STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

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REPORT ON WATERMASTER SERVICE IN SURPRISE VALLEY WATERMASTER SERVICE AREA MODOC COUNTY, CALIFORNIA 1954 SEASON

Sacramento, California
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SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF PUBLIC WORKS

I, L. C. Jopson, Principal Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, submit this "Report on Watermaster Service in Surprise Valley Watermaster Service Area, Modoc County, California, 1954 Season".

/s/ L. C. Jopson
Principal Hydraulic Engineer

I, Harvey O. Banks, Assistant State Engineer, Division of Water Resources, Department of Public Works of the State of California, approve this "Report on Watermaster Service in Surprise Valley Watermaster Service Area, Modoc County, California, 1954 Season".

/s/ Harvey O. Banks
Assistant State Engineer

I, A. D. Edmonston, State Engineer and Chief of the Division of Water Resources, Department of Public Works of the State of California, approve and adopt this "Report on Watermaster Service in Surprise Valley Watermaster Service Area, Modoc County, California, 1954 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 20th day of January , 1955 .

DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

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

(SEAL)

ORGANIZATION

STATE DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

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INTRODUCTION

This is the sixteenth annual report on watermaster service in Surprise Valley Watermaster Service Area and covers the period of water distribution in 1954 beginning March 19 and terminating September 30.

The service area was created by order of the Division of Water Resources on January 10, 1939, and was supplemented and revised by order of December 31, 1941, to include water rights determined by decrees of the Superior Court, Modoc County, on various streams in Surprise Valley as follows:

Mill Creek	Warrens vs. Wimer	3024
Soldier Creek	San Francisco Cattle Loan Co. vs. Cramton	2405
Pine Creek	Gaustad vs. McCulley	3391
Cedar Creek	Hill vs. Acty Lighty vs. Cook	2343 1206
Deep Creek	Tyeryar vs. Benner	3101
Owl Creek	Cummins vs. Allen	2401
Radar Creek	Powers vs. Woodruff	3626
Eagle Creek	Harris vs. Adams	3284
Emerson Creek	Murphy vs. Warren	2840

Prior to January 10, 1939, service areas had been created on various streams as water rights were determined on each. These smaller service area were combined into a single administrative unit when the present Surprise Valley Watermaster Service Area was formed.

Watermaster service has been provided during each irrigation season since the service area was created and annual reports prepared to show the work accomplished during each season.

The report is presented herein under four headings as follows: Introduction, Water Supply, Distribution of Water, and Changes in Ownership of Lands and Water Rights. Following the text are thirteen tables presenting precipitation data at Cedarville and water supply records at various locations within the area.

WATER SUPPLY

Precipitation

Data on precipitation, as compiled from observations made by the United States Weather Bureau at Cedarville, for the period October 1, 1953, to September 30, 1954, are shown in Table 1. The precipitation for the period was 10.18 inches which is equivalent to about 82 per cent of normal.

Water content of the snowpack on Eagle Peak, Blue Lake Ranch, and Cedar Pass snow courses in 1954, as published in the bulletin entitled "Water Conditions in California, April 1, 1954", averaged 13.6 inches or 79 per cent of the average of the computed normals for the three courses. This information is shown in more detail in the following tabulations:

Snow course	Elevation in feet	Water content of snow in inches		Per cent of mean
		50-year computed mean	1954	
Eagle Peak	7,500	18.2	16.0	88
Blue Lake Ranch	7,300	13.6	10.3	76
Cedar Pass	7,200	19.9	14.6	73

Stream Flow

Stream flow measuring stations equipped with water stage recorders were maintained during the period of watermaster service at the following locations.

Mill Creek above diversions

Soldier Creek above diversions

Pine Creek at division between North and South channels

Cedar Creek above diversions

North Deep Creek above diversions

South Deep Creek below Espil ditch

Owl Creek below Allen-Arreche ditch

Rader Creek at Cockrell diversion

Eagle Creek below Gill ditch

Emerson Creek above diversions

Records of discharge at the above stations are presented in Tables 2, 3, 4, 5, 6, 7, 9, 10, 11, and 12, respectively. Computed mean daily discharge of Deep Creek, comprising discharges of North Deep Creek and South Deep Creek, is shown in Table 8.

DISTRIBUTION OF WATER

Distribution of water from the various creeks was in accordance with rights to water set forth in the respective decrees. Percentage of allotments available for distribution on each stream was determined from the mean daily discharge at the respective measuring stations.

Mill Creek

Flow in Mill Creek increased during the last part of April and the first part of May. However, the year was drier than the preceding years, and all users were taking water from the beginning of April. The water supply dropped rapidly during July, and by the end of July only first priority rights, consisting of Lake City town users and some stockwatering rights, were receiving water. During September, sufficient water was available to satisfy only about 75 per cent of first priority allotments.

A summary of distribution of water by months is shown in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
First	100	100	100	100	87	77
Second	100	100	100	82	0	0
Third	75	80	38	6	0	0
Fourth	50	30	0	0	0	0

Soldier Creek

Distribution of water in Soldier Creek was commenced on March 19 when the water was turned to the lower users for the first rotation. Due to cloudy and rainy weather, the flow in Soldier Creek increased during the last part of April and the first part of May, but was never sufficient to supply more than the first, second, third, and fourth priority rights. No water was available for surplus rights. After the first of July the creek dropped steadily, and during the months of August and September only first

priority rights received water. A summary of distribution of water on Soldier Creek is presented in Table 13.

Pine Creek

Rotation on Pine Creek was begun on March 20 when the entire flow was diverted into the North Channel. Due to the increased water supply during April, all rights under the South Channel-first rotation and most rights under North Channel-second rotation were satisfied. The Cressler ditch was opened on May 23 the date when the flow receded to less than 1.6 cubic feet per second at the division between North and South branches. The Cressler ditch was closed for a few days during the middle of June when thunderstorms temporarily supplied water for the North Channel. On June 18 the Cressler ditch to the Hill ranch was reopened, but due to the receding flow, water was diverted to the Wing ranch near the mouth of the canyon. By the end of September continuous surface flow had receded into the mountains about a mile above the canyon mouth.

Cedar Creek

Water supply was greatest for the season during the middle of April, but it was never adequate for all priorities. The available water supply decreased rapidly, and by May 22 only first priority rights were being supplied. By the end of September the supply had dropped to 0.20 cubic foot per second of first priority stock water rights.

Thoms Creek ditch, diverting from Thoms Creek into Cedar Creek, was opened on about May 1. The water was rediverted for use on the Wallace, Warrens, and Nosler ranches. Flow available for the Thoms Creek ditch failed

early in July. During the period of diversion, the flow in Thoms Creek ditch averaged about one cubic foot per second.

Distribution of water from Cedar Creek by months is shown in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
First	100	90	81	17	8	6
Second	54	10	9	0	0	0
Third	0	0	0	0	0	0
Fourth	0	0	0	0	0	0

Deep Creek

At no time during the season was the flow of North Deep Creek great enough to fulfill all first priority rights. The entire flow of North Deep Creek was diverted into the Company ditch and none was allowed to reach South Deep Creek. The water supply decreased gradually and by August 10 the flow was less than 0.50 cubic foot per second. However, most ranches were supplied stock water nearly all season.

Available water in South Deep Creek was sufficient during the latter part of April to supply water to the third priority rights, but decreased constantly until the latter part of May when only the P. B. Harris ranch was receiving first priority water. The creek continued to drop until the last of September when 0.35 cubic foot per second was available.

A summary of distribution of water by months is shown in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
			NORTH DEEP CREEK			
First	73	54	32	9	4	4
			SOUTH DEEP CREEK			
First	100	86	57	15	8	8
Second	95	30	0	0	0	0
Third	31	2	0	0	0	0
Fourth	0	0	0	0	0	0

Owl Creek

Due to relatively higher elevations in the watershed of Owl Creek as compared to more northerly creeks in the area, the water supply was greatest during the middle of May instead of earlier in the year. The water supply during the middle part of May was sufficient to satisfy all rights. Thereafter, except for a flash flood during the middle of June, available supply decreased until September 30 when water was available to first and second priority rights only. All of the eighth priority right to the Arreche ranch, and about two-thirds of the eighth priority right to the Snell ranch were delivered as provided in the decree, but by August 1 no water was available for the eighth priority right of Four Star Cattle Company ranch.

A summary of distribution of water by months is presented in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	76
4	100	100	100	100	71	3
5	100	100	100	100	7	0
6	100	100	100	83	0	0
7	100	100	100	83	0	0
8	0	0	0	56	0	0
9	100	100	100	47	0	0
10	100	100	100	16	0	0
11	100	100	100	4	0	0
12	100	100	100	0	0	0
13	100	88	73	0	0	0
14	100	83	43	0	0	0
15	100	66	33	0	0	0
16	100	50	30	0	0	0
17	100	50	8	0	0	0
18	100	50	0	0	0	0
19	100	50	0	0	0	0
20	16	33	0	0	0	0
21	16	16	0	0	0	0

Rader Creek

The runoff peak of Rader Creek occurred in the middle of May. Water was available to supply all allotments during this part of May, but decreased gradually until September 30 when about 0.50 cubic foot per second was available for the Minto and Dollarhide ranches. The Cockrell diversion was opened May 20 and closed July 24 when water diverted would not reach the place of use.

Distribution of water by months is shown in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
First	100	100	100	100	91	51
Second	100	100	100	100	28	0
Third	100	97	60	15	0	0
Fourth	100	80	0	0	0	0
Fifth	50	67	0	0	0	0
Sixth	33	67	0	0	0	0
Seventh	0	0	0	0	0	0

Eagle Creek

Maximum runoff occurred during the middle of May when sufficient water was available to satisfy rights of all priorities. Thereafter, except for a few days during the middle of June, the available supply decreased gradually until the latter part of August when water was available for only first priority rights. From late August to the end of the season the water supply remained nearly constant. On July 1 the Bone Ranch was regulated to stock water in accordance with provisions of the decree.

A summary of distribution of water by months is shown in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
First	100	100	100	100	100	100
Second	100	100	100	53	9	8
Third	75	78	61	8	0	0
Fourth	0	48	2	0	0	0

Emerson Creek

The greatest flow occurred during the middle of May, when the supply was sufficient to allow proration of water among fourth priority rights. After the middle of May, the flow decreased until the first part of July, at which time all first priority and about thirty per cent of second priority rights were being supplied. By the end of September, water was available for about ten per cent of second priority rights.

Distribution of water by months is shown in the following tabulation:

Priority	Percentage of allotments delivered					
	April	May	June	July	August	September
First	100	100	100	100	100	100
Second	100	99	66	17	9	9
Third	54	68	3	0	0	0
Fourth	0	18	0	0	0	0

CHANGES IN OWNERSHIP OF LANDS AND WATER RIGHTS

Changes in ownership of lands and water rights, which have occurred subsequent to filing "Statement for Surprise Valley Watermaster Service Area, County of Modoc, State of California, for 1954", and which will be included in the 1955 statement for the service area, are as follows:

Tract no.	Name of water right owner appearing in 1954 statement	Name of water right owner to appear in 1955 statement	Amount of water cubic feet per second
8-43	Heesh, Margaret M.	Mix, Charles L. and Mix, Grace M.	0.32
8-44	McDaniel, Noy	McDaniel, Ronald L.; Sheridan, Ada Marie; and Baker, Mary L.	0.13
8-46	Hill, Charlie E.	Hill, Estate of Charlie E.	0.50
8-70	Davis, Leroy A. and Davis, Blanche I.	Walker, R. A.	2.50
8-90	Baty, Margaret	Laxague, Pete J.	0.50
8-132	Branson, Estate of Jesse and Branson, Clara	Young, William and Young, Maggie	0.08
8-144	Heard, Peter K.	Heard, Perry M.	0.10

TABLE 1

PRECIPITATION AT CEDARVILLE, MODOC COUNTY, CALIFORNIA
1953-1954

In Inches

Month	Normal precipitation	1953-1954 precipitation
October	1.05	0.84
November	1.49	1.94
December	1.55	1.21
January	1.74	1.33
February	1.51	0.55
March	1.46	1.27
April	0.94	0.90
May	1.00	0.31
June	0.74	1.59
July	0.24	0.00
August	0.17	0.20
September	0.50	0.04
TOTALS	12.39	10.18

TABLE 2

DAILY MEAN DISCHARGE OF MILL CREEK ABOVE DIVERSIONS

April 5 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		31	9.0	7.2	2.0	1.6
2	NO	30	8.4	6.8	2.0	1.6
3	RECORD	30	7.9	6.5	1.9	1.6
4		29	10.5	6.5	1.9	1.6
5	13.6	29	9.4	6.6	1.9	1.6
6	13.6	28	9.0	6.6	1.9	1.6
7	12.7	28	9.4	6.4	1.8	1.6
8	11.3	28	10.5	6.2	1.8	1.6
9	10.2	27	9.5	6.0	1.8	1.6
10	9.0	27	12.6	5.8	1.8	1.6
11	9.0	26	11.4	5.6	1.8	1.6
12	9.9	26	10.9	5.4	1.8	1.6
13	14.1	24	10.5	5.2	1.8	1.5
14	18.4	22	9.5	5.2	1.7	1.5
15	18.0	22	15.0	4.6	1.7	1.5
16	19.5	22	15.1	4.6	1.7	1.5
17	25	21	14.8	4.4	1.7	1.5
18	31	21	13.6	4.2	1.7	1.5
19	30	21	12.7	4.2	1.7	1.5
20	28	19.8	12.2	3.8	1.7	1.5
21	28	18.0	10.9	3.6	1.7	1.5
22	28	16.2	10.1	3.4	1.7	1.5
23	29	15.1	10.1	3.2	1.7	1.5
24	31	13.6	9.4	2.9	1.7	1.5
25	32	14.8	9.0	2.8	1.7	1.5
26	33	13.6	8.7	2.6	1.7	1.5
27	32	12.7	9.0	2.6	1.7	1.5
28	32	11.8	7.9	2.5	1.7	1.4
29	32	13.6	7.8	2.4	1.7	1.4
30	32	12.2	7.4	2.2	1.6	1.4
31	—	9.5	—	2.0	1.6	—
Mean	22.4	21.4	10.4	4.6	1.8	1.5
Runoff, in acre-feet	1,153	1,312	618	281	108	91

Total for period - 3,556 acre-feet.

TABLE 3

DAILY MEAN DISCHARGE OF SOLDIER CREEK ABOVE DIVERSIONS

March 19 to September 30, 1954

In Cubic Feet per Second

Day	March	April	May	June	July	August	September
1	N	4.1	10.3	4.4	3.5	2.1	1.7
2	O	4.5	9.1	4.3	3.3	2.1	1.7
3		6.0	9.6	4.0	3.1	2.1	1.7
4		9.8	10.1	3.7	3.1	2.0	1.7
5		7.8	11.0	3.7	3.0	2.0	1.6
6	R	7.1	11.5	5.1	2.9	2.0	1.6
7	E	6.7	11.8	6.0	2.9	2.0	1.6
8	C	6.5	11.8	7.1	2.8	2.0	1.6
9	O	6.2	11.3	8.2	2.7	1.9	1.6
10	R	6.0	10.3	9.5	2.6	1.9	1.6
	D						
11		6.7	10.1	8.2	2.6	1.9	1.6
12		8.7	9.6	7.0	2.5	1.9	1.6
13		11.8	9.4	6.7	2.5	1.9	1.5
14		11.0	9.4	6.0	2.4	1.9	1.5
15		10.3	9.1	5.9	2.3	1.9	1.5
16		13.0	8.9	5.7	2.3	1.9	1.5
17		15.8	8.9	5.1	2.3	1.9	1.5
18		14.4	8.5	4.6	2.3	1.8	1.5
19	4.3	13.0	8.2	4.4	2.2	1.8	1.5
20	4.3	12.0	7.8	4.3	2.2	1.8	1.5
21	4.3	11.8	7.3	4.0	2.2	1.8	1.5
22	4.1	12.5	7.1	3.9	2.2	1.8	1.5
23	4.1	13.3	6.7	3.8	2.2	1.8	1.5
24	4.1	13.3	6.2	3.7	2.2	1.8	1.5
25	4.1	13.3	6.0	3.6	2.1	1.8	1.5
26	4.1	12.8	5.7	3.5	2.1	1.8	1.5
27	4.1	12.6	5.1	3.4	2.1	1.7	1.5
28	4.1	12.6	4.9	3.4	2.1	1.7	1.4
29	4.1	11.7	4.9	4.0	2.1	1.7	1.4
30	4.1	11.3	4.7	5.0	2.1	1.7	1.4
31	4.1	--	4.5	--	2.1	1.7	--
Mean	4.1	10.2	8.7	5.1	2.5	1.9	1.5
Runoff, in acre-feet	107	607	514	301	153	115	92

Total for period - 1,889 acre-feet.

TABLE 4

DAILY MEAN DISCHARGE OF PINE CREEK AT DIVISION
BETWEEN NORTH AND SOUTH CHANNELS

March 20 to September 30, 1954

In Cubic Feet per Second

Day	March	April	May	June	July	August	September
1		1.7	3.1	0.3	0.2		
2		1.9	2.9	0.3	.2		
3		3.5	2.5	0.3	.2		
4	N	8.7	2.4	0.3	.2		
5	O	6.1	2.3	0.3	.2		
6		6.1	2.2	0.3	.2		
7	R	6.1	2.2	0.3	.2		
8	E	6.0	2.2	0.3	.2		
9	C	5.9	2.2	2.0	.2	NO	NO
10	O	5.2	2.2	4.0	.2		
	R					FLOW	FLOW
11	D	4.7	2.2	3.5	.2		
12		5.7	2.2	2.5	.2		
13		10.2	2.0	2.3	.1		
14		10.4	2.0	2.2	.1		
15		10.0	1.9	3.5	.1		
16		11.0	1.8	2.5	.1		
17		11.9	1.7	2.0	.1		
18		11.7	1.6	1.6	.1		
19		11.5	1.5	1.6	.1		
20	1.5	11.2	1.4	1.6	NO		
21	1.5	10.8	1.3	1.5	FLOW		
22	1.5	8.1	1.2	1.4			
23	1.5	7.0	1.0	0.7			
24	1.6	6.2	0.8	0.3			
25	1.7	5.7	0.6	0.3			
26	1.7	5.4	0.4	0.3			
27	1.7	5.2	0.3	0.3			
28	1.8	5.0	0.3	0.3			
29	1.8	3.8	0.3	0.3			
30	1.8	3.5	0.3	0.2			
31	1.7	---	0.3	---			
Mean	1.7	7.0	1.6	1.2	0.2	0	0
Runoff, in acre-feet	39	418	98	74	6	0	0

Total for period - 635 acre-feet.

TABLE 5

DAILY MEAN DISCHARGE OF CEDAR CREEK ABOVE DIVERSIONS

April 7 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		10.0	3.5	2.4	0.5	0.4
2	NO	10.0	3.5	2.0	.5	.4
3	RECORD	10.0	3.2	1.9	.5	.4
4		10.0	4.3	1.7	.5	.4
5		10.0	5.5	1.5	.5	.4
6		9.3	5.8	1.4	.5	.4
7	15.0	9.3	5.1	1.2	.5	.4
8	12.0	8.5	5.8	1.2	.5	.4
9	9.3	8.5	8.0	1.1	.5	.3
10	7.5	8.5	10.0	1.1	.5	.3
11	9.3	8.5	8.0	1.1	.4	.3
12	10.0	8.5	7.0	1.0	.4	.3
13	15.0	8.5	6.0	1.0	.4	.3
14	15.0	7.5	6.0	1.0	.4	.3
15	15.0	7.5	8.0	1.0	.4	.3
16	16.0	6.8	8.0	0.9	.4	.3
17	19.5	6.8	7.5	0.9	.4	.3
18	22.0	6.0	7.0	0.9	.4	.3
19	19.5	5.4	5.4	0.9	.4	.3
20	16.0	5.4	5.0	0.8	.4	.3
21	15.0	5.4	4.3	0.8	.4	.3
22	13.5	4.9	3.5	0.8	.4	.3
23	12.3	4.9	3.2	0.7	.4	.3
24	12.3	4.9	3.0	0.7	.4	.3
25	12.0	4.3	2.4	0.7	.4	.2
26	12.0	4.3	2.4	0.6	.4	.2
27	12.0	4.3	2.2	0.6	.4	.2
28	12.0	3.8	2.2	0.6	.4	.2
29	10.0	3.8	2.4	0.6	.4	.2
30	10.0	3.6	2.4	0.5	.4	
31	—	3.5	—	0.5	.4	—
Mean	13.4	6.9	5.0	1.0	0.4	0.3
Runoff, in acre-feet	638	421	298	64	27	18

Total for period - 1,466 acre-feet.

TABLE 6

DAILY MEAN DISCHARGE OF NORTH DEEP CREEK ABOVE DIVERSIONS

April 7 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		6.2	3.5	1.6	0.5	0.4
2	NO	6.1	3.5	1.6	.5	.4
3	RECORD	6.0	3.5	1.5	.5	.4
4		6.0	3.6	1.5	.5	.4
5		6.0	3.6	1.5	.5	.4
6		6.1	3.6	1.3	.5	.4
7	5.7	6.0	3.6	1.3	.5	.4
8	5.7	5.9	3.7	1.3	.5	.4
9	5.7	5.7	3.7	1.2	.5	.4
10	5.7	5.6	3.8	1.2	.4	.4
11	5.7	5.4	3.6	1.2	.4	.4
12	5.9	5.3	3.7	1.2	.4	.4
13	6.1	5.2	3.7	1.1	.4	.4
14	6.3	5.0	3.7	1.0	.4	.4
15	6.4	4.9	3.8	1.0	.4	.4
16	6.6	4.8	3.7	0.9	.4	.4
17	6.7	4.7	3.5	0.9	.4	.3
18	6.8	4.6	3.4	0.8	.4	.3
19	6.9	4.5	3.3	0.7	.4	.3
20	6.9	4.4	3.2	0.6	.4	.3
21	6.8	4.4	3.2	0.6	.4	.3
22	6.8	4.3	3.2	0.5	.4	.3
23	6.7	4.2	3.0	0.5	.4	.3
24	6.7	4.1	2.7	0.5	.4	.3
25	6.6	4.0	2.7	0.5	.4	.3
26	6.6	3.9	2.3	0.5	.4	.3
27	6.4	3.8	2.3	0.5	.4	.3
28	6.4	3.7	2.0	0.5	.4	.3
29	6.3	3.6	1.8	0.5	.4	.3
30	6.3	3.6	1.6	0.5	.4	.3
31	—	3.5	—	0.5	.4	—
Mean	6.4	4.9	3.2	0.9	0.4	0.4
Runoff, in acre-feet	302	300	191	57	26	21

Total for period - 897 acre-feet.

TABLE 7

DAILY MEAN DISCHARGE OF SOUTH DEEP CREEK BELOW ESPIL DITCH

April 7 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		13.5	2.4	1.7	0.5	0.4
2	NO	12.8	2.3	1.5	.5	.4
3	RECORD	12.3	2.3	1.4	.5	.4
4		11.8	2.6	1.4	.5	.4
5		11.5	2.9	1.3	.5	.4
6		11.0	3.6	1.2	.5	.4
7	11.0	10.0	4.5	1.1	.5	.4
8	10.5	9.5	5.0	1.1	.5	.4
9	10.0	9.2	5.4	1.0	.5	.4
10	9.5	8.7	5.4	1.0	.5	.4
11	9.2	8.4	5.0	1.0	.5	.4
12	10.0	7.7	4.8	1.0	.5	.4
13	11.8	6.9	4.5	0.9	.4	.4
14	14.0	6.9	3.9	0.8	.4	.4
15	14.0	6.5	3.6	0.8	.4	.4
16	14.0	6.3	3.4	0.8	.4	.4
17	14.0	6.1	3.4	0.8	.4	.4
18	14.0	5.7	3.1	0.7	.4	.4
19	13.5	5.4	2.9	0.7	.4	.4
20	13.5	5.0	2.6	0.7	.4	.4
21	12.8	4.8	2.6	0.7	.4	.4
22	12.3	4.5	2.4	0.7	.4	.4
23	12.3	3.9	2.4	0.6	.4	.4
24	12.8	3.6	2.3	0.6	.4	.4
25	14.0	3.6	2.3	0.6	.4	.4
26	15.2	3.4	2.1	0.6	.4	.4
27	15.7	3.1	1.9	0.6	.4	.4
28	15.2	3.1	1.8	0.6	.4	.4
29	14.6	2.9	1.8	0.5	.4	.4
30	14.0	2.6	1.7	0.5	.4	.4
31	—	2.4	—	0.5	.4	—
Mean	12.8	6.9	3.2	0.9	0.4	0.4
Runoff, in acre-feet	610	422	188	54	27	24

Total for period - 1,325 acre-feet.

TABLE 8

DAILY MEAN DISCHARGE OF NORTH AND SOUTH DEEP CREEKS ABOVE DIVERSIONS

April 7 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		19.7	5.9	3.3	1.0	0.8
2	NO	18.9	5.8	3.1	1.0	.8
3	RECORD	18.3	5.8	2.9	1.0	.8
4		17.8	6.2	2.9	1.0	.8
5		17.6	6.5	2.8	1.0	.8
6		17.1	7.2	2.5	1.0	.8
7	16.7	16.0	8.1	2.4	1.0	.8
8	16.2	15.4	8.7	2.4	1.0	.8
9	15.7	14.9	9.1	2.2	1.0	.8
10	15.2	14.3	9.2	2.2	0.9	.8
11	14.9	13.8	8.6	2.2	0.9	.8
12	15.9	13.0	8.5	2.2	0.9	.8
13	17.9	12.1	8.2	2.0	0.8	.8
14	20.	11.9	7.6	1.8	0.8	.8
15	20	11.4	7.4	1.8	0.8	.8
16	21	11.1	7.1	1.7	0.8	.8
17	21	10.8	6.9	1.7	0.8	.7
18	21	10.3	6.5	1.5	0.8	.7
19	20	9.9	6.2	1.4	0.8	.7
20	20	9.4	5.8	1.3	0.8	.7
21	19.6	9.2	5.8	1.3	0.8	.7
22	19.1	8.8	5.6	1.2	0.8	.7
23	19.0	8.1	5.4	1.1	0.8	.7
24	19.5	7.7	5.0	1.1	0.8	.7
25	21	7.6	5.0	1.1	0.8	.7
26	22	7.3	4.4	1.1	0.8	.7
27	22	6.9	4.2	1.1	0.8	.7
28	22	6.8	3.8	1.1	0.8	.7
29	21	6.5	3.6	1.0	0.8	.7
30	20	6.2	3.3	1.0	0.8	.7
31	—	5.9	—	1.0	0.8	—
Mean	19.2	11.8	6.4	1.8	0.9	0.8
Runoff, in acre-feet	912	722	379	111	53	45

Total for period - 2,222 acre-feet.

TABLE 9

DAILY MEAN DISCHARGE OF OWL CREEK BELOW ALLEN-ARRECHE DITCH

April 27 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		28	15.5	15.2	2.6	1.9
2		28	15.7	14.8	2.6	1.8
3		27	15.9	14.4	2.6	1.8
4	N	26	16.5	12.9	2.6	1.7
5	O	23	16.0	10.5	2.6	1.7
6		26	16.0	9.8	2.6	1.7
7	R	30	15.7	9.4	2.5	1.6
8	E	33	16.0	9.1	2.5	1.6
9	C	36	17.9	8.9	2.5	1.6
10	O	37	18.0	8.7	2.5	1.6
	R					
11	D	40	18.2	8.2	2.5	1.6
12		37	18.6	7.8	2.5	1.5
13		34	19.0	7.5	2.5	1.5
14		36	19.5	7.0	2.5	1.5
15		37	20	6.7	2.4	1.5
16		40	35	6.5	2.4	1.5
17		41	25	6.0	2.4	1.4
18		43	26	5.5	2.3	1.4
19		45	28	5.3	2.3	1.4
20		43	28	5.0	2.3	1.4
21		41	33	4.8	2.3	1.4
22		36	31	4.6	2.2	1.4
23		31	31	4.5	2.2	1.4
24		26	30	4.1	2.2	1.4
25		22	27	3.8	2.2	1.3
26		20	24	3.6	2.1	1.3
27	37	18.3	22	3.4	2.1	1.3
28	34	17.3	20	3.0	2.1	1.3
29	33	16.8	18.0	2.8	2.0	1.3
30	32	16.0	16.0	2.7	2.0	1.3
31	---	14.5	---	2.6	2.0	---
Mean	34.0	30.6	21.7	7.1	2.4	1.5
Runoff, in acre-feet	269	1,878	1,292	434	145	89

Total for period - 4,107 acre-feet.

TABLE 10

DAILY MEAN DISCHARGE OF RADER CREEK AT COCKRELL DIVERSION

April 28 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		17.0	10.4	8.0	1.9	0.7
2		15.9	10.4	7.8	1.8	.7
3		17.5	10.3	7.5	1.8	.7
4	N	19.0	10.2	7.0	1.7	.7
5	O	21	10.2	6.5	1.7	.7
6		23	9.9	6.0	1.7	.7
7	R	23	9.2	5.8	1.7	.7
8	E	22	8.6	5.5	1.6	.6
9	C	21	8.3	5.3	1.6	.6
10	O	21	8.0	5.0	1.6	.6
11	D	21	7.6	4.8	1.6	.6
12		23	8.1	4.5	1.5	.6
13		26	8.5	4.0	1.5	.6
14		28	9.0	3.7	1.5	.6
15		29	10.4	3.5	1.4	.6
16		30	11.0	3.2	1.4	.6
17		31	11.5	3.0	1.4	.6
18		32	11.8	2.8	1.3	.6
19		33	12.0	2.6	1.3	.6
20		33	12.5	2.5	1.2	.6
21		28	13.0	2.4	1.1	.6
22		24	13.4	2.4	1.1	.6
23		21	13.8	2.4	1.0	.6
24		19.0	13.2	2.3	1.0	.5
25		15.9	12.5	2.3	0.9	.5
26		15.0	11.8	2.2	0.9	.5
27		14.3	10.0	2.2	0.8	.5
28	21	14.3	9.2	2.1	0.8	.5
29	19.0	12.6	8.7	2.1	0.8	.5
30	17.5	11.5	8.0	2.0	0.8	.5
31	—	10.6	—	2.0	0.7	—
Mean	19.2	21.7	10.4	4.0	1.3	0.6
Runoff, in acre-feet	114	1,332	617	244	81	36

Total for period - 2,424 acre-feet

TABLE 11

DAILY MEAN DISCHARGE OF EAGLE CREEK BELOW GILL DITCH

April 28 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		13.0	11.1	17.0	4.0	2.7
2		13.0	12.0	15.9	4.0	2.6
3		14.0	12.5	15.2	4.0	2.6
4	N	15.7	13.0	14.8	3.9	2.6
5	O	16.5	14.2	14.3	3.9	2.6
6		18.0	15.1	13.6	3.9	2.6
7	R	23	14.9	12.5	3.9	2.6
8	E	25	14.9	11.4	3.9	2.6
9	C	27	15.1	10.2	3.9	2.6
10	O	29	15.8	9.5	3.9	2.6
11	R D	30	16.5	8.1	3.8	2.5
12		30	17.0	7.2	3.8	2.5
13		29	17.8	7.0	3.8	2.5
14		29	18.5	6.9	3.8	2.5
15		30	20	6.7	3.8	2.5
16		33	20	6.5	3.8	2.5
17		35	20	6.2	3.7	2.5
18		36	19.5	6.0	3.6	2.5
19		40	19.0	5.8	3.6	2.5
20		36	20	5.6	3.5	2.5
21		34	23	5.5	3.5	2.5
22		27	25	5.4	3.4	2.5
23		24	25	5.2	3.4	2.5
24		22	27	5.0	3.3	2.4
25		22	24	4.9	3.3	2.4
26		18.0	22	4.8	3.2	2.4
27		16.5	20	4.7	3.1	2.4
28	15.7	15.0	19.0	4.6	3.0	2.4
29	14.0	16.5	18.0	4.4	2.9	2.4
30	15.0	15.5	17.5	4.2	2.8	2.4
31	—	14.0	—	4.0	2.7	—
Mean	14.9	24.0	16.2	8.2	3.6	2.5
Runoff, in acre-feet	89	1,479	1,084	501	220	149

Total for period - 3,522 acre-feet.

TABLE 12

DAILY MEAN DISCHARGE OF EMERSON CREEK ABOVE DIVERSIONS

April 27 to September 30, 1954

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		15.0	12.0	6.1	3.6	3.3
2		16.0	10.7	5.7	3.5	3.2
3		17.0	9.4	5.5	3.5	3.2
4	N	18.0	11.0	5.2	3.5	3.2
5	O	19.0	11.2	5.0	3.5	3.2
6		19.6	11.0	4.9	3.5	3.2
7	R	20	10.3	4.8	3.5	3.2
8	E	20	10.1	4.6	3.5	3.2
9	C	21	10.0	4.6	3.5	3.2
10	O	21	10.1	4.6	3.5	3.2
	R					
11	D	21	10.0	4.5	3.5	3.2
12		21	10.0	4.5	3.4	3.2
13		21	11.5	4.4	3.4	3.2
14		21	10.0	4.4	3.4	3.2
15		22	16.8	4.4	3.4	3.2
16		22	11.0	4.3	3.4	3.2
17		22	10.1	4.3	3.4	3.2
18		23	10.0	4.3	3.4	3.1
19		23	9.8	4.2	3.4	3.1
20		22	9.3	4.1	3.4	3.1
21		18.0	8.9	4.0	3.4	3.1
22		16.0	8.7	3.9	3.4	3.1
23		16.0	8.5	3.9	3.4	3.1
24		15.5	9.1	3.9	3.4	3.1
25		15.5	7.8	3.8	3.4	3.1
26		14.5	7.5	3.8	3.3	3.1
27	21	12.5	7.1	3.8	3.3	3.1
28	19.0	12.0	7.0	3.8	3.3	3.1
29	16.0	13.5	6.8	3.7	3.3	3.1
30	14.5	13.0	6.5	3.7	3.3	3.1
31	--	12.5	--	3.6	3.3	--
Mean	17.6	18.2	9.7	4.4	3.4	3.2
Runoff, in acre-feet	140	1,116	579	270	210	188

Total for period - 2,503 acre-feet.

TABLE 13

PERCENTAGE OF ALLOTMENTS DELIVERED FROM SOLDIER CREEK

March 19 to September 30, 1954

Irrigation Period	Dates	Percentage of allotments delivered								Average delivery to surplus rights cubic feet per second
		First priority	Second priority	Third priority	Fourth priority	Fifth priority	Sixth priority	Seventh priority	Eighth priority	
Lower	3/19-3/31	100	33	0	0	0	0	0	-	0
Upper	4/1-4/10	100	80	0	0	0	0	0	0	0
Lower	4/11-4/23	100	100	80	45	0	0	0	-	0
Upper	4/24-5/3	100	90	100	40	0	0	0	0	0
Lower	5/4-5/16	100	100	80	20	0	0	0	-	0
Upper	5/17-5/26	100	90	0	0	0	0	0	0	0
Lower	5/27-6/8	100	95	0	0	0	0	0	-	0
Upper	6/9-6/18	100	80	0	0	0	0	0	0	0
Both	6/19-6/30	100	20	0	0	0	0	0	0	0
Both	July	100	0	0	0	0	0	0	0	0
Both	August	100	0	0	0	0	0	0	0	0
Both	September	80	0	0	0	0	0	0	0	0