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 1955 SEASON

Sacramento, California
February, 1956

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SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF PUBLIC WORKS

I, J. M. Page, Senior Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, submit the within contained report entitled "Report on Watermaster Service in Surprise Valley Watermaster Service Area, Modoc County, California, 1955 Season".

/s/ J. M. Page

Senior Hydraulic Engineer

I. W. R. Gianelli, Supervising Hydraulic 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, 1955 Season".

/s/ W. R. Gianelli

Supervising Hydraulic Engineer

I, L. C. Jopson, Assistant State Engineer, 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, 1955 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 February, 1956.

DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

/s/ L. C. Jopson

By

L. C. Jopson
Assistant State Engineer

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 1955 beginning March 19 and terminating September 30.

The service area was created by the Department of Public Works 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:

Stream	Case	Number
Mill Creek	Warrens vs. Wimer	3024
Soldier Creek	San Francisco Cattle Loan Co. vs. Cramton	2405
Pine Creek	Gausted vs. McCulley	3391
Cedar Creek	Hill vs. Acty Lighty vs. Cock	2343 1206
Deep Creek	Tyeryar vs. Benner	3101
Owl Creek	Cummins vs. Allen	2401
Rader 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 as water rights were determined on each stream system. These smaller service areas 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

At the beginning of the irrigation season it was anticipated the water supply would be critically deficient. However, precipitation during the month of April increased the snow pack to the extent that the water supply available during the season was substantially greater than originally expected.

Precipitation

Data on precipitation at Cedarville as compiled from records of the United States Weather Bureau for the period October 1, 1954, to September 30, 1955, are shown in Table 1. Precipitation at this station for the period was 10.34 inches which is equivalent to 83 per cent of the mean.

Water content of the snowpack on Eagle Peak, Blue Lake Ranch, and Cedar Pass snow courses on April 1, 1955, as published in the Division of Water Resources bulletin entitled "Water Conditions in California, April 1, 1955", averaged 10.9 inches or 63 per cent of the mean for the three courses; however, by May 1, 1955, the water content on the Cedar pass course had increased

47 per cent due to storms during the month of April. Water content on the other courses also increased during the month. The 50 year mean water content of the snow pack as of April 1 on the snow courses at various elevations in the vicinity of Surprise Valley, along with the water content on those courses as of April 1, 1955, in inches and per cent of mean, are shown in the following tabulation:

Snow Course	Elevation, in feet	Water content of snow in inches		Per cent of mean
		50-year computed mean	1955	
Eagle Peak	7,500	18.2	11.8	65
Blue Lake Ranch	7,300	13.6	8.5	63
Cedar Pass	7,200	19.9	12.5	63

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 daily mean 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. Per cent of allotments available for distribution on each stream was determined from the daily mean discharge at the respective measuring stations.

Mill Creek

The flow of Mill Creek gradually increased during the month of April and May and remained nearly constant throughout the month of June. By the latter part of July the water supply had declined until only allotments of first priority and second priority rights were being satisfied. The flow of the creek declined gradually thereafter until the middle of September when the supply from this source reached a minimum. A summary of distribution of water on Mill Creek is shown in the following tabulation:

Month	Per cent of allotments available			
	First priority	Second priority	Third priority	Fourth priority
April	100	100	20	0
May	100	100	94	55
June	100	100	90	40
July	100	97	12	0
August	88	0	0	0
September	74	0	0	0

Soldier Creek

Distribution of water on Soldier Creek began on March 19 when the water was turned to the lower users for the first rotation. The maximum flow of the creek occurred during the early part of May when a period of hot days caused high flows. During this period water was available for all priorities of water rights. After the periods of upper and lower rotations were finished on June 19, water was available for upper users for all water rights through fifth priority. The supply decreased gradually thereafter until the middle of September when water was available for approximately two-thirds of the first priority rights. During the period of high flows in May inadequate control structures caused water to be diverted onto lands which were not entitled to the water. As a result of the controversy resulting from this, it is planned to construct adequate structures during the fall of 1956.

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

Pine Creek

Rotation on Pine Creek began on March 20 when the entire flow was diverted into North Channel. Water was available to satisfy all rights during the first rotation periods for the North Channel and South Channel and during the second rotation period on the North Channel. However, by the middle of June, prior to completion of South Channel second rotation, the water had receded above the Lake City-Cedarville highway and the entire flow was given to the Wing Ranch near the mouth of the canyon.

Cedar Creek

Water supply was greatest for the season during the middle of May, but it was never adequate for all priorities. The available water supply decreased rapidly, and by June 18 only first priority rights were being supplied. By the middle of September the supply had dropped to 0.20 cubic foot per second which was used by first priority stock water rights.

Thoms Creek Ditch, diverting from Thoms Creek into Cedar Creek, was opened about May 1. The water was rediverted for use on the Wallace, Warrens, and Nosler Ranches. Flow available for the Thoms Creek Ditch failed about June 20. During the period of diversion, the flow in Thoms Creek Ditch averaged about two cubic feet per second.

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

Month	Per cent of allotments available			
	First priority	Second priority	Third priority	Fourth priority
April	96	17	0	0
May	100	72	0	0
June	80	16	0	0
July	28	0	0	0
August	9	0	0	0
September	5	0	0	0

Deep Creek

During the season the flow of North Deep Creek was great enough to satisfy all first priority rights only for a few days in the latter part of May. Except for this period in May, 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 15 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 May to supply water to the third priority rights but decreased gradually until the middle of September when 0.60 cubic foot per second was available.

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

Priority	Per cent of allotments available					
	April	May	June	July	August	September
			NORTH DEEP CREEK			
First	50	91	49	12	4	3
			SOUTH DEEP CREEK			
First	96	100	99	37	10	11
Second	12	86	27	0	0	0
Third	0	15	0	0	0	0
Fourth	0	0	0	0	0	0

Owl Creek

Because of the relatively higher elevations in the watershed of Owl Creek as compared to more northerly creeks in the area, the water supply of this stream was greatest during the early part of June instead of earlier in the year. The water supply during the first half of June was sufficient to satisfy all rights. Thereafter, available supply decreased until September 30 when water was available to first and second priority rights only. All of the eighth priority right for the Arreche Ranch, and about one-half of the eighth priority right for 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:

Rights	Per cent of allotments available					
	April	May	June	July	August	Sept
1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	100
4	100	100	100	100	86	46
5	100	100	100	100	45	20
6	100	100	100	100	30	20
7	100	100	100	100	17	0
8	--	--	--	100	8	0
9	42	100	100	68	0	0
10	0	87	100	23	0	0
11	0	83	100	17	0	0
12	0	83	100	0	0	0
13	0	66	88	0	0	0
14	0	50	83	0	0	0
15	0	50	60	0	0	0
16	0	48	50	0	0	0
17	0	10	40	0	0	0
18	0	0	33	0	0	0
19	0	0	33	0	0	0
20	0	0	28	0	0	0
21	0	0	17	0	0	0

Rader Creek

The peak runoff of Rader Creek occurred in the first part of June. Water was available to supply all allotments to some extent only during June and decreased gradually until September 15 when about 1.0 cubic foot per second was available for the Minto and Dollarhide Ranches. The Cockrell diversion was opened May 20 and closed July 8 when water diverted would not reach the place of use.

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

Priority	Percent of allotments available					
	April	May	June	July	August	Sept
First	100	100	100	100	100	95
Second	100	100	100	100	70	40
Third	19	78	93	21	1	1
Fourth	0	3	67	0	0	0
Fifth	0	0	38	0	0	0
Sixth	0	0	21	0	0	0
Seventh	0	0	2	0	0	0

Eagle Creek

Maximum runoff occurred during the first half of June when sufficient water was available to satisfy rights of all priorities. Thereafter, the average supply decreased gradually until the middle of September when water was available for only 50 per cent of first priority rights. On July 1 the Bone Ranch was regulated to stock water in accordance with provisions of the decree.

Because of the shortage of water, town users on the Gee Ditch rotated among themselves from the middle of August until the end of the season.

A new concrete diversion dam was constructed at the end of the season at the head of the Gee Ditch. The improved structure should alleviate controversies which have arisen due to lack of control at this point.

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

Month	Per cent of allotments available			
	First priority	Second priority	Third priority	Fourth priority
April	100	33	0	0
May	100	100	43	0
June	100	100	63	20
July	100	46	2	0
August	77	1	0	0
September	56	0	0	0

Emerson Creek

The greatest flow on Emerson Creek occurred during the latter part of May and first part of June. However, at no time was the supply sufficient to allow proration of water among fourth priority rights. After the middle of May, the flow decreased until the end of September when water was available only for first priority rights.

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

Month	Per cent of allotments available			
	First priority	Second priority	Third priority	Fourth priority
April	100	53	0	0
May	100	96	12	0
June	100	83	10	0
July	100	34	0	0
August	100	13	0	0
September	99	4	0	0

CHANGES IN OWNERSHIP OF LANDS AND WATER RIGHTS

The changes in ownership of lands and water rights which have occurred during the period covered by this report and subsequent to filing "Statement for Surprise Valley Watermaster Service Area, County of Modoc, State of California, for 1955", and which shall be included in the 1956 statement for the service area, are listed in the following tabulation:

Tract number	Name of water right owner appearing in 1955 statement	Name of water right owner to appear in 1956 statement	Amount of water, in cubic feet per second
8-153 8-155	Addington, Bernice	Elliot, Hazel	0.05
8-102	Bodie, William W. and Bodie, Mabel E.	Watkins, C. T.	1.00
8-56 8-57	Dolan, W. J. and Dolan, Erlene	Daniels, F. E. and Daniels, Ruby A.	2.10
8-79 8-81	Ash, Alex, C. and Ash, Dorothy H.	Ash, Gordon V.	4.00
8-33	Chase, Elgie J. and Chase, Jessie	Wimer, Flora	0.33
8-114 8-115 8-117	Davis, James H. and Davis, Eldred H.	Davis, Eldred H.	4.84
8-142	Nolan, Frank A. and Nolan, Celia	Nolan, Charles A. and Nolan, Allie V.	0.22
8-182	Slinkard, W. N. and Slinkard, Gertrude	Espil, John M. and Espil, Peggy J.	1.80
8-75	Rosendale, Floyd and Rosendale, Betty	Sanders, Harry C. and Sanders, Cleva M.	0.08
8-26	Carter, Oliver	Carter, Oliver and Carter Roland C.	0.12
8-44	McDaniel, Ronald L Sheridan, Ada Marie & Baker, Mary L.	McDaniel Noy	0.13
8-5 8-6 8-7	Robinson, O. P.	Robinson, Estate of O.P. c/o Mrs. O.P. Robinson	4.40

Tract number	Name of water right owner appearing in 1955 statement	Name of water right owner to appear in 1956 statement	Amount of water, in cubic feet per second
8-9	Jacobs, Victor L. and Jacobs, Georgia	Jacobs, Estate of Victor L. c/o Mrs. Victor L. Jacobs	1.45
8-69 8-73 8-85	Hill, Daniel Elmer Hill, Buela M. Hill, Ervine and Hill, Marie	Olsen, Ted M. Jr and Olsen, M. Eileen	4.80

TABLE 1

PRECIPITATION AT CEDARVILLE, MODOC COUNTY, CALIFORNIA

1954-1955

In Inches

Month	Mean precipitation	1954-1955 precipitation
October	1.05	0.50
November	1.49	1.12
December	1.55	1.77
January	1.74	0.80
February	1.51	0.45
March	1.46	0.96
April	0.94	1.80
May	1.00	0.60
June	0.74	0.74
July	0.24	0.84
August	0.17	0
September	0.50	0.76
TOTALS	12.39	10.34

TABLE 2

DAILY MEAN DISCHARGE OF MILL CREEK ABOVE DIVERSIONS

April 1 to September 22, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	3.9	7.0	23	10.8	2.0	1.2
2	4.8	11.8	25	10.2	2.0	1.2
3	4.5	13.7	25	9.8	2.0	1.2
4	3.9	20	25	9.5	2.0	1.2
5	4.0	32	23	9.1	2.0	1.3
6	4.8	40	23	8.7	1.9	1.3
7	5.0	35	26	8.3	1.9	1.3
8	7.3	39	26	7.9	1.9	1.3
9	12.6	40	28	7.3	1.9	1.3
10	14.1	38	30	6.8	1.9	1.3
11	10.5	34	33	6.2	1.8	1.3
12	9.1	38	36	6.0	1.8	1.3
13	9.1	34	38	5.9	1.8	1.3
14	8.0	35	40	5.7	1.8	3.5
15	7.8	30	38	5.3	1.8	2.7
16	7.6	28	30	5.1	1.7	2.0
17	7.8	26	28	4.9	1.7	1.6
18	7.6	24	25	4.5	1.7	1.4
19	7.4	18.0	24	4.3	1.7	1.3
20	7.0	20	22	4.1	1.7	1.3
21	7.0	24	24	3.8	1.7	1.2
22	7.4	24	23	3.6	1.6	1.2
23	7.4	25	21	3.4	1.6	
24	7.6	25	19.8	3.3	1.6	NO
25	7.6	27	18.5	3.2	1.6	
26	7.0	26	17.6	3.0	1.6	RECORD
27	7.0	25	15.3	2.9	1.5	
28	7.0	24	12.0	2.7	1.5	
29	6.8	24	11.7	2.5	1.5	
30	7.0	27	11.2	2.4	1.5	
31	--	23	--	2.2	1.4	
Mean	7.3	27.0	24.7	5.6	1.7	1.5
Runoff in acre-feet	433	1,660	1,470	343	107	65

Total for period 4,080 acre-feet

TABLE 3

DAILY MEAN DISCHARGE OF SOLDIER CREEK ABOVE DIVERSIONS

March 26 to September 22, 1955

In Cubic Feet per Second

Day	March	April	May	June	July	August	September
1	N	5.7	8.5	10.5	3.9	1.8	1.5
2	O	5.5	10.8	12.3	3.7	1.8	1.5
3		5.4	10.8	15.1	3.5	1.8	1.5
4	R	5.1	19.1	14.9	3.4	1.8	1.5
5	E	5.9	23	14.7	3.4	1.8	1.5
	C						
6	O	5.9	37	14.5	3.3	1.8	1.5
7	R	6.2	49	14.0	3.1	1.8	1.5
8	D	8.2	60	14.0	2.9	1.8	1.5
9		9.9	27	13.7	2.7	1.8	1.5
10		11.3	13.4	13.7	2.5	1.8	1.6
11		9.1	15.0	15.2	2.4	1.8	1.6
12		6.3	15.9	16.2	2.2	1.7	1.6
13		5.8	16.3	18.5	2.2	1.7	1.6
14		5.8	14.6	20	2.0	1.7	1.6
15		5.2	13.0	25	1.9	1.7	3.9
16		5.2	12.5	22	2.0	1.7	3.0
17		4.8	11.3	20	1.9	1.7	2.1
18		4.8	19.3	10.1	1.9	1.7	1.8
19		4.9	26	9.5	2.0	1.7	1.6
20		4.9	31	8.9	2.0	1.7	1.6
21		4.9	32	8.1	1.8	1.6	1.6
22		4.9	30	7.5	1.8	1.6	1.5
23		4.8	30	7.5	1.8	1.6	
24		6.7	28	7.0	1.8	1.6	NO
25		5.2	27	6.8	1.8	1.6	
26	4.3	5.0	19.6	5.2	1.8	1.6	RECORD
27	5.1	5.8	15.2	4.5	1.8	1.6	
28	5.4	6.2	15.8	4.3	1.8	1.6	
29	5.8	6.2	23	4.1	1.8	1.6	
30	6.1	7.4	16.0	3.9	1.8	1.5	
31	5.8		13.1	—	1.8	1.5	
Mean	5.4	6.1	22.0	12.1	2.4	1.7	1.7
Runoff in acre-feet	64	352	1,360	718	144	104	76

Total for period 2,750 acre-feet

TABLE A-4

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

April 1 to September 23, 1956

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	3.5	8.5	3.3	1.0	0.1	
2	3.5	9.4	3.1	0.9	0.1	
3	3.8	10.0	3.0	0.9	0.1	
4	3.8	11.5	2.8	0.8	0.1	
5	4.0	11.9	2.7	0.7	0.0	
6	4.9	12.5	2.5	0.6		
7	5.6	13.4	2.3	0.5	N	N
8	6.1	13.0	2.1	0.5	O	O
9	6.6	14.3	2.0	0.4		
10	7.5	14.8	1.8	0.4	F	F
					L	L
11	8.1	15.1	1.8	0.3	O	O
12	10.2	14.6	1.8	0.3	W	W
13	15.0	13.9	1.8	0.3		
14	20	13.1	3.8	0.3		
15	21	12.3	2.0	0.2		
16	20	11.6	1.8	0.2		
17	19.0	11.0	1.7	0.2		
18	17.0	10.1	1.7	0.2		
19	15.0	10.8	1.6	0.1		
20	13.0	11.1	1.6	0.1		
21	11.5	11.0	1.5	0.1		
22	10.8	9.5	1.5	0.1		
23	9.2	7.9	1.4	0.1		
24	9.5	6.8	1.4	0.1		
25	9.0	5.9	1.3	0.1		
26	9.0	5.4	1.3	0.1		
27	8.8	5.3	1.2	0.1		
28	8.8	5.2	1.2	0.1		
29	8.6	4.9	1.1	0.1		
30	8.6	4.2	1.1	0.1		
31	--	3.8	--	0.1		
Mean	10.0	10.0	1.9	0.3	0.1	
Runoff acre-feet	597	619	115	20	1	

Total for period 1,350 acre feet

TABLE 5

DAILY MEAN DISCHARGE OF CEDAR CREEK ABOVE DIVERSIONS

April 1 to September 22, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	3.5	14.1	13.3	3.5	0.6	0.2
2	3.6	13.8	12.1	3.6	.6	.2
3	3.8	13.1	11.5	3.1	.6	.2
4	4.0	12.5	11.1	2.8	.6	.2
5	4.3	11.3	10.5	2.2	.6	.2
6	4.9	14.8	9.3	2.1	.5	.3
7	5.2	17.3	8.2	1.9	.5	.3
8	6.3	19.6	7.7	1.6	.5	.3
9	7.9	20	6.9	1.5	.5	.3
10	9.8	21	6.5	1.4	.4	.3
11	10.1	20	7.7	1.3	.4	.3
12	9.2	19.2	8.6	1.3	.4	.3
13	8.7	18.5	9.8	1.3	.4	.3
14	8.3	17.1	9.1	1.3	.4	.3
15	7.5	15.3	7.1	1.3	.4	.9
16	6.1	13.0	6.0	1.2	.4	.8
17	4.0	15.8	5.6	1.2	.4	.6
18	5.3	18.0	4.5	1.1	.4	.5
19	6.8	16.2	3.9	1.1	.3	.3
20	7.2	15.1	3.1	1.0	.3	.3
21	6.7	13.9	2.5	1.0	.3	.2
22	7.3	12.8	1.9	0.9	.3	.2
23	7.8	12.6	1.5	0.9	.3	
24	8.6	12.5	1.6	0.9	.3	NO
25	9.1	12.9	1.7	0.8	.3	
26	10.1	13.0	1.9	0.8	.3	RECORD
27	9.3	13.5	2.0	0.7	.3	
28	10.8	13.9	2.3	0.7	.3	
29	11.6	13.5	2.7	0.7	.2	
30	12.9	13.0	3.1	0.6	.2	
31	---	13.1	---	0.6	.2	
Mean	7.4	15.2	6.1	1.4	0.4	0.3
Runoff in acre-feet	438	933	364	88	24	15

Total for period 1,860 acre-feet

TABLE 6

DAILY MEAN DISCHARGE OF NORTH DEEP CREEK ABOVE DIVERSIONS

April 1 to September 22, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	3.9	4.5	7.5	1.9	0.5	0.3
2	3.9	5.0	7.4	1.8	.5	.3
3	4.0	5.4	7.4	1.8	.5	.3
4	4.1	6.0	7.3	1.7	.5	.2
5	4.2	6.8	7.2	1.6	.5	.2
6	4.2	7.4	7.1	1.5	.5	.2
7	4.2	8.5	7.0	1.4	.5	.2
8	4.3	8.2	6.8	1.3	.5	.2
9	4.4	8.1	6.2	1.1	.5	.2
10	4.4	8.0	5.8	1.0	.5	.2
11	4.5	8.0	5.5	1.0	.5	.2
12	4.5	7.9	4.9	0.9	.5	.2
13	4.6	7.8	4.0	0.9	.4	.2
14	4.8	8.0	3.8	0.9	.4	.3
15	5.0	8.2	3.8	0.8	.4	.7
16	5.1	8.4	3.8	0.8	.4	.6
17	5.3	8.5	3.7	0.8	.4	.6
18	5.3	9.0	3.7	0.8	.4	.5
19	5.1	9.1	3.4	0.7	.4	.5
20	4.8	9.2	3.2	0.7	.4	.4
21	4.7	9.3	2.8	0.7	.4	.3
22	4.5	9.4	2.5	0.6	.4	.3
23	4.4	9.5	2.4	0.5	.4	
24	4.3	9.5	2.3	0.6	.3	NO
25	4.3	9.2	2.1	0.6	.3	
26	4.3	9.0	2.0	0.6	.3	RECORD
27	4.2	9.0	2.0	0.5	.3	
28	4.2	8.6	2.1	0.5	.3	
29	4.1	8.2	1.9	0.5	.3	
30	4.0	7.6	—	0.5	.3	
31		7.5				
Mean	4.5	8.0	4.4	1.0	0.4	0.3
Runoff in acre-feet	265	493	261	58	25	13

Total for period 1,120 acre-feet.

TABLE 7

DAILY MEAN DISCHARGE OF SOUTH DEEP CREEK BELOW ESPIL DITCH

April 1 to September 22, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	3.5	5.8	12.7	4.9	0.7	0.6
2	3.7	6.3	9.5	4.5	.7	0.6
3	4.0	6.9	9.0	4.1	.6	0.6
4	4.5	7.6	8.7	3.9	.6	0.6
5	5.0	8.1	8.5	3.7	.6	0.6
6	5.4	8.8	8.5	3.5	.6	0.6
7	6.0	9.3	8.2	3.3	.6	0.6
8	6.5	10.2	8.1	3.2	.6	0.6
9	7.0	11.7	8.0	2.9	.6	0.6
10	7.5	12.3	7.8	2.5	.6	0.6
11	7.2	11.8	7.6	2.0	.6	0.6
12	6.8	11.5	7.2	1.4	.6	0.6
13	6.6	11.1	7.0	1.3	.6	0.6
14	6.2	10.8	6.8	1.2	.6	1.5
15	6.0	11.6	6.8	1.1	.6	1.4
16	6.0	11.6	6.7	1.2	.6	1.2
17	6.0	11.7	6.6	1.3	.6	1.0
18	6.2	11.8	6.5	1.2	.6	0.9
19	6.1	11.2	6.3	1.1	.6	0.8
20	6.0	10.9	6.2	1.1	.6	0.8
21	6.1	11.4	5.9	1.0	.6	0.7
22	6.0	12.9	5.6	1.0	.6	0.7
23	5.9	13.0	5.7	1.0	.6	
24	5.8	13.6	5.7	0.9	.6	NO
25	5.9	13.9	5.8	0.9	.6	
26	6.0	14.0	5.5	0.9	.6	RECORD
27	6.2	14.3	5.3	0.8	.6	
28	6.3	14.1	5.1	0.8	.6	
29	6.1	14.4	5.0	027	.6	
30	5.9	14.5	4.9	0.7	.6	
31	--	13.1	--	0.7	.6	
Mean	5.9	11.3	7.0	1.9	0.6	0.8
Runoff in acre-feet	350	694	419	117	37	33

Total for period 1,650 acre-feet

TABLE 8

DAILY MEAN DISCHARGE OF NORTH AND SOUTH DEEP CREEKS
ABOVE DIVERSIONS

April 1 to September 22, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	7.4	10.3	20	6.8	1.2	0.9
2	7.6	11.3	16.4	6.3	1.2	0.9
3	8.0	12.3	16.4	5.9	1.1	0.9
4	8.6	13.6	16.0	5.6	1.1	0.8
5	9.2	14.9	15.7	5.3	1.1	0.8
6	9.6	16.2	15.6	5.0	1.1	0.8
7	10.2	17.8	15.2	4.7	1.1	0.8
8	10.8	18.4	14.9	4.5	1.1	0.8
9	11.4	19.8	14.2	4.0	1.1	0.8
10	11.9	20	13.6	3.5	1.1	0.8
11	11.7	19.8	13.1	3.0	1.1	0.8
12	11.3	19.4	12.1	2.3	1.1	0.8
13	11.2	18.9	11.0	2.2	1.0	0.8
14	11.0	18.8	10.6	2.1	1.0	1.8
15	11.0	19.8	10.6	1.9	1.0	2.1
16	11.1	20	10.5	2.0	1.0	1.8
17	11.3	20	10.3	2.1	1.0	1.6
18	11.5	21	10.2	2.0	1.0	1.4
19	11.2	20	9.7	1.8	1.0	1.3
20	10.8	20	9.4	1.8	1.0	1.2
21	10.8	21	8.7	1.7	1.0	
22	10.5	22	8.1	1.6	1.0	
23	10.3	23	8.1	1.5	1.0	
24	10.1	23	8.0	1.5	0.9	NO
25	10.2	23	7.9	1.5	0.9	
26	10.3	23	7.5	1.5	0.9	RECORD
27	10.4	23	7.3	1.3	0.9	
28	10.5	23	7.2	1.3	0.9	
29	10.2	23	7.0	1.2	0.9	
30	9.9	22	6.8	1.2	0.9	
31	--	21	--	1.2	0.9	
Mean	10.3	19.3	11.4	2.8	1.0	1.1
Runoff in acre-feet	615	1,190	679	175	63	47

Total for period 2,770 acre-feet.

TABLE 9

DAILY MEAN DISCHARGE OF OWL CREEK BELOW ALLEN-ARRECHE DITCH

April 12 to September 22, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	NO	6.5	15.5	13.8	4.3	2.0
2		6.9	19.0	13.3	4.1	1.9
3		7.3	21	12.9	3.9	1.9
4		9.2	25	12.5	3.8	1.9
5		10.1	28	12.1	3.6	1.8
	RECORD					
6		12.5	32	11.2	3.3	1.8
7		13.7	40	10.7	3.3	1.6
8		14.9	45	9.0	3.2	1.6
9		19.0	43	8.7	3.1	1.6
10		23	41	8.5	3.0	1.5
11		26	39	8.4	2.9	1.5
12	4.5	29	38	8.5	2.9	1.4
13	4.6	31	37	8.4	2.7	1.3
14	4.7	28	35	8.3	2.5	1.3
15	4.9	26	33	8.3	2.4	5.1
16	5.0	23	32	8.1	2.3	4.6
17	5.2	21	30	7.8	2.3	3.9
18	5.3	25	28	7.6	2.3	3.0
19	5.4	29	26	7.2	2.3	2.7
20	5.3	41	25	6.6	2.3	2.4
21	5.4	40	24	6.0	2.3	2.0
22	5.5	36	24	5.5	2.2	2.0
23	5.7	25	23	5.3	2.2	
24	5.9	19.0	21	5.1	2.2	NO
25	6.0	16.0	19.2	5.0	2.2	
26	6.0	15.5	17.0	5.0	2.1	RECORD
27	6.1	15.2	16.5	4.9	2.1	
28	6.1	14.8	15.9	4.8	2.0	
29	6.2	14.5	15.6	5.0	2.0	
30	6.2	14.3	14.7	4.7	2.0	
31	—	14.8	—	4.5	2.0	
Mean	5.5	20.2	27.4	8.0	2.7	2.2
Runoff in acre-feet	206	1,240	1,630	491	167	97

Total for period 3,830 acre-feet.

TABLE 10

DAILY MEAN DISCHARGE OF RADER CREEK AT COCKRELL DIVERSION

April 13 to September 27, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		6.0	17.0	10.1	2.5	1.3
2		6.8	17.5	9.6	2.4	1.3
3	NO	7.2	17.8	8.1	2.3	1.2
4		8.5	18.2	7.2	2.1	1.2
5		8.9	18.4	6.7	2.0	1.2
6		9.5	18.6	5.9	1.9	1.2
7	RECORD	10.2	19.0	5.3	1.9	1.1
8		12.6	19.2	4.8	1.8	1.1
9		13.8	18.8	4.6	1.8	1.1
10		14.6	18.0	4.3	1.8	1.1
11		15.6	17.1	4.0	1.7	1.0
12		14.0	17.0	4.0	1.7	1.0
13	3.2	12.5	16.8	3.8	1.7	1.0
14	3.4	10.8	16.6	3.7	1.7	3.2
15	3.6	9.2	16.5	3.6	1.6	3.0
16	3.7	9.0	16.4	3.6	1.6	2.8
17	3.8	8.7	16.4	3.4	1.6	2.3
18	3.8	11.5	15.9	3.2	1.6	2.0
19	4.0	12.2	16.0	3.1	1.6	1.6
20	4.2	10.0	16.2	3.1	1.6	1.3
21	4.5	11.6	15.0	3.0	1.6	1.0
22	4.6	12.9	14.3	3.0	1.6	1.0
23	4.9	14.8	13.6	3.0	1.5	
24	5.0	15.1	13.1	2.9	1.5	NO
25	5.2	14.5	12.5	2.9	1.5	
26	5.3	14.2	12.0	2.8	1.4	RECORD
27	5.5	13.1	11.5	2.8	1.4	
28	5.7	14.5	11.1	2.8	1.4	
29	5.8	15.3	10.6	2.8	1.4	
30	5.8	15.9	10.3	2.7	1.3	
31	--	16.6	--	2.6	1.3	
Mean	4.6	11.9	15.7	4.3	1.7	1.5
Runoff in acre-feet	163	734	935	265	105	65

Total for period 2,270 acre-feet.

TABLE 11

DAILY MEAN DISCHARGE OF EAGLE CREEK BELOW GILL DITCH

April 13 to September 23, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	NO	11.1	15.1	10.3	3.5	1.4
2		12.0	17.3	10.1	3.2	1.4
3	RECORD	13.6	18.1	9.8	3.2	1.4
4		14.1	19.0	9.3	3.0	1.4
5		15.3	20	8.9	3.0	1.4
6		16.0	24	8.6	2.9	1.4
7		17.1	27	8.3	2.7	1.3
8		18.2	33	7.2	2.6	1.2
9		19.0	35	7.0	2.6	1.1
10		20	32	6.8	2.5	1.0
11		19.5	27	6.1	2.5	0.9
12		19.0	27	5.2	2.2	0.9
13	3.5	15.2	25	5.1	2.0	0.9
14	3.5	13.1	24	5.0	2.0	3.5
15	3.6	11.9	23	5.0	1.9	3.2
16	3.6	10.3	22	4.9	1.9	3.0
17	3.7	7.8	20	4.8	1.8	2.5
18	3.8	8.8	19.3	4.7	1.8	2.0
19	4.0	19.0	18.2	4.6	1.7	1.4
20	4.5	19.1	17.0	4.6	1.7	1.2
21	4.8	19.4	16.5	4.5	1.7	1.0
22	5.2	19.8	15.3	4.5	1.6	0.9
23	5.9	20	14.1	4.4	1.6	0.9
24	6.3	21	13.2	4.4	1.6	
25	7.6	19.8	12.1	4.2	1.6	NO
26	8.1	19.1	11.8	4.2	1.5	
27	8.5	18.5	11.2	4.1	1.5	RECORD
28	9.2	17.2	11.0	4.1	1.5	
29	9.8	16.1	10.9	4.0	1.5	
30	10.5	15.3	10.7	3.8	1.4	
31	--	14.0		3.6	1.4	
Mean	5.9	16.1	19.7	5.9	2.1	1.5
Runoff in acre-feet	210	992	1,170	361	130	70

Total for period 2,930 acre-feet.

TABLE 12

DAILY MEAN DISCHARGE OF EMERSON CREEK ABOVE DIVERSIONS

April 20 to September 23, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1		12.1	14.2	7.0	4.9	2.6
2		12.5	13.8	7.0	4.8	2.6
3		13.0	14.6	6.8	4.8	2.5
4		13.7	15.3	6.7	4.6	2.5
5	NO	13.8	15.9	6.5	4.6	2.5
6	R	14.0	16.5	6.5	4.5	2.4
7	E	14.4	16.4	6.3	4.4	2.4
8	C	14.8	16.2	6.5	4.2	2.4
9	O	15.0	16.0	6.4	4.1	2.4
10	R	15.2	15.7	6.4	4.0	2.4
	D					
11		15.5	14.3	6.5	4.0	2.2
12		16.6	14.0	6.5	4.0	2.0
13		15.3	13.7	6.5	3.9	1.9
14		15.1	13.2	6.5	3.9	3.5
15		14.4	12.8	6.4	3.9	3.1
16		13.8	12.4	6.3	3.8	2.9
17		12.0	11.8	6.0	3.6	2.8
18		11.8	11.5	5.9	3.4	2.6
19		11.7	10.8	5.7	3.1	2.3
20	7.5	12.0	10.3	5.6	2.9	2.0
21	8.0	11.8	10.2	5.7	2.9	1.9
22	8.3	12.0	10.1	5.7	2.9	1.8
23	8.0	13.5	9.7	5.5	2.8	1.8
24	8.1	13.8	9.4	5.3	2.7	
25	8.4	14.5	8.8	5.2	2.7	NO
26	8.9	15.2	8.5	5.2	2.7	RECORD
27	9.3	16.0	8.1	5.1	2.6	
28	9.4	15.8	7.7	5.1	2.6	
29	9.0	15.4	7.5	5.0	2.6	
30	10.6	15.1	7.0	5.0	2.6	
31	--	14.6	--	4.9	2.6	
Mean	8.7	14.0	12.2	6.0	3.6	2.4
Runoff in acre-feet	189	861	727	368	220	110

Total for period 2,480 acre-feet.

TABLE 1

PER CENT OF ALLOTMENTS AVAILABLE FROM SOLDIER CREEK

March 19 to September 30, 1955

Dates	Irrigation Period	Per Cent of Allotments Available								Amount available for surplus rights in c.f.s.
		First Priority	Second Priority	Third Priority	Fourth Priority	Fifth Priority	Sixth Priority	Seventh Priority	Eighth Priority	
Mar 19-Mar 31	Lower	100	85	0	0	0	0	0	--	0
Apr 1-Apr 10	Upper	100	90	0	0	0	0	0	0	0
Apr 11-Apr 23	Lower	100	95	0	0	0	0	0	--	0
Apr 24-May 3	Upper	100	90	0	0	0	0	0	0	0
May 4-May 16	Lower	100	100	100	100	100	100	100	--	1.0
May 17-May 26	Upper	100	100	100	100	100	100	100	100	3.5
May 27-June 8	Lower	100	100	100	100	10	0	0	--	0
June 9-June 18	Upper	100	100	100	100	80	0	0	0	0
June 19-June 30	Both	100	100	100	35	0	0	0	0	0
July	Both	100	20	0	0	0	0	0	0	0
August	Both	90	0	0	0	0	0	0	0	0
September	Both	90	0	0	0	0	0	0	0	0