DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

EDWARD HYATT, State Engineer

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REPORT ON WATER MASTER SERVICE ON OWL CREEK

MODOC COUNTY, CALIFORNIA

1932 SEASON

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By

Leslie C. Jopson, Modoc County Water Master

Sacramento, California

March 1933.

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STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

March 1933.

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California.

Dear Sir: Attention - Mr. Gordon Zander
Supervising Hydraulic Engineer

The report covering the water distribution work of the water master in the Owl Creek Water Master District, Modoc County, California, during the 1932 season is transmitted herewith.

The report describes the methods and practices followed in distributing the water in accordance with the provisions of the decree in the case of C. E. Cummins, et al. vs. Wiley Allen, et al. A discussion of the results obtained is included in the report.

Resectfully submitted,

LESLIE C. JOHNSON
Modoc County Water Master.

ORGANIZATION

Earl Lee Kelly	Director of Public Works
Edward Hyatt	State Engineer
Harold Conkling	Deputy State Engineer

Gordon Zander

Supervising Hydraulic Engineer

T. Russel Simpson	Senior Hydraulic Engineer
Leslie C. Jopson	Modoc County Water Master
Heath Stanley	Deputy Water Master

GENERAL DESCRIPTION OF WORK

Water master service was conducted in the Owl Creek Water Master District during the 1932 season in accordance with the provisions of the decree in the case of C. E. Cummins, et al. vs. Wiley Allen, et al.

The field work was commenced by the writer during the first part of April and continued into September. Mr. Heath Stanley was employed on a part time daily basis to assist as water master on Owl, Cedar, Emerson and Soldier Creeks during April and May.

During 1932 the water supply of Owl Creek was more than adequate to supply all priorities during the greater part of May and June and the first three days of July. Even though some of the priorities were given excess water during this period there was a surplus which wasted into the lake. As the supply diminished in July the various ditches were closed in the order of their rights and priorities.

DISCUSSION OF RESULTS

The precipitation at Cedarville for the seasonal year September 1, 1931, to August 31, 1932, has been compared with the precipitation during the previous seasons of water master service in Surprise Valley in Table 1. The seasonal precipitation in 1931-32 amounted to 110.7 per cent of the mean for the period 1894-1931. This figure would have been somewhat higher if only the winter precipitation had been considered, as the spring and summer following the wet winter were sub-normal in precipitation.

Table 2 is a record of the continuous daily discharge of Owl Creek at the register station at St. Johns. Plate 1 is a graphical representation of this table compared to the flow in 1927.

Table 3 is the estimated daily discharge of Owl Creek above all diversions. This table is a combination of the records shown in Table 2 and the estimated daily discharge of the Allen-Arreche Ditch. The Allen-Arreche Ditch diverts above the register station.

Table 4 is a tabulation of the amounts of water delivered to each priority class during the periods shown. The table also shows the per cent of total allotments delivered during the indicated periods. This table does not include the special rights during July and August.

Table 5 is a tabulation of crop yields from typical lands irrigated from Owl Creek in 1932. In general the results obtained were quite satisfactory.

Water distribution was continued until the first of September in 1932 at the request of several water users. It has been customary in past years to terminate the service at an earlier date due to the few ditches in use late in the season.

RECOMMENDATIONS

It is recommended that the head gates in some of the ditches be replaced and that some of the dams be made more effective. A considerable saving of the water master's time would result from these improvements.

FINANCIAL STATEMENT

The funds collected from the water users in the various water master districts to defray the expenses of the water master service are placed to the credit of the various water master district funds by the State Treasurer. The State contributes an amount to the funds equal to that contributed by the water users. These funds are then drawn on by the Division of Water Resources to meet the costs of the water master service.

FINANCIAL STATEMENT

OWL CREEK WATER MASTER DISTRICT FUND

March 1, 1933

RECEIPTS

Balance on March 1, 1932.....	$390.85	
Contributed by State in 1932	200.00	
Contributed by Taxpayers (Mar. 1/32 to Mar. 1/33)	206.46	$797.31

DISBURSEMENTS

Water Master Compensation	$143.92	
Water Master Travel Expense.....	95.27	
Cost of Publication of Financial Statement	22.50	
Contingencies	1.60	$263.29

BALANCE $534.02

TABLES

TABLE 1

PRECIPITATION

Cedarville, California

Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Seasonal
1924-25	0.25	2.06	1.86	1.66	1.08	1.34	0.61	0.65	1.59	0.49	0.29	0.30	12.18
1925-26	1.34	1.57	1.31	1.25	1.06	1.18	.13	1.26	1.07	T	.09	.09	10.35
1926-27	.15	.53	2.73	1.16	1.82	2.02	1.73	.81	.95	.35	T	T	12.25
1927-28	.32	.86	2.87	.86	.92	.75	2.93	.81	T	.55	.00	.00	10.87
1928-29	.40	.15	1.43	.42	2.08	.59	1.20	1.85	.29	1.98	.00	T	10.39
1929-30	.07	.19	.00	3.02	3.39	1.53	.83	.51	.67	T	.02	T	10.23
1930-31	1.64	.59	1.22	.18	.67	.66	1.68	.58	.25	2.25	.00	.00	9.72
1931-32	.33	3.20	.96	1.85	2.23	.70	1.97	1.87	.53	.22	T	T	13.86
Mean 1894 to 1932	0.55	1.01	1.59	1.61	1.76	1.55	1.45	.90	1.03	.65	.24	.18	12.52
1931-32 in per cent of total mean	2.6	25.6	7.8	14.8	17.8	5.6	15.7	14.9	4.2	1.8	.0	.0	110.7

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF OWL CREEK AT REGISTER STATION FOR THE PERIOD APRIL 8th TO SEPTEMBER 6th, 1932.

Day	Apr.	May	June	July	Aug.	Sept.	
1		32.0	34.0	53.0	4.45	2.95	
2		32.0	35.0	51.0	4.30	2.90	
3		26.8	39.0	44.0	4.20	2.85	
4		23.7	50.0	34.0	4.10	2.75	
5		23.7	46.0	30.0	4.05	2.65	
6		29.0	37.0	26.0	3.95	2.60	
7		38.0	42.0	24.0	3.90		
8	NO	49.0	47.0	21.0	3.85		
9		53.0	53.0	18.0	3.85		
10		57.0	64.0	16.0	3.80		
11		66.0	78.0	14.0	3.70		
12		78.0	79.0	11.3	3.60		
13		83.0	82.0	10.3	3.50		
14	RECORD	83.0	80.0	9.40	3.40		
15		74.0	81.0	8.80	3.30		
16		72.0	75.0	8.30	3.25		
17		74.0	72.0	8.00	3.20		
18	20.0	75.0	70.0	8.30	3.15	NO	
19	21.0	80.0	71.0	7.30	3.10		
20	17.0	73.0	71.0	6.90	3.10		
21	13.6	65.0	75.0	6.50	3.00		
22	13.0	56.0	79.0	6.10	2.95		
23	14.0	47.0	78.0	5.85	2.90	RECORD	
24	15.1	45.0	76.0	5.70	2.85		
25	16.2	44.0	72.0	5.55	2.85		
26	17.3	45.0	71.0	5.35	2.85		
27	18.4	48.0	68.0	5.20	2.90		
28	23.7	45.0	64.0	5.00	2.90		
29	27.5	42.0	59.0	4.85	3.00		
30	30.3	39.0	57.0	4.70	3.05		
31	-	36.0	-	4.60	3.00		
Total Sec. Feet Days	*247.1	1634.2	1904.0	469.00	106.00	**16.70	142 Day Period
Mean Sec. Feet	19.0	52.7	63.5	15.1	3.42	2.78	30.8
Maximum Sec. Feet	30.3	83.0	82.0	53.0	4.45	2.95	83.0
Minimum Sec. Feet	13.0	23.7	34.0	4.60	2.85	2.60	2.60
Total Ac. Feet	490.	3240.	3780.	930.	210.	32.1	8680

* 13 Day Period.
** 6 Day Period.

TABLE 3

ESTIMATED DAILY DISCHARGE IN CUBIC FEET PER SECOND OF OWL CREEK ABOVE DIVERSIONS FOR THE PERIOD APRIL 18th TO SEPTEMBER 6th, 1932.

Day	Apr.	May	June	July	Aug.	Sept.	
1		32.0	35.0	57.0	4.45	2.95	
2		32.0	36.0	55.0	4.30	2.90	
3		28.8	40.0	48.0	4.20	2.85	
4		23.7	51.0	38.0	4.10	2.75	
5		23.7	47.0	33.5	4.05	2.65	
6		29.0	38.0	26.0	3.95	2.60	
7		38.0	43.0	26.5	3.90		
8	NO	49.0	51.3	23.3	3.85		
9		56.5	57.3	20.1	3.85		
10		60.5	68.3	18.0	3.80		
11		69.5	82.3	15.8	3.70		
12		82.0	83.3	12.9	3.60		
13	RECORD	87.0	86.3	11.8	3.50		
14		87.0	84.3	10.7	3.40		
15		78.0	85.3	10.0	3.30	NO	
16		76.0	79.3	9.40	3.25		
17		78.0	76.3	9.00	3.20		
18	20.0	79.0	74.3	8.30	3.15		
19	21.0	84.0	75.3	7.30	3.10	RECORD	
20	17.0	77.0	75.3	6.90	3.10		
21	13.6	69.0	79.3	6.50	3.00		
22	13.0	59.5	83.3	6.10	2.95		
23	14.0	50.5	82.3	5.85	2.90		
24	15.1	48.5	79.3	5.70	2.85		
25	16.2	47.5	76.3	5.55	2.85		
26	17.3	43.0	75.3	5.35	2.85		
27	18.4	51.0	72.3	5.20	2.90		
28	23.7	48.0	68.3	5.00	2.90		
29	27.5	45.0	63.3	4.85	3.00		
30	30.3	42.0	61.3	4.70	3.05		
31		38.5		4.60	3.00		
Total Sec. Feet Days	*247.1	1716.2	2009.9	506.90	106.00	**16.70	142 Day Period
Mean Sec. Feet	19.0	55.4	67.0	16.4	3.42	2.78	32.4
Maximum Sec. Feet	30.3	87.0	86.3	57.0	4.45	2.95	87.0
Minimum Sec. Feet	13.0	23.7	35.0	4.60	2.85	2.60	2.60
Total Acre Feet	490	3400	3990	1010	210	32.1	9130

* 13 Day Period
** 6 Day Period

TABLE 4

WATER DELIVERIES ON OWL CREEK COMPARED
WITH ALLOTMENTS - 1932 SEASON

Priority	4/18 to 4/30	5/1 to 5/15	5/16 to 5/31	6/1 to 6/15	6/16 to 6/30	7/1 to 7/15	7/16 to 7/31	8/1 to 8/15	8/16 to 8/31	9/1 to 9/6
1	100	100	100	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100	100	100	100
3	100	100	100	100	100	100	100	100	100	100
4	100	100	100	100	100	100	100	100	100	93
4A	0	100	100	100	100	0	0	0	0	0
5	100	100	100	100	100	100	100	100	30	0
6	100	100	100	100	100	100	100	100	0	0
7	0	0	0	0	0	0	0	0	0	0
8	100	100	100	100	100	100*	100**	10***	0	0
9	100	113	138	138	138	100	47	0	0	0
10	95	100	100	100	100	100	0	0	0	0
11	75	100	100	100	100	100	0	0	0	0
12	60	100	136	136	136	100	0	0	0	0
13	53	165	274	274	294	100	0	0	0	0
14	0	145	163	163	163	100	0	0	0	0
15	0	100	100	100	100	53	0	0	0	0
16	0	100	123	145	145	0	0	0	0	0
17	0	198	296	296	296	0	0	0	0	0
18	0	500	900	900	900	0	0	0	0	0
19	0	108	108	108	119	0	0	0	0	0
20	0	100	100	100	100	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0
****22	0	200	100	100	100	0	0	0	0	0
Total Deliveries in c.f.s.	17.1	45.4	50.0	50.3	51.5	24.9	5.64	3.32	2.55	2.36
Per cent of Allotments Delivered	43	114	126	127	130	63	14	8	6	6
Flow Above Diversions	19.0	51.6	58.8	59.2	74.8	27.1	6.27	3.86	3.00	2.78
Channel Loss in per cent	10	12	15	15	31	8	10	14	15	15

Total allotments excepting special and permit rights 39.75 c.f.s.

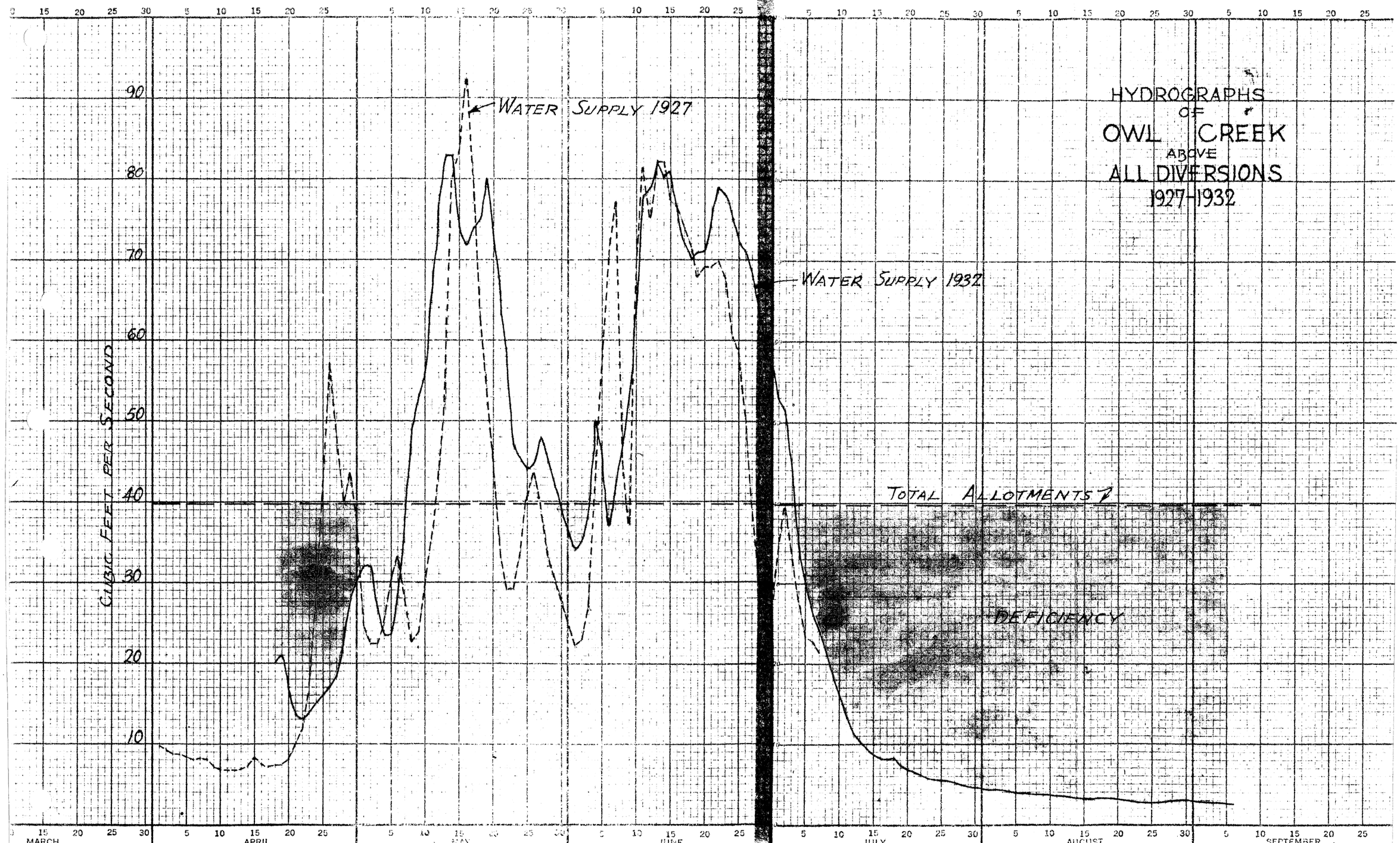
* 1.00 c.f.s. July 8 to 15, inclusive.
** 0.51 c.f.s. July 24 to 31, inclusive.
***0.44 c.f.s. August 1 to 8, inclusive.
**** Permit right of 0.54 c.f.s. to Walter Malitz - March 20 to June 20

TABLE 5

CROP YIELDS ON TYPICAL LANDS
IRRIGATED FROM OWL CREEK-1932

Owner	Crop	Acres	Total Yield Tons	Total Yield Sacks	Yield Per Acre Tons	Yield Per Acre Sacks
Lenora Caldwell	Meadow Hay	234.5	720		3.1	
	Alfalfa	15.0	35		2.3	
	Wheat	15.0		200		13.3
C. E. Cummins	Alfalfa	33.0	90		2.7	
	Meadow Hay	108.0	217		2.0	
Cummins Land and Livestock	Alfalfa	18.0	40		2.2	
	Meadow Hay	240.0	520		2.2	
	Wheat	6.0		80		13.3
	Pasture	130.0		good		
J. W. Heryford	Alfalfa	17.0	35		2.0	
	Meadow Hay	250.0	555		2.2	

P L A T E


HYDROGRAPHS
OF
OWL CREEK
ABOVE
ALL DIVERSIONS
1927-1932
WATER SUPPLY 1927
WATER SUPPLY 1932
TOTAL ALLOTMENTS
DEFICIENCY
CUBIC FEET PER SECOND
90
80
70
60
50
40
30
20
10
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
YEAR OF 19____
YEAR