STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

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REPORT ON WATERMASTER SERVICE IN SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA MODOC AND LASSEN COUNTIES, CALIFORNIA 1955 SEASON

Sacramento, California
March, 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 this "Report on Watermaster Service in South Fork Pit River Watermaster Service Area, Modoc and Lassen Counties, 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 South Fork Pit River Watermaster Service Area, Modoc and Lassen Counties, 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 South Fork Pit River Watermaster Service Area, Modoc and Lassen Counties, 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 day of March, 1956.

DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

By L. C. Jopson
Assistant State Engineer

(SEAL)

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DIVISION OF WATER RESOURCES

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INTRODUCTION

This is the twenty-first annual report on Watermaster service in the South Fork Pit River Watermaster Service Area and covers the period of water distributed in 1955 beginning April 1 and terminating September 30.

The service area was created by order of the Department of Public Works on December 31, 1934, to include with minor exceptions the water rights on South Fork Pit River. Subsequent orders have revised and changed the service area to include the water right of the South Fork Irrigation District, the water rights on Pine Creek and on Pit River in Hot Springs Valley, and to exclude certain rights to water from springs in the South Fork Pit River Area.

Prior to inclusion in the service area, the various water rights involved had been determined as follows:

South Fork Pit River	W. E. Armstrong v Frank McArthur, No. 3273 Superior Court, Modoc County, entered October 30, 1934.
Pine Creek	Agreement Determining Rights to Water and to the Use Thereof From Pine Creek Near Alturas, in Modoc County, California, dated, November 7, 1934.
Pit River in Hot Springs Valley	Agreement Determining Rights to Water and to the Use Thereof From Pit River and Rattlesnake Creek in Hot Springs Valley in Modoc County, California, dated November 22, 1933.

After Pine Creek and Pit River in Hot Springs Valley were included in the South Fork Pit River Watermaster Service Area, the two service areas which had been created on those streams on January 12, 1935, were abolished.

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

The report is presented under four headings as follows: Introduction, Water Supply, Distribution of Water, and Changes in Ownership of Lands and Water Rights. Following the text are tables presenting precipitation data for Alturas and Jess Valley, water supply records at various locations within the area, and three plates showing hydrographs of: (1) South Fork Pit River above Likely and West Valley Reservoir releases, (2) Pine Creek below Power House, and (3) Pit River near Canby and Big Sage Reservoir releases.

WATER SUPPLY

Water supply was below normal on all streams within the service area. However, storage was sufficient in West Valley and Big Sage Reservoirs to provide an adequate supply to the South Fork Irrigation District and Hot Springs Valley Irrigation District, respectively.

Precipitation

Data on precipitation, compiled from records of the United States Weather Bureau, for Alturas and Jess Valley are shown in Table 1. The records at these stations for the 1954-1955 season indicate a seasonal precipitation of 70 per cent and 74 per cent of the mean, respectively.

Average water content of snow at Eagle Peak, Blue Lake Ranch, Cedar Pass, and Adin Mountain Snow courses, as published in the Division of Water Resources bulletin "Water Conditions in California, April 1, 1955," was 9.9 inches. The average of the 50-year means for the above courses is 16.4 inches. This information is shown in more detail in the following tabulation:

Snow course	Elevation, in feet	Water content of snow, in inches: 50-year computed mean	Water content of snow, in inches: 1955	Per cent of mean
Cedar Pass	7,200	19.9	12.5	63
Eagle Peak	7,500	18.2	11.8	65
Blue Lake Ranch	7,300	13.6	8.5	63
Adin Mountain	6,500	13.8	6.9	50

Stream Flow

South Fork of Pit River. The record of daily mean discharge of South Fork Pit River near Likely from April 1 to September 30, 1955, is presented in Table 2. These data were taken from preliminary records of the United States Geological Survey and represent impaired flow after use for upstream irrigation in Jess Valley and diversions for storage in West Valley Reservoir. The computed natural runoff of South Fork Pit River at the United States Geological Survey Station near Likely from April 1 to September 30 is shown in Table 4. Evaporation from West Valley Reservoir was included in the computations and was computed by using the mean monthly evaporation rate at Boca, California.

A record of the daily release from West Valley Reservoir during the period between April 1 and September 30, 1955 is presented in Table 3.

Data presented in Tables 2 and 3 are shown graphically on Plate 1. On the graph, the solid line represents the impaired discharge of South Fork Pit River and the dotted line represents water released from storage in West Valley Reservoir.

Fitzhugh Creek. Frequent observations were made of the flow in Fitzhugh Creek during the season. The flow was considerably below normal except for short periods during the snow melt period. A recorder was maintained on this creek above the Clark Ranch during the spring months to aid in distribution of water during the period of fluctuation stream flow. From July 1 to the end of the season the flow remained nearly constant at about 2.0 cubic feet per second.

Pine Creek near Alturas. A record of flow of Pine Creek above all diversions at the California-Oregon Power Company power house is presented in Table 5. Discharge at this point is obtained by current meter measurements and an automatic water stage recorder. A hydrograph of the flow of Pine Creek has been prepared from the data in Table 5 and is presented on Plate 2. Stream flow was quite low until May 18 due to the cold weather prevailing before that date. The Pine Creek watershed is located mainly at high elevations in the Warner Mountains and the flow is generally inadequate to meet demands until the high snow begins to melt about May 1.

Pit River and Rattlesnake Creek in Hot Springs Valley, and Big Sage Reservoir. The principal sources of water for irrigation in Hot Springs Valley are North Fork and South Fork of Pit River, Big Sage Reservoir, and Rattlesnake Creek. The two forks of Pit River, which combine at the upper end of the Valley, are joined a short distance below by Rattlesnake Creek. The natural channel of Rattlesnake Creek is also used to convey water released from Big Sage Reservoir to meet deficiencies in natural water supply.

Due to backwater conditions from river dams it has not been feasible to establish a measuring station below the junction of North Fork and South Fork of Pit River. Therefore, no record of flow entering Hot Springs Valley from these sources is presented in this report.

A record of water released from storage in Big Sage Reservoir is given in Table 7.

Below Rattlesnake Creek other small streams contribute to the water supply of Pit River in Hot Springs Valley during the early part of each season. In 1955 the flow from these sources continued until about June 20.

A stream flow measuring station is maintained by the United States Geological Survey on Pit River near Canby. This station is located at the outlet of Hot Springs Valley, and in the absence of other records, the flow there is indicative of water supply conditions in the Hot Springs Valley area.

The record of discharge at this station also includes return flow from irrigation in the area. Table 6 is a record of the flow of Pit River near Canby, as taken from preliminary records compiled by the United States Geological Survey.

A hydrograph prepared from the data in Table 6 is presented on Plate 3. Superimposed is a hydrograph of the flow released from Big Sage Reservoir.

DISTRIBUTION OF WATER

Distribution of water during the 1955 season was done in accordance with the decrees and agreements which set forth water rights throughout the service area. The deficient water supply during the season intensified distribution problems on all streams.

South Fork of Pit River

Regulation of diversions of the natural flow from South Fork of Pit River, including Fitzhugh Creek and other upstream tributaries, was made in accordance with Schedules 2 and 3 of the South Fork of Pit River Judgment and Decree No. 3273, which sets forth the several rights and priorities. The flow of West Valley Creek comprises a part of the South Fork of Pit River stream system, and its distribution is governed by the decree. Strict compliance with the decree would require the entire flow of West Valley Creek to pass unobstructed through West Valley Reservoir at all times that the water supply of the stream system was insufficent to fill all decreed allotments.

However, in practice the flow of West Valley Creek is stored in the Reservoir during the irrigation season and is released from time to time along with water belonging to the South Fork Irrigation District. The District's water and the decreed allotments are then separated at the various head gates downstream. This separation of commingled water is simplified by the fact that there are only three ranches entitled to a share of the natural flow that are not within the South Fork Irrigation District.

The regulation of West Valley Reservoir storage was performed in accordance with the by-laws of the South Fork Irrigation District. Head gates and river dams were adjusted to deliver storage water to district members requesting water. The amount of water to which each member was entitled was determined by multiplying the total amount of storage at the beginning of the season by the percentage factor of each owner as follows:

Name of present owner	Name of original owner	Per cent of stored water	Total per cent of stored water presently owned
Beeson, Somer and Beeson Georgia	Williams, Roy	0.80	0.80
Burmister, Arthur H.	Armstrong, W. E.	2.18	
	Stepp, Ray	1.07	3.25
Derner, Anna C.	Gaustad, R. O.	1.79	1.79
Flournoy Bros.	Flournoy, J. D.	3.98	
	MaGarva, Douglas	0.24	
	Stinson, A. L.	0.03	
	Van Loan, D. E.	5.98	10.23
Flournoy, Arthur Kenneth and Flournoy, Mary M.	Coffman, A. T.	0.73	0.73
H. C. Cattle Company	Christensen, V. F.	20.46	20.46
McGarva, John and McGarva, Peter	McGarva, John and McGarva, Peter	2.63	
	Gaustad, R. J.	1.95	4.58
Monroe, N. H. and Monroe Harold C.	McArthur, Frank	22.81	22.81
Nelson, Katie H.	Nelson, Katie H.	2.74	2.74
Ramsey, Maston and Ramsey, Addie M.	Hughes, Jesse	2.23	2.23
Van Loan, Kenneth D. and Van Loan, Bernadine	Flournoy, W. H.	2.51	
	Van Loan, D. E.	2.55	5.06
Williams, Gary and Williams, Theresa	Williams, Gary and Williams, Theresa	2.51	2.51
Winema Farms	McArthur, Frank	22.81	22.81
TOTALS		100.00	100.00

The natural flow of South Fork Pit River was insufficient to supply the irrigation demand during about one-half of the irrigation season from April 1 to September 30. Deficiencies in this supply were made up by releases from West Valley Reservoir. Releases for pre-irrigation of grain land were made for about one week beginning on March 21 and again between April 1 and April 14. From May 10 to June 7 and from June 16 to June 20, flow in South Fork Pit River exceeded demands and it was possible to divert about 2,700 acre-feet from the river to West Valley Reservoir. Releases for irrigation of hay and pasture lands were made from June 8 to June 12 and again from June 22 to July 1. Haying operations were generally finished by July 26 and releases were made from then until the end of the irrigation season for irrigation of fall pasture. Maximum releases during the season were from August 9 to August 18. During this period the reservoir outlet pipe was discharging 150 cubic feet per second.

Maximum reservoir storage for the season was reached on June 8. On that date the reservoir held 15,990 acre-feet equivalent to 92 per cent of capacity. On October 1 when the outlet pipe was shut for the season storage was 5,915 acre-feet.

Daily mean releases for the 1955 season from West Valley Reservoir are given in Table 3.

Average percentages of decreed allotments available from the natural flow of South Fork of Pit River - exclusive of West Valley Reservoir releases - are shown in the following tabulation:

Month	Per cent of allotments available	
	First Priority	Second Priority
April	100	34
May	100	82
June	100	52
July	100	13
August	100	4
September	100	1

Fitzhugh Creek

Distribution of Fitzhugh Creek water was made in accordance with provisions of the decree. Considerable regulation was necessary on North Fork Fitzhugh Creek to assure proper distribution between the Elevins Ranch (Bowman Ranch) and the C. A. Hershey et. al., Ranch (Yankee Jim Ranch). Average percentage of allotments available are presented in the following tabulation:

Month	Per cent of allotments available	
	First Priority	Second Priority
April	100	90
May	100	50
June	100	40
July	100	15
August	100	5
September	100	5

Pine Creek Near Alturas

Distribution of Pine Creek water was made in accordance with the allotments set forth in Schedule 2 of the Pine Creek Agreement.

Considerable regulation was necessary throughout the season to secure proper distribution. The flow was sufficient to provide full allotments only from June 11 through June 14. During the haying period, when water is quite often available for diversion into Dorris Reservoir, the ranchers were able to use the entire flow of the creek by shifting the water to different parts of their ranches as the harvesting proceeded.

The average percentages of allotments delivered from Pine Creek are presented in the following tabulation:

Month	Per cent of allotments delivered	
	First priority	Second priority
April	82	0
May	100	35
June	100	62
July	92	0
August	62	0
September	51	0

Hot Springs Valley

Distribution of Pit River water was made in accordance with the allotments set forth in Schedule 2 and 3 of the Hot Springs Valley Agreement. The distribution of Big Sage Reservoir water was made in accordance with the by-laws of the Hot Springs Valley Irrigation District. As the major part of the water from both these sources is used by the same parties through the same irrigation system and devices, the method of distribution is similar for both stored water and natural flow. The Godfrey Dam, the use of which is regulated by agreement among parties affected by its operation, was not used in 1955.

Maximum storage in Big Sage Reservoir for the season was reached on May 9. On that date storage was 59,000 acre-feet equivalent to 77 per cent of capacity. Releases from the Reservoir from May 9 to June 22 were mainly for use on lands adjoining Rattlesnake Creek and lands irrigated from the Kelly Ditch. From June 23 to July 4 a large flow was released to provide the river bottom lands with the last irrigation before haying. Releases for irrigation of fall pasture commenced August 2 and ended September 8. Storage in the Reservoir on October 16, when the outlet valve was closed for the season, was 36,000 acre-feet.

CHANGES IN OWNERSHIP OF LANDS AND WATER RIGHTS

Changes in ownership of lands and water rights which have occurred subsequent to filing "Statement for South Fork Pit River Watermaster Service Area, Counties of Modoc and Lassen, State of California, for 1955"

and which have been 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 appearing in 1956 statement	Amount of water, in cubic feet per second
7-72	Lavagnino, Rocco and Merlini, S. G.	Rouse, Carlton O. and Rouse, Ethel A.	16.10
7-12, 7-45, 7-49	Panter, Frank L. and Panter, Frances E.	Taylor, Leroy, Sr. and Taylor, Susanna M.	4.69
7-53	Peila, Joseph A.	Stephens, Barre L. and Stephens, Phillis G.	3.00
7-52	Pinnoo, Cyrus C.	Stephens, Barre L. and Stephens, Phyllis G.	3.35
7-47, 7-48	Wall, Allen and Wall, Gertrude	Rice, J. B. and Rice, Kate L.	4.95
7-11, 7-41, 7-44	Walsh, Estate of Patrick H., Jr.	Lazy J Y Ranch	4.46

TABLE 1

PRECIPITATION AT ALTURAS AND JESS VALLEY,
MODOC COUNTY, CALIFORNIA
1954-1955

In Inches

Month	Alturas		Jess Valley	
	Mean precipitation	1954-1955 precipitation	Mean precipitation	1954-1955 precipitation
October	0.99	0.40	1.43	0.21
November	1.23	1.10	1.91	1.31
December	1.51	1.40	1.91	2.01
January	1.79	0.67	1.91	1.03
February	1.37	0.85	1.90	1.17
March	1.40	0.80	1.89	1.20
April	1.11	1.65	1.66	2.63
May	1.19	0.45	1.93	1.18
June	0.79	0.43	1.52	0.84
July	0.40	0.39	0.34	0.67
August	0.22	0	0.25	0
September	0.53	0.65	0.69	0.50
TOTALS	12.53	8.79	17.34	12.75

TABLE 2

DAILY MEAN DISCHARGE OF SOUTH FORK PIT RIVER NEAR LIKELY
April 1 to September 30, 1955

In Cubic Feet Per Second

Day	April	May	June	July	August	September
1	84	37	96	123	67	78
2	110	36	82	58	67	69
3	118	39	71	44	67	62
4	113	41	74	42	67	62
5	105	53	69	40	75	62
6	103	78	71	34	79	62
7	102	91	82	30	79	61
8	105	94	132	29	90	61
9	108	107	161	34	138	60
10	116	110	156	37	169	61
11	105	125	154	31	169	61
12	102	144	151	27	163	78
13	102	133	151	25	161	90
14	103	92	135	22	160	90
15	77	90	118	28	160	56
16	36	85	84	24	158	41
17	42	61	64	20	156	46
18	48	68	56	18	156	56
19	47	107	49	16	128	34
20	48	137	54	15	94	30
21	60	161	48	10	91	29
22	48	165	69	12	91	27
23	39	167	84	16	90	27
24	52	191	118	14	110	26
25	53	161	130	14	128	24
26	40	142	133	41	127	27
27	54	133	127	63	125	28
28	56	125	133	64	125	27
29	40	128	138	64	99	27
30	40	122	128	66	82	28
31	--	110	-	67	76	-
Mean	75.2	108	104	36.4	114	49.3
Runoff, in acre-feet	4,470	6,610	6,180	2,240	7,040	2,930

Total for period - 29,470 acre-feet.

TABLE 3

DAILY MEAN RELEASES FROM WEST VALLEY RESERVOIR
April 1 to September 30, ~~1956~~ 1955
In Cubic Feet per Second

Day	April	May	June	July	August	September
1	58	N		78	44	69
2	58	O		0	44	57
3	58			0	44	57
4	58	R		0	44	56
5	58	E		0	55	56
		L				
6	58	E		0	55	56
7	58	A		0	55	55
8	58	S	54	0	89	55
9	58	E	54	0	150	54
10	58		54	0	150	54
11	58		54	0	150	54
12	58		54	0	149	80
13	58		0	0	149	80
14	58		0	0	149	79
15			0	0	149	34
16	N		0	0	148	34
17	O		0	0	148	33
18			0	0	147	33
19	R		0	0	79	19
20	E		0	0	79	19
	L					
21	E		0	0	78	19
22	A		40	0	78	18
23	S		40	0	77	18
24	E		80	0	114	18
25			80	0	114	18
26			80	45	113	17
27			79	45	113	17
28			79	45	112	17
29			79	45	78	17
30			78	45	70	16
31	-		-	45	70	-
Mean	27		30	11	100	40
Release in acre-feet	1,610		1,800	690	6,130	2,390

Total for period - 12,620 acre-feet.

TABLE 4

NATURAL RUNOFF OF
SOUTH FORK OF PIT RIVER AT UNITED STATES GEOLOGICAL SURVEY
STATION NEAR LIKELY

April 1 to September 30, 1955

In Acre-Feet

	April	May	June	July	August	September	Total
Impaired discharge at United States Geological Survey Station	4,470	6,610	6,180	2,240	7,040	2,930	29,470
Differential in storage of West Valley Reservoir	560	2,280	-690	-340	-6,220	-2,070	-6,480
Evaporation from Reservoir Surface	360	480	610	740	590	360	3,140
Estimated consumption in Jess Valley	0	900	1,800	1,200	500	500	4,900
Natural runoff	5,390	10,270	7,900	3,840	1,910	1,720	31,030

TABLE 5

DAILY MEAN DISCHARGE OF PINE CREEK NEAR ALTURAS BELOW POWER HOUSE

April 6 to September 28, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	NO	22	53	26	13.8	10.6
2	RECORD	21	54	25	13.5	10.2
3		19.9	54	25	13.5	10.2
4		15.2	52	24	13.5	10.2
5		13.0	53	24	13.0	10.2
6	11.9	15.2	53	23	13.0	10.2
7	11.9	21	54	22	13.0	10.2
8	12.4	28	57	22	13.0	10.2
9	13.5	30	58	22	12.5	10.2
10	15.2	31	56	22	13.0	10.2
11	14.2	26	61	21	13.0	10.2
12	12.4	29	61	19.0	13.5	10.2
13	12.4	33	62	18.5	14.2	10.2
14	13.5	28	63	17.3	14.2	10.2
15	13.5	26	56	17.3	14.2	10.2
16	13.5	24	52	17.3	14.8	10.6
17	14.2	20	49	17.3	13.0	10.6
18	17.9	22	46	16.6	13.0	10.6
19	21	29	44	16.4	13.0	10.6
20	19.9	38	41	16.2	12.5	10.6
21	26	44	38	16.0	13.0	10.6
22	27	45	36	15.2	11.5	10.6
23	20	48	36	15.2	11.1	10.6
24	19.1	50	35	14.8	10.6	10.6
25	19.9	48	33	14.8	12.0	10.6
26	10.2	52	33	14.2	11.5	10.6
27	11.0	54	31	14.2	11.1	10.6
28	20	56	29	14.2	10.6	10.6
29	22	58	28	14.0	10.6	NO
30	22	58	27	13.8	10.6	RECORD
31		56		13.8	10.6	
Mean	16.6	34	47	18.5	12.6	10.4
Runoff, in acre-feet	822	2100	2790	1130	774	577

Total for period - 8,190 acre-feet

TABLE 6

DAILY MEAN DISCHARGE OF PIT RIVER NEAR CANBY
April 1 to September 30, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	198	214	144	70	19	77
2	166	202	117	70	22	94
3	146	182	127	57	27	77
4	131	167	151	48	25	57
5	117	144	120	59	25	46
6	111	134	95	63	26	44
7	108	109	65	95	16	42
8	111	174	44	194	8.2	39
9	111	230	42	190	7.4	34
10	128	214	46	111	16	37
11	149	210	48	82	19	108
12	140	186	44	75	8.2	89
13	149	198	44	72	7.4	84
14	183	230	42	63	5.2	67
15	152	194	108	48	4.2	65
16	169	153	302	41	5.2	59
17	166	100	302	41	9.9	87
18	218	137	222	48	21	75
19	293	67	159	72	19	84
20	345	59	111	63	14	79
21	365	89	75	52	20	75
22	380	87	52	39	26	72
23	345	75	39	34	44	65
24	293	75	30	34	72	52
25	218	322	25	32	70	92
26	218	302	21	32	79	57
27	239	298	17	32	119	46
28	244	257	21	26	79	48
29	244	222	72	21	61	44
30	244	182	97	19	50	46
31	-	159	-	21	57	-
Mean	203	173	92.7	61.4	31.7	64.7
Runoff, in acre-feet	12,060	10,660	5,520	3,780	1,950	3,850

Total for period -37,820 acre-feet.

TABLE 7

DAILY MEAN RELEASES FROM BIG SAGE RESERVOIR
April 1 to September 30, 1955

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	N	N O	29	80	20	80
2	O		29	80	50	80
3		R	29	80	50	80
4	R	E	29	60	50	80
5	E	L	29	10	50	80
	L	E				
6	E	A	28	10	50	80
7	A	S	28	10	50	80
8	S	E	28	10	50	80
9	E	29	28	10	50	7
10		29	28	10	50	7
11		29	28	10	50	7
12		29	28	10	50	7
13		29	28	10	50	7
14		29	28	10	50	7
15		29	28	10	50	7
16		29	28	10	50	7
17		29	28	10	50	7
18		29	28	21	50	7
19		29	28	21	50	7
20		29	28	21	50	7
21		29	28	21	50	7
22		29	28	21	50	7
23		29	80	21	50	7
24		29	80	21	50	7
25		29	80	21	50	7
26		29	80	20	50	7
27		29	10	20	50	7
28		29	10	20	50	7
29		29	10	20	50	7
30		29	10	20	50	7
31	-	29	-	20	80	-
Mean		29*	33	24	50	26
Release, in acre-feet		1,320	1,940	1,460	3,070	1,570

* 23-day period

Total for period--9,360 acre-feet.

PLATE I

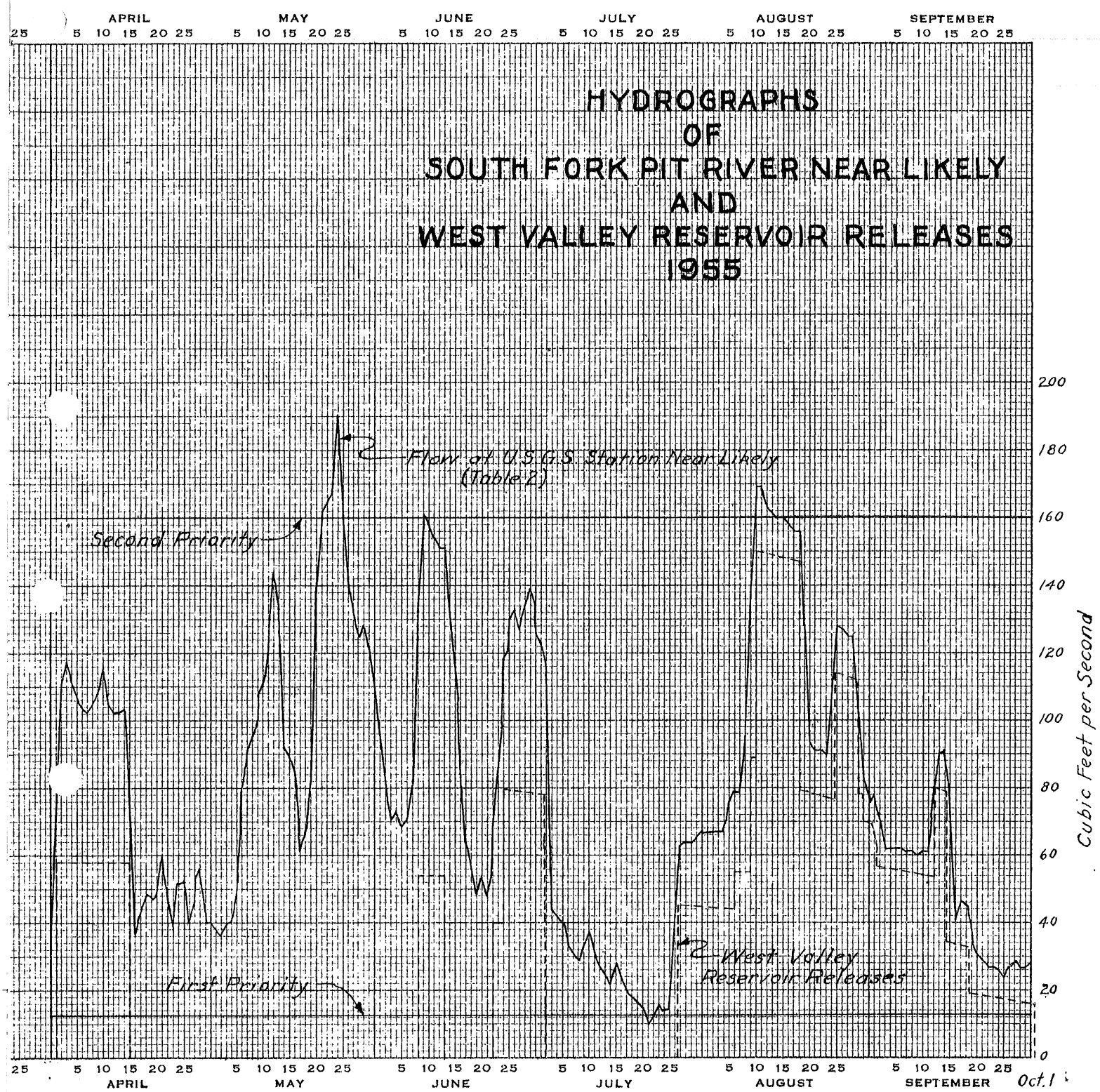

HYDROGRAPHS
OF
SOUTH FORK PIT RIVER NEAR LIKELY
AND
WEST VALLEY RESERVOIR RELEASES
1955
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
Flow at U.S.G.S. Station Near Likely (Table 2)
Second Priority
First Priority
West Valley Reservoir Releases
Cubic Feet per Second
200
180
160
140
120
100
80
60
40
20
0
Oct. 1

PLATE 2

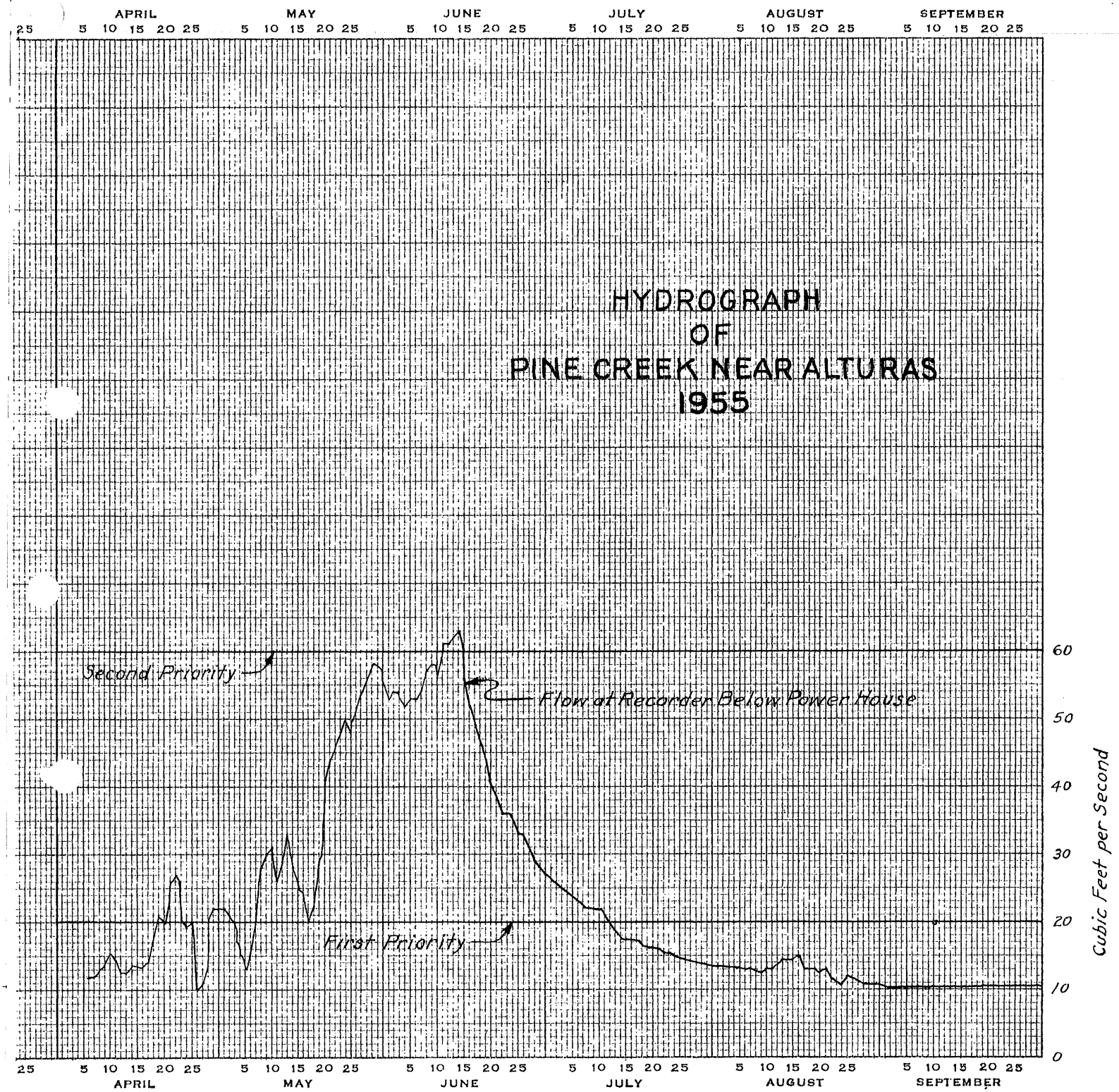
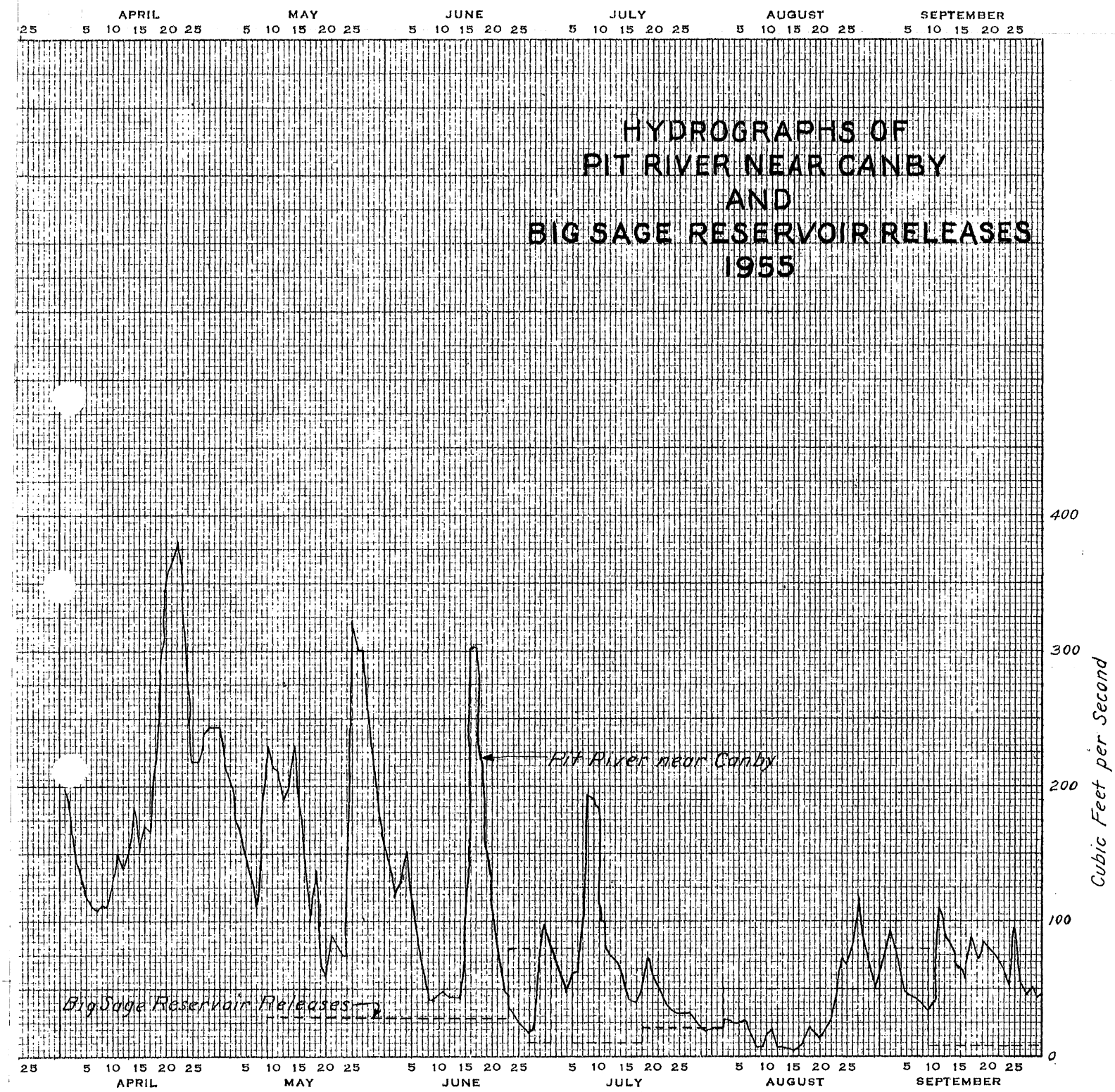

HYDROGRAPH
OF
PINE CREEK NEAR ALTURAS
1955
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
25 5 10 15 20 25
Second Priority
Flow at Recorder Below Power House
First Priority
60
50
40
30
20
10
0
Cubic Feet per Second

PLATE 3


HYDROGRAPHS OF
PIT RIVER NEAR CANBY
AND
BIG SAGE RESERVOIR RELEASES
1955
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25
400
300
200
100
0
Cubic Feet per Second
Pit River near Canby
Big Sage Reservoir Releases