

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SIXTH PROGRESS REPORT ON THE COOPERATIVE INVESTIGATION  
OF SPRINGS AND STREAM FLOW IN THE TECOLOTE TUNNEL AREA  
OF SANTA BARBARA COUNTY, CALIFORNIA

BY

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Prepared in cooperation with the  
Santa Barbara County Water Agency

March 1955

55-66

OPEN-FILE REPORT

## CONTENTS

	Page
Introduction.....	1
Precipitation.....	2
Runoff.....	3
Tecolote Tunnel outflow.....	7
Basic data.....	8

## ILLUSTRATIONS

- Plate 1. Map showing location of discharge observation points in the Tecolote Tunnel area of Santa Barbara County, Calif..... In back of report
- Figure 1. Precipitation and runoff distribution..... Following page 4  
2. Hydrographs of Tecolote Tunnel outflow..... Following page 7

## TABLES

- Table 1. Daily outflow, in cubic feet per second, from south portal of Tecolote Tunnel for period May 1, 1953 to June 30, 1954..... Following page 7
2. Discharge measurements of streams and developed springs in the Tecolote Tunnel area of the Santa Ynez Mountains, Santa Barbara, Calif. for the year ending June 30, 1954..... Following page 8

## PREFACE

The collection of the data and the preparation of this report were under the direct supervision of William M. Littlefield and under the general direction of Revoc C. Briggs, District Engineer. The basic data were obtained by Clasen E. Burgess, Walter C. Heinrich, and George E. Stanton. The writer wishes to acknowledge the help of Harold C. Troxell in preparing this report.

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Sixth Progress Report  
on the Cooperative Investigation of Springs and Stream Flow  
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INTRODUCTION

This report is the sixth in a continuing series of progress reports giving the results of discharge measurements obtained at more than 120 selected sites in the "Tecolote Tunnel Area" of the Santa Ynez Mountains. The area derives its name from the tunnel now being completed by the Bureau of Reclamation for the purpose of diverting the flood waters of the Santa Ynez River stored in Cachuma Reservoir into urban and agricultural areas in and near the city of Santa Barbara. The observational area for purposes of this investigation extends from Refugio Pass on the west to San Marcos Pass and the Painted Cave area on the east. The tunnel alignment is roughly north and south through the center of this area.

At the request of Santa Barbara County, an observational program of the flow in developed springs and headwater streams in the Tecolote Tunnel Area was undertaken by the Geological Survey in the latter part of 1948. The primary purpose of the program is to obtain sufficient factual data to determine what influence, if any, the construction and use of Tecolote Tunnel might have on the flow of streams and springs in the area. The program is operated by the Geological Survey under a cooperative agreement with the Santa Barbara County Water Agency whereby each pays half the cost.



Observations of flow during the period July 1, 1953 to June 30, 1954 were obtained monthly at about 40 sites, with measurements made bimonthly or quarterly at the other locations. The purpose of this progress report is to present the factual data obtained during this period. Complete observational data obtained prior to July 1, 1953 are presented in the Fifth Progress Report.

#### PRECIPITATION

Annual precipitation in the coastal county of Santa Barbara tends to occur in alternating wet and dry sequences of years, resulting in an irregular cyclic pattern. Records obtained of tree-ring growth in the mountains of southern California since about 1385 AD indicate that the average dry period is 14.5 years in length with 10 percent of the dry periods being longer than 29 years or shorter than 6 years. Not all years within a dry period are dry, but the dry years are predominant.

Southern California has been experiencing an extended dry period since the summer of 1944. During the 10 years that followed, the average annual precipitation at Santa Barbara amounted to 14.47 inches or about 81 percent of the 1867-1954 average. Excluding the single wet year of 1951-52 in this dry period, the remaining 9 years would have an average of 12.61 inches.

At the Santa Maria meteorological station, about 45 miles northwest of the Tecolote Tunnel Area, the average annual precipitation for the 1944-54 dry period amounted to 10.33 inches or about 74 percent of the observed 64-year average. Excluding the single wet year of 1951-52, the average precipitation for the remaining 9 years amounted to 70 percent of this long-time average.

The 1953-54 precipitation was 86 percent of the long-time average at Santa Barbara and 76 percent at Santa Maria.

#### RUNOFF

The surface runoff in the Tecolote Tunnel Area, as in other southern California mountain areas, is a combination of flood runoff due to excessive rates of storm rainfall and seepage from ground-water storage sustained in the mountain block. Experience has indicated that as much as 90 percent of the annual mountain runoff may enter the stream channel from ground-water sources.

The only continuous record of daily discharge for streams draining the coastal side of the Santa Ynez Mountains in the vicinity of the tunnel is the record obtained of San Jose Creek near Goleta since January 1941. The San Jose Creek drainage basin is located about 4.5 miles east of the south portal of Tecolote Tunnel, and its runoff is at least a partial index of flow in the many streams and springs in the area. The drainage basin above the gaging station has an area of 5.54 square miles and a land-surface slope ranging from a few percent to more than 100 percent, with an average in the order of about 40 percent.

A hydrograph of the observed monthly discharge at this station since January 1941 is shown on the lower part of figure 1. A logarithmic projection is used for the discharge scale. Like most streams and springs in the Tecolote Tunnel Area, the flow is extremely variable with monthly values ranging from zero to 37 cubic feet per second. The mean for the period of record is 1.4 cubic feet per second and the median is 0.8 cubic feet per second.

In order to more fully understand and to interpret this hydrograph, the mid-section of figure 1 shows the cumulative departures of the observed monthly precipitation from the monthly means at Santa Barbara since July 1934. Upward trends in this type of graph signify a monthly precipitation in excess of the 1867-1954 mean for that month. Downward trends show the reverse, or a deficiency in precipitation. Generally cumulative-departure curves of this type tend to be reflected in changes in ground-water storage. The excessive precipitation, shown by the upward trend, generally results in an increase in ground-water storage, whereas deficient precipitation, as shown by the downward trend, results in a depletion of these reserves. The flow in San Jose Creek tends to follow the trend of this cumulative-departure curve, in that a substantial part of its runoff is from ground-water seepage.

The cumulative departures from the monthly precipitation at Santa Barbara shown on figure 1 start on July 1, 1934. This time period has been selected in order to indicate the trend of events just prior to the beginning of the runoff records. It shows that

Figure 1 SS-66

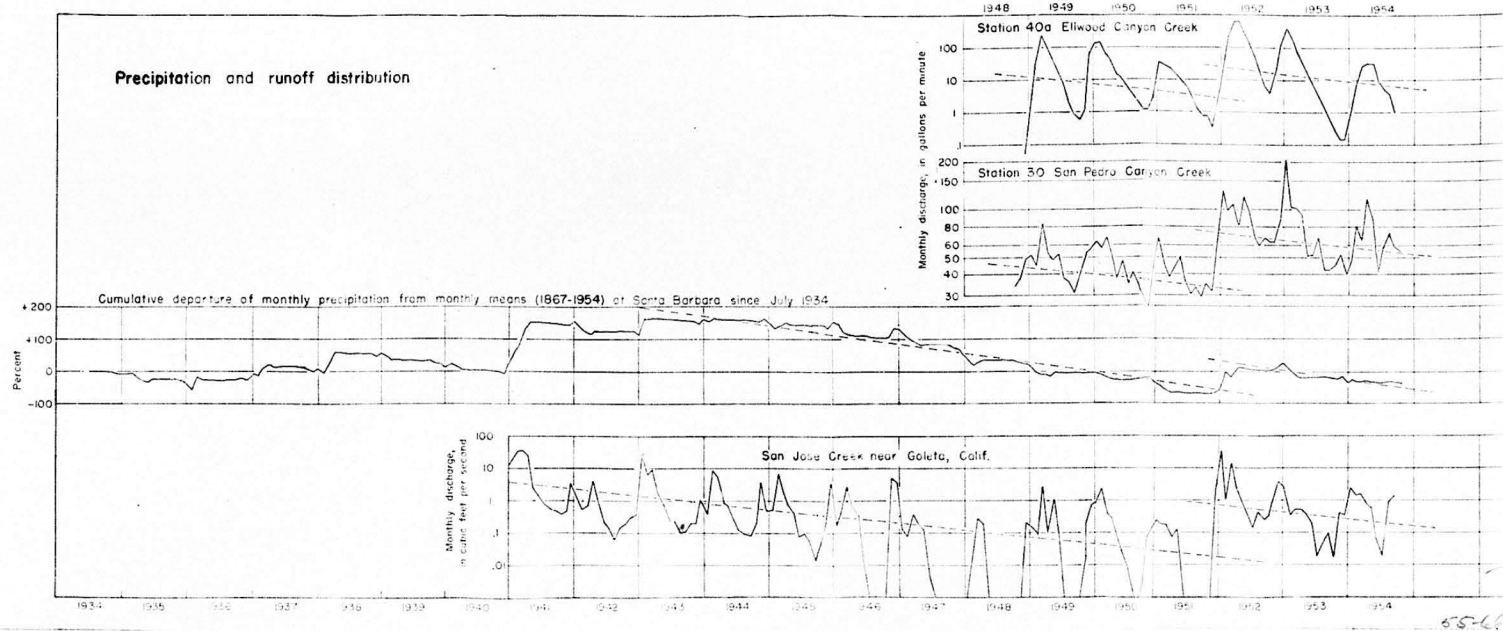
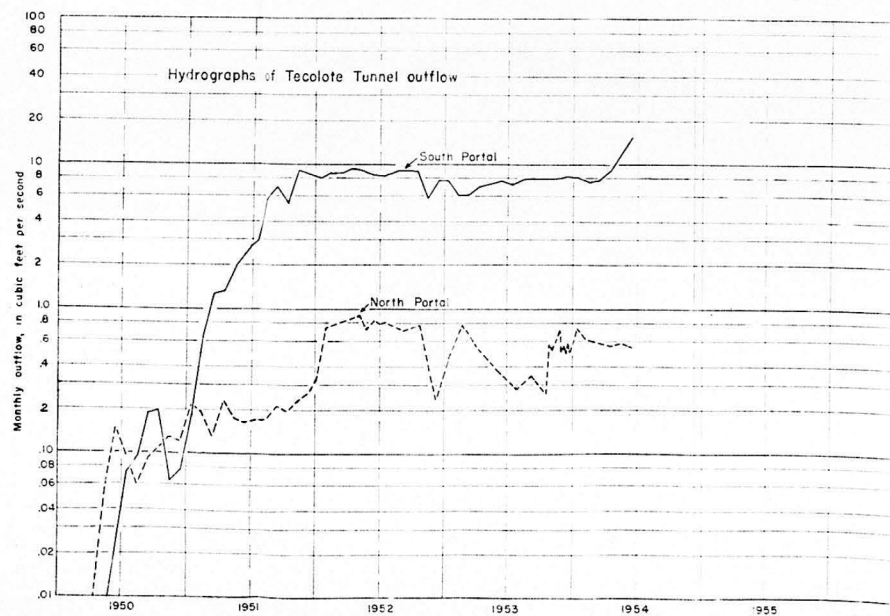


Figure 2 SS-66



the San Jose Creek record was started in the wettest year of a wet period. In fact, the monthly runoff for March 1941 at this station was the maximum for the period of record, which is a reflection of the sizable recharge to mountain ground-water storage during the period December 1940 to April 1941.

The hydrograph of San Jose Creek shows that following this recharge the runoff trend steadily declined at a fairly uniform rate, until the winter of 1951. During that winter the ground-water reserves were again recharged and a new recessional curve inaugurated at a somewhat greater discharge. This trend is emphasized by dashed lines on the hydrograph.

The Geological Survey's observational program in the Tecolote Tunnel Area was started in the latter part of 1948. As far as practicable, measurements are not made during or immediately following a storm period. By this method of observation, the influence of storm runoff is greatly minimized or completely eliminated.

The current dry period in southern California began several years before the observational program was started. Thus the mountain ground-water reserves were already substantially depleted prior to the first observations. As the dry period has continued almost unabated since the start of the program, the observations made to date cannot be considered representative of long-term average flow.

The records of flow for two small drainage basins on the coastal side of the Santa Ynez mountains, obtained as part of the Tecolote Tunnel program, are also included on figure 1.

The first hydrograph was obtained in Ellwood Canyon Creek, a drainage area adjacent to, and west of, the south portal of the tunnel. The observations were made above all diversions and about 0.7 mile from the tunnel. This record was selected for inclusion on figure 1 because of its wide range in discharge between winter and summer.

The second hydrograph is based on the observations obtained in San Pedro Canyon Creek, a drainage basin about 2.5 miles east of the south portal. The observations in this canyon were also obtained above the points of diversion. This record was included on figure 1 because of its much smaller range in discharge between winter and summer.

In order to identify similarities, or dissimilarities, between two records with such different flow characteristics, a flexible, or elastic, logarithmic scale for plotting discharge was used. This was accomplished by plotting the San Pedro Canyon Creek record at a scale five times as great as that used for the Ellwood Canyon record. When plotted in this manner, these two streams having radically different runoff characteristics appear to have much in common; in fact, all three hydrographs shown on figure 1 appear to have much in common.

## TECOLOTE TUNNEL OUTFLOW

Excavation of the 6.4-mile Tecolote Tunnel was started from the north portal on February 17, 1950, and from the south portal on May 3, 1950. Excavation from the north portal was discontinued in 1952 after a distance of 14,969 feet had been completed. The work of lining this section of the tunnel with concrete was completed by March 10, 1953. As of June 30, 1954, excavation from the south portal had reached station 191+17, leaving 4,184 feet of tunnel still to be excavated.

After the northern part of the tunnel had been lined, a bulkhead was installed at the far end. As a result, the water seeping into this part of the tunnel filled it to the point where it spilled out of the second gate of the inlet tower. Periodic measurements were made of this spill, which represents the total outflow from the north portal. The measured outflow ranged from 0.26 to 0.73 cubic foot per second during the year July 1953 to June 1954. The average outflow for the year was about 0.48 cubic foot per second, which represents a total outflow of about 350 acre-feet. A hydrograph of all outflow measurements at the north portal since the start of construction is shown on figure 2.

The daily outflow from the south portal for the period May 1, 1953, to June 30, 1954 is given in table 1. During the first 10 months the flow remained fairly constant, the daily discharge ranging from 6.2 to 8.2 cubic feet per second. During the last four months the flow gradually increased until in June 1954 the

Table 1.--Daily outflow, in cubic feet per second, from South Portal of Tecolote Tunnel  
for period May 1, 1953 to June 30, 1954

Day	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.3	7.1	7.2	7.1	7.3	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
2	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
3	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
4	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
5	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
6	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
7	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
8	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
9	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
10	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
11	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
12	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
13	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
14	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
15	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
16	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
17	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
18	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
19	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
20	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
21	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
22	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
23	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
24	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
25	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
26	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
27	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
28	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
29	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
30	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
31	7.3	7.3	7.2	7.1	7.2	7.2	7.5	7.4	7.3	7.2	7.3	7.2	7.1	7.0
229.1	231.0	224.5	240.2	241.7	245.5	253.2	245.5	210.5	210.5	210.5	210.5	210.5	210.5	210.5
Mean	7.39	7.74	7.24	7.91	8.01	7.95	8.05	7.25	7.25	7.25	7.25	7.25	7.25	7.25
Acres	454	458	445	456	476	489	479	504	479	479	479	479	479	479

Period  
Mean  
Acres-Feet 7,354



average discharge was 15.5 cubic feet per second. The average discharge for the 14-month period is 8.70 cubic feet per second, which amounts to a total discharge of 7,354 acre-feet for the period. A hydrograph of the monthly flow from the south portal is also shown on figure 2.

#### BASIC DATA

The results of all discharge measurements of the springs and streams in the Tecolote Tunnel area, including observations of no flow, from July 1, 1953, to June 30, 1954, are given in table 2, which follows. The records are placed in numerical sequence using a station number that corresponds to the location number shown on the map of Tecolote Tunnel area included as plate 1. The records for each station are headed by a brief description giving the name, location, altitude, and type, followed by a chronological listing of the discharge measurements. All available information concerning diversions is included.

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## SAN ANTONIO CREEK AT SAN MARCOS PASS ROAD

Location.--Lat.  $34^{\circ}28'00''$ , long.  $119^{\circ}46'10''$ . At bridge on State Highway 150, about 2 miles north of Highway 101.

Altitude.--About 500 feet, from topographic map.

Description.--Measuring site in natural creek channel, at highway crossing.

Diversion.--Two diversions above station - (1) on Cat Canyon, 25-foot concrete dam with reservoir capacity of 500,000 gal., and (2) 1.5 M.G. reservoir on Loma Abaja.

Previous measurements.--1945.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	1:55 p.m.	No flow	No flow		Pools
Dec. 11	12:20 p.m.	No flow	No flow		
1954					
Mar. 12	1:45 p.m.	0.16	72	57	
June 3	2:00 p.m.	.25	112	61	
21	11:50 a.m.	.020	9.0	70	

## SPRING - ETIENNE LEJEUNE

Location.--Lat.  $34^{\circ}30'50''$ , long.  $119^{\circ}47'10''$ , about 0.6 mile north of Painted Cave.

Altitude.--About 2,700 feet, from topographic map.

Description.--Uncurbed pool at foot of boulders at falls in creek bed. Discharge measured at outlet of pool.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 25	10:30 a.m.	0.0027	1.23	67	
Dec. 17	10:50 a.m.	.0025	1.10	48	
1954					
Mar. 25	7:50 a.m.	.013	6.0	42	
Apr. 26	8:15 a.m.	.0090	4.06	53	
May 20	8:25 a.m.	.0073	3.26	57	
June 18	9:35 a.m.	.0042	1.88	57	

## SPRING - ETIENNE LEJEUNE

Location.--Lat.  $34^{\circ}30'50''$ , long.  $119^{\circ}47'20''$ , about 0.7 mile north of Painted Cave.

Altitude.--About 2,650 feet, from topographic map.

Description.--Seeps in stream channel impounded by small concrete dam. Discharge measured above upper diversion dam.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 25	11:10 a.m.	0.00054	0.24	60	
Dec. 17	12:45 p.m.	.0013	.58	48	
1954					
Mar. 25	7:40 a.m.	.068	30	42	
Apr. 26	8:05 a.m.	.0067	3.00	53	
May 20	8:15 a.m.	.0037	1.67	55	
June 18	9:15 a.m.	.0014	.62	57	

STATION 4.

## SPRING - PAINTED CAVE - MUTUAL WATER COMPANY

Location.--Lat.  $34^{\circ}30'30''$ , long.  $119^{\circ}47'20''$ , about 0.3 mile north of Painted Cave.

Altitude.--2,590 feet, from topographic map.

Description.--Cemented pool on sandstone ledge in creek bed.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 25	11:05 a.m.	No flow	No flow		Flow at sta. 7 being pumped back to sta. 4.
Dec. 17	1:00 p.m.	No flow	No flow		
1954					
Mar. 25	7:30 a.m.	0.067	30	43	Pools; no connected flow.
Apr. 26	7:50 a.m.	.0070	3.12	50	
May 20	8:00 a.m.	No flow	No flow		
June 18	9:10 a.m.	No flow	No flow		

## SPRING - E. T. OGRAM

Location.--Lat.  $34^{\circ}30'20''$ , long.  $119^{\circ}47'10''$  at Painted Cave.

Altitude.--About 2,560 feet, from topographic map.

Description.--Uncontrolled seepage from fractures in sandstone ledge on valley side. Discharge measured at end of 3-inch pipe.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 25	11:00 a.m.	0.0018	0.83	58	
Dec. 17	10:40 a.m.	No flow	No flow		
1954					
Mar. 25	8:00 a.m.	.014	6.2	54	
Apr. 26	8:25 a.m.	.0074	3.33	55	
May 20	8:35 a.m.	.0027	1.23	55	
June 18	9:05 a.m.	.00062	.28	56	

## SPRING - SAM NUCKOLS

Location.--Lat.  $34^{\circ}30'20''$ , long.  $119^{\circ}47'10''$ , at Painted Cave.

Altitude.--About 2,360 feet, from topographic map.

Description.--Concrete curbed seeps in landslide on hillside. After June 4, 1953, combined discharge of springs 9 and 10 measured at inflow into concrete crib at spring 11. Prior to June 4, 1953 both springs measured separately.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 25	10:45 a.m.	0.010	4.68	64	
Dec. 17	10:35 a.m.	.017	7.6	57	
1954					
Mar. 25	8:10 a.m.	.028	12	53	
Apr. 26	8:35 a.m.	.031	14	53	
May 20	8:45 a.m.	.028	13	54	
June 18	9:00 a.m.	.022	10	57	

## SPRING - SAM NUCKOLS

Location.--Lat.  $34^{\circ}30'10''$ , long.  $119^{\circ}47'10''$ , at Painted Cave.

Altitude.--About 2,300 feet, from topographic map.

Description.--Seep in alluvium on valley side. Discharge measurements at overflow from bottling plant.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					Flow being run through distilling plant.
Sept. 25	10:50 a.m.	No meas.	No meas.		
Dec. 17	10:30 a.m.	0.0047	2.13	52	
1954					
Mar. 25	8:05 a.m.	.013	6.0	53	
Apr. 26	8:30 a.m.	.0058	2.60	53	
May 20	8:40 a.m.	.0048	2.16	55	
June 18	8:55 a.m.	.002	.78	58	



## MARIA YGNACIO CREEK AT OLD SAN MARCOS PASS ROAD

Location.--Lat.  $34^{\circ}27'40''$ , long.  $119^{\circ}47'40''$ . At bridge on old San Marcos Pass Road about 0.6 mile above Goleta Foothill Road.

Altitude.--140 feet, from topographic map.

Description.--Measurements made in natural creek channel at bridge.

Diversion.--One diversion about 1.3 miles above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	2:10 p.m.	0.006	2.69	62	
Dec. 11	11:25 a.m.	.28	126	48	
Jan. 8	8:40 a.m.	.010	4.49	45	
Mar. 12	8:15 a.m.	.32	143	46	
June 3	10:25 a.m.	.020	9.0	60	
21	11:30 a.m.	.020	9.0	68	

## UNNAMED CREEK NEAR HOBO ROCK

Location--Lat.  $34^{\circ}30'20''$ , long.  $119^{\circ}48'10''$ , at falls about 200 yards upstream from highway 150 near Hobo Rock.

Altitude--About 1,700 feet, from topographic map.

Description--Measuring site in stream channel.

Diversions--No known diversions above station.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	9:45 a.m.	0.015	6.6	59	
Oct. 23	9:35 a.m.	.016	7.3	54	
Nov. 18	10:15 a.m.	.034	15	51	
Dec. 17	10:10 a.m.	.012	5.5	43	
1954					
Jan. 7	12:10 a.m.	.026	12	51	
Feb. 23	12 M.	.028	12	54	
Mar. 25	8:20 a.m.	.053	24	46	
Apr. 26	8:55 a.m.	.033	15	52	
May 19	11:30 a.m.	.039	18	57	
June 15	10:50 a.m.	.035	16	59	

## SPRING - FOSTER GLEN PARK, COUNTY OF SANTA BARBARA

Location.--Lat.  $34^{\circ}30'20''$ , long.  $119^{\circ}48'20''$ , about 0.2 mile north of Highway 150.

Altitude.--About 1,720 feet, from topographic map.

Description.--Bricked pool on sandstone ledge in creek bottom. Discharge measurements at inflow to storage tank. Some flow over earth collecting dam, but measured and included in the discharge.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	9:40 a.m.	0.000069	0.031	63	
Dec. 17	9:55 a.m.	.00073	.33	60	
1954					
Mar. 25	8:40 a.m.	.0060	2.68	47	
Apr. 26	9:05 a.m.	.0045	2.03	54	
May 19	11:55 a.m.	.0030	1.35	57	
June 15	11:05 a.m.	.0018	.82	62	

## SPRING - KINEVAN FILING - FOREST SERVICE

Location.--Lat.  $34^{\circ}30'20''$ , long.  $119^{\circ}49'50''$ , about 0.5 mile southwest of Highway 150.

Altitude.--About 2,300 feet, from topographic map.

Description.--Stone-curbed pool in alluvium on hillside. Discharge measured at inflow to storage tank.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	7:05 a.m.	No flow	No flow		
Dec. 17	7:45 a.m.	do	do		
1954					
Mar. 24	7:50 a.m.	do	do		Spring line plugged. Either line is plugged or spring is dry. There are no visible seeps at spring.
May 19	8:15 a.m.	do	do		
June 15	7:20 a.m.	do	do		

## SPRING - TOM KINEVAN

Location.--Lat.  $34^{\circ}30'30''$ , long.  $119^{\circ}49'40''$ , about 0.3 mile southwest of Highway 150.

Altitude.--About 2,230 feet, from topographic map.

Description.--Dug pit in alluvial wash below sandstone ledge. Discharge measured in pipe line to storage tank.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	1:30 p.m.	0.0020	0.89	61	
Sept. 24	2:20 p.m.	.0015	.65	58	
Oct. 23	9:45 a.m.	.0013	.59	58	
Nov. 18	7:45 a.m.	.00078	.35	55	
Dec. 17	8:00 a.m.	.0015	.68	48	
1954					
Jan. 7	11:35 a.m.	.0011	.50	57	
Feb. 23	9:20 a.m.	.0022	1.00	58	
Mar. 24	7:35 a.m.	.0043	1.92	57	
Apr. 2	7:45 a.m.	.0033	1.48	56	
May 19	8:30 a.m.	.0018	.82	56	
June 15	7:35 a.m.	.0016	.74	58	

## SPRING - C. R. Holmes, Jr., et al

Location.--Lat.  $34^{\circ}30'20''$ , long.  $119^{\circ}48'40''$ , at Highway 150 near San Marcos Pass.

Altitude.--About 1,900 feet, from topographic map.

Description.--Seeps in alluvium along creek bed; one enclosed in concrete box.  
Discharge measured at takeoff from pipe line below concrete box.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	12:20 p.m.	0.015	7.0	60	Plug off at "Y".
Sept. 24	9:10 a.m.	.016	7.3	59	do
Oct. 21	12:50 p.m.	.015	6.8	60	do
Nov. 18	10:25 a.m.	.015	6.8	59	do
Dec. 17	9:35 a.m.	.014	6.2		Plug back on at "Y".
1954					
Jan. 7	11:45 a.m.	.013	5.9		Plug on at "Y". Measure- ment doubtful.
Feb. 23	9:30 a.m.				Flow in uncontrolled seeps.
Mar. 25	8:50 a.m.				do
Apr. 26	9:25 a.m.				do
May 19	12:05 p.m.	No flow	No flow		Spring inoperative; not being used.
June 15	11:30 a.m.	.022	9.7	59	Spring unplugged so it will flow.

## SAN JOSE CREEK AT HOLMES' PLACE, SAN MARCOS PASS

Location.--Lat.  $34^{\circ}30'10''$ , long.  $119^{\circ}48'40''$ , at Holmes' Place (Old Spaulding place) about 300 feet south of Highway 150 and about 1.0 mile northwest of the San Marcos Trout Club.

Altitude.--1,890 feet, from topographic map.

Description.--Measurements made at next to the lowest dam below Spring #18.

Diversion.--Several diversions above and particularly Spring #18 which occurs in creek channel.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	12:30 p.m.	0.042	19	62	
Sept. 24	9:15 a.m.	.064	29	57	
Oct. 21	1:00 p.m.	.060	27	53	
Nov. 18	10:30 a.m.	.065	29	49	
Dec. 17	9:40 a.m.	.051	23	41	
1954					
Jan. 7	11:55 a.m.	.045	20	49	
Feb. 23	9:35 a.m.	.14	62	52	
Mar. 25	8:55 a.m.	.21	92	44	
Apr. 26	9:30 a.m.	.11	49	52	
May 19	12:10 p.m.	.073	33	56	
June 15	11:35 a.m.	.060	27	57	

STATIONS 20 and 21.

SPRING - SAN MARCOS TROUT CLUB

Location.--Lat.  $34^{\circ}29'40''$ , long.  $119^{\circ}48'30''$ , about 0.5 mile west of Highway 150.

Altitude.--About 1,700 feet, from topographic map.

Description.--Wood-curbed seep in alluvium of creek bottom. Discharge measured at inflow from 3/4-inch pipe line to settling box above orifices 1, 2, and 3 of Spring #21. After Feb. 10, 1949 discharge measured at storage tank and represents the combined flow of Springs 20 and 21.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	12:05 p.m.	0.015	6.8	85	
Sept. 16	2:25 p.m.	.012	5.2	81	
Oct. 23	9:20 a.m.	.015	6.5	61	
Nov. 18	10:05 a.m.	.020	8.8	57	
Dec. 17	10:20 a.m.	.017	7.5	57	
1954					
Jan. 7	12:30 p.m.	.012	5.3	61	
Feb. 23	9:55 a.m.	.025	11	52	
Mar. 24	10:15 a.m.	.024	11	49	
Apr. 22	9:50 a.m.	.015	6.8	53	
May 19	10:15 a.m.	.015	6.9	69	
June 15	9:25 a.m.	.016	7.3	61	



## STATION 22.

## SPRING - RISHI SINGH GREYWALL

Location.--Lat.  $34^{\circ}29'40''$ , long.  $119^{\circ}49'00''$ .

Altitude.--About 1,700 feet, from topographic map.

Description.--Concreted pool on sandstone in creek bed; water from fractures.  
Discharge measured at overflow from storage tank.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	8:45 a.m.	0.0068	3.06	60	
Nov. 18	9:40 a.m.	.0066	2.94	56	
Dec. 17	9:15 a.m.	.0067	3.00	49	
1954					
Mar. 24	9:45 a.m.	.017	7.3	46	
Apr. 22	9:15 a.m.	.0068	3.06	56	
May 19	9:50 a.m.	.0063	2.83	58	
June 15	9:00 a.m.	No flow	No flow		Pump running; no overflow

## SAN JOSE CREEK 1.0 MILE ABOVE PATTERSON AVENUE BRIDGE

Location.--Lat.  $34^{\circ}28'30''$ , long.  $119^{\circ}48'20''$ , directly below fork in creek and about 1 mile north of Patterson Ave.

Altitude.--About 250 feet, from topographic map.

Description.--Measuring site is just below forks in natural creek bed; and is reached by private dirt road along left bank of creek.

Diversions.--Several minor diversions above in Trout Club area.

Previous measurements.--1943-1945.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 18	12 M.	0.091	41	61	
Dec. 11	11:10 a.m.	.23	100	52	
1954					
Mar. 12	8:45 a.m.	.58	260	46	
June 3	11:10 a.m.	.39	176	61	
21	11:15 a.m.	.086	39	65	

## WEST FORK SAN JOSE CREEK ABOVE RESERVOIR

Location.--Lat.  $34^{\circ}28'40''$ , long.  $112^{\circ}49'20''$ . On Golden West Farms property, about 0.1 mile above reservoir and 1.7 miles above junction with San Jose Creek.

Altitude.--About 400 feet, from topographic map.

Description.--Measurements made by current meter in stream channel or by volumetric measurement at culvert. Reached by ranch road off of Patterson Avenue /a.

Diversion.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 13	12:30 p.m.	0.17	72	62	Pump running - Reservoir about half full.
Dec. 11	10:55 a.m.	No flow	No flow		
1954					
Mar. 12	10:00 a.m.	.18	81	54	Pump running.
June 3	12 M.	.016	7.2	61	
21	10:55 a.m.	.011	5.0	64	

/a A portion of measured runoff is from well operated in the headwater area.

## SPRING - A. ARMANDO

Location.--Lat.  $34^{\circ}28'10''$ , long.  $119^{\circ}49'40''$ .

Altitude.--About 470 feet, from topographic map.

Description.--Cave in sandstone beds.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 18	10:25 a.m.	No flow	No flow		Both reservoirs about 1/4 full.
Dec. 11	9:20 a.m.	No flow	No flow		Both reservoirs nearly empty.
1954					
Mar. 12	11:10 a.m.	No flow	No flow		
May 20	12:15 p.m.	No flow	No flow		Channel dry. Water in pool lower than last month.

## SPRING - SAWTER ESTATE

Location.--Lat.  $34^{\circ}29'10''$ , long.  $119^{\circ}49'50''$ .

Altitude.--About 1,250 feet, from topographic map.

Description.--Spring diverted at rock rubble dam across creek bed. Prior to June 20, 1949 at open pit in alluvial wash about  $3/8$  mile downstream.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 18	10:50 a.m.	0.018	8.1	58	Original Spring 28 - No flow
Dec. 11	9:50 a.m.	.021	9.4		
1954					
Mar. 12	11:50 a.m.	.008	3.70	59	Original Spring 28 - No flow but a few gallons of water in spring pit.
May 20	1:25 p.m.	.083	37	55	
June 21	9:10 a.m.	.024	11	58	

## SAN PEDRO CANYON CREEK ABOVE DIVERSION

Location.--Lat.  $34^{\circ}28'40''$ , long.  $119^{\circ}50'10''$ , in creek bed slightly upstream from side canyon to Spring #31, and at end of La Patera lane about 3.2 miles north of Highway 101.

Altitude.--About 400 feet, from topographic map.

Description.--Diversion works are a concrete dike across creek channel with 6-inch outlet line.

Diversion.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	10:20 a.m.	0.15	68	62	
Sept. 16	1:30 p.m.	.093	42	60	
Oct. 21	11:35 a.m.	.10	45	53	
Nov. 23	12:15 p.m.	.12	52	49	
Dec. 11	8:45 a.m.	.089	40		
1954					
Jan. 8	9:35 a.m.	.11	48	48	
Feb. 10	1:40 p.m.	.18	79	52	
Mar. 11	12:30 p.m.	.15	67	50	
Apr. 15	9:30 a.m.	.26	117	56	
May 20	11:10 a.m.	.20	87	57	
June 21	7:55 a.m.	.094	42	61	

STATION 31.

SPRING - MRS. K. C. CANATSEY &amp; MRS. B. O'BANNON

Location.--Lat.  $34^{\circ}28'40''$ , long.  $119^{\circ}50'10''$ .Altitude.--About 425 feet, from topographic map.Description.--Several seeps in landslide on valley walls. Discharge measured at 2-inch valve in pipe line.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	10:25 a.m.	0.17	77	68	
Sept. 16	1:35 p.m.	.19	83	68	
Oct. 21	11:40 a.m.	.18	81	66	
Nov. 23	12:25 p.m.	.18	79	63	
Dec. 11	8:55 a.m.	.18	79	64	
1954					
Jan. 8	9:45 a.m.	.17	75	62	
Feb. 10	2:00 p.m.	.18	80	56	
Mar. 11	12:45 p.m.	.18	79	62	
Apr. 15	10:00 a.m.	.17	77	62	
May 20	11:25 a.m.	.16	71	63	
June 21	8:05 a.m.	.14	61	63	

## BARILETT CANYON CREEK ABOVE DIVERSION

Location.--Lat.  $34^{\circ}28'40''$ , long.  $119^{\circ}51'20''$ , at end of Cameros Valley road  
0.7 mile above junction with Dry Creek and about 3.7 miles north of  
Highway 101.

Altitude.--About 500 feet, from topographic map.

Description.--Measuring site is above diversion at solid rock barrier in creek  
channel which presumably brings most of the sub-surface flow to surface.

Diversion.--There are no known diversions above station.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	9:45 a.m.	0.058	26	65	
Sept. 18	8:10 a.m.	.099	44	60	
Oct. 23	7:20 a.m.	.095	43	54	
Nov. 23	9:30 a.m.	.064	29	52	
Dec. 10	2:20 p.m.	.079	35	55	
1954					
Jan. 7	12 M.	.088	40	51	
Feb. 11	12:10 p.m.	.15	67	53	
Mar. 11	9:00 a.m.	.11	49	52	
Apr. 14	11:00 a.m.	.14	61	57	
May 20	7:50 a.m.	.11	51	56	
June 17	11:10 a.m.	.099	44	58	



## SPRING - T. B. BISHOP COMPANY

Location.--Lat.  $34^{\circ}29'00''$ , long.  $119^{\circ}52'10''$ .

Altitude.--About 800 feet, from topographic map.

Description.--Seeps in alluvium on creek bottom. Discharge measured above diversion dam.

Date	Time	Discharge		Temperature °F	Remarks	
		Cubic feet per second	Gallons per minute			
1953						
July 21	9:00 a.m.	0.075	33	60		
Sept. 18	9:25 a.m.	.069	31	59		
Oct. 23	8:00 a.m.	.063	28	55		
Nov. 23	10:30 a.m.	.042	19	53		
Dec. 10	1:15 p.m.	.080	36	56		
1954						
Jan. 7	1:10 p.m.	.058	26	54		
Feb. 11	2:10 p.m.	.096	43	55		
Mar. 11	10:30 a.m.	.10	46	52		
Apr. 14	12:15 p.m.	.16	71	56		
May 20	10:15 a.m.	.086	39	56		
June 17	12:30 p.m.	.091	41	58	All flow going through diversion.	

STATION 35a.

## MC COY CANYON CREEK

Location.--Lat.  $34^{\circ}28'40''$ , long.  $119^{\circ}52'15''$ , on Bishop Company Ranch.Altitude.--About 700 feet, from topographic map.Description.--Flow that occurs in creek below Spring #35. Above in McCoy Canyon at Station #35 normally all flow is diverted. Flow at #35a is now being wasted below in creek channel.

Measuring site is at rock outcrop about 50 feet above horizontal well.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	8:35 a.m.	No flow	No flow		
Sept. 28	9:55 a.m.	do	do		
Oct. 23	8:30 a.m.	do	do		
Nov. 23	11:05 a.m.	do	do		
Dec. 10	1:40 p.m.	do	do		
1954					
Feb. 11	2:50 p.m.	do	do		Pools in channel.
Mar. 11	11:10 a.m.	0.011	4.84		
Apr. 14	1:00 p.m.	.092	41	57	
May 20	9:45 a.m.	.027	12		
June 17	12:05 p.m.	No flow	No flow		Channel dry - no pool.

STATION 35b.

## HORIZONTAL WELL, McCOY CANYON, BISHOP RANCH CO.

Location.--Lat.  $34^{\circ}28'40''$ , long.  $119^{\circ}52'15''$ .Altitude.--About 700 feet, from topographic map.Description.--1,200-foot horizontal well paralleling creek channel in a northerly direction in Sespe Sandstone.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	8:30 a.m.	0.046	20	66	
Sept. 18	9:50 a.m.	.022	9.8	66	
Oct. 23	8:35 a.m.	.10	47	54	No apparent reason for increased flow.
Nov. 23	11:10 a.m.	-	-	61	Well cutoff valve closed.
Dec. 10	1:45 p.m.	-	-		Pressure gage reads 12.0 ps
1954					
Feb. 11	2:45 p.m.	-	-		do 14.75 psi.
Mar. 11	11:05 a.m.	-	-		do 16.0 psi.
Apr. 14	1:15 p.m.	-	-		do 17.0 psi.
May 20	9:50 a.m.	No flow	No flow		do 17.7 psi.
June 17	12 M.	.051	23	66	Well opened to flow since last visit.

## SPRING - OLAF HOVE

Location.--Lat.  $34^{\circ}28'50''$ , long.  $119^{\circ}52'50''$ .

Altitude.--About 600 feet, from topographic map.

Description.--Seeps in alluvium along creek bed - flow concentrated by dam across creek. Discharge measured at inflow to reservoir from settling box.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	7:55 a.m.	0.0074	3.33	59	
Sept. 15	12:40 p.m.	.0064	2.88	61	
Oct. 21	10:40 a.m.	.0053	2.38	57	
Nov. 23	8:10 a.m.	.0063	2.83	61	
Dec. 10	12:15 p.m.	.0067	3.00	58	
1954					
Feb. 11	10:40 a.m.	.0084	3.75	52	
Mar. 9	10:55 a.m.	.0097	4.35	54	
Apr. 14	9:50 a.m.	.011	4.92	55	
May 19	12:50 p.m.	.0078	3.48	57	
June 17	2:15 p.m.	.0062	2.76		

STATION 36a.

## SEEPAGE - SOUTH PORTAL - TECOLOTE TUNNEL

Location.--Lat. 34°29'00", long. 119°53'00", in Glen Anne Canyon.Altitude.--651.59 feet. Furnished by Bureau of Reclamation.Description.--Seepage water from outlet portal to 6.4-mile Tecolote Tunnel. The South Portal is station 336+07.

Date	Time	Discharge		Temperature °F	Distance from north portal USER station (feet)	Remarks
		Cubic feet per second	Gallons per minute			
1953						
July 21	8:00 a.m.	4 to 5 *		85	196+85	
Sept. 15	12:45 p.m.	6 *		94	196+85	) No work on tunnel face since 7/21.
Oct. 21	10:30 a.m.	6 *		94		
Nov. 23	8:15 a.m.	-			196+85	do
Dec. 10	12:20 p.m.	6 to 7 *		95	196+85	do
1954						
Feb. 11	11:00 a.m.	-		95	196+85	do
Mar. 9	11:00 a.m.	-		90	196+85	do
Apr. 14	9:35 a.m.	-		97	196+44	Work started again
May 19	1:15 p.m.	-		116	191+88	
June 17	2:30 p.m.	-		116**		No tunnel driven since May 27.

\* Estimated.

\*\* In tunnel.

## GLEN ANNE CREEK AT DAMSITE

Location.--Lat.  $34^{\circ}28'20''$ , long.  $119^{\circ}52'40''$ , at narrows in Glen Anne Canyon and at damsite of proposed reservoir at end of Tecolote Tunnel. About 2.9 miles north of Highway 101.

Altitude.--About 350 feet, from topographic map.

Description.--Measurement site at mouth of canyon in narrows of box canyon reached by Glen Anne Canyon road.

Diversions.--Olaf Hove diverts from Spring #36 in Creek bed about 0.5 mile above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	7:45 a.m.	0.011	5.0	65	Reservoir about 2/3 full do
Sept. 15	12:35 p.m.	No flow	No flow		
Dec. 10	12:05 p.m.	do	do		
1954					
Mar. 9	11:20 p.m.	.015	6.7	64	River bed dry.
May 19	12:35 p.m.	.013	5.8		
June 17	2:00 p.m.	No flow	No flow		

## BISHOP COMPANY WELLS 11 AND 12

Location.--Lat.  $34^{\circ}28'20''$ , long.  $119^{\circ}52'40''$ , in Glen Anne Canyon about 100 feet below proposed damsite.

Altitude.--About 350 feet, from topographic map.

Description.--Two wells about 50 feet west of stream channel.

Date	Time	Discharge		Water Meter	W. H. Meter		Depth to Water	
		Cubic feet per second	Gallons per minute		35J1	35J2	J1	J2
1953								
July 21*	7:30 a.m.	Pumps off	Pumps off	0351304	8399	5086	-	-
Sept. 15*	2:00 p.m.	do	do	-	8389	5053	-	-
Oct. 21*	9:40 a.m.	do	do	-	8389	5053	15.02	18.68
Dec. 10*	11:45 a.m.	do	do	0351294	8389	5053	12.57	18.00
1954								
Jan. 7*	9:45 a.m.	do	do	0351294	8489	5053	11.48	17.52
Feb. 11*	10:00 a.m.	do	do	0351294	8489	5053	11.28	17.26
Mar. 9*	11:30 a.m.	do	do	0351294	8489	5053	10.80	16.72
Apr. 14*	9:15 a.m.	do	do	0351294	8489	5053	10.60	16.28
May 19*	12:15 p.m.			0351294	8489	5053	8.01	12.65
June 17*	1:45 p.m.	0.070 **	31	-	8565	5181		

\* Water meter being bypassed.

\*\* Pumps running.

## ELLWOOD CANYON CREEK ABOVE DIVERSIONS

Location.--Lat.  $34^{\circ}28'10''$ , long.  $119^{\circ}53'30''$ . Narrows near end of Armus' Canyon Road. about 2.8 miles north of Highway 101.

Altitude.--About 304 feet, from Bureau of Reclamation Bench Mark.

Description.--Measuring site in narrows at mouth of canyon which is above all diversions. Measurements of extremely low flow made volumetrically at diversion box 300 feet below.

Remarks.--There is abandoned 2-inch line to Spring #39 in creek bed about 0.5 mile above station.

(Note.--6-inch line to Dairies not operating Mar. 16, 1949; but it will be used later.)

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	12:50 p.m.	0.0010	0.47		
Dec. 10	11:15 a.m.	.0002*	.1*		*Est. Pools in channel.
1954					
Mar. 10	2:50 p.m.	.069	31	56	
May 19	10:45 a.m.	.085	32	58	
June 11	12:15 p.m.	.022	9.9	61	



## SPRING - ELLWOOD DAIRIES

Location.--Lat.  $34^{\circ}27'10''$ , long.  $119^{\circ}53'30''$ .

Altitude.--About 225 feet, from topographic map.

Description.--Timbered drift in sandstone bed on hillside. Discharge measured at outlet faucet by watering trough.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	12:30 p.m.	No flow	No flow		Pool in spring pit.
Dec. 16	11:25 a.m.	0.011	5.0	53	
1954					
Mar. 16	1:55 p.m.	.010	4.55		
May 19	10:50 a.m.	No flow	No flow		
June 11	11:35 a.m.	No flow	No flow		

## SPRING - ELLWOOD DAIRIES

Location.--Lat.  $34^{\circ}27'00''$ , long.  $119^{\circ}53'40''$ .

Altitude.--About 160 feet, from topographic map.

Description.--Former seep in alluvium of valley floor.

Date	Time	Discharge		Water level. in feet, below reference point	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	12:40 p.m.	No flow	No flow	12.55	
Dec. 10	11:00 a.m.	do	do	12.39	
1954					
Mar. 10	2:15 p.m.	do	do	13.03	
May 19	11:10 a.m.	do	do	11.47	
June 11	11:45 a.m.	do	do	11.57	

## WINCHESTER CANYON CREEK

Location.--Lat.  $34^{\circ}28'50''$ ,  $119^{\circ}54'20''$ , at end of Winchester Canyon Road and about 3.4 miles north of Highway 101.

Altitude.--About 550 feet, from topographic map.

Description.--Measuring site at abandoned spring in creek bed.

Diversions.--No known diversions above station.

Remarks.--On Nov. 15, 1948 Mr. Hollister, property owner below, stated he may re-develop spring here which has been abandoned and was dry on this date.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	12:10 p.m.	No flow	No flow		
Dec 10	10:30 a.m.	do	do		
1954					
Mar. 10	1:25 p.m.	do	do		
May 19	10:30 a.m.	do	do		
June 11	11:15 a.m.	do	do		Channel dry.

## TECOLOTE CANYON CREEK ABOVE DIVERSION NEAR ELLWOOD

Location.--Lat.  $34^{\circ}29'20''$ , long.  $119^{\circ}54'30''$ . about 0.4 mile north of end of road through Tecolote Ranch, and about 4.0 miles north of Highway 101.

Altitude.--About 720 feet, from topographic map.

Description.--During extreme low flow the measuring site is about 1,500 feet above Tecolote Ranch diversion at outcrop; at all other times the flow is measured at another rock outcrop about 100 feet above diversion.

Diversion.--No known diversions above this station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	9:30 a.m.	No flow	No flow		Dry above intake 3.
Sept. 16	9:30 a.m.	do	do		
Dec. 10	8:55 a.m.	do	do		
1954					
Jan. 6	1:00 p.m.	do	do		
Feb. 10	11:40 a.m.	do	do		
Mar. 10	12:05 p.m.	0.042	19	53	
May 19	8:45 a.m.	.065	29		
June 11	10:00 a.m.	.008	3.58	55	

STATION 46a.

## SPAULDING RANCH DIVERSION FROM TECOLOTE CANYON CREEK NEAR ELLWOOD

Location.--Lat.  $34^{\circ}28'45''$ , long.  $119^{\circ}43'40''$ , about 3 miles north of Highway 101.Altitude.--About 400 feet, from topographic map.Description.--Volumetrical measuring device 1,500 feet below point of diversion at valve on 6-inch conduit to reservoir.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	9:50 a.m.	0.012	5.2	66	
Sept. 16	9:40 a.m.	.0071	3.19	61	
Dec. 10	8:15 a.m.	.0084	3.75	53	
1954					
Jan. 6	2:30 p.m.	.011	5.0	51	
Feb. 10	12:10 p.m.	.096	43	53	
Mar. 10	12:30 p.m.	.12	55	54	
Apr. 13	1:50 p.m.	.32	143	54	
May 19	9:30 a.m.	-	-		Valve off, no measurement.
June 11	9:30 a.m.	.036	16		

STATION 47.

## SPRING - L. G. DREYFUS ESTATE

Location.--Lat.  $34^{\circ}28'30''$ , long.  $119^{\circ}55'40''$ .Altitude.--About 350 feet, from topographic map.Description.--Two concrete-curbed seeps at foot of hill. Discharge measured at settling box.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	8:30 a.m.	No flow	No flow		Water tank full.
Dec. 9	12:55 p.m.				108 drops per minute
1954					
Mar. 10	8:45 a.m.	No flow	No flow		
May 18	12:50 p.m.	-	-	61	42 drops per minute.
June 10	9:10 a.m.	0.000023	0.010	60	

## MIDDLE FORK, EAGLE CANYON CREEK

Location.--Lat.  $34^{\circ}29'00''$ , long.  $119^{\circ}55'40''$ , in Eagle Canyon at uppermost diversion about 3.0 miles north of Highway 101.

Altitude.--About 500 feet, from topographic map.

Description.--Measuring site at diversion box 2,600 feet above Eagle Canyon Road. The 2-inch line from this diversion box broken and the diversion abandoned.

Diversion.--No known diversions above this station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	8:45 a.m.	No flow	No flow		
Dec. 9	1:05 p.m.	do	do		
1954					
Mar. 10	9:30 a.m.	do	do		
May 18	1:45 p.m.	do	do		
June 10	9:25 a.m.	0.0083	3.70	55	Creek bed dry. Channel dry.

## EAGLE CANYON CREEK NEAR ELLWOOD

Location.--Lat.  $34^{\circ}28'50''$ , long.  $119^{\circ}56'00''$ , at uppermost diversion about 0.2 mile above middle fork of Eagle Canyon Creek and about 2.9 miles north of Highway 101.

Altitude.--About 425 feet, from topographic map.

Description.--Measuring site above junction box (stamped Smith Bros. 1924).

Diversion.--None above measuring point.

Remarks.--This diversion used by the Dreyfus estate does not look as though it were being used at the present time.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 16	9:00 a.m.	0.00090	0.40		
Dec. 9	1:15 p.m.	No flow	No flow		Pool 25 ft above.
1954					
Mar. 10	10:00 a.m.	.020	9.0		
May 18	1:25 p.m.	.052	23	59	Measurement above junction box.
June 10	10:10 a.m.	.030	14	56	



## DOS PUERLOS CREEK NEAR NAPLES

Location.--Lat.  $34^{\circ}29'10''$ . long.  $119^{\circ}57'10''$ , at diversion of Dos Pueblos Ranch about 2.6 miles north of Highway 101 and about 2.9 miles north of Naples.

Established.--Recorder started at 3:00 p.m. Feb. 21, 1949.

Gage.--Recorder Stevens type F #12805-49 (3 day).

Altitude.--About 520 feet, from topographic map.

Description.--Control is a combination  $90^{\circ}$  V-notch weir and overflow weir.  
Measuring site about 150 feet upstream.

Diversion.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 20	6:25 a.m.	1.04	467	59	All horiz. wells flowing except 50d.
Sept. 21	8:00 a.m.	.84	376		All horiz.wells op.to fl.
Oct. 22	12:10 p.m.	1.08	485		do
Nov. 20	8:05 a.m.	.84	376	48	All wells closed after msm.
Dec. 9	12:25 p.m.	.33	148		All wells closed.
1954					
Jan. 6	11:55 a.m.	.30	133	51	All wells closed.
Feb. 10	11:05 a.m.	.60	268		do
Mar. 9	9:50 a.m.	.68	304	57	do
Apr. 13	12:45 p.m.	1.16	520	60	do
May 18	12 M.	.74	333		Wells above Station 50 are still off.
June 14	1:05 p.m.	.99	444	61	Wells opened June 8, 1954.

STATION 5Ca.

DOS PUEBLOS RANCH WELL ABOVE DIVERSION  
IN DOS PUEBLOS CANYON

Location.--Lat.  $34^{\circ}29'15''$ , long.  $119^{\circ}57'10''$ , about 1/4 mile above diversion.

Altitude.--About 550 feet, from topographic map.

Description.--Vertical well on west bank 50 feet from creek bed, drilled in 1949.

Date	Time	Discharge		Water level, in feet, below reference point	Remarks
		Cubic Feet per second	Gallons per minute		
1953					
July 20	7:40 a.m.	No flow	No flow	12.63	
Sept. 21	8:05 a.m.	do	do	14.50	
Oct. 22	7:35 a.m.	do	do	12.63	
Nov. 20	8:20 a.m.	do	do	12.67	
June 14	12:50 p.m.	do	do	13.04	

## WELL - UPPER HORIZONTAL WELL ON THE DOS PUEBLOS RANCH

Location.--Lat.  $34^{\circ}31'05''$ , long.  $119^{\circ}56'50''$ , about 2.5 miles upstream from Dos Pueblos Ranch Company's point of diversion and on the easterly side of the West Fork of Dos Pueblos Canyon Creek near Naples.

Altitude.--1,985 feet. (Furnished by Ranch Co.)

Description.--3-inch cased horizontal well extending 1,300 feet in northerly direction. This well is referred to as No. 129 by Dos Pueblos Ranch Company.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 20	9:05 a.m.	0.37	166	60	
Sept. 21	9:30 a.m.	.30	135		
Oct. 22	10:40 a.m.	.28	124	61	
Nov. 20	9:55 a.m.	.24	110	59	Well closed after meas.
June 14	9:00 a.m.	.37	168	59	Well opened June 3.

## WELL - HORIZONTAL WELL, DOS PUEBLOS RANCH

Location.--Lat.  $34^{\circ}31'00''$ , long.  $119^{\circ}56'55''$ , about 100 feet downstream from Station 50 and on the westerly side of the West Fork of Dos Pueblos Canyon Creek near Naples.

Altitude.--About 1,950 feet, from figure furnished by Dos Pueblos Ranch Company.

Description.--Two 3-inch cased holes: (131a) is 1,415 feet and (131b) 350 feet in a northerly direction. The two holes have a common discharge pipe.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 20	9:15 a.m.	0.58	259	59	
Sept. 21	9:35 a.m.	.52	232		
Oct. 22	10:50 a.m.	.48	214	59	
Nov. 20	10:00 a.m.	.45	203	58	Well closed after meas.
1954	June 14	.54	244	58	Well opened June 8.

STATION 50d.

## WELL, HORIZONTAL WELL, DOS PUEBLOS RANCH

Location--Lat.  $34^{\circ}30'55''$ , long.  $119^{\circ}56'15''$ , on westerly side of the East Fork of Dos Pueblos Canyon Creek near Naples.

Altitude--About 1,800 feet, from topographic map.

Description--Six-inch cased horizontal well extending 785 feet in westerly direction; which later caved in at 470 feet. Drillers re-casing with 4-inch pipe.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 20	11:00 a.m.	No flow	No flow		Well cut off.
Sept. 21	11:20 a.m.	0.24	107		Well cut in 11:45 a.m. on July 27.
Oct 22	8:50 a.m.	.22	100	63	
Nov. 20	12:45 p.m.	.21	96	62	Well closed after meas.
1954 June 14	11:30 a.m.	.25	114	63	Well opened June 8

STATION 51.

## SPRING - W. H. WOODS

Location.--Lat.  $34^{\circ}29'30''$ , long.  $119^{\circ}57'50''$ .Altitude.--About 750 feet, from topographic map.Description.--Seepage intercepted by 345-foot tunnel in mountainside. Discharge measured at end of pipe line to reservoir.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic Feet per second	Gallons per minute		
1953 Sept. 15	12 M.				23,000-gal. tank built since last visit. No way to measure.
Dec. 9	11:35 a.m.				No way to measure.
1954 Mar. 8	1:50 p.m.				do
May 18	10:30 a.m.				Rancher expects to have meas. valve in operation next month.
June 10	8:15 a.m.				Meas. valve not in operation yet.

## LAS VARAS CANYON CREEK AT LOWER DOTY DIVERSION

Location.--Lat.  $34^{\circ}28'00''$ , long.  $119^{\circ}58'00''$ , at diversion dam in Las Varas Canyon on Russell E. Doty property, about 0.7 mile north of Highway 101.

Altitude.--About 240', from topographic map.

Description.--Discharge obtained by measuring the diversion and waste bypassing the diversion.

Diversions.--Several above.

Remarks.--This is lowest diversion in canyon with several diversions and deep wells above.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic Feet per second	Gallons per minute		
1953					
Sept. 15	11:35 a.m.	0.014	6.2	60	Diversion not being used.
Dec. 9	10:55 a.m.	.012	5.6	46	do
1954					
Mar. 8	2:20 p.m.	.013	5.8		do
May 18	10:20 a.m.	.023	10		
June 10	7:50 a.m.	.016	7.1	55	

## GATO CANYON CREEK ABOVE DIVERSIONS

Location.--Lat.  $34^{\circ}29'50''$ , long.  $119^{\circ}58'10''$ , at end of roadway up Gato Canyon, about 2.8 miles north of Highway 101.

Altitude.--About 1,100 feet, from topographic map.

Description.--Measuring site in stream channel about 50 feet above diversion. During low-flow periods, volumetric measurements made in junction box about 200 feet below point of diversion, owned by Edwards estate.

Diversion.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 15	11:10 a.m.	0.0068	3.06	73	
Dec. 9	10:30 a.m.	.036	16	51	
1954					
Mar. 8	12:10 p.m.	.21	94	55	
May 18	9:15 a.m.	.15	66		
June 11	7:50 a.m.	.11	51	53	



## LAS YEGUAS CANYON CREEK

Location.--Lat.  $34^{\circ}28'20''$ , long.  $119^{\circ}59'30''$ , in Las Yeguas Canyon at road-crossing about 0.9 mile north of Highway 101.

Altitude.--About 190 feet, from topographic map.

Description.--Measurements made volumetrically or with current meter in the channel near the road-crossing.

Diversions.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	9:30 a.m.	0.0066	2.94	63	
Sept. 15	10:30 a.m.	.013	6.0	59	
Oct. 21	8:50 a.m.	.015	6.8	51	
Nov. 19	8:40 a.m.	.033	15	48	
Dec. 9	9:45 a.m.	.044	20	46	
1954					
Jan. 6	10:40 a.m.	.045	20	48	
Feb. 10	10:00 a.m.	.096	43		
Mar. 8	10:20 a.m.	.13	57	54	
Apr. 13	11:30 a.m.	.26	116	54	
May 14	9:30 a.m.	.11	48		
June 9	11:30 a.m.	.056	25	61	

## SPRING - EDWARDS ESTATE

Location.--Lat. 34°28'00", long. 119°59'30".

Altitude.--About 130 feet, from topographic map.

Description.--Wood-curbed spring box, 8 feet by 12 feet, east side of Las Yeguas Creek, at foot sandstone bluff. Discharge measured at 1-3/4-inch overflow pipe from spring box.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	8:20 a.m.	0.020	9.2	63	No overflow.
Sept. 15	10:25 a.m.				Pump running.
Oct. 21	8:40 a.m.	.022	10	63	
Nov. 19	8:50 a.m.	.017	7.8	63	
Dec. 9	9:35 a.m.				No overflow; no meas.
1954					Pump running; no overflow
Jan. 6	10:50 a.m.				
Jan. 8	11:00 a.m.	.023	10	63	
Feb. 10	9:45 a.m.	.023	10		
Mar. 8	10:30 a.m.	.024	11	61	
Apr. 13	10:50 a.m.	.023	10	61	
May 14	9:45 a.m.	.022	10	62	
June 9	11:15 a.m.	.026	12	62	

## LAS YEGUAS CANYON CREEK AT HIGHWAY 101

Location.--Lat.  $34^{\circ}27'40''$ , long.  $120^{\circ}00'00''$ , at Highway 101 road crossing, about 0.2 mile north of the Pacific Ocean.

Altitude.--About 40 feet, from topographic map.

Description.--Measuring site in the natural stream channel just below the bridge culvert.

Diversions.--Edwards Estate diverts from Spring #62 above.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	8:40 a.m.	0.15	66	61	
Sept. 15	10:45 a.m.	.13	59	59	
Dec. 9	10:00 a.m.	.11	49	49	
1954					
Jan. 6	11:10 a.m.	.14	61		
Feb. 10	10:40 a.m.	.18	83	59	
Mar. 8	11:00 a.m.	.36	163	56	
May 14	10:10 a.m.	.25	112	55	
June 9	10:55 a.m.	.26	115	58	

## SPRING - GILA LAND COMPANY

Location.--Lat.  $34^{\circ}28'10''$ , long.  $120^{\circ}00'30''$ .

Altitude.--About 230 feet, from topographic map.

Description.--Seep in creek bed.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 15	10:10 a.m.	0.0012	0.54	59	
Dec. 9	9:15 a.m.	.0013	.58	55	
1954					
Mar. 8	10:00 a.m.	.0045	2.02		
May 14	8:50 a.m.	No flow	No flow		Pools at spring.
June 9	11:45 a.m.	No flow	No flow		Channel dry.

## CAPITAN CREEK ABOVE GILA LAND COMPANY DIVERSION

Location.--Lat.  $34^{\circ}29'40''$ , long.  $120^{\circ}00'20''$ , above diversion at end of roadway, about 2.4 miles north of Highway 101.

Altitude.--About 800 feet, from topographic map.

Description.--Measuring site in natural channel about 200 feet upstream from the concrete diversion dam of Gila Land Company.

Diversion.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953 Sept. 25	7:00 a.m.				No measurement. Gate locked.
Dec. 9	8:30 a.m.	0.16	73	49	
1954 Mar. 8	9:00 a.m.	.34	152	53	
May 14	7:45 a.m.	.45	202		
June 9	10:10 a.m.	.37	166	54	

## SPRING - GEORGE M. WILLIAMS ESTATE

Location.--Lat.  $34^{\circ}29'10''$ , long.  $120^{\circ}02'10''$ .

Altitude.--About 300 feet, from topographic map.

Description.--Seepage at foot of sandstone cliff.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	7:55 a.m.	0.0030	1.36	62	
Sept. 15	9:35 a.m.	.0031	1.37	60	
Oct. 21	8:10 a.m.	.0010	.47		
Nov. 19	8:15 a.m.	.0018	.83	52	
Dec. 8	8:35 a.m.	.0020	.88	50	
1954					
Jan. 6	9:20 a.m.	.0020	.88	53	
Feb. 10	9:05 a.m.	.0012	.56	56	
Mar. 5	12:30 p.m.	.0019	.84	63	
Apr. 13	9:20 a.m.	.0026	1.16	60	
May 13	10:10 a.m.	.0020	1.16	57	
June 9	8:15 a.m.	.0028	1.26	57	

## CORRAL CREEK

Location.--Lat.  $34^{\circ}29'00''$ , long.  $120^{\circ}02'20''$ , in Canada del Corral about 1.4 miles north of Highway 101.

Altitude.--About 250 feet, from topographic map.

Description.--Measuring site in natural channel at or near cattle pen.

Diversions.--From one spring above station.

Date	Time	Discharge		Tempera- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	7:40 a.m.	0.027	12	62	
Sept. 15	8:55 a.m.	.013	5.8	59	
Oct. 21	8:05 a.m.	.014	6.2	50	
Nov. 19	8:05 a.m.	.089	40	45	
Dec. 8	8:45 a.m.	.11	51	48	
1954					
Mar. 5	1:40 p.m.	.52	235	54	
May 13	11:20 a.m.	.31	139	59	
June 9	7:55 a.m.	.15	66	55	

## SPRING - GEORGE M. WILLIAMS ESTATE

Location.--Lat.  $34^{\circ}29'20''$ , long.  $120^{\circ}02'30''$ .

Altitude.--About 350 feet, from topographic map.

Description.--Flow from narrow canyon in sandstone. Discharge measured at outlet of natural pool.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 15	9:10 a.m.	0.0015	0.68	59	
Dec. 8	9:20 a.m.	.0028	1.25	50	
1954					
Mar. 5	1:05 p.m.	.0047	2.11	53	
May 13	10:45 a.m.	.0044	1.98	59	
June 9	8:45 a.m.	.0038	1.69	55	



## SPRING - COVARRUBIAS ESTATE

Location.--Lat.  $34^{\circ}28'20''$ , long.  $120^{\circ}02'30''$ .

Altitude.--About 100 feet, from topographic map.

Description.--Seepage into creek above diversion dam. Discharge measured at sandbox about 120 feet downstream from diversion dam.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 14	7:35 a.m.	0.046	21	68	
Sept. 15	8:35 a.m.	.028	13	58	
Oct. 21	7:50 a.m.	.023	10	52	
Nov. 19	7:55 a.m.	.015	6.7	50	
Dec. 8	8:20 a.m.	.061	27	51	
1954					
Mar. 5	11:50 a.m.	.64	285		
May 13	12 M.	.68	304	60	
June 9	7:30 a.m.	.24	110	54	

## SPRING - ERRO ESTATE

Location.--Lat.  $34^{\circ}29'40''$ , long.  $120^{\circ}03'20''$ .

Altitude.--About 430 feet, from topographic map.

Description.--Pool in creek bottom on sandstone beds.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 15	8:25 a.m.	0.017	7.6	59	
Dec. 8	8:00 a.m.	.015	6.6	47	
1954					
Mar. 5	10:45 a.m.	.011	4.71	55	
May 13	9:10 a.m.	.026	12	57	
June 9	7:10 a.m.	.018	3.1	56	

**SPRING - GEORGE M. WILLIAMS ESTATE**

Location.--Lat.  $34^{\circ}28'40''$ , long.  $120^{\circ}03'20''$ .

Altitude.--About 200 feet, from topographic map.

**Description.**--Seepage into uncurbed pool in narrow valley on hillside.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1954					
Mar. 5	10:35 a.m.	No flow	No flow		
May 13	9:30 a.m.	do	do		
June 9	7:15 a.m.	do	do		Side bank dry.

## SPRING - MRS. FLORENCE BROWN

Location.--Lat.  $34^{\circ}31'30''$ , long.  $120^{\circ}03'20''$ .

Altitude.--About 1,800 feet, from topographic map.

Description.--Stone-curbed pool west side of creek. Discharge measured at valve 50 feet below spring. Prior to April 21, 1950 discharge measured at end of 3/4-inch pipeline about 2,000 feet below spring.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	10:45 a.m.	0.0031	1.38	58	
Sept. 14	10:25 a.m.	.0017	.75	59	
Oct. 19	8:55 a.m.	.0030	1.34	57	
Nov. 12	8:55 a.m.	.0036	1.63	57	
Dec. 7	11:50 a.m.	.0035	1.56	57	
1954					
Jan. 5	12:45 p.m.	.0030	1.36	56	
Feb. 12	12:45 p.m.	.0033	1.50	54	
Mar. 4	2:50 p.m.	.0032	1.42	55	
Apr. 12	12:40 p.m.	.0035	1.57	56	
May 12	9:55 a.m.	.0026	1.15	54	
June 8	11:00 a.m.	.0026	1.17	55	

## SPRING - MRS. FLORENCE BROWN

Location.--Lat.  $34^{\circ}31'00''$ , long.  $120^{\circ}03'30''$ .

Altitude.--About 1,250 feet, from topographic map.

Description.--Two small short tunnels dug into sandstone cliff about 45 feet above stream bed. Beginning Jan. 16, 1950 discharge measured at valve on canyon crossing about 200 feet below spring.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	11:30 a.m.				Line plugged. Flow in un- controlled seeps.
Sept. 14	11:45 a.m.				do
Dec. 7	12:45 p.m.				do
1954					
Mar. 4	4:30 p.m.	0.0050	2.22	60	Measured major seep. Some flow not included.
May 12	11:40 a.m.	.0021	.94		do
June 8	12:15 p.m.				Pipe line dry. Small amt. seepage from tunnels.

## SPRING - MRS. FLORENCE BROWN

Location.--Lat.  $34^{\circ}30'50''$ , long.  $120^{\circ}03'40''$ .

Altitude.--About 1,200 feet, from topographic map.

Description.--Drilled hole into sandstone cliff, 25 feet above creek. Discharge measured at end of 1/2-inch pipe.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	11:40 a.m.	0.012	5.6	64	
Sept. 14	11:55 a.m.	.0043	1.92	63	Estimate this is about $\frac{1}{2}$ the flow. Balance in uncontrolled seeps.
Oct. 19	8:00 a.m.	.0018	.82	59	do
Nov. 12	8:00 a.m.	.0016	.72	61	do
Dec. 7	12:50 p.m.				Line plugged. Flow in uncontrolled seeps.
1954					
Jan. 5	2:00 p.m.	.023	10	57	All flow.
Feb. 12	1:50 p.m.	.027	12	52	do
Mar. 4	4:00 p.m.	.032	14	54	do
Apr. 12	1:55 p.m.	.025	11	57	do
May 12	11:20 a.m.	.016	7.4		do
June 8	12:30 p.m.	.022	10	58	

## SPRING - WILLIAM FELIZ

Location.--Lat.  $34^{\circ}31'30''$ , long.  $120^{\circ}04'30''$ .

Altitude.--About 2,000 feet, from topographic map.

Description.--Seepage from hole dug into hillside.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	11:30 a.m.	0.0028	1.25		
Sept. 14	10:45 a.m.	.0010	.47	63	
Oct. 19	8:25 a.m.	.00087	.39	59	
Nov. 12	8:30 a.m.	.00089	.40	59	
Dec. 7	12:15 p.m.	.0024	1.10	63	
1954					
Jan. 5	1:15 p.m.	.0012	.53	62	
Feb. 12	1:10 p.m.	.0012	.54	56	
Mar. 4	3:20 p.m.	.0018	.80	58	
Apr. 12	1:10 p.m.	.0011	.51	62	
May 12	10:40 a.m.	.0022	1.00	54	
June 8	11:25 a.m.	.0026	1.15	58	

## CANADA DEL REFUGIO CREEK

Location.--Lat.  $34^{\circ}30'30''$ , long.  $120^{\circ}03'50''$ , at forks of Canada del Refugio Creek near Refugio Guard Station about 3.0 miles north of Highway 101.

Altitude.--About 400 feet, from topographic map.

Description.--Measuring site at fork just below Circle-Bar-B Ranch and above diversion for  $2\frac{1}{2}$ -inch line in creek bed, or during extremely low flows observations can be made by volumetric means at culvert about 100 yards upstream.

Diversions.--Only minor diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	11:45 a.m.	0.23	105	65	
Sept. 14	12:05 p.m.	.25	111	63	
Oct. 19	7:50 a.m.	.26	115	55	
Nov. 12	7:45 a.m.	.30	136	57	
Dec. 7	12:55 p.m.	.25	111	52	
1954					
Jan. 5	2:30 p.m.	.22	100		
Feb. 12	2:10 p.m.	.33	150	52	
Mar. 5	9:00 a.m.	.35	158	55	
Apr. 12	2:20 p.m.	.48	214	58	
May 12	12:05 p.m.	.32	143	58	
June 8	1:00 p.m.	.23	105		



## SPRING - C. DAL POZZO &amp; ALEGRIA ESTATE

Location.--Lat.  $34^{\circ}30'10''$ , long.  $120^{\circ}04'00''$ .

Altitude.--About 420 feet, from topographic map.

Description.--Seepage at foot of sandstone cliff. Discharge measured at east side of culvert under road.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	11:55 a.m.	0.0043	1.92	66	Leak in line repaired since last visit.
Sept. 14	12:10 p.m.	.0033	1.49	64	
Oct. 19	7:45 a.m.	.0037	1.67	55	
Nov. 12	7:40 a.m.	.0041	1.83	57	
Dec. 7	1:00 p.m.	.0034	1.55	56	
1954					
Jan. 5	3:00 p.m.	.0042	1.90	54	
Feb. 12	2:20 p.m.	.0045	2.00	53	
Mar. 5	9:15 a.m.	.0056	2.51	54	
Apr. 12	2:35 p.m.	.0048	2.14	60	
May 12	12:20 p.m.	.0045	2.00	56	
June 8	1:20 p.m.	.0033	1.49	62	

STATION 87.

## SPRING - JOHN ALEGRIA

Location.--Lat.  $34^{\circ}30'10''$ , long.  $120^{\circ}03'40''$ .Altitude.--About 450 feet, from topographic map.Description.--Drilled hole in sandstone cliff. Discharge measured by disconnecting union in pipe line near spring.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	12:10 p.m.	0.0023	1.04	69	New well being drilled below.
Sept. 14	1:00 p.m.	.0062	2.78	68	
Oct. 19	7:35 a.m.	.0030	1.35	61	
Nov. 12	7:35 a.m.	.0030	1.33	62	
Dec. 7	1:15 p.m.	.0038	1.69	65	
1954					
Jan. 5	3:15 p.m.	.0033	1.50	66	
Feb. 12	2:35 p.m.	.0033	1.50	57	
Mar. 5	9:40 a.m.	.0031	1.39	60	
Apr. 12	3:15 p.m.	.0030	1.34		
May 13	7:45 a.m.	.0029	1.29	60	
June 7	1:50 p.m.	.0029	1.30	72	

STATION 88.

## SPRING - M. F. ERRO

Location.--Lat.  $34^{\circ}28'20''$ , long.  $120^{\circ}04'10''$ .Altitude.--About 100 feet, from topographic map.Description.--Uncurbed seep at foot of bluff, west side Refugio Creek. Discharge at end of 2-inch pipe to stock trough.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 14	1:20 p.m.				Flow in uncontrolled seeps.
Dec. 7	1:25 p.m.				do
1954					
Mar. 5	9:55 a.m.	No flow	No flow		Spring dry except for pools.
May 13	7:20 a.m.				Line plugged. Flow in uncontrolled seeps.
June 7	2:20 p.m.				Still flow in creek. Very little seepage from this station. No attempt to measure.

STATION 89.

## SPRING - M. F. ERRO

Location---Lat.  $34^{\circ}28'20''$ , long.  $120^{\circ}04'10''$ .Altitude---About 100 feet, from topographic map.Description---Seepage collected in shallow ditch at foot of bluff, west side Refugio Creek. Discharge measured at end of 2-inch pipe to stock trough.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953 Sept. 14	1:15 p.m.				Line plugged. Flow in uncontrolled seeps.
Dec. 7 1954	1:30 p.m.				do
Mar. 5	10:00 a.m.				do
May 13	7:15 a.m.				do
June 7	2:20 p.m.				More seepage here than at Station 88.

STATION 90.

## SPRING - M. F. EERO

Location.--Lat. 34°28'00", long. 120°04'10".Altitude.--About 70 feet, from topographic map.Description.--Wood-curbed spring at foot of bluff. Measured discharge represents total flow into two stock troughs.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	12:30 p.m.	0.011	5.0	66	
Sept. 14	1:30 p.m.	.010	4.42	64	
Oct. 19	7:15 a.m.	.0082	3.66	61	
Nov. 12	7:15 a.m.	.0093	4.17	62	
Dec. 7	1:35 p.m.	.0080	3.57	61	
1954					
Jan. 5	3:40 p.m.	.0076	3.40	60	
Feb. 12	3:00 p.m.	.0077	3.44	60	
Mar. 5	10:15 a.m.	.020	8.9	60	
Apr. 12	3:30 p.m.	.0066	2.95	62	
May 13	7:00 a.m.	.0095	4.25		
June 7	2:35 p.m.	.0067	3.00	63	

## SPRING - TOM KINEVAN

Location.--Lat.  $34^{\circ}30'30''$ , long.  $119^{\circ}50'00''$ .

Altitude.--About 2,380 feet, from topographic maps.

Description.--Open pool in alluvial veneer on sandstone.

Date	Time	Discharge		Water level, in feet, below reference point	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	12:20 p.m.	-	-	2.28	
Sept. 24	10:05 a.m.	-	-	2.34	
Oct. 21	1:15 p.m.	-	-	2.36	
Nov. 18	10:55 a.m.	-	-	2.25	
Dec. 18	9:00 a.m.	-	-	2.23	
1954					
Jan. 7	10:55 a.m.	-	-	2.27	
Feb. 23	8:50 a.m.	-	-	1.98	
Mar. 25	9:05 a.m.	-	-	1.69	
Apr. 26	9:20 a.m.	-	-	1.92	
May 19	12:35 p.m.	-	-	2.12	
June 18	8:15 a.m.	-	-	2.23	

## SPRING - MRS. NELL K. REAM

Location.--Lat.  $34^{\circ}30'40''$ , long.  $119^{\circ}50'00''$ .

Altitude.--About 2,340 feet, from topographic map.

Description.--Seep in alluvial veneer on sandstone.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	10:10 a.m.	No flow	No flow		
Dec. 18	9:05 a.m.	do	do		Water in spring pit.
1954					
Mar. 25	9:15 a.m.	do	do		do
Apr. 26	9:55 a.m.	do	do		
May 19	12:40 p.m.	do	do		
June 18	8:20 a.m.	do	do		

## SPRING - MRS. NELL K. REAM

Location.--Lat.  $34^{\circ}30'40''$ , long.  $119^{\circ}50'00''$ .

Altitude.--About 2,320 feet, from topographic map.

Description.--Covered pool in alluvium on sandstone in creek bed. Discharge measured at inflow to settling box.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	12:25 p.m.	0.015	6.8	57	
Sept. 24	10:15 a.m.	.013	6.0	58	
Oct. 21	1:25 p.m.	.014	6.5	56	
Nov. 18	11:05 a.m.	.018	7.9	56	
Dec. 18	9:20 a.m.	.018	7.9	56	
1954					
Jan. 7	11:15 a.m.	.012	5.4	58	
Feb. 23	9:00 a.m.	.026	12	58	
Mar. 25	9:20 a.m.	.025	11	47	
Apr. 26	10:00 a.m.	.012	5.6	54	
May 19	12:20 p.m.	.011	4.9	56	
June 18	8:25 a.m.	.012	5.4	58	



## SPRING - TOM KINEVAN

Location.--Lat.  $34^{\circ}30'10''$ , long.  $119^{\circ}50'00''$ .

Altitude.--About 2,350 feet, from topographic map.

Description.--Covered seep in alluvial veneer on sandstone. Discharge measured as inflow to storage tank.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 21	12:15 p.m.	0.0027	1.23	64	
Sept. 24	10:00 a.m.	.0013	.57	64	
Oct. 21	1:20 p.m.	.0015	.69	59	
Nov. 18	11:00 a.m.	.0018	.82	57	
Dec. 18	8:55 a.m.	.0019	.83	58	
1954					
Jan. 7	11:00 a.m.	.0013	.60	57	
Feb. 23	8:45 a.m.	.0049	2.18	60	
Mar. 25	9:00 a.m.	.0058	2.59	58	
Apr. 26	9:45 a.m.	.0035	1.58	57	
May 19	12:30 p.m.	.0025	1.13	60	
June 18	8:10 a.m.	.0038	.17	61	

## SPRING - P. C. BRYCE, U. S. FOREST SERVICE

Location.--Lat.  $34^{\circ}30'10''$ , long.  $119^{\circ}51'40''$ .Altitude.--About 2,900 feet, from topographic map.Description.--Plank-curbed and covered pool in alluvium on sandstone in creek bottom.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	7:40 a.m.	No flow	No flow		
Nov. 18	8:20 a.m.	do	do		Water in spring pit.
Dec. 17	8:15 a.m.	do	do		do
1954					
Mar. 24	9:10 a.m.	0.012	5.36	46	
Apr. 22	8:50 a.m.	.0011	.50	62	
May 19	9:25 a.m.	.00023	.10	67	
June 15	8:40 a.m.	No flow	No flow		Water in spring pit.

STATION 97.

## SPRING - MRS. ADELAIDE OVINGTON

Location.--Lat.  $34^{\circ}31'10''$ , long.  $119^{\circ}50'20''$ .Altitude.--About 1,850 feet, from topographic map.Description.--Seeps in landslide on valley side. Discharge measured at settling box. These measurements do not include the discharge of the upper and lower undeveloped springs.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	10:30 a.m.	0.0098	4.42	59	
Dec. 18	8:40 a.m.	.021	9.4	57	
1954					
Mar. 25	9:35 a.m.	.031	14	57	
Apr. 26	10:10 a.m.	.021	9.4	58	
May 19	1:00 p.m.	.015	6.8	59	
June 15	12:45 p.m.	.011	5.1	61	

## COLD SPRING CANYON CREEK AT HIGHWAY 150

Location.--Lat.  $34^{\circ}31'20''$ , long.  $119^{\circ}50'20''$ , below the principal forks at Highway 150.

Altitude.--About 1,600 feet, from topographic map.

Description.--Measuring site in natural channel at Highway culvert.

Diversion.--Diversion of about 2 miner's inches occurs above measuring site.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	11:40 a.m.	0.050	22	58	
Dec. 17	12:20 p.m.	.040	18	46	
1954					
Mar. 10	2:10 p.m.	.053	24	48	
May 14	11:20 a.m.	.059	26	48	
June 9	12:55 p.m.	.037	17	50	

STATION 99.

## SPRING - U. S. FOREST SERVICE

Location.--Lat.  $34^{\circ}30'40''$ , long.  $119^{\circ}52'40''$ .Altitude.--About 2,475 feet, from topographic map.Description.--Seeps in alluvium on hillside.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	7:50 a.m.	No flow	No flow		
Nov. 18	8:40 a.m.	do	do		
Dec. 17	8:25 a.m.	do	do		
1954					
Mar. 24	8:30 a.m.	do	do		
Apr. 22	8:15 a.m.	do	do		
May 19	8:50 a.m.	do	do		
June 15	8:00 a.m.	do	do		

## SPRING - P. C. BRYCE, U. S. FOREST SERVICE

Location.--Lat.  $34^{\circ}30'40''$ , long.  $119^{\circ}52'20''$ .

Altitude.--About 2,025 feet, from topographic map.

Description.--Seeps in alluvium on creek bed and valley well.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 24	8:00 a.m.	0.0044	1.95	58	
Nov. 18	9:00 a.m.	.0046	2.07	52	
Dec. 17	8:45 a.m.	.0033	1.50	48	
1954					
Mar. 24	8:45 a.m.	.020	9.0	53	
Apr. 22	8:30 a.m.	.0076	3.40	55	
May 19	9:05 a.m.	.0073	3.27	56	
June 15	8:15 a.m.	.0065	2.90	58	

STATION 101.  
AND 102.

SPRING - IRVING WILLS

Location.--Lat.  $34^{\circ}31'40''$ , long.  $119^{\circ}51'30''$ .

Altitude.--About 1,280 feet, from topographic maps.

Description.--Seep in alluvium on shale. Discharge measured at inflow to settling box from upper 2-inch line.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
May 27	-	0.020	9.1		Measured by Heacock of State Division of Public Works
June 27	9:00 a.m.	.0041	1.86		do
	4:00 p.m.	.0023	1.02		do
July 15	10:05 a.m.	No flow	No flow		
Sept. 24	11:05 a.m.	do	do		
Oct. 23	10:35 a.m.	do	do		
Nov. 18	12 M.	.00029	0.13	56	
Dec. 18	7:55 a.m.	.00046	.21	41	
1954					
Jan. 7	10:20 a.m.	No flow	No flow		
Feb. 23	8:05 a.m.	.069	31	48	
Mar. 25	10:30 a.m.	.061	27	53	
Apr. 26	11:00 a.m.	.060	27	58	
May 20	9:45 a.m.	.010	4.66	54	
June 18	7:35 a.m.	No flow	No flow		Junction box was locked; could not hear water running.

STATION 103.

## SPRING - S. A. NASH-BOULDAN, U. S. FOREST SERVICE

Location.--Lat.  $34^{\circ}31'50''$ , long.  $119^{\circ}51'50''$ .Altitude.--About 1,100 feet, from topographic map.Description.--Seeps in alluvium on valley side. Discharge measured from rate of recovery of water level after it had been bailed below certain level.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 15	10:00 a.m.	0.0034	1.53	60	
Sept. 24	11:00 a.m.	.0034	1.55	60	
Oct. 23	10:30 a.m.	.0018	.79	57	
Nov. 18	11:45 a.m.	.0027	1.20	56	
Dec. 18	8:15 a.m.	.0015	.65	54	
1954					
Jan. 7	10:15 a.m.	.0018	.79	57	
Feb. 23	7:45 a.m.	.0023	1.03	58	
Mar. 25	10:00 a.m.	.0024	1.06	57	
Apr. 26	10:40 a.m.	.0031	1.38	54	
May 20	9:30 a.m.	.0013	.60	57	
June 18	7:20 a.m.	.0013	.57	58	



STATION 104.

UNNAMED CREEK TRIBUTARY TO LOS LAURELES CANYON CREEK

Location.--Lat.  $34^{\circ}32'10''$ , long.  $119^{\circ}51'30''$ , above Highway 150.

Altitude.--About 850 feet, from topographic map.

Description.--Measuring site in natural stream channel.

Diversions.--Diversions above from springs 101, 102 and 103, by Irving Wills and Nash-Bouldan.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	11:15 a.m.	No flow	No flow		
Dec. 17	11:45 a.m.	do	do		
1954					
Mar. 10	1:40 p.m.	0.052	23	54	
May 14	10:30 a.m.	.036	16	54	
June 9	12:30 p.m.	No flow	No flow		Channel dry.

STATION 105.

SPRING - A. DOWLING

Location.--Lat.  $34^{\circ}32'20''$ , long.  $119^{\circ}51'50''$ .

Altitude.--About 920 feet, from topographic map.

Description.--Small spring in debris filled draw and stone-curbed spring in adjacent draw connected together and piped to storage tank. Discharge measured at end of 1-inch pipe line to storage tank.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	10:00 a.m.	0.00038	0.17	76	
Dec. 17	10:15 a.m.	.0012	.54	50	
1954					
Mar. 10	12:05 p.m.	.00042	.19	52	
May 14	8:30 a.m.	.00084	.38	54	
June 9	11:00 a.m.	.00088	.40	62	

STATION 106.

SPRING - A. DOWLING

Location.--Lat.  $34^{\circ}32'20''$ , long.  $119^{\circ}52'00''$ .

Altitude.--About 1,000 feet, from topographic map.

Description.--Wood-curbed spring box in draw, 4-inch horizontal well (187 feet long) and two small seeps connected together and piped to house or storage tank. Discharge measured at sunken concrete storage tank below swimming pool.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	10:50 a.m.	0.0030	1.36	65	
Dec. 17	11:20 a.m.	.0037	1.67	54	
1954					
Mar. 10	1:15 p.m.	.0033	1.50	52	
May 14	10:00 a.m.	.0037	1.67	54	
June 9	12:05 p.m.	.0030	1.36	60	

## SPRING - A. DOWLING

Location.--Lat.  $34^{\circ}32'20''$ , long.  $119^{\circ}52'00''$ .

Altitude.--About 1,100 feet, from topographic map.

Description.--Measured at union 50 feet below a 187-foot horizontal well.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	10:15 a.m.	0.00070	0.31	62	
Dec. 17	10:30 a.m.	.0033	1.50	58	
1954					
Mar. 10	12:30 p.m.	.0021	.94	58	
May 14	9:00 a.m.	.0026	1.15	54	
June 9	11:20 a.m.	.0020	.88	58	

STATION 106b.

SPRING - A. DOWLING

Location---Lat.  $34^{\circ}32'20''$ , long.  $119^{\circ}52'05''$ .

Altitude---About 1,200 feet, from topographic map.

Description---Measured 50 feet below wood-curbed box in canyon.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	10:30 a.m.	0.00043	0.19	60	
Dec. 17	11:00 a.m.	.00074	.33	50	
1954					
Mar. 10	12:50 p.m.	.00051	.23	52	
May 14	9:20 a.m.	.00039	.18	52	
June 9	11:35 a.m.	.00063	.28	52	

## HOT SPRINGS CREEK AT MOUTH NEAR SANTA BARBARA

Location.--Lat.  $34^{\circ}32'40''$ , long.  $119^{\circ}52'50''$ , at Highway 150 crossing about 0.5 mile above junction with Santa Ynez River.

Altitude.--About 825 feet, from topographic map.

Description.--Measuring site in natural channel just upstream of the Highway.

Diversion.--One diversion of  $1\frac{1}{2}$  miner's inch above, reported by manager of Murphy Ranch.

Previous measurements.--1935 to 1946.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
June 12	9:10 a.m.	0.17	76		Measurement by USBR
19	9:15 a.m.	.19	81		do
July 3	9:25 a.m.	.12	54		do
10	9:30 a.m.	.11	49		do
Aug. 31	9:40 a.m.	.10	46		do
Sept. 8	9:35 a.m.	.055	25		do
10	9:35 a.m.	.040	18	60	
28	9:25 a.m.	.040	18		Measurement by USBR
Oct. 6	9:25 a.m.	.074	33		do
12	9:35 a.m.	.21	94		do
17	10:00 a.m.	.20	90		do
26	9:40 a.m.	.17	76		do
Nov. 2	9:20 a.m.	.19	85		do
17	1:05 p.m.	.22	99	54	
18	9:55 a.m.	.20	90		Measurement by USBR
23	8:55 a.m.	.19	85		do
30	9:25 a.m.	.18	81	54	do
Dec. 7	9:40 a.m.	.19	85	48	do
14	9:20 a.m.	.18	81	49	do
16	1:50 p.m.	.17	77	50	
21	9:05 a.m.	.20	90	48	Measurement by USBR
28	9:35 a.m.	.20	90	46	do
1954					
Jan. 5	10:00 a.m.	.17	76	47	do
Mar. 10	11:30 a.m.	.20	92	54	
May 14	7:45 a.m.	.18	81	52	
June 9	10:15 a.m.	.11	48	56	

STATION 11Ca.

HOT SPRINGS CREEK ABOVE DIVERSION

Location.--Lat.  $34^{\circ}32'30''$ , long.  $119^{\circ}52'50''$ . About 1.0 mile above junction with Santa Ynez River.

Altitude.--About 950 feet, from topographic map.

Description.--Measurements made in creek bed above point of diversion.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	9:10 a.m.	0.19	87	62	
Nov. 17	12:20 p.m.	.18	80	52	
Dec. 16	1:20 p.m.	.17	76	52	
1954					
Mar. 10	10:55 a.m.	.20	89	54	
May 14	7:15 a.m.	.15	66	52	
June 9	9:45 a.m.	.12	53	54	

## UNNAMED CREEK TRIBUTARY TO SANTA YNEZ RIVER

Location.--Lat.  $34^{\circ}33'10''$ , long.  $119^{\circ}54'40''$ , at a site along Highway 150 and about 1.0 mile above junction with the Santa Ynez River.

Altitude.--About 800 feet, from topographic map.

Description.--Measuring site in natural stream channel.

Diversion.--None reported above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	8:50 a.m.	No flow	No flow		
Nov. 17	1:30 p.m.	do	do		
Dec. 16	12:45 p.m.	do	do		
1954					
Mar. 10	10:20 a.m.	0.056	25	54	
May 14	6:45 a.m.	No flow	No flow		
June 9	9:20 a.m.	No flow	No flow		Channel dry.



## SPRING - T. M. STORKE

Location.--Lat.  $34^{\circ}32'50''$ , long.  $119^{\circ}56'10''$ .

Altitude.--About 1,190 feet from topographic map.

Description.--Wood-curbed seep in alluvium in creek bed. Discharge obtained by bailing water from spring and measuring the rate of recovery.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 11	10:30 a.m.	No Flow	No Flow		Pool at spring
Oct. 20	11:45 a.m.	do	do		do
Nov. 19	10:45 a.m.	do	do		do
Dec. 18	9:00 a.m.	do	do		do
1954					
Jan. 15	10:45 a.m.	do	do		do
Feb. 10	10:45 a.m.	0.021	9.4		
Mar. 11	10:45 a.m.	.033	15	48	
Apr. 13	11:45 a.m.	.041	18	48	
May 13	10:40 a.m.	.016	7.2	50	
June 10	10:20 a.m.	.0037	1.67	50	

## SPRING - T. M. STORKE

Location.--Lat.  $34^{\circ}33'00''$ , long.  $119^{\circ}56'10''$ .

Altitude.--About 1,185 feet, from topographic map.

Description.--Two wood-curbed seeps on valley side. Discharge measured at aerator. Water has a "sulphur" odor and taste.

Date	Time	Discharge		Tempera- ture °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	11:20 a.m.	0.0016	0.71	76	
Sept. 11	10:15 a.m.	.00093	.42	80	
Oct. 20	11:30 a.m.	.00088	.40	66	
Nov. 19	10:25 a.m.	.00098	.44	60	
Dec. 18	8:45 a.m.	.00096	.43	54	
1954					
Jan. 15	10:30 a.m.	.0010	.47	56	
Feb. 10	10:30 a.m.	.0017	.75	54	
Mar. 11	10:30 a.m.	.0026	1.15	56	
Apr. 13	11:30 a.m.	.0033	1.50	68	
May 13	10:15 a.m.	.0030	1.36	60	
June 10	10:00 a.m.	.0021	.94	66	

STATION 122.

BEAR CANYON CREEK ABOVE STORKE DIVERSION

Location.--Lat.  $34^{\circ}32'30''$ ,  $119^{\circ}56'30''$ . at diversion dam 1.2 miles southwest of Storke residence.

Altitude.--About 1,600 feet, from topographic map.

Description.--Measuring site just above Storke diversion dam.

Diversión.--None reported above station.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 11	9:30 a.m.	0.0030	1.36	58	
Nov. 19	9:45 a.m.	.0051	2.31	44	
Dec. 18	9:45 a.m.	.0077	3.47	46	
1954					
Mar. 11	9:45 a.m.	.017	7.5	46	
May 13	9:45 a.m.	.017	7.8	52	
June 10	9:20 a.m.	.011	4.87	50	

STATION 123.

SPRING - DAVID GRAY, JR.

Location.--Lat.  $34^{\circ}38'40''$ , long.  $119^{\circ}56'40''$ .

Altitude.--About 1,600 feet from topographic map.

Description.--Wood-curbed spring in hillside. Discharge measured at spring.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	10:00 a.m.	0.0019	0.83	70	*
Sept. 11	9:00 a.m.	.0018	.79		
Oct. 20	10:40 a.m.	.0021	.94	58	
Nov. 19	9:00 a.m.	.0017	.75	48	
Dec. 18	10:30 a.m.	.0017	.75	60	
1954					
Jan. 15	9:10 a.m.	.0016	.71	44	
Feb. 10	9:00 a.m.	.0020	.88	54	
Mar. 11	8:30 a.m.	.0022	1.00	50	
Apr. 13	10:15 a.m.	.0033	1.50	56	
May 13	8:15 a.m.	.0030	1.36	56	
June 10	8:00 a.m.	.0028	1.25	70	

\* New spring box installed since last visit.

## SPRING - T. M. STORKE

Location.--Lat.  $34^{\circ}33'20''$ , long.  $119^{\circ}55'40''$ .

Altitude.--About 850 feet, from topographic map.

Description.--Three wood-curbed seeps in alluvium capping terrace. Discharge measured as inflow to galvanized corrugated storage tank. Only combined flow of springs 124 and 125 measured after June 15, 1953.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	11:40 a.m.	0.0042	1.90		
Sept. 11	11:10 a.m.	.0042	1.88	72	
Nov. 19	11:20 a.m.	.0037	1.67	52	
Dec. 18	12:10 p.m.	.0033	1.50	52	
1954					
Feb. 10	11:30 a.m.	.0030	1.36	50	
Mar. 11	11:40 a.m.	.0022	1.00	52	
Apr. 13		.0066	3.00	64	
May 13	11:45 a.m.	.0048	2.15	56	
June 10	11:00 a.m.	.0042	1.88	58	

## UNNAMED TRIBUTARY TO SANTA YNEZ RIVER ABOVE GRAY DIVERSION

Location.--Lat.  $34^{\circ}32'40''$ , long.  $119^{\circ}56'50''$ , above Gray diversion about 1.7 miles south of Highway 150.

Altitude.--About 1,600 feet, from topographic map.

Description.--Just below wooden catchment box in creek bed, operated by David Gray, Jr.

Diversion.--None reported above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	10:20 a.m.	0.0013	0.60	66	
Sept. 11	8:35 a.m.	No flow	No flow		
Dec. 18	11:05 a.m.	do	do		
1954					
Jan. 15	9:30 a.m.	do	do		
Feb. 10	9:30 a.m.	do	do		
Mar. 11	9:05 a.m.	.0028	1.25	54	
Apr. 13	10:30 a.m.	.017	7.5	56	
May 13	8:30 a.m.	.019	8.6	54	
June 10	8:40 a.m.	.0026	1.15	54	

STATION 127.

## SPRING - DAVID GRAY, JR.

Location.--Lat.  $34^{\circ}32'50''$ , long.  $119^{\circ}56'50''$ .Altitude.--About 1,560 feet, from topographic map.Description.--Filled hole into sandstone exposure. Discharge measured at end of hose into earth reservoir.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	10:35 a.m.	0.00056	0.25	56	
Sept. 11	8:20 a.m.	.00047	.21	58	
Dec. 18	10:50 a.m.	.00040	.18	54	
1954					
Jan. 15	9:45 a.m.	.00040	.18	54	
Feb. 10	9:20 a.m.	.00052	.23	52	
Mar. 11	8:50 a.m.	.00064	.29	54	
Apr. 13	10:45 a.m.	.00093	.42	54	
May 13	8:50 a.m.	.00071	.32	52	
June 10	8:20 a.m.	.00060	.27	54	

UNNAMED TRIBUTARY OF N. SANTA YNEZ RIVER -  
R. G. WELCH RANCH

Location.--Lat.  $34^{\circ}34'00''$ , long.  $119^{\circ}56'00''$ , at Highway 150 crossing about 0.4 mile above junction with the Santa Ynez River.

Altitude.--About 700 feet, from topographic map.

Description.--Measuring site in natural stream channel above highway.

Diversion.--Several diversions above.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	1:15 p.m.	0.030	13	72	
Dec. 14	1:30 p.m.	.032	14	56	
1954					
Mar. 8	1:40 p.m.	.025	11	62	
May 10	12:45 p.m.	.027	12	74	
June 7	12:45 p.m.	.031	14	64	



STATION 128a.

## SEEPAGE FROM NORTH PORTAL OF TECOLOTE TUNNEL

Location.--Lat. 34°34'00", long. 119°55'50". at North Portal.Altitude.--About 670 feet, from topographic map.Description.--Water pumped out of excavation, measured at end of 6-inch pipe at point of wastage.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	1:15 p.m.	0.28	126	74	
Sept. 11	7:15 a.m.	.35	159		
Oct. 21	1:35 p.m.	.26	118	68	
26	10:15 a.m.	.57	256		Measured by USBR
Nov. 2		.52	233		do
9	3:20 p.m.	.54	240		do
19	7:50 a.m.	.70	313	74	
19	12:45 p.m.	.58	262	75	
23	9:55 a.m.	.71	308		Measured by USBR
30	9:55 a.m.	.51	229	76	do
Dec. 7	10:35 a.m.	.55	247		do
14	9:45 a.m.	.49	220	76	do
18	7:50 a.m.	.59	263	76	
21	9:45 a.m.	.50	224	75	Measured by USBR
28	10:15 a.m.	.53	238	74	do
1954					
Jan. 5	10:25 a.m.	.60	269	75	do
15	8:15 a.m.	.74	330	75	
Feb. 9	10:30 a.m.	.62	277		
Mar. 11	12:30 p.m.	No Flow	No Flow		Lower gate sealed to flood tunnel.
Apr. 13	1:05 p.m.	.56	252	72	
May 13	6:55 a.m.	.59	265	70	
June 14	9:20 a.m.	.55	246	71	

STATION 129.

TEQUEPIS CREEK ABOVE BOY SCOUT CAMP DIVERSION

Location.--Lat.  $34^{\circ}32'20''$ , long.  $119^{\circ}57'30''$ . at Mrs. Clark's diversion, about 2.4 miles south of Highway 150.

Altitude.--About 1,900 feet, from topographic map.

Description.--Measuring site above wood diversion box at rock outcrop about 2.9 miles by road and trail above Highway 150.

Diversion.--None reported above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 10	7:00 a.m.	0.032	14	56	
Oct. 20	8:15 a.m.	.029	13	50	
Nov. 18	8:20 a.m.	.027	12	49	
Dec. 17	8:00 a.m.	.028	13	49	
1954					
Jan. 14	8:30 a.m.	.043	19	46	
Feb. 9	8:30 a.m.	.046	21	47	
Mar. 10	8:15 a.m.	.045	20	48	
Apr. 13	8:00 a.m.	.18	81	48	
May 12	11:45 a.m.	.075	34	50	
June 9	7:15 a.m.	.052	23	50	

STATION 130.

SPRING - F. F. LEADBETTER

Location--Lat.  $34^{\circ}33'00''$ , long.  $119^{\circ}57'40''$ .

Altitude--About 1,530 feet, from topographic map.

Description--Plank-curbed pool in landslide on shale. Discharge measured as inflow to settling box.

Date	Time	Discharge		Temper- ature °F	Remarks	
		Cubic feet per second	Gallons per minute			
1953						
July 27	10:00 a.m.	0.0060	2.68	58	Spring box cleaned since last visit.	
Sept. 10	8:00 a.m.	.0051	2.28	56		
Oct. 20	9:15 a.m.	.0043	1.92	54		
Nov. 18	9:20 a.m.	.0042	1.90	54		
Dec. 17	9:00 a.m.	.0042	1.88	52		
1954						
Jan. 14	9:45 a.m.	.0040	1.80	54		
Feb. 9	9:30 a.m.	.0045	2.03	52		
Mar. 10	9:15 a.m.	.0049	2.20	56		
Apr. 13	8:45 a.m.	.017	7.8	56		
May 12	1:00 p.m.	.011	5.0	56		
June 9	8:15 a.m.	.0076	3.40	56		

STATION 133.

## TEQUEPIS CANYON CREEK AT HIGHWAY 150

Location.--Lat.  $34^{\circ}34'20''$ , long.  $119^{\circ}57'00''$ , at road crossing of Highway 150.Altitude.--About 750 feet, from topographic map.Description.--Measuring site in stream channel above bridge.Diversion.--Several above.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	12.50 p.m.	No flow	No flow		
Dec. 14	1:00 p.m.	do	do		
1954					
Mar. 8	1:20 p.m.	do	do		
May 10	12:20 p.m.	do	do		
June 7	12:20 p.m.	do	do		Channel dry.

## SPRING - J. V. CRAWFORD

Location.--Lat.  $34^{\circ}33'50''$ , long.  $119^{\circ}58'20''$ .

Altitude.--About 1,070 feet, from topographic map.

Description.--Pool in sandstone bed of side canyon.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 27	8:40 a.m.	0.0013	0.60		
Sept. 9	11:10 a.m.	.0012	.56	58	
Oct. 19	12:45 p.m.	.0012	.54		
Nov. 18	11:05 a.m.	.0012	.54	52	
Dec. 15	12:40 p.m.	.0013	.58	52	
1954					
Jan. 14	12:05 p.m.	.0013	.60	50	
Feb. 8	1:05 p.m.	.0017	.75	52	
Mar. 9	1:00 p.m.	.0020	.88	56	
Apr. 12	12:25 p.m.	.0037	1.67	52	
May 11	12:50 p.m.	.0019	.83	54	
June 8	11:50 a.m.	.0013	.58	54	

## SPRING - CROWN ELEVEN RANCH

Location.--Lat.  $34^{\circ}34'00''$ , long.  $119^{\circ}58'10''$ .

Altitude.--About 990 feet, from topographic map.

Description.--Two connected curbed seeps on alluvial slope. Discharge at outlet of 1-inch pipe leading to watering trough.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 27	8:00 a.m.	0.0040	1.77	67	
Sept. 9	10:20 a.m.	.0056	2.50	68	
Oct. 19	12:10 p.m.	.0030	1.36	64	
Nov. 18	10:30 a.m.	.0012	.56	66	
Dec. 15	12:10 p.m.	.0011	.50	62	
1954					
Jan. 14	11:30 a.m.	.0015	.68	62	
Feb. 8	12:30 p.m.	.0028	1.25	64	
Mar. 9	12:15 p.m.	.0070	3.15		
Apr. 12	11:45 a.m.	.0033	1.50	64	
May 11	12:05 p.m.	.0074	3.34	66	
June 8	11:10 a.m.	.0048	2.14	64	

## SPRING - CROWN ELEVEN RANCH

Location.--Lat.  $34^{\circ}33'50''$ , long.  $119^{\circ}58'10''$ .

Altitude.--About 970 feet, from topographic map.

Description.--Seepage from alluvial fill collected in ditch on east bank of creek. Discharge measured at end of old 4-inch pipe line.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 27	8:15 a.m.	0.011	5.1		
Sept. 9	10:40 a.m.	.010	4.50		
Oct. 19	12:25 p.m.	.010	4.50	68	
Nov. 18	10:45 a.m.	.0082	3.68	66	
Dec. 15	12:20 p.m.	.0085	3.84	68	
1954					
Jan. 14	11:45 a.m.	.0089	4.00	68	
Feb. 8	12:45 p.m.	.010	4.62	68	
Mar. 9	12:30 p.m.	.013	6.0	68	
Apr. 12	12 M.	.015	6.7	68	
May 11	12:20 p.m.	.018	8.2	70	
June 8	11:25 a.m.	.016	7.2	66	

## UNNAMED CREEK, TRIBUTARY TO SANTA YNEZ RIVER AT HARVEY RANCH

Location.--Lat.  $34^{\circ}34'00''$ , long.  $119^{\circ}58'10''$ , at 6-foot road culvert about 1.0 mile south of Highway 150.

Altitude.--About 950 feet, from topographic map.

Description.--Measuring site in natural channel.

Diversions.--Several diversions above from springs.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 27	9:15 a.m.	0.058	26	64	
Sept. 9	11:40 a.m.	.037	17	60	
Oct. 19	1:15 p.m.	.040	18	58	
Nov. 18	11:45 p.m.	.035	16	54	
Dec. 15	1:05 p.m.	.038	17	56	
1954					
Jan. 14	12:25 p.m.	.036	16	50	
Feb. 8	1:30 p.m.	.043	19	56	
Mar. 9	1:30 p.m.	.042	19	60	
Apr. 12	1:00 p.m.	.074	33	58	
May 11	1:20 p.m.	.057	26	58	
June 8	12:35 p.m.	.056	25	58	



STATION 138.

SPRING - UNNAMED TRIBUTARY TO SANTA YNEZ RIVER AT HIGHWAY 150

Location.--Lat.  $34^{\circ}34'50''$ , long.  $119^{\circ}58'20''$ , at road crossing of Highway 150 and about 200 yards west of Ohio Oil Company Road.

Altitude.--About 680 feet, from topographic map.

Description.--Measuring site is in natural stream channel just above highway culvert on the San Lucas Ranch, Mr. Crawford, owner.

Diversions.--No known diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	12:30 p.m.	0.026	12		
Dec. 14	12:30 p.m.	.020	9.0	56	
1954					
Mar. 8	12:50 p.m.	.017	7.6	58	
May 10	11:50 a.m.	.013	5.8	64	
June 7	11:55 a.m.	.018	8.1	64	

STATION 140.

SPRING - J. V. CRAWFORD

Location.--Lat.  $34^{\circ}32'50''$ , long.  $119^{\circ}58'50''$ .

Altitude.--About 1,930 feet, from topographic map.

Description.--Seeps in creek bed a short distance above diversion dam.  
Discharge at outlet of 2-inch pipe, 0.25 mile north at reservoir.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 9	9:15 a.m.	0.046	21	56	
Dec. 15	10:35 a.m.	.058	26	50	
1954					
Mar. 9	10:35 a.m.	.084	38	54	
May 11	9:50 a.m.	.13	60	54	
June 8	9:15 a.m.	.10	47	52	

STATION 140a.

## SPRING - J. V. CRAWFORD

Location.--Lat.  $34^{\circ}33'20''$ , long.  $119^{\circ}59'00''$ .Altitude.--About 1,150 feet, from topographic map.Description.--Undeveloped spring. Seep on side of heavily ferned hill. Tentative for development by J. V. Crawford ranch.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 9	9:45 a.m.	0.00014	0.062	62	
Dec. 15	11:10 a.m.	.00071	.32	52	
1954					
Mar. 9	11:05 a.m.	.00063	.28	54	
May 11	10:30 a.m.	.00056	.25	54	
June 8	10:00 a.m.	.00060	.27	52	

STATION 141.

# HILTON CANYON CREEK AT HIGHWAY 150

Location.--Lat.  $34^{\circ}35'10''$ , long.  $119^{\circ}59'10''$ , at Highway 150.

Altitude.--About 650 feet, from topographic map.

Description.--Measuring site in natural stream channel above highway crossing.

Diversions.--Several diversions above station.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	12:05 p.m.	No flow	No flow		
Dec. 14	12 M.	No flow	No flow		
1954					
Mar. 8	12:30 p.m.	No flow	No flow		
May 10	11:20 a.m.	No flow	No flow		
June 7	11:30 a.m.	No flow	No flow		Channel dry.

STATION 142.

SPRING - J. V. CRAWFORD

Location.--Lat.  $34^{\circ}34'40''$ , long.  $119^{\circ}59'20''$ .

Altitude.--About 980 feet, from topographic map.

Description.--Wood-curbed seep on hillside. Discharge measured at end of 2-inch line to stock trough.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	11:20 a.m.	0.0017	0.75	65	
Dec. 14	11:30 a.m.	.0012	.56	60	
1954					
Mar. 8	12 M.	.0012	.52		
May 10	10:45 a.m.	.0010	.47	64	
June 7	10:45 a.m.	.00098	.44	62	

STATION 143.

## WON'S CREEK AT C. WALSKA FISH POND

Location.--Lat.  $34^{\circ}32'20''$  long.  $120^{\circ}00'30''$ , at G. Walska Fish Pond about 0.8 mile northeast of El Capitan Lodge.

Altitude.--About 2,200 feet, from topographic map.

Description.--The measuring site is at overflow pipe from fish pond in natural stream channel reached by about 2 miles of private mountain road from El Capitan Lodge.

Diversion.--No known diversions above.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
July 13	9:05 a.m.	0.10	45	59	
Sept. 14	8:45 a.m.	.087	39	57	
Oct. 19	11:00 a.m.	.094	42	56	
Nov. 12	10:00 a.m.	.10	45	57	
Dec. 7	9:00 a.m.	.091	41	47	
1954					
Jan. 5	10:30 a.m.	.085	38		
Feb. 12	10:30 a.m.	.10	45	47	
Mar. 4	12:50 p.m.	.11	51	51	
Apr. 12	10:00 a.m.	.16	70	50	
May 12	8:00 a.m.	.13	60	51	
June 8	8:25 a.m.	.11	49	51	

STATION 144.

## SPRING - MADAME GANNA WALSKA

Location---Lat.  $34^{\circ}32'10''$ , long.  $120^{\circ}00'50''$ .Altitude---About 2,650 feet, from topographic map.Description---Seeps on side of canyon impounded by small dam across the creek.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	8:45 a.m.	0.0084	3.75	57	
Sept. 14	8:20 a.m.	.0080	3.57	56	
Oct. 19	10:45 a.m.	.0082	3.68	56	
Nov. 12	10:30 a.m.	.0084	3.75	57	
Dec. 7	9:30 a.m.	.0057	2.56	45	
1954					
Jan. 5	10:15 a.m.	.0096	4.28	47	
Feb. 12	10:15 a.m.	.017	7.5	48	
Mar. 4	12:30 p.m.	.019	8.5	49	
Apr. 12	9:40 a.m.	.032	14	51	
May 12	8:15 a.m.	.019	8.5		
June 8	8:05 a.m.	.013	6.0	49	

STATION 146.

SPRING - J. V. CRAWFORD

Location.--Lat.  $34^{\circ}33'30''$ , long.  $120^{\circ}01'10''$ .

Altitude.--About 1,700 feet, from topographic map.

Description.--Seepage into uncurbed pool near bottom of small valley in hillside.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	8:00 a.m.	0.00090	0.41	58	
Sept. 9	7:40 a.m.	.00084	.38	56	
Oct. 19	10:30 a.m.	.00084	.37	52	
Nov. 17	11:00 a.m.	.00084	.38	50	
Dec. 15	9:15 a.m.	.00098	.44	52	
1954					
Jan. 11	11:50 a.m.	.00095	.43	48	
Feb. 8	10:45 a.m.	.00088	.40	54	
Mar. 9	9:30 a.m.	.0013	.60	54	
Apr. 12	10:20 a.m.	.0014	.63	56	
May 11	8:30 a.m.	.00080	.36	54	
June 8	8:15 a.m.	.0011	.48	54	



STATION 147.

## SPRING - J. V. CRAWFORD

Location.--Lat. 34°33'20", long. 120°01'20".Altitude.--About 1,750 feet, from topographic map.Description.--Seepage into uncurbed pool on hillside.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	7:45 a.m.	0.0022	1.00	58	
Sept. 9	7:25 a.m.	.0016	.72	57	
Oct. 19	10:15 a.m.	.0017	.77	54	
Nov. 17	10:40 a.m.	.0018	.84	52	
Dec. 15	9:00 a.m.	.0026	1.15	54	
1954					
Jan. 11	11:35 a.m.	.0024	1.07	52	
Feb. 8	10:30 a.m.	.0026	1.15	56	
Mar. 9	9:15 a.m.	.0027	1.20	54	
Apr. 12	10:05 a.m.	.0026	1.15	56	
May 11	8:15 a.m.	.0026	1.15	56	
June 8	8:00 a.m.	.0024	1.07	54	

STATION 148.

## SPRING - J. V. CRAWFORD

Location---Lat.  $34^{\circ}33'20''$ , long.  $120^{\circ}01'30''$ .Altitude---About 1,700 feet, from topographic map.Description---Seepage into uncurbed pool from alluvium on hillside.

Date	Time	Discharge		Temper- ature °F	Remarks	
		Cubic feet per second	Gallons per minute			
1953						
July 28	7:30 a.m.	0.0018	0.79	57	Line partially plugged. Not all flow measured.	
Sept. 9	7:10 a.m.	.0028	1.25	56		
Oct. 19	10:00 a.m.	.0030	1.36	54		
Nov. 17	10:25 a.m.	.0030	1.36	52		
Dec. 15	8:45 a.m.	.0030	1.36	54		
1954						
Jan. 11	11:20 a.m.	.0030	1.36	52		
Feb. 8	10:15 a.m.	.0017	.75	56		
Mar. 9	9:00 a.m.	.0010	.47	54		
Apr. 12	9:50 a.m.	.00044	.20	56		
May 11	8:00 a.m.	.0011	.50	56		
June 8	7:45 a.m.	.0011	.50	54		

STATION 149.

## SPRING - J. V. CRAWFORD

Location.--Lat.  $34^{\circ}33'40''$ , long.  $120^{\circ}01'40''$ .Altitude.--About 1,150 feet, from topographic map.Description.--Wood-curbed spring in side canyon near bottom of 8-foot natural falls. Discharge measured at end of 3/4-inch pipe leading to circular concrete stock trough.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	8:30 a.m.	0.00035	0.16	58	
Sept. 9	8:10 a.m.	.00037	.17	52	
Oct. 19	9:30 a.m.	.00063	.28	52	
Nov. 17	9:45 a.m.	.0011	.50	50	
Dec. 15	8:15 a.m.	.0010	.47		
1954					
Jan. 11	10:50 a.m.	.0013	.60	42	
Feb. 8	9:30 a.m.	.0020	.88	48	
Mar. 9	8:20 a.m.	.0022	1.00	50	
Apr. 12	9:20 a.m.	.0033	1.50	52	
May 11	7:20 a.m.	.0022	1.00	50	
June 8	7:00 a.m.	.0015	.68	50	

STATION 150.

SAN LUCAS CREEK BELOW SPRING #149

Location.--Lat.  $34^{\circ}33'50''$ , long.  $120^{\circ}01'40''$ , at wood-cribbed spring No. 149 about 1.7 miles south of Highway 150.

Altitude.--About 1,100 feet, from topographic map.

Description.--Measuring site in natural stream channel below spring #149.

Diversions.--Spring #149 diversion above for stock.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 28	7:00 a.m.	No flow	No flow		
Sept. 9	8:20 a.m.	No flow	No flow		
Oct. 19	9:15 a.m.	No flow	No flow		
Nov. 17	10:00 a.m.	No flow	No flow		
Dec. 15	8:00 a.m.	No flow	No flow		
1954					
Jan. 11	11:00 a.m.	No flow	No flow		
Feb. 8	9:45 a.m.	0.024	11	48	
Mar. 9	8:00 a.m.	.015	6.7	52	
Apr. 12	9:00 a.m.	.048	22	52	
May 11	7:00 a.m.	.019	8.5	52	
June 8	7:15 a.m.	No flow	No flow		Pools

STATION 151.

## SPRING - RANCHO JUAN Y LOLITA

Location.--Lat.  $34^{\circ}34'10''$ , long.  $120^{\circ}03'10''$ .Altitude.--About 1,150 feet, from topographic map.Description.--Wood-curbed pool on hillside. Discharge measured at first pipe union below spring.

Date	Time	Discharge		Temper- ature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 27	6:40 a.m.	0.011	5.0	62	
Sept. 8	7:10 a.m.	.023	10	62	
Oct. 19	8:00 a.m.	.019	8.4	60	
Nov. 17	8:00 a.m.	.027	12	60	
Dec. 14	8:00 a.m.	.027	12	60	
1954					
Jan. 11	9:00 a.m.	.024	11	60	
Feb. 8	8:00 a.m.	.025	11	62	
Mar. 8	8:00 a.m.	.024	11	62	
Apr. 12	7:45 a.m.	.024	11	62	
May 10	7:00 a.m.	.023	10		
June 7	7:00 a.m.	.011	4.85	60	

STATION 153.

## SPRING - RANCHO JUAN Y LOLITA

Location.--Lat.  $34^{\circ}33'30''$ , long.  $120^{\circ}03'30''$ .Altitude.--About 1,150 feet, from topographic map.Description.--Seep in small side canyon. Stock drinks from pools.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	9:10 a.m.	0.0045	2.00	62	
Dec. 14	9:50 a.m.	.0030	1.36	54	
1954					
Mar. 8	10:05 a.m.	.0042	1.88	58	
May 10	9:00 a.m.	.0033	1.50	58	
June 7	9:00 a.m.	.0038	1.70	56	

STATION 154.

SPRING - RANCHO JUAN Y LOLITA

Location.--Lat.  $34^{\circ}33'40''$ , long.  $120^{\circ}04'20''$ .

Altitude.--About 1,100 feet, from topographic map.

Description.--Old wood-curbed seep in bottom of valley. Discharge measured in boggy area downstream.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	8:35 a.m.	0.0017	0.75	60	
Dec. 14	9:20 a.m.	.00076	.34	52	
1954					
Mar. 8	9:30 a.m.	.0010	.47	58	
May 10	8:30 a.m.	.00064	.29	56	
June 7	8:25 a.m.	.00045	.20	52	

STATION 155.

## SPRING - U. S. FOREST SERVICE

Location.--Lat.  $34^{\circ}32'10''$ , long.  $120^{\circ}03'50''$ .Altitude.--About 2,040 feet, from topographic map.Description.--Concrete-curbed spring, 7 feet deep. Discharge measured at road crossing, 170 feet downstream.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
July 13	7:35 a.m.	No flow	No flow		
Sept. 14	6:15 a.m.	No flow	No flow		
Oct. 19	9:05 a.m.	No flow	No flow		
Nov. 12	9:05 a.m.	No flow	No flow		
Dec. 7	8:20 a.m.	No flow	No flow		
1954					
Jan. 5	8:30 a.m.	No flow	No flow		Pools in channel.
Feb. 12	8:15 a.m.	No flow	No flow		do
Mar. 4	11:00 a.m.	0.0038	1.69	49	
Apr. 12	8:15 a.m.	.057	25		
May 12	6:20 a.m.	.0045	2.02		
June 8	7:00 a.m.	No flow	No flow		Channel dry - pond above road.



## WEST FORK QUIOTA CREEK

Location.--Lat.  $34^{\circ}33'10''$ , long.  $120^{\circ}04'20''$ , about 0.3 mile east of Refugio Pass Road.

Altitude.--About 800 feet, from topographic map.

Description.--Measuring site in natural creek channel at road crossing on Juan Y Lolita Ranch.

Diversions.--No known diversions above station. An upstream diversion for the former C.C.C. Camp has been abandoned.

Date	Time	Discharge		Temperature °F	Remarks
		Cubic feet per second	Gallons per minute		
1953					
Sept. 8	8:05 a.m.	0.044	20	54	
Dec. 14	8:55 a.m.	.033	15	40	
1954					
Mar. 8	9:05 a.m.	.24	110	52	
May 10	8:00 a.m.	.083	37	54	
June 7	8:05 a.m.	.023	10	58	