STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

EARL WARREN, Governor

FRANK B. DURKEE, Director of Public Works

A. D. EDMONSTON, State Engineer

REPORT ON WATERMASTER SERVICE IN SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

Modoc and Lassen Counties, California

1951 SEASON

Sacramento, California
December, 1951

SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF PUBLIC WORKS

I, L. C. Jopson, Supervising 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, 1951 Season".

/s/ L. C. JOPSON
Supervising Hydraulic Engineer

I, Gordon Zander, Assistant State 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, 1951 Season".

/s/ GORDON ZANDER
Assistant State Engineer

I, A. D. Edmonston, State Engineer and Chief of the Division of Water Resources, Department of Public Works of the State of California, approve and adopt this "Report on Watermaster Service in South Fork Pit River Watermaster Service Area, Modoc and Lassen Counties, California, 1951 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 25th day of April, 1952.

DEPARTMENT OF PUBLIC WORKS

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

SEAL

ORGANIZATION

Frank B. Durkee . . . . . Director of Public Works

A. D. Edmonston . . . . . State Engineer

Gordon Zander . . . . . Assistant State Engineer

This report was prepared under the direction of

L. C. JOPSON
Supervising Hydraulic Engineer

By

W. G. BRIGANCE
Assistant Civil Engineer

T. R. Merryweather
Administrative Assistant

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INTRODUCTION

The South Fork Pit River Watermaster Service Area was created by order of the Division of Water Resources, entered December 31, 1934. As created the service area embraced the water rights determined by the decree entered October 30, 1934, in the case of W. E. Armstrong vs. Frank McArthur, et al., No. 3273, with the exception of certain rights specifically excluded in said order. In 1937, the boundaries of the service area were changed by excluding certain water rights attaching to the springs and spring channels near Likely, California and including the water right of the South Fork Irrigation District. In 1940, the service area was again changed by incorporating therein the Pine Creek and Hot Springs Valley Watermaster Service Areas, theretofore created by orders entered by the Division of Water Resources on January 12, 1935.

Watermaster service in accordance with Part 4 of Division 2 of the Water Code extended from April 1 to September 30. W. G. Brigance, Deputy Watermaster, administered the distribution of water from the various streams within the service area throughout the season. P. E. Stephenson, Senior Hydraulic Engineer, was the supervising watermaster.

WATER SUPPLY

Precipitation

Data on precipitation, compiled from records of the California Cooperative Snow Surveys, for Alturas and Jess Valley are shown in Table 1. The records at these stations for the 1950-1951 season indicate a seasonal precipitation of 97 per cent and 101 per cent of normal, respectively.

The average water content of snow on the Eagle Peak, Blue Lake Ranch, Cedar Pass, and Adin Mountain snow courses, as published in the bulletin "Water Conditions in California as of April 1, 1951", was 10.6 inches. The average of the 61-year normals for the above courses is 16.3 inches.

Stream Flow

South Fork of Pit River: The record of the daily discharge in cubic feet per second of the South Fork of Pit River above Likely from April 1 to September 30, 1951 is given in Table 2. These data were computed from records of the United States Geological Survey. The station is below the junction of West Valley Creek and about four miles upstream from Likely. The irrigation use in Jess Valley and storage in West Valley Reservoir occur above the station. Water released from storage in the reservoir is included in the record.

A record of the mean daily releases in cubic feet per second from West Valley Reservoir from April 1 to September 30, 1951 is given in Table 3. The reservoir was full and spilling from April 13 until June 13. No diversion was made through the intake ditch from the South Fork of Pit River into the reservoir during the season.

The full natural flow of the South Fork of Pit River at the U.S.G.S. station above Likely from April 1 to September 30 is shown in Table 4. The April 1 forecast of full natural flow made by the California Cooperative Snow Surveys for the South Fork of Pit River above Likely was 27,500 acre-feet for the period April 1 to July 31, 1951, which indicated 70 per cent of normal. The measured full natural flow for that period as shown in Table 4, was 37,990 acre-feet.

The data presented in Tables 2 and 3 are shown graphically on Plate 1. The solid line represents the total discharge of the South Fork of Pit River and the dotted line the storage releases from West Valley Reservoir.

Fitzhugh Creek: A record of the available water supply of Fitzhugh Creek above the Clark Ranch is given in Table 5. The daily discharge data were computed from current meter measurements and a continuous record of the water stage throughout the entire season. This creek flows in a westerly direction entering the South Fork Valley at a point about 10 miles south of Alturas.

Pine Creek near Alturas: A record of the flow of Pine Creek near Alturas at the California-Oregon Power Company power house is given in Table 6. An automatic water stage recorder is maintained at this point which is above all irrigation diversions. A hydrograph of the flow of Pine Creek near Alturas has been prepared from the data in Table 6 and is presented on Plate 2.

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 the North and South Forks of Pit River, Big Sage Reservoir, and Rattlesnake Creek. Water from the latter source enters Pit River about four miles west of Alturas and comprises principally stored water from Big Sage Reservoir which is released down Rattlesnake Creek to meet irrigation demands. A record of water released from storage in Big Sage Reservoir is given in Table 7.

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

Below Rattlesnake Creek there are other small streams tributary to Pit River in Hot Springs Valley which contribute to the water supply during the early part of each season. In 1951 the flow from these sources failed about June 10.

A stream flow measuring station is maintained by the U. S. 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 at this station is indicative of water supply conditions in the Hot Springs Valley area. The record of this station, also covers the measurement of return flow from irrigation in the area. Table 8 is a record of the flow of Pit River near Canby, as computed from records of the U. S. Geological Survey.

A hydrograph prepared from the data in Table 8 is presented on Plate 3. Superimposed thereon is a hydrograph of the flow released from Big Sage Reservoir.

DISTRIBUTION OF WATER

South Fork of Pit River

The regulation of diversions of the natural flow from the South Fork of Pit River, including Fitzhugh Creek and other upstream tributaries, was in accordance with Schedules 2 and 3 of the South Fork of Pit River Judgment and Decree No. 3273, which set forth the several rights and priorities. The natural flow of West Valley Creek, less the amounts of the allotments of the Van Loan West Valley Ranch, was permitted to pass through the West Valley Reservoir independent of the regulated storage release.

The average percentages of allotments delivered from South Fork of Pit River and Fitzhugh Creek are presented in the following tabulations:

SOUTH FORK OF PIT RIVER

Priority	Average percentages of allotments delivered					
	April	May	June	July	August	September
1st	100	100	100	100	98	92
2nd	89	100	49	8	6	1

FITZHUGH CREEK

Priority	Average percentages of allotments delivered					
	April	May	June	July	August	September
1st	100	100	100	100	100	100
2nd	69	92	33	7	5	5

The regulation of West Valley Reservoir storage was in accordance with the by-laws adopted by the South Fork Irrigation District. Water released from the reservoir flows down the natural channels of West Valley Creek and South Fork of Pit River and commingles with the natural runoff. Allocation of the released water by the watermaster was made at the points of diversion of each member of the district requesting reservoir water. The amount of water to which each person was entitled was determined by multiplying the amount of the total storage at the beginning of the season by the percentage factor of each owner listed below:

Name	Per Cent
W. E. Armstrong (Now Arthur H. Burmister)	2.18
V. F. Christensen (Now H. C. Cattle Co.)	20.46
A. T. Coffman (Now Kenneth Flournoy)	0.73
J. D. Flournoy (Now Flournoy Bros.)	3.98
W. M. Flournoy (Now Kenneth D. and Bernadine Van Loan)	2.51
R. O. Gaustad (Now Jacob F. Derner)	1.79
R. J. Gaustad (Now Peter and John McGarva)	1.95
Jesse Hughes (Now Maston Ramsey)	2.23
Frank McArthur (Now N. H. Monroe & Son ½; and Winema Farms ½)	45.62
Douglas McGarva (Now Flournoy Bros.)	0.24
John and Peter McGarva	2.63
K. Nelson	2.74
Ray Stepp (Now Arthur H. Burmister)	1.07
A. L. Stinson (Now Flournoy Bros.)	0.03
D. E. Van Loan (Now Kenneth D. and Bernadine Van Loan and Flournoy Bros.)	8.53
Gary Williams	2.51
Roy Williams (Now Somer and Georgia Beeson)	0.80
	100.0

During the 1951 season the West Valley Reservoir was opened for the first time on June 12 for the purpose of completing the pre-irrigation of grain lands. Little reservoir water was needed for stockwater and irrigation of upper pasture lands during the haying season. Releases after haying for pasture irrigation were made in the customary manner, with all users diverting their share of stored water as each user finished their haying operations.

The mean daily releases for the 1951 season from West Valley Reservoir is given in Table 3.

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.

No water from Pine Creek was stored in Dorris Reservoir after March 31, the agreement date, as the available water supply on Pine Creek was insufficient to satisfy all prior rights.

The average percentages of allotments delivered from Pine Creek during the 1951 season are presented in the following tabulation:

PINE CREEK

Priority	Average percentages of allotments delivered					
	April	May	June	July	August	September
1st	98	100	100	90	68	58
2nd	19	73	41	3	0	0

Hot Springs Valley

Distribution of Pit River water was made in accordance with the allotments set forth in Schedules 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 Spring Valley Irrigation District. As the major part of the water from both these sources is used by the same parties through the same irrigation systems 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 the parties affected by its operation, was not used in 1951.

Hot Spring Valley Irrigation District did not sell water from Big Sage Reservoir to any non-member users during the 1951 irrigation season.

CHANGES IN OWNERSHIP OF LANDS AND WATER RIGHTS

The changes in ownerships 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 1951", and which will be included in the 1952 statement for said service area, are listed in the following tabulation:

CHANGES OF OWNERSHIP

Tract No.	Name of Water Right Owner Appearing in 1951 Statement	Name of Water Right Owner as Changed in 1952 Statement	Amount of Water c.f.s.
7-82	Albaugh, James I. and Albaugh, Orma K.	Albaugh, James E. and Albaugh, Orma K.	4.49
7-64 7-65	Ball, Fred and Starkebaum, Everett	Ball, Fred; Starkebaum, Everett; and Turpin, Zelda	0.77
7-75 7-77	Ballard, Theodore J. and Ballard, Alice	Ottoman, Ivan F. and Ottoman, Helen	2.65
7-20	Blevins, Cecil	Van Loan, Kenneth D. and Van Loan, Bernadine	0.02
7-54	Brooks, Raymond N.	Burrell, Chester P. and Burrell, Arletta	0.70
7-74	Brown, Marvin and Brown, Frankie	Jones, Theron W. and Jones, Dorris B.	15.92
7-3, 7-18, 7-21, 7-24	Flournoy, Arthur	Flournoy, Donald F.; Flournoy, Robert L.; and Flournoy, Warren J.	36.68
7-6 7-23	Flournoy, Donald; Flournoy, Robert; and Flournoy, Warren	Flournoy, Donald F.; Flournoy, Robert L.; and Flournoy, Warren J.	0.65
7-27	Flournoy, Robert L. and Flournoy, Donald	Flournoy, Donald F.; Flournoy, Robert L.; and Flournoy, Warren J.	7.01
7-49	Henderson, Grady	Panter, Frank L. and Panter, Frances E.	1.45
		Gibbons, John R. and Gibbons, Georgina	0.10
7-57	McDowell, L. Gayle	McDowell, L. Gayle and McDowell, Percy D.	0.70
7-35	Monroe, N. H. and Monroe, H.C.	Monroe, N. H. and Monroe, Harold C.	37.75
7-52	Stancliff, C. L.	Hackett, E. C.	3.35
7-15	Talbot, Glenn	Talbott, Glenn	2.98

CHANGES IN OWNERSHIP (Cont'd.)

Tract No.	Name of Water Right Owner Appearing in 1951 Statement	Name of Water Right Owner as Changed in 1952 Statement	Amount of Water c.f.s.
7-19, 7-27	Van Loan, Dolph E. and Van Loan, Eva	Van Loan, Kenneth D. and Van Loan, Bernadine	7.44
7-2, 7-20, 7-25	Van Loan, Kenneth D. and Van Loan, Bernardine	Van Loan, Kenneth D. and Van Loan, Bernadine	5.83
7-47, 7-48	Wall, E. H. and Wall, Agnes	Wall, Allen and Wall, Gertrude	5.05
7-13	Weber, Herman C.	Weber, Herman C. and Weber, John D.	0.82

TABLE 1

PRECIPITATION AT ALTURAS AND JESS VALLEY
MODOC COUNTY, CALIFORNIA
1950-1951

ALTURAS, CALIFORNIA - Elevation 4,460 Feet

Month	Normal Precipitation Inches	1950-1951 Precipitation Inches
October	1.24	1.35
November	1.37	1.66
December	1.34	.91
January	1.57	1.42
February	1.26	1.23
March	1.23	1.07
April	1.19	1.25
May	1.09	2.20
June	.67	.15
July	.33	.00
August	.29	.35
September	.50	.09
Total	12.08	11.68

JESS VALLEY, CALIFORNIA - Elevation 5,400 Feet

Month	Normal Precipitation Inches	1950-51 Precipitation Inches
October	1.49	1.34
November	1.74	2.43
December	1.52	1.94
January	1.97	2.10
February	1.76	1.59
March	1.63	.93
April	1.71	1.69
May	1.57	2.80
June	.77	.15
July	.51	.00
August	.32	.96
September	.74	.00
Total	15.73	15.93

Data compiled from records of California Cooperative Snow Surveys.

TABLE 2

Daily Discharge in Cubic Feet Per Second
SOUTH FORK PIT RIVER ABOVE LIKELY
April 1 to September 30, 1951

Day	April	May	June	July	August	September
1	72	188	173	29	130	56
2	76	168	160	27	114	56
3	83	172	152	27	102	55
4	93	199	136	28	100	55
5	99	178	146	30	100	54
6	112	278	126	29	96	55
7	125	333	121	28	96	54
8	128	295	112	26	102	53
9	150	270	110	22	121	53
10	182	257	103	21	121	51
11	190	286	97	17.7	116	51
12	207	289	130	17.7	121	48
13	225	355	156	17.7	162	35
14	237	374	152	23	172	35
15	250	336	152	43	180	35
16	257	307	146	43	178	36
17	283	289	146	45	180	30
18	298	272	142	47	178	14.9
19	270	272	138	48	178	14.9
20	255	275	132	48	162	11.9
21	247	270	132	47	100	13.9
22	240	262	126	48	68	15.5
23	230	260	119	48	72	16.0
24	240	260	116	50	71	16.0
25	245	252	114	48	63	20
26	218	250	107	47	59	33
27	204	262	105	47	56	38
28	228	267	72	52	53	26
29	228	242	36	83	54	14.9
30	216	213	33	84	55	22
31		190		109	56	
Total Sec. Ft. Days	5,888	8,121	3,690	1,280.1	3,416	1,069.0
Mean Sec. Ft.	196	262	123	41	110	36
Total Ac. Ft.	11,700	16,100	7,320	2,540	6,780	2,120

Total for 183-day period - 46,560 acre-feet.

TABLE 3

Mean Daily Releases in Cubic Feet Per Second
WEST VALLEY RESERVOIR
April 1 to September 30, 1951

Day	April	May	June	July	August	September
1					101	40
2					86	40
3			NO	NO	71	40
4					70	40
5					70	40
6					70	40
7					70	40
8	NO	NO	RELEASE	RELEASE	83	40
9					96	40
10					96	40
11					96	40
12			*37		118	32
13			74		140	23
14			74	12.0	151	23
15			74	24	162	23
16			73	24	162	23
17			73	24	161	12
18			72	24	161	0
19			72	24	161	0
20			72	24	138	0
21			71	24	78	0
22	RELEASE	RELEASE	71	24	40	0
23			70	24	40	0
24			70	23	40	0
25			69	23	40	8.6
26			69	23	40	17.1
27			68	23	40	17.1
28			34	39	40	17.1
29				56	40	17.1
30			NO	56	40	**17.1
31			RELEASE	78	40	
Total Sec. Ft. Days			1,143	549	2,741	670.1
Total Ac. Ft.			2,270	1,090	5,440	1,330

Total release for season - 10,130 acre-feet.
* Reservoir first opened - storage 17,680 acre-feet.
** Reservoir remained opened - storage 7,470 acre-feet.

TABLE 4

Full Natural Flow
SOUTH FORK PIT RIVER AT U.S.G.S. STATION ABOVE LIKELY
April 1 to September 30, 1951

	Acre-feet						
	April	May	June	July	August	Sept.	Total
Regulated discharge at U.S.G.S. Station	11,700	16,100	7,320	2,540	6,780	2,120	46,560
Differential of West Valley Reservoir Storage	0	0	-2,190	-1,380	-5,850	- 970	-10,390
Estimated Consumption In Jess Valley	0	900	1,800	1,200	500	500	4,900
Full Natural Flow*	11,700	17,000	6,930	2,360	1,430	1,650	41,070

37,990 acre-feet full natural flow - April 1 to July 31

* Does not include runoff from Cedar Creek above diversion to Tule Lake Reservoir.

TABLE 5

Daily Discharge in Cubic Feet Per Second
FITZHUGH CREEK ABOVE CLARK RANCH
April 1 to September 30, 1951

Day	April	May	June	July	August	September
1	5.2	12.0	6.7	2.4	1.2	1.5
2	5.2	12.0	6.7	2.2	1.2	1.4
3	5.2	12.7	6.7	2.2	1.2	1.5
4	5.2	12.7	6.7	2.2	1.2	1.4
5	5.2	12.7	10.0	2.2	1.2	1.4
6	5.5	54	7.2	2.1	1.2	1.4
7	5.7	51	6.2	2.0	1.2	1.4
8	5.5	8.8	5.8	1.9	1.3	1.4
9	6.0	6.8	5.8	1.8	1.3	1.4
10	6.0	5.0	4.9	1.7	1.4	1.4
11	6.0	11.2	4.1	1.7	1.4	1.4
12	6.3	5.5	4.5	1.7	1.4	1.4
13	7.0	52	3.8	1.7	1.3	1.4
14	7.0	56	4.1	1.6	1.2	1.4
15	7.0	45	3.4	1.6	1.2	1.4
16	8.8	29	3.1	1.6	1.3	1.5
17	11.2	24	2.8	1.5	1.4	1.5
18	8.8	21	2.8	1.5	1.4	1.6
19	6.0	18.6	2.8	1.5	1.4	1.5
20	6.3	17.8	2.6	1.5	1.4	1.5
21	6.3	16.4	3.1	1.5	1.4	1.4
22	7.0	15.0	2.4	1.5	1.6	1.4
23	9.6	15.6	2.2	1.4	3.2	1.5
24	11.2	15.0	2.5	1.3	2.2	1.5
25	11.2	13.6	2.5	1.2	1.7	1.4
26	11.2	11.6	2.2	1.3	1.4	1.4
27	12.0	10.0	2.2	1.3	1.4	1.4
28	12.0	9.3	2.2	1.2	1.3	1.4
29	12.0	7.7	2.2	1.2	1.4	1.4
30	12.0	8.2	2.2	1.2	1.4	1.4
31		7.7		1.2	1.5	
Total Sec. Ft. Days	233.6	597.9	124.4	50.9	44.3	43.0
Mean Sec. Ft.	7.8	19.3	4.1	1.6	1.4	1.4
Total Ac. Ft.	463	1,190	247	101	88	85

Total for 183-day period - 2,174 acre-feet.

TABLE 6

Daily Discharge in Cubic Feet Per Second
PINE CREEK NEAR ALTURAS BELOW POWER HOUSE
April 1 to September 30, 1951

Day	April	May	June	July	August	September
1	18.0	31	59	26	14.8	15.2
2	18.0	30	53	25	13.8	15.2
3	18.0	31	48	24	14.8	11.5
4	18.0	33	46	24	13.8	6.2
5	18.0	32	47	23	13.3	7.4
6	18.6	86	42	22	16.4	8.9
7	19.7	62	41	22	13.8	13.3
8	18.6	41	39	22	14.3	15.8
9	21	39	38	21	13.3	14.8
10	22	40	37	21	14.8	11.0
11	21	48	36	20	12.8	8.9
12	24	41	35	19.7	14.3	11.0
13	27	68	35	19.1	11.9	14.8
14	28	68	34	19.1	10.6	11.0
15	27	45	34	18.6	14.8	6.2
16	25	45	34	19.1	13.8	9.4
17	36	46	35	17.0	15.8	11.9
18	28	45	36	17.5	13.3	12.4
19	32	45	36	17.5	11.9	11.9
20	33	47	36	17.0	13.3	11.9
21	34	50	35	18.0	14.8	11.9
22	34	56	34	24	13.8	11.9
23	34	61	32	17.5	17.5	12.4
24	35	65	31	11.5	14.3	12.4
25	34	67	30	8.9	13.8	12.4
26	34	71	30	15.2	12.4	12.4
27	34	75	33	19.1	13.3	12.4
28	36	75	28	18.0	11.5	12.4
29	35	73	22	18.0	10.6	12.4
30	36	70	26	12.8	13.3	12.4
31		65		15.2	15.8	
Total Sec. Ft. Days	816.9	1,651	1,102	592.8	426.7	351.7
Mean Sec. Ft.	27	53	37	19.1	13.8	11.7
Total Ac. Ft.	1,620	3,270	2,190	1,180	846	698

Total - 8,260 acre-feet for period April 1 to July 31.
Total - 9,804 acre-feet for season.

TABLE 7

Mean Daily Releases in Cubic Feet Per Second
BIG SAGE RESERVOIR
April 1 to September 30, 1951

Day	April	May	June	July	August	September
1		19.3	20	25	35	67
2		19.3	20	25	35	67
3	NO	19.3	20	25	35	42
4		19.3	20	25	35	17.2
5		19.3	20	25	35	17.2
6		19.3	20	25	35	17.2
7		19.3	20	25	49	17.2
8		19.3	20	25	64	17.1
9		19.3	23	25	64	17.1
10	RELEASES	19.3	26	16.2	64	17.1
11		19.3	25	7.3	41	17.0
12		19.3	25	7.3	17.6	17.0
13		19.3	25	7.3	17.6	22
14		19.3	25	7.3	17.6	27
15		19.3	25	7.3	17.6	27
16	*2.3	19.2	25	7.3	17.6	27
17	4.6	19.2	25	7.2	17.5	27
18	4.6	19.2	25	7.2	17.5	27
19	4.6	19.2	25	7.2	17.5	27
20	12.0	19.2	25	7.2	17.5	27
21	19.3	19.2	25	7.2	17.4	27
22	19.3	19.2	25	7.2	17.4	27
23	19.3	19.1	25	21	43	27
24	19.3	13.2	25	35	68	27
25	19.3	7.5	25	35	68	27
26	19.3	7.5	25	35	68	27
27	19.3	7.5	25	35	68	27
28	19.3	14.0	25	35	68	**13.5
29	19.3	20	25	35	67	
30	19.3	20	25	35	67	
31		20		35	67	
Total Sec. Ft. Days	221.1	552.7	709	629.2	1,268.8	743.6
Total Ac. Ft.	439	1,100	1,410	1,250	2,520	1,470

* Reservoir opened - 41,500 acre-feet storage.
** Reservoir closed - 27,200 acre-feet storage.

Total release for season - 8,189 acre-feet.

TABLE 8

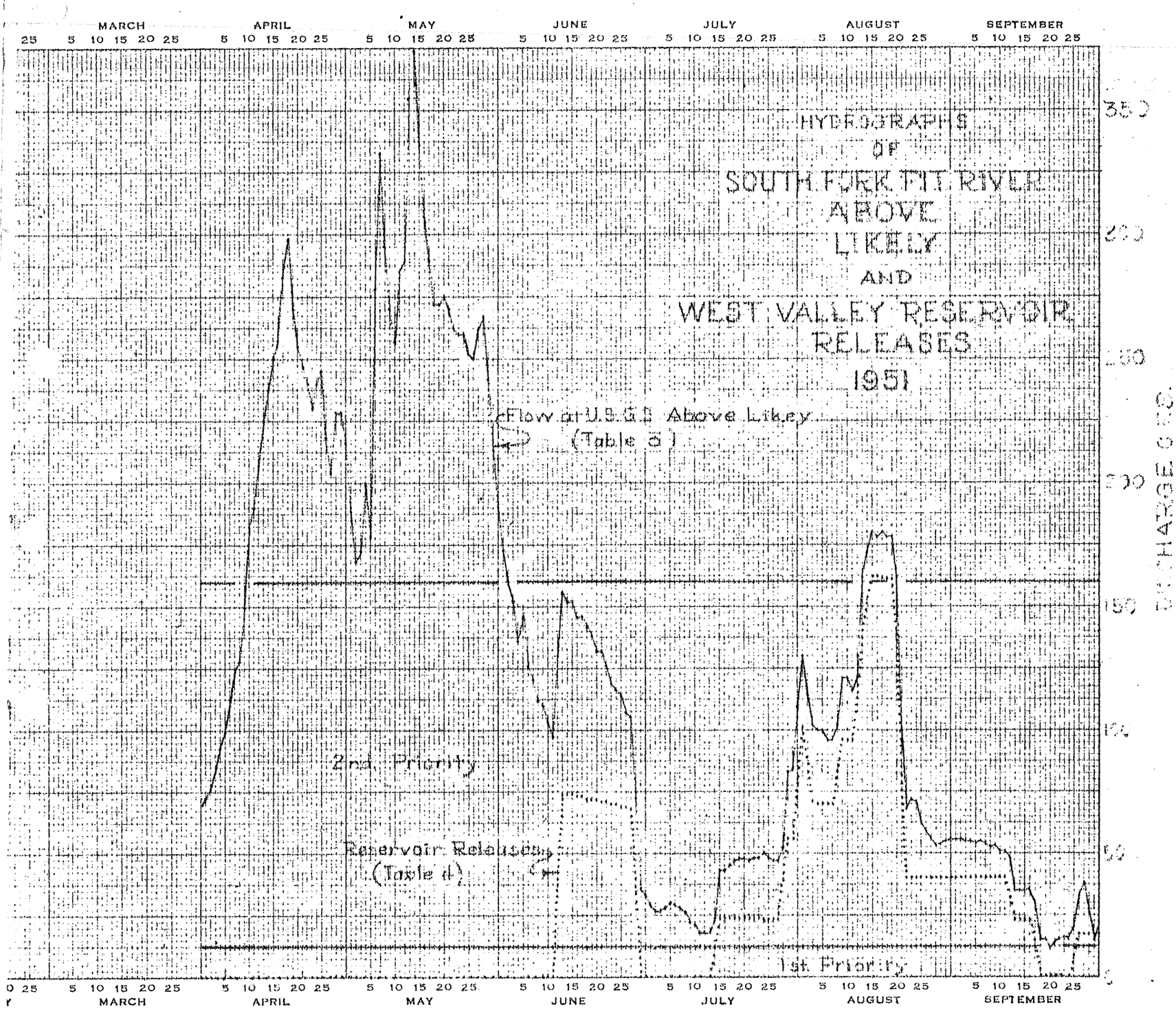
Daily Discharge in Cubic Feet Per Second
PIT RIVER NEAR CANBY
April 1 to September 30, 1951

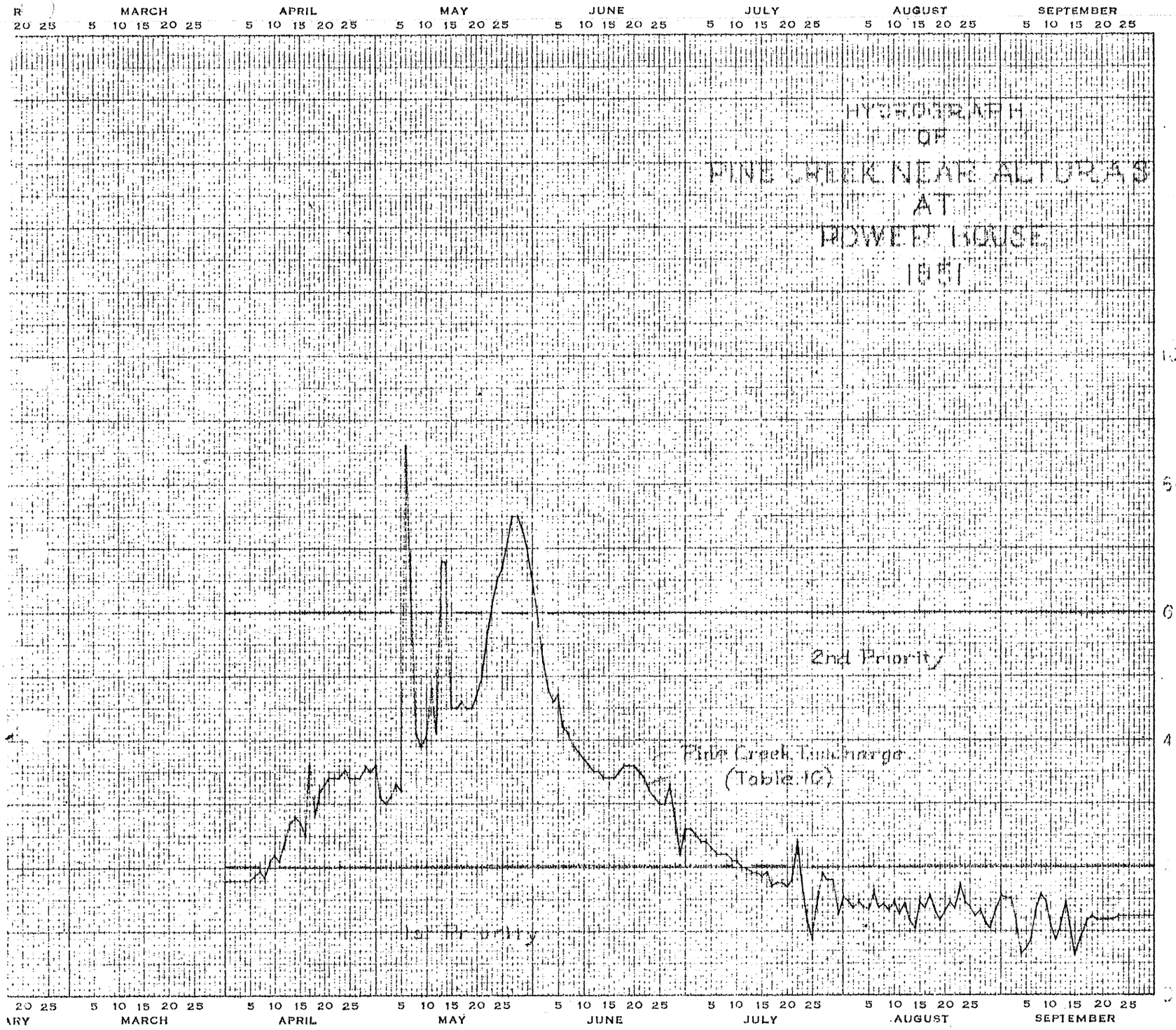
Day	April	May	June	July	August	September
1	256	427	299	65	22	374
2	233	422	247	35	23	166
3	186	369	162	44	24	135
4	162	348	178	204	23	112
5	178	374	143	135	19.2	112
6	186	438	182	82	18.1	97
7	200	509	162	44	14.3	76
8	256	611	82	33	12.7	67
9	256	776	25	31	12.0	65
10	252	968	33	58	11.4	62
11	237	986	62	35	10.7	40
12	170	962	76	33	38	31
13	182	926	67	33	92	35
14	147	884	52	36	97	54
15	190	860	36	47	95	52
16	271	920	27	49	44	49
17	324	1,020	44	56	35	65
18	384	1,080	60	45	35	76
19	470	1,010	69	40	28	69
20	492	944	82	20	25	44
21	460	800	190	15.2	33	30
22	438	651	95	19.2	36	30
23	343	595	67	24	49	16.1
24	328	427	76	25	56	31
25	324	348	74	25	49	33
26	299	333	74	23	52	30
27	290	309	45	22	44	27
28	358	309	40	22	40	60
29	384	299	84	20	38	82
30	395	280	84	19.2	38	65
31		252		22	24	
Total Sec. Ft. Days	8,651	19,437	2,917	1,361.6	1,138.4	2,185.1
Mean Sec. Ft.	288	627	97	44	37	73
Total Ac. Ft.	17,200	38,600	5,790	2,700	2,260	4,330

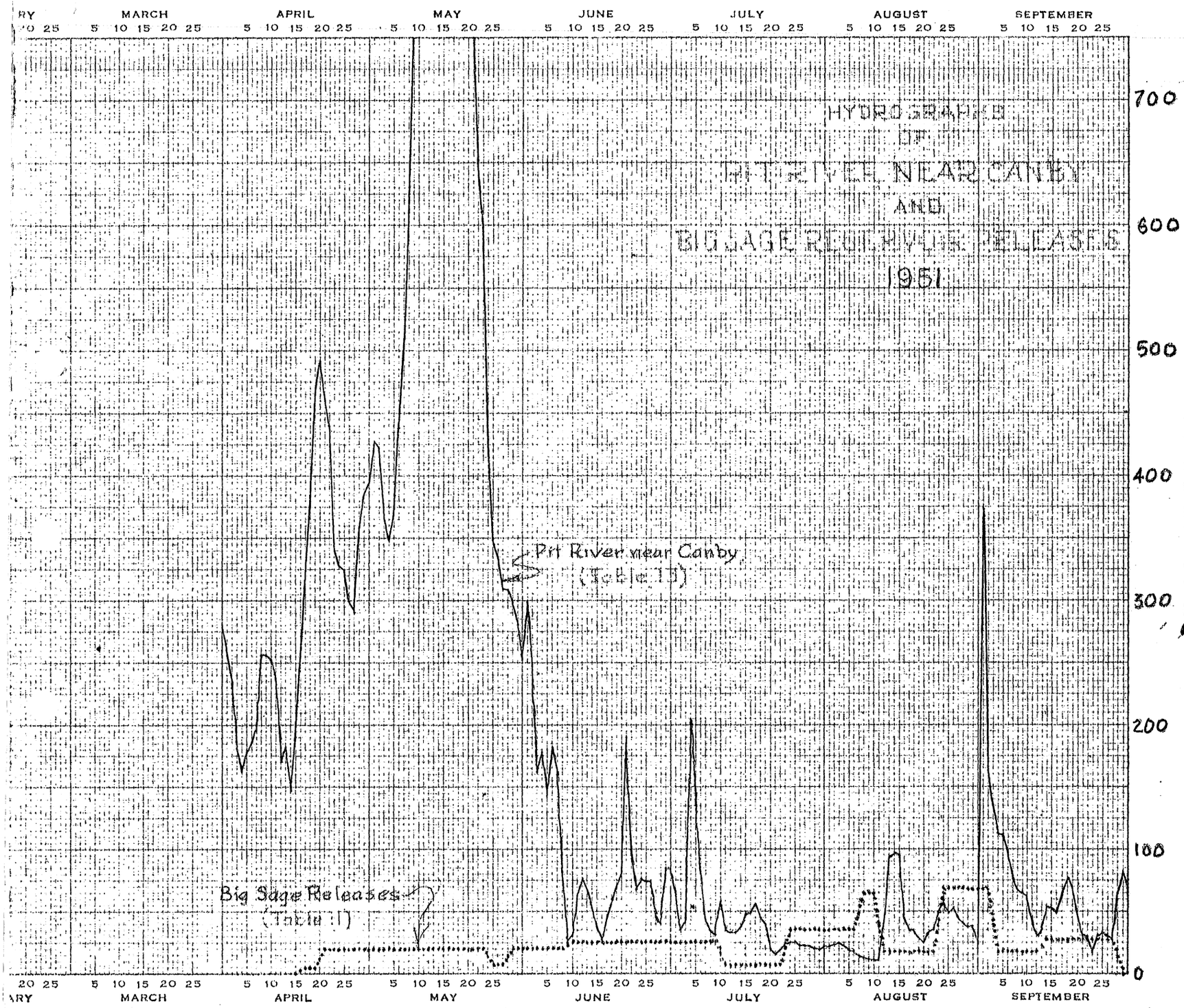
Total for 183-day period - 70,880 acre-feet.

Discharges have been computed by Division of Water Resources and may vary from those to be published by the U. S. G. S.

PLATE 1


HYDROGRAPHS
OF
SOUTH FORK FIT RIVER
ABOVE
LIKELY
AND
WEST VALLEY RESERVOIR
RELEASES
1951
Flow at U.S.G.S. Above Likely
(Table 3)
2nd. Priority
Reservoir Releases
(Table 4)
1st. Priority
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
DISCHARGE C.F.S.


HYDROGRAPH
OF
PINE CREEK NEAR ALTURAS
AT
POWER HOUSE
1951
2nd Priority
Pine Creek Discharge
(Table 16)
1st Priority
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER


HYDROGRAPHS
OF
PIT RIVER NEAR CANBY
AND
BIG SAGE RESERVOIR RELEASES
1951
Pit River near Canby
(Table 1)
Big Sage Releases
(Table 1)
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
700
600
500
400
300
200
100
0