Soldier Creek 1927

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Hydrograph of Discharge of Soldier Creek Above All Diversions - 1927

State of California
DEPARTMENT OF PUBLIC WORKS
Sacramento

Division of Water Rights
707 Forum Building

February 23, 1928

Mr. Harold Conkling
Chief of Division of Water Rights
Sacramento, California

Attention: Mr. Gordon Zander, Associate Hydraulic Engineer

Dear Sir:

There is transmitted herewith a report on water master service on Soldier Creek, Surprise Valley, Modoc County, California, for the period April 1 to July 1, 1927.

The report describes the regulation and distribution of the waters of Soldier Creek in accordance with the schedules of water allotments contained in a stipulation for consent judgment in the case of "San Francisco Cattle Loan Company, et al., vs. C. M. Crampton, et al, dated December 11, 1926, and a supplemental stipulation among the East Fork Users, dated March 26, 1927. The duties of water obtained by this distribution are also set forth and discussed.

Certain recommendations are made for the betterment of conditions affecting water distribution.

A financial statement is submitted showing the cost of water master service in Surprise Valley during the 1927 irrigation season with the sources from which such costs are met.

Respectfully submitted,

H Searancke

HARRY SEARANCKE
Water Master

INTRODUCTION

A history of the case of "San Francisco Cattle Loan Company, et al., vs. C. M. Crampton et al." may be found in a "Report on Water Supply and Use of Water from Soldier Creek and Tributaries, Modoc County, California," dated December 21, 1925, and prepared by T. R. Simpson, Assistant Hydraulic Engineer with the Division of Water Rights.

On March 26, 1927, the water users of Soldier Creek entered into an agreement for Water Master Service on Soldier Creek during the 1927 irrigation season.

Harry Searancke was appointed by the Division of Water Rights to act as Water Master during the 1927 irrigation season on Soldier, Cedar, Owl and Emerson Creeks, all in Surprise Valley. He arrived in Surprise Valley on March 28, 1927, and immediately assumed his duties in the field.

Mr. Searancke administered the Water of Soldier Creek until June 30, 1927, when it became apparent that there was no further necessity for his serviess there, as the flow of Soldier Creek had fallen to a stage where there was no longer water available for irrigation, the entire flow being used for stock, domestic and garden purposes.

WATER SUPPLY

Soldier Creek heads on the east slope of the Warner Range, Modoc County, California, and flows in a general north-easterly direction into Surprise Valley, emptying into Upper Alkali Lake, (a lake having no outlet) of which it is the most southerly tributary.

The watershed ranges in elevation from about 4900 feet above sea

level at the mouth of the canyon where Soldier Creek enters the valley, to about 8300 feet at Cedar Peak. The total area of watershed above elevation 5000 feet is about 5.2 square miles of which 0.8 square miles lies above elevation 7000 feet.

The runoff from melting snow occurs during April and May in normal years, the flow of the stream falling off about the middle of June to such a low stage that after that time irrigation water is rarely available, the entire flow being consumed in supplying the demand for domestic use, garden and stock watering purposes.

The channel of Soldier Creek divides into two branches, shortly after leaving the canyon, which are known as the East and West Forks.

Simpson, and Daniels Canyons are tributary to the West Fork of Soldier Creek, entering the stream below the mouth of the canyon.

There are several perennial springs which rise in the channel of the West Fork of Soldier Creek.

Measurements of the discharge of Soldier Creek above all diversions have been made during several years past, and a continuous record of the gage readings has been kept by means of an automatic water stage register during the irrigation seasons of 1925, 1926, and 1927.

A Leitz water stage register and Staff Gage were installed on Soldier Creek above all diversions on April 1, 1927 at the same location as the 1926 gage, approximately 500 feet above the head gate of the Company Dtich which is the highest diversion on the creek. A record of the height of water on the gage was thus obtained until July 2, 1927, when the register was removed for the season.

A series of current meter measurements was made during the 1927

irrigating season at a point a short distance above the gage. The flow quantities indicated by these measurements were plotted against their corresponding gage readings so as to form a rating curve for the station.

Table No. I is a tabulation of the current meter measurements made of Soldier Creek during the 1927 season.

Table No. II contains a continuous record of the discharge of Soldier Creek above all diversions during the 1927 irrigation season. The flow quantities were obtained by applying the daily average gage heights to t the above mentioned rating curve.

The total discharge of Soldier Creek during the three months of April, May and June, 1925, was 4890.2 acre feet. During the same period in 1926, the total discharge was 1500.5 acre feet, or about 31 % of the discharge for 1925. For the same three months in 1927, the total discharge was 3648.6 acre feet, or about 75% of the 1925 discharge.

On July 1st, the discharge had fallen to 5.20 sec. ft. which quantity was just sufficient to supply domestic, stock and garden water to the upper users.

Climatological Records of the U. S. Weather Bureau indicate that the water supply during the 1927 irrigation season was probably subnormal.

DISTRIBUTION OF WATER

It was agreed by all the water users of Soldier Creek that during the irrigation season of 1927, the water of Soldier Creek should be distributed in accordance with schedules contained in a stipulations for a consent judgment, dated December 11, 1926, in the case of "San Francisco Cattle Loan

Company, et al., vs. C. M. Crampton, et al.," and a supplemental stipulation dated March 26, 1927, among the East Fork Users. These stipulations were prepared in the office of the Division of Water Rights and have been signed by all of the interested parties, except the San Francisco Cattle Loan Company.

During the season of general irrigation from March 19 to June 19, the supply was rotated between the Upper Users and Lower Users in accordance with the schedules contained in the above stipulations. The Daniels Ditch, being included in both rotations, received a continuous flow when it was required throughout the season.

The Reynolds Ranch, receiving a continuous flow from springs in the West Fork, was not included in the schedule of rotation.

The available irrigation supply, after subtracting the allotments of stock and domestic water, was rotated as follows--ten days to the Upper Users and thirteen days to the Lower Users.

During the period March 19 to March 25, before the arrival of the Water Master, the West Fork Users had all of the irrigation flow and received a complete irrigation.

During the period March 26th to April 1st, before the arrival of the Water Master, a flow estimated to be about three second feet was turned down the East Fork to the San Francisco Cattle Loan Company's ranch.

It was found during the Lower Users period April 11 to April 24 that there was insufficient water to supply the needs of both forks simultaneously, so it was decided to rotate between the two forks each taking the water for 6 ½ days..

At the beginning of the irrigation season, measuring weirs were installed in both the Daniels and Atkinson Ditches. However, owing to the large quantities of gravel and sand which were deposited in the ponds formed above these weirs, they proved to be impractical and were accordingly removed.

The flow of Simpson and Daniels Canyon is used by F. E. and Celia Daniels to supplement their Soldier Creek diversion. Both of these canyons, however, were dry before the end of the season of general irrigation in 1927.

At times of flood flow, when there was more water going down the East Fork than could be used by the Lower Users on that fork, Oliver Crampton was permitted to divert some of the East Fork flow through his lower ditch. Since this diversion was intermittent and the rate of diversion extremely variable, it was found impossible to estimate the quantity of water thus diverted.

The season of general irrigation ended on June 19. On this date, Schedule II contained in the aforementioned stipulation went into effect and the water was distributed accordingly.

Tables III to VII inclusive, contain estimates of the amounts diverted by the various ditches above the junction of the East and West Forks.

Tables VIII and IX contain estimates of the discharge at the heads of the West and East Forks, respectively.

The schedules contained in the previously mentioned stipulations which were followed in the distribution of the waters of Soldier Creek

during 1927 are submitted as Tables XI, XII, XIII, XIV, and XV.

Towards the end of the 1927 irrigation season, a verbal agreement was entered into between G. M. Warrens and the other owners of the Company Ditch. Mr. Warrens consented in future to confine himself to one point of diversion from the Company Ditch, that point to be near his south line. He further consented to build a new ditch starting from this point of diversion and running easterly along his south line. In consideration of this undertaking, the other owners of the Company Ditch agreed to do whatever work might be necessary to build a conduit to convey Mr. Warrens' water across the road to the main body of his land. In this connection, Mr. James F. Poore, Supervisor, when interviewed by the Water Master, promised that the County would furnish free of cost whatever pipe might be necessary for the above mentioned conduit. Mr. George McMullen, one of the owners of the Company Ditch, agreed to give Mr. Warrens the necessary right-of-way in case it might be found convenient to locate the new ditch for a short distance upon his land.

USE OF WATER

Table X shows the gross duty of the water of Soldier Creek during the 1927 season of general ifrigation (March 19 to June 19).

It will be noted that the duty under the Daniels Ditch is unusually high. This is explained by the fact that the Daniels Ranch supplements its Soldier Creek water supply with the waters of Simpson and Daniels Canyons.

On the other hand, the duty under the East Fork is apparently low. However, a considerable quantity of the flow of the East Fork during high stages could not be put to beneficial use, but made its way directly to the lake. The same is true of the West Fork in a lesser degree.

DISCUSSION

A hydrograph of Soldier Creek is submitted as Plate I at the end of this report. Upon it are shown the total flow above all diversions and the total allotments. It may be seen from this hydrograph that during the latter part of May there was more than enough water to supply all allotments. A considerable portion of this surplus, however, could not be diverted and escaped to Alkali Lake without being put to beneficial use.

Although the water supply in the irrigation season of 1927 was only about 75% of the water supply of the 1925 irrigation season, it was sufficient apparently to meet all reasonable demands. It would appear that in a year of normal water supply all irrigation requirements would be amply provided for under the terms of the stipulation for consent judgment and the supplemental stipulation among the East Fork Users.

RECOMMENDATION

After the experience gained from distributing the water of Soldier Creek during the 1927 irrigation season the following improvements are recommended:

1. That a permanent concrete control be built in the channel of Soldier Creek so as to eliminate the necessity for continual metering of the discharge through succeeding irrigation seasons. Under existing conditions, the Water Master spends much valuable time in metering the flow of the creek. If he were relieved of the necessity of measuring water with the current meter, it would be possible for him to supervise the distribution of additional streams which would result in a saving of cost in Water Master serive for the water users.

2. That water measuring devices, as recommended by the Division of Water Rights, be installed in every ditch diverting from Soldier Creek.

3. That a regulating head gate be installed in the Warrens Flood Ditch.

4. That whatever work is necessary be done to enable the Company Ditch to carry its full allotment of water.

5. The construction of a timber regulating structure at the junction of the East and West Forks to facilitate the division of the flow between the two forks as may be desired.

Applications Filed With the Division of Water Rights

Action has been held in abeyance on the applications for appropriation of water from Soldier Creek, pending issuance of final decree in the case of San Francisco Cattle Loan Company, et al., vs. C. M. Crampton, et al.

CHAPTER OF FINANCIAL STATEMENT

The Water Master Service during the 1927 season on Cedar, Owl and Soldier Creeks was financed partly by subscription from the water owners and partly by contribution by the Division of Water Rights.

No distinction was made in the expense of conducting the Water Master Service on each stream system because the field work was conducted as a unit.

The total unit cost of the Water Master Service in 1927 on the three streams systems mentioned above was 21.8 cents per acre of irrigated land. The unit cost to the water users was 16.3 cents per acre of irrigated land, and the unit cost to the Division of Water Rights was 5.5 cents per acre of irrigated land.

A financial statement in which receipts and disbursements are itemized is submitted on the following page.

FINANCIAL STATEMENT

SURPRISE VALLEY WATER DISTRIBUTION

1927 Season

Receipts

Contributed by Owl Creek Water Users	$400.00	
Contributed by Soldier Creek Water Users	396.00	
Contributed by Cedar & Toms Creeks Water Users	200.00	
Contributed by Division of Water Rights	350.00	1346.00

Disbursements

Salaries and Wages	$753.17	
Board, Lodging and Travel Expense	447.10	
Automobile Expense	135.69	
Blueprinting	.60	1336.56
		$ 9.44

TABLE I

CURRENT METER MEASUREMENTS

SOLDIER CREEK REGISTER GAGE - 1927

Number	Date	Time	Gage Ht.	Discharge c.f.s.	Hydrographer
1	4-6-27	10:00 A.M.	5.87	7.34	T.R.Simpson
2	5-2-27	2:30 P.M.	6.25	21.35	H.Searancke
3	5-14-27	11:00 A.M.	6.42	53.67	H.Searancke
4	5-25-27	9:30 A.M.	6.13	21.52	H.Searancke
5	6- 6-27	10:00 A.M.	6.13	20.00	H.Searancke
6	6-15-27	2:00 P.M.	6.03	13.40	H.Searancke
7	6-19-27	9:15 A.M.	5.93	8.05	H.Searancke
8	7- 9-27	11:00 A.M.	5.73	3.91	H.Searancke

Gage located above all diversions about 500 feet above the head of the Company Ditch.

TABLE II

Continuous Record of Discharge of Soldier Creek at Register Gage

Above All Diversions in Cubic Feet Per Second - 1927

Date	April Mean Daily		May Mean Daily		June Mean Daily	
	Gage Ht. in ft.	Discharge c.f.s.	Gage Ht. in ft.	Discharge c.f.s.	Gage Ht. in ft.	Discharge c.f.s.
1	5.90	7.80	6.25	34.30	6.09	17.00
2	5.87	7.20	6.23	32.50	6.09	17.00
3	5.87	7.20	6.24	33.10	6.11	18.80
4	5.87	7.20	6.24	33.10	6.14	21.60
5	5.87	7.20	6.24	33.10	6.15	23.70
6	5.91	8.20	6.22	31.40	6.15	23.70
7	5.95	9.50	6.15	23.70	6.16	24.90
8	5.94	9.10	6.06	14.90	6.18	26.90
9	5.89	7.60	6.07	15.60	6.12	19.90
10	5.86	6.80	6.10	17.80	6.00	11.70
11	5.85	6.50	6.18	26.90	6.10	17.80
12	5.84	6.30	6.24	33.10	6.08	16.30
13	5.83	6.10	6.31	41.00	6.07	15.60
14	5.88	7.30	6.38	48.80	6.05	14.30
15	5.92	8.50	6.38	48.80	6.03	13.30
16	5.80	5.40	6.40	51.00	5.99	11.30
17	5.88	7.30	6.26	35.60	5.97	10.30
18	5.90	7.80	6.24	33.10	5.97	10.30
19	5.91	8.20	6.20	29.10	5.96	9.90
20	5.94	9.10	6.17	26.00	5.95	9.50
21	6.00	11.70	6.15	23.70	5.93	8.80
22	6.10	17.80	6.16	24.90	5.92	8.50
23	6.19	28,00	6.16	24.90	5.89	7.60
24	6.28	37.50	6.17	26.00	5.87	7.20
25	6.40	51.00	6.21	30.00	5.85	6.50
26	6.40	51.00	6.21	30.00	5.85	6.50
27	6.40	51.00	6.16	24.90	5.84	6.30
28	6.42	53.70	6.15	23.70	5.82	5.90
29	6.32	42.00	6.10	17.80	5.81	5.60
30	6.33	43.10	6.07	15.60	5.80	5.40
31			6.08	16.30		
Total Sec. Ft.Days		53.71	[illegible]	[illegible]		40.21
Mean Sec. Ft.		17.9	[illegible]	29.1		13.4
Max. Sec. Ft.		53.7	[illegible]	51.0		26.9
Min. Sec. Ft.		5.4	[illegible]	14.0		5.4
Total Acre Ft.		1065.1	[illegible]	1733.1		797.4

Discharge determined by applying gage heights procured from register records to a rating curve produced from current meter measurements.

TABLE III

Estimate of Diversion by Company Ditch From Soldier Creek

April to June 30, 1927

Date	April Diversion c.f.s.	May Diversion c.f.s.	June Diversion c. f. s.
1	3.50	7.70	1.00
2	3.50	7.70	1.00
3	3.50	7.70	1.00
4	3.10	5.10	1.00
5	3.10	5.10	1.00
6	2.60	5.10	1.00
7	4.10	5.10	1.00
8	3.70	5.10	1.00
9	4.40	5.10	9.00
10	4.10	5.00	5.30
11	.90	5.00	8.00
12	.90	5.00	7.40
13	.90	5.00	7.00
14	.90	5.00	6.60
15	.90	5.00	6.10
16	.90	5.00	5.20
17	.90	7.80	4.70
18	.90	7.80	4.70
19	.90	6.80	5.50
20	.90	8.80	5.40
21	.90	7.00	5.00
22	.90	7.00	4.75
23	.90	7.00	4.20
24	6.50	7.00	4.00
25	6.50	7.00	3.70
26	6.50	7.00	3.80
27	6.50	1.00	3.70
28	7.70	1.00	3.40
29	7.70	1.00	3.30
30	7.70	1.00	3.15
31		1.00	
Sec.Ft.Days	96.40	166.90	122.20
&Acre Ft.	191.2	331.0	242.3

TABLE IV

Estimate of Diversion by Warrens Flood Ditch From Soldier Creek

April 1 to May 31, 1927

Date	April Diversion c.f.s.	May Diversion c. f. s.
1	0.80	4.00
2	.80	4.00
3	.80	4.00
4	.80	0.0
5	.80	
6	1.00	
7	1.50	
8	1.50	NO
9	.50	
10	.50	
11	0.0	
12		
13		FLOW
14		
15		
16	NO	0.0
17		2.40
18		2.40
19		3.60
20		1.60
21		1.60
22	FLOW	1.60
23		1.60
24		1.60
25		1.60
26	0.0	1.60
27	4.80	0.0
28	4.80	NO
29	4.80	FLOW
30	4.80	
31		0.0
Sec. Ft. Days	28.20	31.60
Acre Ft.	55.9	62.7

TABLE V

Estimate of Diversion by Daniels Ditch

From Soldier Creek April 1 to June 30, 1927

Date	April Diversion c.f.s.	May Diversion c.f.s.	June Diversion c.f.s.
1	0.0	0.0	1.25
2	0.0		1.25
3	0.0		1.25
4	1.20		1.25
5	1.20		1.25
6	1.20		1.25
7	.50	NO	1.25
8	.50		1.25
9	.50		2.55
10	.50		1.20
11	.70		1.80
12	.70	FLOW	1.65
13	.70		1.60
14	.70		1.45
15	.70		1.35
16	.70		1.15
17	.70	0.0	1.00
18	.45	.50	1.00
19	.45	.50	1.90
20	.45	1.25	1.80
21	.45	1.25	1.70
22	.45	1.25	1.60
23	.45	1.25	1.40
24	.45	1.25	1.30
25	0.0	1.25	1.20
26		1.25	1.90
27	NO	1.25	1.90
28		1.25	1180
29	FLOW	1.25	1.70
30	0.0	1.25	1.60
31		1.25	
Sec. Ft. Days	13.65	14.75	44.55
Acre Feet	27.1	29.2	88.3

TABLE VI

Estimate of Diversion by Crampton Upper Ditch

From Soldier Creek April 1 to June 30, 1927

Date	April Diversion c.f.s.	May Diversion c.f.s.	June Diversion c.f.s.
1	2.40	4.10	.30
2	1.80	4.10	.30
3	1.80	4.10	.30
4	1.00	0.0	.30
5	1.00		.30
6	2.20		.30
7	2.20	NO	.30
8	2.20		.30
9	1.50		5.10
10	1.00		3.65
11	.35		5.50
12	.35		5.10
13	.35	FLOW	4.85
14	.35		4.45
15	.35		4.15
16	.35	0.0	3.50
17	.35	4.00	3.20
18	.40	3.50	3.20
19	.40	3.50	1.40
20	.40	3.50	1.35
21	.40	3.50	1.25
22	.40	3.50	1.20
23	.40	3.50	1.00
24	3.50	4.60	1.00
25	3.50	4.60	0.90
26	3.50	4.60	.35
27	3.60	.30	.35
28	3.60	.30	.35
29	3.60	.30	.35
30	3.60	.30	.35
31		.30	
Sec. Ft. Days	46.85	52.60	54.95
Acre Feet	92.9	104.3	109.0

TABLE VII

Estimate of Diversion by Atkinson Ditch

From Soldier Creek April 1 to June 30, 1927

Date	April Diversion c.f.s.	May Diversion c.f.s.	June Diversion c.f.s.
1	1.00	1.50	.30
2	1.00	1.50	.30
3	1.00	1.50	.30
4	1.00	1.00	.30
5	1.00	1.00	.30
6	1.00	1.00	.30
7	1.00	1.00	.30
8	1.00	1.00	.30
9	.50	1.00	2.35
10	.50	1.00	1.40
11	.30	1.00	2.10
12	.30	1.00	1.95
13	.30	1.00	1.85
14	.30	1.00	1.70
15	.30	1.00	1.60
16	.30	1.00	1.30
17	.30	2.75	1.20
18	.30	2.75	1.20
19	.30	2.75	0.90
20	.30	1.56	0.85
21	.30	1.56	.82
22	.30	1.56	.75
23	.30	1.56	.70
24	3.00	1.56	.65
25	3.20	1.56	.60
26	3.20	1.56	.35
27	3.20	.30	.35
28	3.20	.30	.35
29	3.20	.30	.35
30	3.20	.30	.35
31		.30	
Sec. Ft. Days	35.10	38.17	25.87
Acre Feet	69.6	75.7	51.3

TABLE VIII

Estimate of Gross Amount of Water in Soldier Creek

Below Upper Diversions Available for Users on West Fork

April 1 to June 9, 1927

Date	April c.f.s.	May c. f. s.	June c. f. s.
1	0.0	5.6	7.0
2		5.0	7.0
3		5.3	8.0
4		9.0	9.0
5	NO	9.0	10.0
6		9.0	10.0
7		5.0	11.0
8		0.0	12.0
9	FLOW	0.0	0.0
10		0.0	
11	4.15	4.0	
12	3.90	9.0	
13	3.75	12.0	
14	4.90	14.0	
15	6.10	14.0	
16	3.00	15.0	
17	4.90	0.0	
18	0.0		
19			
20	NO		
21	FLOW	NO	
22	0.0		
23	11.00		
24	8.00	FLOW	
25	13.00		
26	13.00	0.0	
27	11.00	11.0	
28	11.00	10.0	
29	8.00	7.0	
30	8.00	6.0	
31		6.0	
Sec. Ft. Days	113.70	155.90	74.00
Acre Feet	225.5	309.1	146.7

TABLE IX

Estimate of Gross Amount of Water in Soldier Creek

Below Upper Diversions Available for Users on East Fork

April 1 to June 9, 1927

Date	April c.f.s.	May ½ c.f.s.	June c.f.s.
1	0.0	11.4	7.0
2		10.0	7.0
3		10.7	8.0
4		18.0	9.0
5		18.0	10.0
6		16.0	10.0
7	NO	12.0	11.0
8		8.0	12.0
9	FLOW	9.0	0.0
10		11.0	
11		16.0	
12		18.0	
13		23.0	
14		28.0	
15		28.0	
16		30.0	
17	0.0	18.0	
18	5.60	16.0	
19	6.00	12.0	
20	6.90	9.0	
21	9.50	8.0	
22	15.50	10.0	
23	15.00	10.0	
24	15.00	10.0	
25	24.00	14.0	
26	14.00	14.0	
27	21.00	11.0	
28	22.00	11.0	
29	14.00	8.0	
30	14.00	7.0	
31		7.0	
Sec. Ft. Days	182.50	432.10	74.10
Acre Feet	361.9	856.9	146.9

TABLE X

Gross Use of Water of Soldier Creek

During the Season of General Irrigation

April 1 to June 19, 1927

Ditch	Property Owner	Acres Irrigated 1927	Total Acre Feet Diverted in 1927	Total Acre Feet Allotted During Season of Gen. Irrigation	Percentage of full allotment received during 1927	Gross Use of Water During Period Irrigation 1927: Acre Feet per acre irrigated	Gross Use of Water During Period Irrigation 1927: Ac. Irrig. per sec. ft. Aver. Diversion
Company Ditch and Warrens Flood Ditch	J.C. Sharp	200.1					
	John Street	142.6					
	G.R. McMullen	58.4					
	G.M. Warrens	135.8	784.1	1104.5	71	1.46	107
		536.9					
Atkinson	C.E. Atkinson	89.2	182.7	197.7	93	2.05	76
Crampton Upper	Oliver Crampton	167.5	286.7	364.3	79	1.72	91
Daniels	Cyrus & Celia Daniels	172.5	105.3	329.0	32	0.61	257
West Fork Soldier Creek	J. Brown (Bennett)	67.6					
	S.B. Streiff (Bennett)	101.0					
	G.W. Toney	35.0					
		80.0					
	E.P. Strief						
	Estate	23.9					
	(Mervin Toney)	80.0					
		387.5	681.3	398.3	171	1.76	89
East Fork Soldier Creek	San Francisco Loan Co.	174.7					
	G.S. Stiner	114.1					
	Heard Ranches	200.0					
	Sub-irrigated						
		488.8	1365.7	850.7	160	2.79	56

TABLE XI

WATER ALLOTMENTS FROM SOLDIER CREEK AND TRIBUTARIES OUTSIDE OF THE SEASON OF GENERAL IRRIGATION FROM JUNE 19th OF EACH YEAR UNTIL MARCH 19th OF THE FOLLOWING YEAR, LISTED IN THE ORDER OF PRIORITIES.

Ranch	Ditch	Acreage to be Supplied	Allotment Cubic Feet per second	Priority
Celia & Cyrus Daniels	Daniels	Domestic	0.30	First
J.C. Sharp	Company	Domestic	0.25	First
John Street	Company	Domestic	0.25	First
G. M. Warrens	Company	Domestic	0.25	First
G. R. McMullen	Company	Domestic	0.25	First
Oliver Crampton	Crampton Upper	Domestic	0.30	First
C. E. Atkinson	Atkinson	Domestic	0.30	First
Enoch Reynolds	Reynolds	24.7	0.30 *	First
Cyrus Daniels	Daniels	18.3	0.23	Second
Celia Deniels	Daniels	98.8	1.05	Second
J. C. Sharp	Company	191.1	1.88	Second
Cyrus Daniels	Daniels	10.0	0.13	Third
John Street	Company	142.6	1.50	Fourth
G. M. Warrens	Company	63.1	0.56	Fourth
G. R. McMullen	Company	49.4	0.43	Fourth
Oliver Crampton	Crampton Upper	90.5	0.91	Fourth
C. E. Atkinson	Atkinson	36.0	0.36	Fourth
C. E. Atkinson	Atkinson	14.7	0.14	Fifth
JC C. Sharp	Company	9.0	0.09	Fifth
G. M. Warrens	Company	9.0	0.09	Fifth
G. R. McMullen	Company	9.0	0.09	Fifth
Oliver Crampton	Crampton Upper	9.0	0.09	Fifth
Celia Daniels	Daniels	45.4	0.39	Sixth
G. M. Warrens	Company	63.7	0.54	Seventh
Oliver Crampton	Crampton Upper	68.0	0.74	Seventh
C. E. Atkinson	Atkinson	38.5	0.33	Eighth
J. Brown	Toney	67.6	0.87	Ninth
G. W. Toney	Toney-Strief	80.0	0.70	Tenth
E.P.Strief Estate	Toney-Strief	80.0	0.70	Tenth
G. S. Stiner	Stiner-Heard (East or West)	114.1	0.99	Eleventh
G. K. Heard	Stiner-Heard (East or West)	60.0	0.52	Eleventh
Mrs. A. Heard	Stiner-Heard (East or West)	60.0	0.57	Eleventh
F. S. Heard	Stiner-Heard West	80.0	0.70	Eleventh
S. F. Cattle Loan Co.	S.F.Cattle Loan Co	174.7	2.04	Twelfth
G. W. Toney	Toney	35.0	0.45	Twelfth
E. P. Strief Estate	Toney	23.9	0.30	Twelfth
S. B. Strief	Strief	101.0	1.29	Twelfth
	Total	1867.1	20.88	

* Allotment to Enoch Reynolds to be supplied from springs in West Fork of Soldier Creek.

TABLE XII

WATER ALLOTMENTS FROM SOLDIER CREEK AND TRIBUTARIES DURING THE SECOND, FOURTH, SIXTH AND EIGHTH ROTATION PERIODS OF THE SEASON OF GENERAL IRRIGATION, LISTED IN THE ORDER OF PRIORITIES.

Ranch	Ditch	Acreage to be Supplied	Allotment Cubic Feet Per Second During 2nd, 4th, 6th and 8th Rotation Periods	Priority
Celia & Cyrus Daniels	Daniels	Domestic	0.30	First
J. C. Sharp	Company	Domestic	0.25	First
John Street	Company	Domestic	0.25	First
G. M. Warrens	Company	Domestic	0.25	First
G. R. McMullen	Company	Domestic	0.25	First
Oliver Crampton	Crampton Upper	Domestic	0.30	First
C. E. Atkinson	Atkinson	Domestic	0.30	First
Enoch Reynolds	Reynolds	24.7	0.30 *	First
Cyrus Daniels	Daniels	18.3	0.23	Second
Celia Daniels	Daniels	98.8	1.05	Second
J. C. Sharp	Company	191.1	4.35	Second
Cyrus Daniels	Daniels	10.0	0.13	Third
John Street	Company	142.6	3.45	Fourth
G. M. Warrens	Company or Warrens Flood	63.1	1.30	Fourth
G. R. McMullen	Company	49.4	1.00	Fourth
Oliver Crampton	Crampton (4 ditches)	90.5	2.10	Fourth
C. E. Atkinson	Atkinson	36.0	0.80	Fourth
C. E. Atkinson	Atkinson	14.7	0.35	Fifth
J. C. SHarp	Company	9.0	0.20	Fifth
G. M. Warrens	Company or Warrens Flood	9.0	0.20	Fifth
G. R. McMullen	Company	9.0	0.20	Fifth
Oliver Crampton	Crampton (4 ditches)	9.0	0.20	Fifth
Celia Daniels	Daniels	45.4	0.39	Sixth
G. M. Warrens	Company	63.7	1.25	Seventh
Oliver Crampton	Crampton Upper	68.0	1.70	Seventh
C. E. Atkinson	Atkinson	38.5	0.75	Eighth
Average Channel Loss	Soldier Creek above Forks		0.10	
	Total	990.8	21.95	

* Allotment to Enoch Reynolds to be supplied from springs in West Fork of Soldier Creek.

TABLE XIII

WATER ALLOTMENTS FROM SOLDIER CREEK AND TRIBUTARIES DURING THE FIRST, THIRD, FIFTH, AND SEVENTH ROTATION PERIODS OF THE SEASON OF GENERAL IRRIGATION, LISTED IN THE ORDER OF PRIORITIES.

Ranch	Ditch	Acreage to be Supplied	Allotment, Cubic Feet Per Second During 1st, 3rd, 5th and 7th Rotation Periods	Priority
Celia and Cyrus Daniels	Daniels	Domestic	0.30	First
J. C. Sharp	Company	Domestic	0.25	First
John Street	Company	Domestic	0.25	First
G. M. Warrens	Company	Domestic	0.25	First
G. R. McMullen	Company	Domestic	0.25	First
Oliver Crampton	Crampton Upper	Domestic	0.30	First
C. E. Atkinson	Atkinson	Domestic	0.30	First
Enoch Reynolds	Reynolds	24.7	0.30 *	First
J. Brown	Toney	67.6	1.55	Second
Cyrus Daniels	Daniels	18.3	0.23	Third
Celia Daniels	Daniels	98.8	1.05	Third
G. W. Toney	Toney-Strief	80.0	1.25	Third
E. P. Strief Estate	Toney-Strief	80.0	1.25	Third
G. S. Stiner	Stiner-Heard (East or West)	114.1	1.75	Fourth
G. K. Heard	Stiner-Heard (East or West)	60.0	0.90	Fourth
Mrs. A. Heard	Stiner-Heard (East or West)	60.0	1.00	Fourth
F. S. Heard	Stiner-Heard West	80.0	1.25	Fourth
S. F. Cattle Loan Co.	S. F. Cattle Loan Co.	174.7	3.60	Fifth
G. W. Toney	Toney	35.0	0.80	Fifth
E. P. Strief Estate	Toney	23.9	0.55	Fifth
S. B. Strief	Strief	101.0	2.25	Fifth
Cyrus Daniels	Daniels	10.0	0.13	Sixth
Celia Daniels	Daniels	45.4	0.39	Seventh
Average Channel Loss Soldier Creek & West Fork			2.00	
	Total	1073.5	22.15	

* Allotment to Enoch Reynolds to be supplied from springs in West Fork of Soldier Creek.

TABLE XIV

ROTATION PERIODS - SOLDIER CREEK

Period No.	Begins 6:00 A.M.	Ends 6:00 A.M.	Class Entitled To Irrigation Allotments
1	March 19	April 1	Lower Users
2	April 1	April 11	Upper Users
3	April 11	April 24	Lower Users
4	April 24	May 4	Upper Users
5	May 4	May 17	Lower Users
6	May 17	May 27	Upper Users
7	May 27	June 9	Lower Users
8	June 9	June 19	Upper Users

TABLE XV

WATER ALLOTMENTS FROM THE EAST FORK OF SOLDIER CREEK ON A CONTINUOUS FLOW BASIS MEASURED AT THE HEADS OF THE RESPECTIVE DITCHES

Water User	Ditch	Continuous Flow Allotment, Cubic Ft. Per Second	Rotation Allotment, Cubic Feet Per Second
G. W. Toney	Toney-Strief	0.41	0.73
E.P.Strief Estate	Toney-Strief	0.41	0.73
G. S. Stiner	Stiner-Heard (East or West)	0.58	1.03
G. K. Heard	Stiner-Heard (East or West)	0.30	0.53
Mrs. A. Heard	Stiner-Heard (East or West)	0.40	0.71
F. S. Heard	Stiner-Heard West	0.41	0.73
S.F.Cattle Loan Co	S.F. Cattle Loan Company	1.86	3.29
	Total	4.37	7.75