:1948-49	.52	2.26	3.99	.39	1.76	.39	.32	1.29	.57	.00	.00	.30	11.79
:34 Year													
: Mean	1.16	2.42	2.87	2.27	2.29	1.37	1.03	.92	.69	.35	.24	.54	16.18
: 9 Year													
: Mean	1.28	2.48	3.24	2.26	1.93	1.22	1.14	1.65	.73	.28	.48	.32	17.06

PRECIPITATION AT ETNA, SISKIYOU COUNTY - ELEVATION 2,945 FEET

Monthly, Seasonal and Average Amounts in Inches

: Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Seasonal
:1940-41	1.73	1.11	6.72	3.13	4.56	2.35	2.57	1.83	.92	1.38	.61	.51	27.42
:1941-42	1.21	2.91	9.71	3.46	3.91	.32	1.21	2.81	.20	.00	.00	.13	25.87
:1942-43	.52	10.30	7.33	8.17	1.35	1.91	1.61	.61	.59	.40	.00	.00	32.79
:1943-44	3.24	1.03	1.03	2.69	1.42	2.50	.79	.62	.70	.89	.25	.22	15.38
:1944-45	.53	5.65	.96	1.02	4.76	1.91	.68	2.68	.04	.12	.39	.00	18.74
:1945-46	3.83	5.80	8.56	4.90	2.61	1.64	1.01	.36	.54	.27	.00	.28	29.80
:1946-47	1.83	4.66	.97	1.98	1.90	4.01	.32	.41	.70	.58	.49	.05	17.90
:1947-48	3.95	0.75	0.96	7.54	3.36	1.76	2.60	1.14	1.63	0.22	0.15	2.00	26.06
:1948-49	1.00	3.74	6.23	.53	3.94	1.04	.26	2.65	.04	.05	.05	1.20	20.73
: 9 Year													
: Mean	1.98	3.99	4.72	3.71	3.09	1.94	1.23	1.46	.60	.43	.22	.49	23.85

TABLE 2

Daily Discharge in Cubic Feet Per Second
SHACKLEFORD CREEK BELOW CAMP DITCH
July 1 to September 30, 1949

Day	July	August	September
1	1.0	0.2	0.2
2	0.8	.2	.2
3	.7	.2	.2
4	.5	.2	.2
5	.4	.2	.2
6	.3	.2	.2
7	.3	.2	.2
8	.3	.2	.2
9	.3	.2	.2
10	.3	.2	.2
11	.3	.2	.2
12	.3	.2	.2
13	.3	.2	.2
14	.3	.2	.2
15	.3	.2	.2
16	.2	.2	.2
17	.2	.2	.2
18	.2	.2	.2
19	.2	.2	.2
20	.2	.2	.2
21	.2	.2	.2
22	.2	.2	.2
23	.2	.2	.2
24	.2	.2	.2
25	.2	.2	.2
26	.2	.2	.2
27	.2	.2	.2
28	.2	.2	.2
29	.2	.2	.2
30	.2	.2	.2
31	.2	.2	
Total			
Sec. Ft.	9.6	6.2	6.0
Days			
Mean			
Sec. Ft.	.3	.2	.2
Total			
Ac. Ft.	19	12	12

Discharge during 92 day period - 43 acre-feet

TABLE 3

Daily Discharge in Cubic Feet per Second
 RALPH EASTLICK DITCH
 July 1 to September 30, 1949

Day	July	Aug.	Sept.
1	3.3	1.8	1.2
2	3.2	1.7	.9
3	3.2	1.7	.8
4	3.2	1.7	.8
5	3.1	1.7	.8
6	3.1	1.7	.8
7	3.3	2.0	.8
8	3.4	2.0	.8
9	3.4	2.0	.8
10	3.4	2.0	.6
11	3.4	2.0	.6
12	3.4	2.4	.6
13	3.4	2.0	.6
14	3.4	1.9	.6
15	3.4	1.0	.6
16	3.3	.0	.6
17	3.3		.6
18	3.2		.6
19	3.2	NO	.6
20	3.2	FLOW	.6
21	3.1		.6
22	3.1		.6
23	2.6		.6
24	2.2		.6
25	2.2		.6
26	2.1		.6
27	1.9		.6
28	1.9		.6
29	1.9		.6
30	1.9	1.6	.6
31	1.8	1.6	
Total			
Sec. Ft.	90.5	30.8	20.3
Days			
Mean			
Sec. Ft.	2.9	1.0	.7
Total			
Ac. Ft.	179	61	40

Discharge during 92-day period - 280 acre-feet.

TABLE 4

Daily Discharge in Cubic Feet per Second
SHACKLEFORD DITCH
July 1 to September 30, 1949

Day	July	Aug.	Sept.
1	12.0	7.8	
2	12.2	7.5	
3	12.2	7.1	
4	12.0	7.1	
5	12.6	7.1	
6	14.4	7.1	
7	11.8	7.1	
8	13.4	7.8	
9	13.9	8.9	
10	12.0	8.7	
11	10.3	6.7	
12	9.7	6.2	NO FLOW
13	9.7	5.5	
14	10.5	4.2	
15	10.1	3.0	
16	8.9	2.4	FLOW
17	8.9	2.4	
18	9.3	2.5	
19	6.7	2.5	
20	6.0	2.4	
21	6.7	2.0	
22	7.4	1.8	
23	8.0	2.5	
24	9.9	2.5	
25	9.5	2.5	
26	9.3	1.2	
27	9.1	0	
28	8.9	0	
29	8.7	0	
30	8.5	0	
31	7.8	0	
Total			
Sec. Ft.	310.4	126.5	
Days			
Mean			
Sec. Ft.	10.0	4.1	
Total			
Acre Ft.	616	251	

Discharge during 92-day period - 867 acre-feet.

TABLE 5

Daily Discharge in Cubic Feet per Second
HOWARD JONES DITCH
July 1 to September 30, 1949

Day	July	Aug.	Sept.
1	5.6	2.1	1.6
2	5.6	2.1	1.6
3	5.6	2.0	1.6
4	5.6	1.9	1.6
5	5.6	1.9	1.0
6	3.8	1.8	1.0
7	3.8	1.8	1.0
8	3.7	2.1	1.1
9	3.4	2.5	1.3
10	3.2	2.5	1.3
11	3.2	2.5	1.3
12	3.2	2.5	.9
13	3.3	2.5	.9
14	3.3	2.4	.9
15	3.5	1.9	.9
16	3.4		.9
17	3.3		.9
18	3.1		.9
19	3.2		.9
20	3.4	N	.9
21	3.1	O	.9
22	2.6		.9
23	2.2	F	.9
24	2.1	I	.9
25	2.1	O	.9
26	2.1	F	.9
27	2.1		.9
28	2.1		.9
29	2.1		.9
30	2.1	1.6	.9
31	2.1	1.6	—
Total			
Sec. Ft.	103.5	35.7	31.5
Days			
Mean			
Sec. Ft.	3.3	1.2	1.0
Total			
Acre Ft.	205	71	62

Discharge during 92-day period - 338 acre-feet.

TABLE 6

Daily Discharge in Cubic Feet per Second
CAMP DITCH
July 1 to September 30, 1949

Day	July	Aug.	Sept.
1	5.5	4.7	2.3
2	5.0	4.6	2.6
3	4.9	4.9	3.6
4	4.8	5.2	3.6
5	4.6	4.9	3.5
6	4.2	4.8	3.3
7	3.9	5.2	3.6
8	2.5	5.6	3.8
9	3.0	4.9	3.9
10	4.5	4.8	3.8
11	4.3	4.5	3.7
12	4.0	4.2	3.5
13	3.9	3.8	3.4
14	2.6	3.4	3.2
15	2.6	2.8	3.0
16	4.5	4.8	2.9
17	4.4	4.7	2.8
18	2.9	4.5	2.7
19	4.8	4.5	2.6
20	6.3	4.5	2.6
21	4.7	4.5	2.5
22	4.6	4.5	2.5
23	5.3	4.5	2.5
24	4.9	3.2	2.5
25	4.5	2.6	2.7
26	4.4	2.6	2.9
27	4.4	3.1	2.9
28	4.6	2.9	2.9
29	4.6	4.5	2.9
30	4.5	4.5	2.9
31	4.6	2.3	—
Total			
Sec. Ft.	134.3	130.5	91.6
Days			
Mean			
Sec. Ft.	4.3	4.2	3.1
Total			
Acres Ft.	266	259	182

Discharge during 92-day period - 707 acre-feet.

TABLE 7

Daily Discharge in Cubic Feet per Second
UPPER SHACKLEFORD CREEK ABOVE DIVERSIONS
July 1 to September 30, 1949

Day	July	August	Sept.
1	27.4	16.6	5.3
2	26.8	16.1	5.3
3	26.6	15.9	6.2
4	26.1	16.1	6.2
5	26.3	15.8	5.5
6	25.8	15.6	5.3
7	23.1	16.3	5.6
8	23.3	17.7	5.9
9	24.0	18.5	6.2
10	23.4	18.2	5.9
11	21.5	15.9	5.8
12	20.6	15.5	5.2
13	20.6	14.0	5.1
14	20.1	12.1	4.9
15	19.9	8.9	4.7
16	20.3	7.4	4.6
17	20.1	7.3	4.5
18	18.7	7.2	4.4
19	18.1	7.2	4.3
20	19.1	7.1	4.3
21	17.8	6.7	4.2
22	17.9	6.5	4.2
23	18.3	7.2	4.2
24	19.3	5.9	4.2
25	18.5	5.3	4.4
26	18.1	4.0	4.6
27	17.7	3.3	4.6
28	17.7	3.1	4.6
29	17.5	4.7	4.6
30	17.2	7.9	4.6
31	16.5	5.7	
Total			
Sec. Ft.	648.3	329.7	149.4
Days			
Mean			
Sec. Ft.	20.9	10.6	5.0
Total			
Acre Ft.	1290	654	296

Discharge during 92-day period - 2240 acre-feet.

A P P E N D I X

BEFORE THE DEPARTMENT OF PUBLIC WORKS
OF THE STATE OF CALIFORNIA
DIVISION OF WATER RESOURCES
STATE ENGINEER

IN THE MATTER OF THE DETERMINATION OF THE)
RIGHTS OF THE VARIOUS CLAIMANTS TO THE)
WATERS OF SHACKLEFORD CREEK AND ITS TRIBU-)
TARIES IN SISKIYOU COUNTY, CALIFORNIA)
AGREEMENT FOR WATERMASTER
SERVICE DURING 1949 SEASON

WHEREAS, the above entitled proceeding is pending before the Department of Public Works of the State of California, Division of Water Resources, State Engineer, in which the rights in and to the waters, and in and to the use thereof, from Shackleford Creek and its tributaries, of all claimants hereunto subscribed are involved; and

WHEREAS, the claimants hereunto subscribed desire continuation of watermaster service on said stream system during the pendency of said proceeding; and

WHEREAS, a tentative draft of "Order of Determination" determining and establishing the several rights in and to the water of said stream system is being prepared in the above entitled proceeding.

NOW THEREFORE IT IS HEREBY AGREED by and between each and every claimant hereunto subscribed and among all of said claimants, that said Department, under authority conferred by Section 226 of the Water Code, may undertake to distribute the waters of said Shackleford Creek and its tributaries among the various claimants hereunto subscribed as hereinafter set forth, it being understood and agreed that the distribution and apportionment of water under this agreement shall be for the period extending from May 15 to October 1, 1949, only, and subject to such provisions as are hereinafter contained, to wit:

1. The rights in and to the waters, and in and to the use thereof, from each of the following divisions of Shackelford Creek and its tributaries, namely, Upper Shackelford Creek (that portion of Shackelford Creek above the junction of Shackelford and Mill Creeks), Lower Shackelford Creek (that portion of Shackelford Creek below the junction of Shackelford and Mill Creeks), Upper Mill Creek (that portion of Mill Creek above the Shackelford Ditch Crossing) and Lower Mill Creek (that portion of Mill Creek between Shackelford Ditch Crossing and the junction of Shackelford and Mill Creeks) shall be separate groups. All rights in each of said groups in and to the waters, and in and to the use thereof, shall be independent of the rights in any other of said groups.

2. Subject to the foregoing rights and provisions, the various claimants enumerated in Schedules 1, 2, 3 and 4, hereunto annexed and made a part hereof shall be entitled to rights in and to the use of the waters of Shackelford Creek and its tributaries, during the period from April 1 to October 31, of each year, for domestic, stock-watering, and irrigation purposes upon their respective lands involved in said proceeding as shown on the Division of Water Resources Map, in accordance with the acreages to be supplied, priorities and quantities of water allotted, and through the diversions from the sources named as set forth in said Schedules 1, 2, 3 and 4. All allotments set forth in said Schedules 1, 2, 3 and 4 which are within the same priority class and within the same group are equal in priority and correlative in right and at all times when the water supply available for rights within a priority class is inadequate to supply all rights and allotments within said class, then during the continuance of such shortage, the owners of such allotments shall prorate the available water supply, if any, in excess of the quantity required for prior rights, or

rotate in the use thereof, in accordance with their respective allotments in that class.

3. Subject to the foregoing rights and provisions, Cecil Graham and Camille Zwanziger are entitled to impound the waters of the South Fork of Shackleford Creek in Cliff and Campbell Lakes at points designated on D. W. R. Map as Diversion 1 and 2, as follows:

150 acre-feet per annum in Cliff Lake and

350 acre-feet per annum in Campbell Lake

to be collected during the period from November 1 of each year to July 1 of the succeeding year and thereafter withdrawn from storage and applied to beneficial use for irrigation and stock-watering purposes on 310.4 acres of their lands in Section 19, T. 43 N., R. 9 W., M.D.B.&M. and in Sections 13, 14, 23 and 24, T. 43 N., R. 10 W., M.D.B.&M.

4. Subject to the foregoing rights and provisions, Jessie Arnold Cason and Roy J. Helm, are entitled to divert from the natural flow of Shackleford Creek at a point within $SE\frac{1}{2}$ $NE\frac{1}{4}$ of Section 9, T. 43 N., R. 10 W., M.D.B.&M., as follows:

1.00 cubic foot per second

from about March 1 to July 1 of each season for domestic and irrigation purposes on 36.0 acres of their lands in Section 10, T. 43 N., R. 10 W., M.D.B.&M. in accordance with the terms and provisions of Permit 6113 issued on Application 10350.

5. The distribution of water in accordance with this agreement shall not in any manner prejudice the rights which are now claimed or may hereafter be asserted by any of the claimants hereunto subscribed.

6. Said Department may appoint a watermaster to distribute the waters of the said Shackleford Creek and its tributaries, as herein provided for, during the 1949 season, and said watermaster shall have power and authority to inspect and regulate the diversions of all the claimants hereunto subscribed in accordance with this agreement, and in the exercise of such authority may enter upon the lands of said claimants for the purpose of such inspection and regulation, and may establish and maintain such gaging stations and measuring devices in said stream system and diversion conduits as may be necessary or convenient. The several ditch owners shall furnish the necessary labor and material for the construction and installation of diversion works, headgates and measuring devices for their respective ditches.

7. It is finally agreed that in order to meet the costs of such distribution by the watermaster during the 1949 season, the claimants hereunto subscribed will pay to the Division of Water Resources on or before June 1, 1949, the amount of \$300.00, which amount shall be apportioned among the said claimants in accordance with the apportionments set forth in Schedule 5 hereunto annexed and made a part hereof.

IN WITNESS WHEREOF, the parties hereto have affixed their hands and seals the 22nd day of April, 1949.

<u>Name</u>	<u>Address</u>	<u>Date</u>
Cecil Graham and Camille Zwanziger by George Zwanziger	Weed, California	April 22, 1949
John H. Heide	Fort Jones, Calif.	April 22, 1949
C. J. Mulloy	Fort Jones, Calif.	April 22, 1949
Robert A. English	Fort Jones, Calif.	April 22, 1949
Margaret W. Davis	Fort Jones, Calif.	April 22, 1949
Burnell Burton	Fort Jones, Calif.	May 5, 1949

<u>Name</u>	<u>Address</u>	<u>Date</u>
Edward Burton	Fort Jones, Calif.	May 5, 1949
F. L. Lathrop	Fort Jones, Calif.	May 5, 1949
Mildred J. Soderquist	Fort Jones, Calif.	May 5, 1949
Drury M. Farks	Fort Jones, Calif.	May 5, 1949
Douglas Eastlick	Fort Jones, Calif.	May 12, 1949
Dennis Mulloy	Fort Jones, Calif.	May 12, 1949

SCHEDULE 1

ALLOCATIONS TO VARIOUS CLAIMANTS FROM SHACKLEFORD CREEK
IN UPPER SHACKLEFORD CREEK GROUP

Name of Claimant	Diver- Acres	No. as to be per	Allotments in Cubic Feet per Second							Total	
			Sup- plied	D.W.R. Map	Priority Class						
					1st	2nd	3rd	4th	5th		6th
John H. Heide & Lorene M. Heide	147.7	3					3.50				3.50
Cecil Graham & Camille Zwanzi- ger	310.4	4		7.00				4.00			11.00
Robert A. English	7.3	5					0.30				0.30
Felix Curtis & Ethel Curtis	13.3	5					0.30				0.30
Arthur L. Soderquist & Mildred J. Soderquist	10.8	5					0.30				0.30
William A. Hicks & Ollie P. Hicks	3.0	5					0.30				0.30
Cornelius J. Mulloy & L. Dennis Mulloy	169.7	5					4.00				4.00
United States of America in Trust	212.6	6	2.00		3.00						5.00
Jack E. Schulz & Richard R. Schulz	39.7	7						1.20			1.20
L. Dennis Mulloy; Domes- tic		8	0.03								0.03
L. Dennis Mulloy	55.4	9							1.30		1.30
Jacob Dangel	75.2	10							1.70		1.70
Total	1045.1		2.03	7.00	3.00	8.70	4.00	1.20	3.00		28.93

SCHEDULE 2

ALLOCATIONS TO VARIOUS CLAIMANTS FROM SHACKLEFORD CREEK
IN LOWER SHACKLEFORD CREEK GROUP

Name of Claimant	Acreage to be Supplied	Diver-sion No. as per D.W.R. Map	Allotments in Cubic Feet per Second							Total
			Priority Class							
			1st	2nd	3rd	4th	5th	6th	7th	
Jack E. Schulz & Richard R. Schulz	2.3	17	0.10							0.10
United States of America in Trust	142.2	17			1.20				2.05	3.25
Edward Burton	93.5	17						2.10		2.10
F. L. Lathrop & Georgina C. Lathrop	21.9	17						1.15		1.15
Henry F. Chester	23.0	18		0.70						0.70
Henry F. Chester	6.9	19		0.20						0.20
Donald L. Miller	11.9	19					0.30			0.30
Joseph Rivallier	125.1	19					1.30		2.00	3.30
C.B. Camblin & Jeanne Camblin	140.8	19					1.80		3.00	4.80
Edward Burton	50.0	20			1.20					1.20
Burnell M. Burton & Rose A. Burton	48.4	20			1.10					1.10
F. L. Lathrop & Georgina C. Lathrop	129.1	20			3.50					3.50
Donald L. Miller	10.6	21		0.40						0.40
Joseph Rivallier	87.9	21				2.00				2.00
Burnell M. Burton & Rose A. Burton	40.0	22 & 23	1.20							1.20

SCHEDULE 2 (Cont'd.)

Name of Claimant	Diver- Acre- age No. as to be per	sion	Allotments in Cubic Feet per Second							Total	
			Priority Class								
			Sup- plied	D.W.R. Map	1st	2nd	3rd	4th	5th		6th
Robert E. Brown & Walter A. Graves	28 & 9.7	29	0.20								0.20
Totals	943.3		1.50	1.30	7.00	2.00	3.40	5.30	5.00		25.50

SCHEDULE 3
 ALLOCATIONS TO VARIOUS CLAIMANTS FROM MILL CREEK
 IN UPPER MILL CREEK GROUP

Name of Claimant	Acreage to be Supplied	Diver- sion No. as per D.W.R. Map	Allotments in Cubic Feet per Second			
			Priority Class			
			1st	2nd	3rd	Total
Robert L. Couch	22.0	11 & 12	0.01		0.61	0.62
Lena Butler	49.6	11		1.00		1.00
Robert F. Davis and Margaret W. Davis	200.4	11		4.50		4.50
G. Douglas Eastlick and Elma J. Eastlick	172.4	11		4.50		4.50
Totals	444.4		0.01	10.00	0.61	10.62

Whenever the flow available for the rights in priority class "2nd" shall be equal to or less than 0.50 cubic foot per second, then during such times the available flow shall be divided equally among the three owners of said rights in priority class "2nd".

SCHEDULE 4
 ALLOCATIONS TO VARIOUS CLAIMANTS FROM MILL CREEK
 IN LOWER MILL CREEK GROUP

Name of Claimant	Acreage to be Supplied	Diver- sion No. as per D.W.R. Map	Allotments in Cubic Feet per Second		
			Priority Class		
			1st	2nd	Total
Cornelius J. Mulloy and L. Dennis Mulloy	21.4	13	0.10	0.40	0.50
Julio Ferreira	52.1	14	0.25	1.15	1.40
Jacob Dangel	15.8	15	0.25	0.25	0.50
Jacob Dangel	3.5	16		0.50	0.50
L. Dennis Mulloy	78.4	26 & 27		1.60	1.60
Totals	171.2		0.60	3.90	4.50

SCHEDULE 5

APPORTIONMENT OF COST OF WATERMASTER SERVICE ON
SHACKLEFORD CREEK AND TRIBUTARIES DURING THE 1949 SEASON

Name of Claimant	Continuous Flow Equivalent Cu. Ft. per Sec.	Portion of Expense
Brown, Robert E. and Graves, Walter A.	0.20	\$ 2.01
Burton, Burnell M. and Burton, Rose A.	2.30	10.47
Burton, Edward and Vanarsdell, Frances	3.30	14.50
Butler, Lena	1.00	5.23
Camblin, C. B. and Camblin, Jeanne	1.80	8.46
Cason, Jesse Arnold and Helm, Roy J.	1.00	5.23
Chester, Henry F.	0.90	4.83
Couch, Robert L.	0.62	3.70
Curtis, Felix and Curtis, Ethel	0.30	2.41
Dangel, Jacob	2.70	12.08
Davis, Robert P. and Davis, Margaret W.	4.50	19.34
Eastlick, G. Douglas and Eastlick, Elma J.	4.50	19.34
English, Robert A.	0.30	2.41
Graham, Cecil and Zwanziger, Camille	12.43	51.31
Heide, John H. and Heide, Lorene M.	3.50	15.31
Lathrop, F. L. and Lathrop, Georgina C.	4.65	19.94
Miller, Donald L.	0.70	4.02
Mulloy, Cornelius J. and Mulloy, L. Dennis	4.50	19.34
Mulloy, L. Dennis	2.93	13.01
Parks, Drury M.	0.30	2.41
Pereira, Julio	1.40	6.84

SCHEDULE 5 (Cont'd.)

Name of Claimant	Continuous Flow Equivalent Cu. Ft. per Sec.	Portion of Expense
Rivallier, Joseph	3.30	\$ 14.50
Shulz, Richard; Shulz, Jack E.; and Schulz, Bette	1.30	6.44
Soderquist, Arthur L. and Soderquist, Mildred J.	0.30	2.41
United States of America	8.25	34.46
Totals	66.98	\$ 300.00