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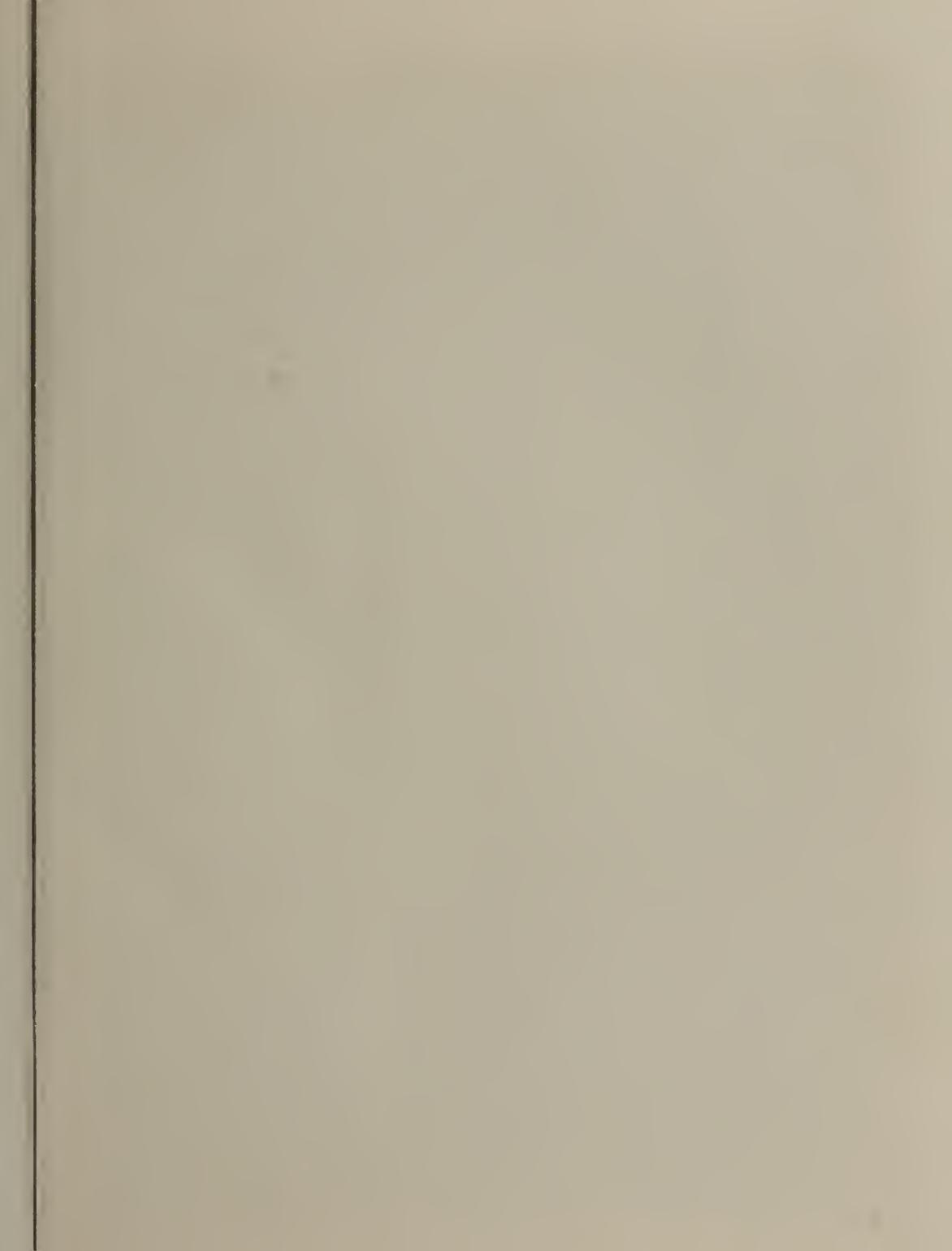
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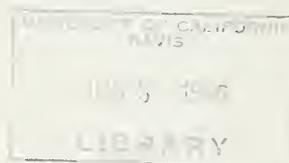
State of California  
THE RESOURCES AGENCY  
Department of Water Resources

BULLETIN No. 130-64

HYDROLOGIC DATA: 1964

Volume V: SOUTHERN CALIFORNIA

Appendix D: SURFACE WATER QUALITY



APRIL 1966

HUGO FISHER  
*Administrator*  
The Resources Agency

EDMUND G. BROWN  
*Governor*  
State of California

WILLIAM E. WARNE  
*Director*  
Department of Water Resources



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ORGANIZATION OF BULLETIN NO. 130 SERIES

Volume I - NORTH COASTAL AREA

Volume II - NORTHEASTERN CALIFORNIA

Volume III - CENTRAL COASTAL AREA

Volume IV - SAN JOAQUIN VALLEY

Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

TEXT and

Appendix A - CLIMATE

Appendix B - SURFACE WATER FLOW

Appendix C - GROUND WATER MEASUREMENTS

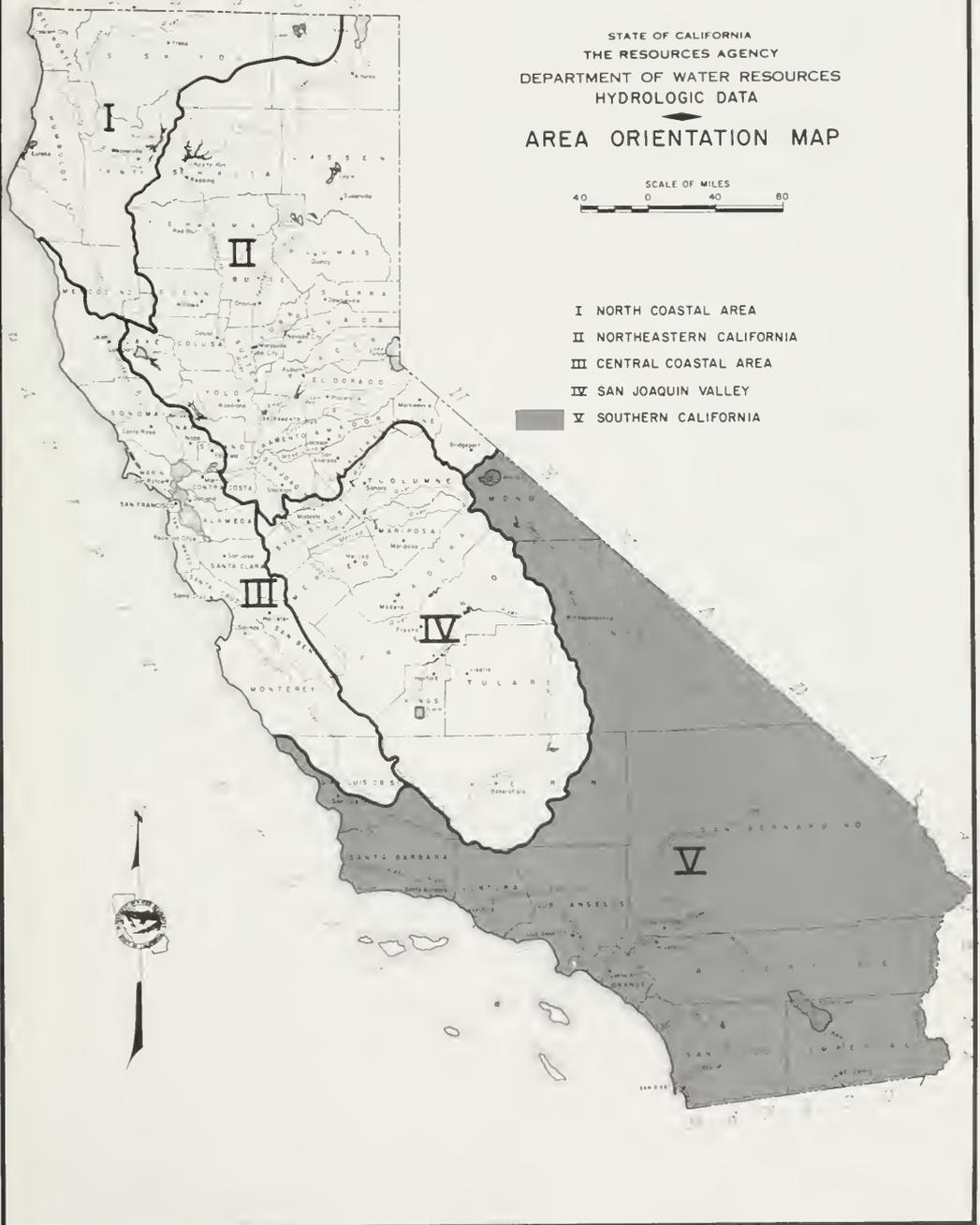
Appendix D - SURFACE WATER QUALITY

Appendix E - GROUND WATER QUALITY

STATE OF CALIFORNIA  
 THE RESOURCES AGENCY  
 DEPARTMENT OF WATER RESOURCES  
 HYDROLOGIC DATA  
 AREA ORIENTATION MAP



- I NORTH COASTAL AREA
- II NORTHEASTERN CALIFORNIA
- III CENTRAL COASTAL AREA
- IV SAN JOAQUIN VALLEY
- V SOUTHERN CALIFORNIA



## METRIC CONVERSION TABLE

ENGLISH UNIT	EQUIVALENT METRIC UNIT
Inch (in)	2.54 Centimeters
Foot (ft)	0.3048 Meter
Mile (mi)	1.609 Kilometers
Acre	0.405 Hectare
Square mile (sq. mi.)	2.590 Square kilometer
U. S. gallon (gal)	3.785 Liters
Acre foot (acre-ft)	1,233.5 Cubic meters
U. S. gallon per minute (gpm)	0.0631 Liters per second
Cubic feet per second (cfs)	1.7 Cubic meters per minute

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PLATE

(Bound at the back of this appendix)

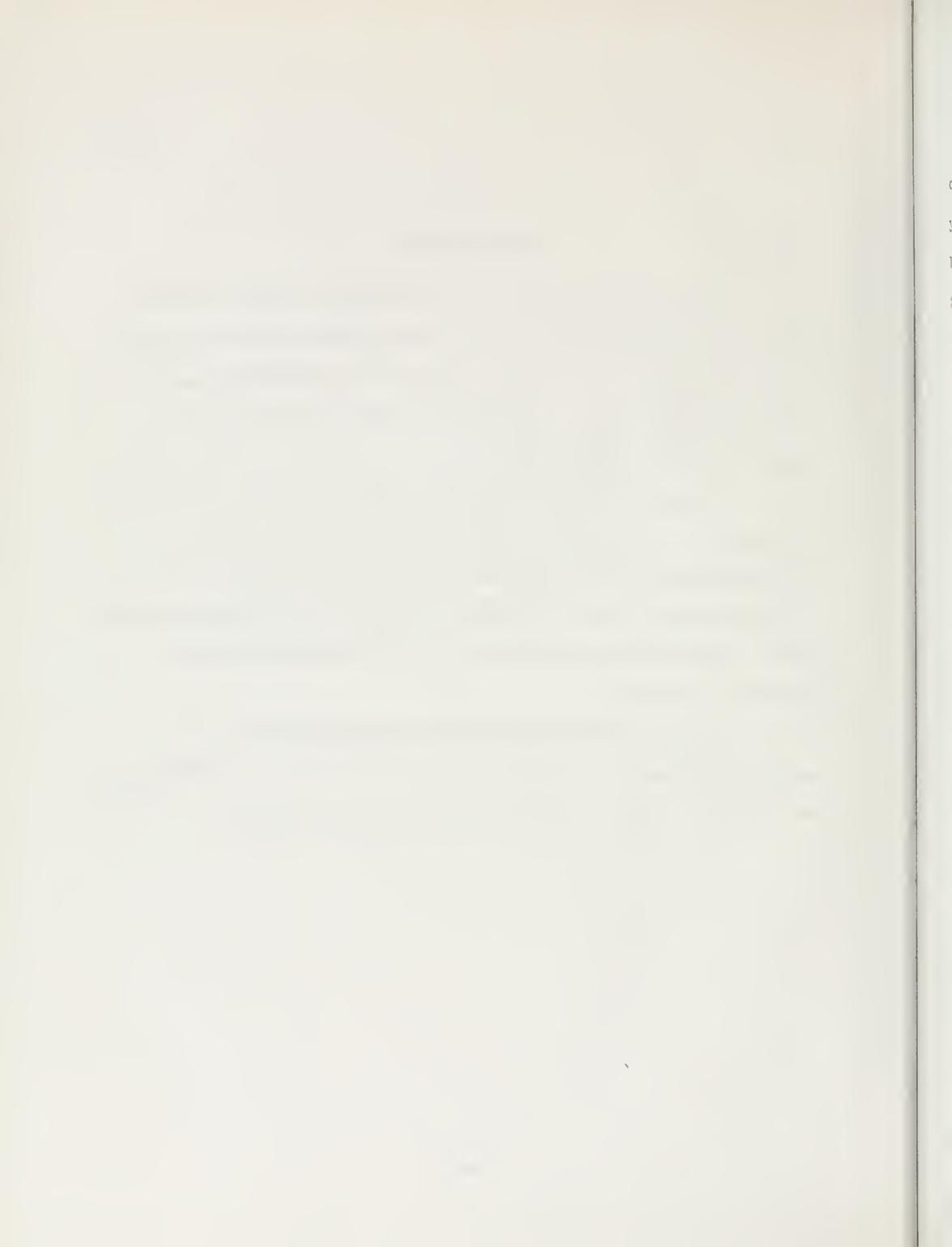
<u>Plate No.</u>	
1	Location of Surface Water Quality Monitoring Program Stations, 1963-64

## ACKNOWLEDGMENTS

The extensive coverage of the surface water quality monitoring program in Southern California has been made possible through the cooperation of federal, state, and local agencies. The Department wishes to express its appreciation for the valuable assistance and cooperation received from the agencies listed below.

Laboratory analytical results for certain surface water stations were supplied to the Department by The Metropolitan Water District of Southern California, City of Los Angeles Department of Water and Power, City of Los Angeles Health Department, Los Angeles County Health Department, City of Long Beach Health Department, and Fruit Growers Laboratory of Santa Paula, California.

Imperial County Health Department rendered valuable aid in making bacteriological analyses for surface water samples collected in that county.



## INTRODUCTION

Appendix D to Volume V of Bulletin No. 130-64 contains data on quality of surface water in Southern California for the 1963-64 water year. The data presented are measured values of the chemical, physical, bacteriological, and radiological characteristics of surface water in Southern California. The Southern California area is shown on Figure 1.

### Surveillance Program Changes, 1963-64

During the water year reported, 52 stations were included in the surface water quality surveillance program in Southern California. These stations are listed in Table D-1. Since the last reporting date, two stations were removed and three new ones added.

Warm Creek at San Bernardino (Station 50C), a Santa Ana River tributary, was removed from the program because it had been dry since February 1962. However, two other stations in the upper Santa Ana River Basin were added to the program -- Santa Ana River at Colton (Station 51f) and San Timoteo Creek near Loma Linda (Station 51g). The surface flow measuring stations at these points were established as a part of a cooperative program conducted by the Department and the United States Geological Survey (USGS).

Except for occasional storm runoff at Station 51f, flow consists primarily of waste water effluent from two sewage treatment plants, both of the City of San Bernardino. Station 51g is located at a USGS gaging station on San Timoteo Creek, tributary to Santa Ana River. The flow at this station is waste water effluent from the City of Loma Linda sewage treatment plant.

Forester Creek at Mission Gorge Road (Station 65a) was removed from the program in July 1963, and San Diego River at Mission Gorge Road (Station 65c) was added as a replacement. At one time, Station 65a monitored waste water flow consisting mainly of effluent from the City of El Cajon sewage treatment plant. A pipeline was constructed, however, which discharged this effluent to a location further downstream, bypassing the station. Station 65c was selected to monitor the stream below this new point of discharge. (The pipeline has since been connected to the San Diego Metropolitan Sewerage System.)

Agencies that participated in the field sampling program during the 1963-64 water year, together with the number of surface stations sampled by each, are:

<u>Agency</u>	<u>Number of Stations Sampled</u>
Department of Water Resources	46
The Metropolitan Water District of Southern California	2
City of Los Angeles Department of Water and Power	1
City of Los Angeles Health Department*	1
City of Long Beach Health Department	1
City of San Bernardino	1

#### Field Procedures

Because of the possible effect that time and method of sampling may have on the analyses obtained, an explanation of the procedures established for surface water sample collection is given.

---

\*City of Los Angeles Health Department was abolished in July 1, 1964; its function then being assumed by the Los Angeles County Health Department.

For complete mineral and bacteriological analyses, water samples are collected monthly in the northern portion of the Southern California areas, bimonthly in most of the southern portion, and twice a year at the Colorado River stations. In addition, in May and September, samples are collected at most stations for radiological analyses and at selected stations for trace elements analyses. Samples collected for bacteriological examination are transported on ice to the laboratories as quickly as possible.

At the time surface samples are collected for laboratory examination, field determinations are made for dissolved oxygen by the modified Winkler method, water temperature, and field pH. A visual inspection is made of the stream or lake and the physical conditions are noted. Flow data are either obtained from gage readings or estimated by the sampler.

#### Laboratory Procedures

Methods of mineral, bacterial, and radiological analyses used by the Department of Water Resources are generally those described in the American Public Health Association, American Water Works Association, and Water Pollution Control Federation publication, "Standard Methods for the Examination of Water and Waste Water", 11th edition, 1960. In some cases, the methods described in the following publications also have been used:

U. S. Geological Survey, "Methods for Collection and Analysis of Water Samples", Water Supply Paper 1454, 1960.

United States Public Health Service, Taft Sanitary Engineering Center, "Taft Method Analytical Procedure, Alkyl Benzene Sulfonate Determination".

### Reporting Methods

Individual chemical constituents of analyses in Table D-2 (surface water) are reported as parts per million (ppm). Bacteriological analyses, reported as most probable number per milliliter (MPN/ml), are shown in Table D-2.

In addition to the chemical constituents reported in Table D-2, oil and grease, phenols, alkalinity, 5-day biochemical oxygen demand (BOD), dissolved oxygen (DO), and free carbon dioxide (CO<sub>2</sub>) are reported in parts per million (ppm), as are values for alkyl benzene sulfonate (ABS), which was the major constituent in household synthetic detergents (syndets) during the reporting period.

Radiological analyses for surface water are reported in pico-curies per liter (pc/l). These analyses were performed by the State Department of Public Health, Sanitation and Radiation Laboratory, Berkeley, California. All surface water samples were given analyses for solid alpha-solid beta and dissolved alpha-dissolved beta activity.

Trace elements (heavy metals) analyses for surface water are reported as parts per billion in Table D-4. These analyses were performed by the United States Geological Survey Laboratory in Sacramento, California, by a newly developed spectrographic procedure perfected by that laboratory. Limitations in the precision of measurements by spectrographic analyses frequently require the reporting of results as less than or more than the amounts presented, as indicated in the footnotes accompanying the table.

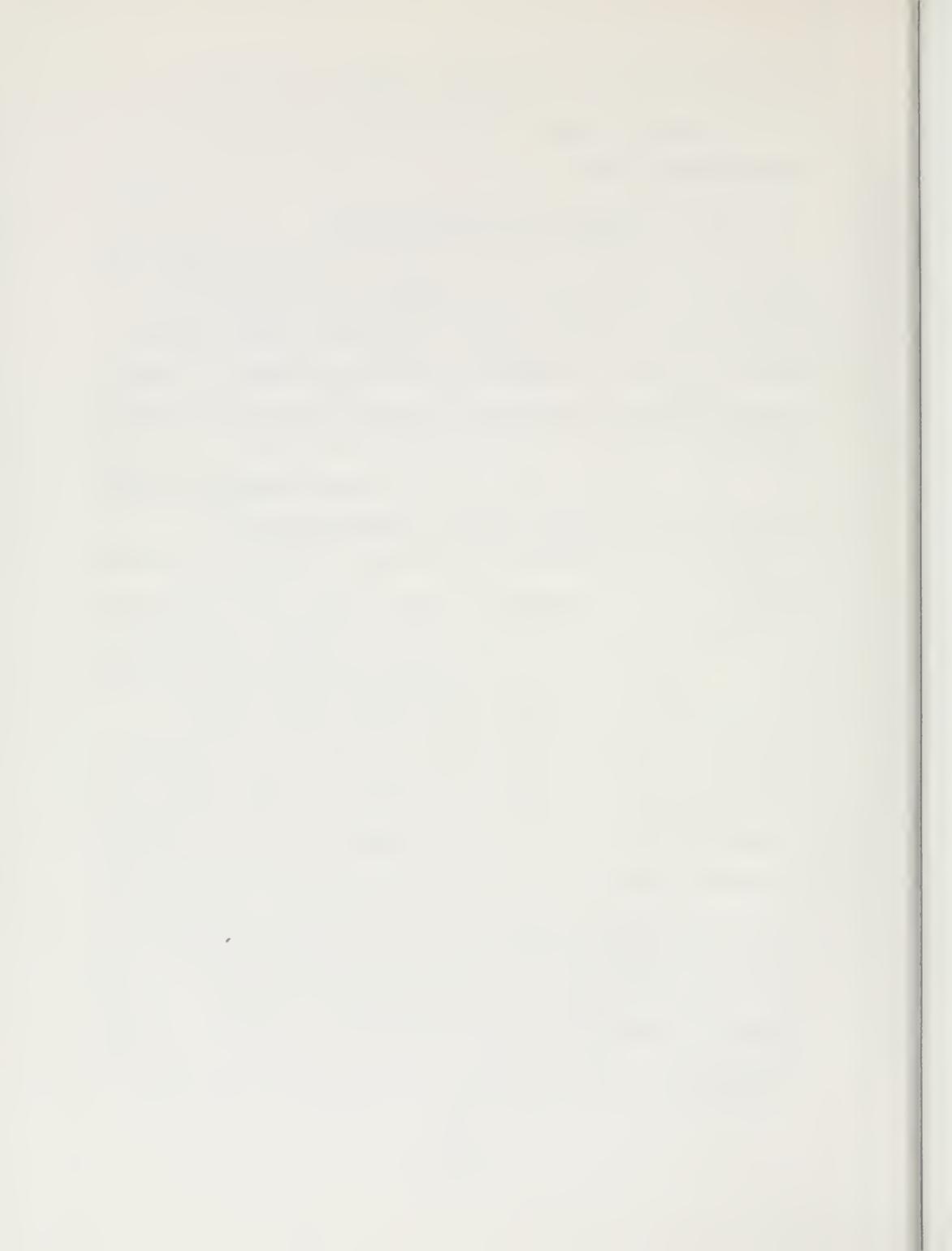
It should be pointed out that the determinations of some of the reported constituents are not absolute, but merely indicative of changes in water quality. The purpose of these data is to help the investigator

judge whether further, more intensive investigation is warranted to identify a source of pollution or to trace the movement of pollution or water quality degradation.

#### Stream Sampling Numbering System

Stream sampling stations are indexed according to location, with the name of the stream and a brief description of the sampling point. For ready reference, however, numbers are assigned to these stations. Sometimes an alphabetical character is used with the number. An example of a station number is Station No. 65c, San Diego River at Mission Gorge Road.

The locations of stations sampled for the surface water quality program are indexed in Table D-1 and are shown on Plate 1.



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SURFACE WATER QUALITY

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TABLE D-1  
 SAMPLING STATION DATA AND INDEX  
 SURFACE WATER STATION LOCATIONS  
 YEARS 1963-1964

Station	Station Number	Location <sup>a</sup>	Beginning of Record	Frequency of Sampling <sup>b</sup>	Sampled by <sup>c</sup>	Analysis on page
<u>Alamo River</u>						
At International Boundary	59	17S/16E-18	February 1951	B	DWR	112, 171
Near Calipatria	60	11S/13E-22	March 1951	B	DWR	114, 172
<u>All American Canal</u>						
Near Pilot Knob	56a	16S/21E-24	May 1953	S	DWR	98, 171
<u>Chino Creek</u>						
Near Chino	86	2S/ 8W-36	April 1952	M	DWR	146, 174
<u>Colorado River</u>						
Near Topock, Arizona	54	7N/24E- 8	April 1951	S	DWR	92, 171
Lake Havasu, Colorado River Aqueduct at Intake	56d	3N/27E-28	November 1953	M	MWD	104, 173
Aqueduct at La Verne	69	1S/ 9W- 6	April 1951	M composite	MWD	76, 168
Below Parker Dam	55	2N/27E-16	April 1951	S	DWR	94, 171
Near Blythe	56c	7S/23E- 2	May 1953	S	DWR	102, 171
At Yuma, Arizona	56	16S/23E-36	April 1951	S	DWR	96, 171, 176
Below Morelos Dam	56b	8S/24W-28 <sup>d</sup>	May 1953	S	DWR	100, 171
<u>Cuyama River</u>						
Near Garey	44a	10N/33W-25	October 1958	M	DWR	164, 165
<u>Escondido Creek</u>						
Near Harmony Grove	63	12S/2W-30	March 1951	B	DWR	154, 175, 177
<u>Lake Elsinore</u>						
At State Park	89	6S/ 5W- 1	February 1952	B	DWR	150, 174
<u>Los Angeles Aqueduct</u>						
Near San Fernando	70	3N/15W-30	April 1951	M	LADWP	80, 169
<u>Los Angeles River</u>						
At Figueroa Street	47	1S/13W-15	April 1951	M, S	LACHD-DWR	46, 166, 176
At Pacific Coast Highway	48	4S/13W-26	April 1951	M, S	LEDPH, DWR	50, 166, 176
<u>Matilija Creek</u>						
Above Dam	45b	5N/23W-19	May 1953	M	DWR	20, 166
<u>Mission Creek</u>						
At Whittier Narrows	49a	2S/11W- 6	April 1951	M	DWR	58, 166
<u>Mojave River</u>						
At The Forks	67a	3N/ 3W-18	July 1957	K	DWR	88, 170
Near Victorville	67	6N/ 4W-29	March 1951	M	DWR	84, 170
<u>New River</u>						
At International Boundary	57	17S/14E-14	April 1951	B	DWR	108, 171
Near Westmorland	58	12S/13E-30	February 1951	B	DWR	110, 171
<u>Piru Creek</u>						
Near Piru	46c	4N/18W-20	June 1957	M	DWR	32, 166
<u>Rio Hondo</u>						
At Whittier Narrows	49	2S/11W- 6	April 1951	M	DWR	54, 166, 176
Above Spreading Grounds	49b	2S/12W-12	May 1963	M	DWR	60, 167, 176

TABLE D-1  
 SAMPLING STATION DATA AND INDEX  
 SURFACE WATER STATION LOCATIONS  
 YEARS 1963-1964

Station	Station Number	Location <sup>a</sup>	Beginning of Record	Frequency of Sampling <sup>b</sup>	Sampled by <sup>c</sup>	Analysis on page
<u>Salton Sea</u>						
At Salton Sea State Park	68a	7S/10E- 2	March 1955	B	DWR	118, 172
<u>San Diego River</u>						
At Old Mission Dam	65	15S/ 2W-25	April 1951	B	DWR	156, 175
Near Mission Gorge Road	65c	15S/ 2W-35	July 1962	B	DWR	160, 175, 177
<u>San Dieguito River</u>						
Below San Pasqual Valley	64	13S/ 2W- 1	April 1951	B	DWR	164, 175
<u>San Gabriel River</u>						
At Azusa Powerhouse	50d	1N/10W-22	March 1957	M	DWR	68, 167
At Whittier Narrows	50	2S/11W- 5	April 1951	M	DWR	64, 167, 176
<u>San Luis Rey River</u>						
Near Pala	62	9S/ 2W-36	March 1951	B	DWR	164, 175
<u>Santa Ana River</u>						
Near Mentone	51b	1S/ 2W- 4	April 1951	M	DWR	134, 174
At Colton	51f	1S/ 4W-28	March 1964	M	DWR	142, 174
Near Arlington	51	2S/ 6W-25	January 1951	M	DWR	126, 174, 177
Near Norco	51e	2S/ 7W-36	April 1951	M	DWR	138, 174, 177
Below Prado Dam	51a	3S/ 7W-29	April 1951	M	DWR	130, 174, 177
<u>Santa Clara River</u>						
At Los Angeles-Ventura County Line	46	4N/17W-30	April 1951	M	DWR	24, 166, 176
Near Santa Paula	46a	3N/21W-12	April 1951	M	DWR	28, 166, 176
<u>Santa Margarita River</u>						
Near Fallbrook	51c	9S/ 4W-12	February 1951	B	DWR	152, 175
<u>Santa Paula Creek</u>						
Near Santa Paula	46e	4N/21W-27	June 1957	M	DWR	40, 166
<u>Santa Ynez River</u>						
At Cachuma Reservoir	44b	6N/30W-19	April 1958	M	DWR	12, 165, 176
Near Solvang	45a	6N/31W-22	April 1951	M	DWR	16, 165, 176
<u>San Timoteo Creek</u>						
Near Loma Linda	51g	1S/ 4W-22	March 1964	M	DWR	144, 174
<u>Sespe Creek</u>						
Near Fillmore	46d	4N/20W-12	June 1957	M	DWR	36, 166
<u>Spring Valley Creek</u>						
Near La Pressa	65b	17S/ 1W-17	March 1958	B	DWR	158, 175
<u>Tia Juana River</u>						
At International Boundary	66	19S/ 2W- 1	April 1951	B	DWR	162, 175
<u>Ventura River</u>						
Near Ventura	61	3N/23W- 8	May 1951	M	DWR	72, 167, 176
<u>Warm Creek</u>						
At Colton	50b	1S/ 4W-21	April 1951	M	City of San Bino.	122, 174, 177

TABLE D-1  
 SAMPLING STATION DATA AND INDEX  
 SURFACE WATER STATION LOCATIONS  
 YEARS 1963-1964

Station	Station Number	Location <sup>a</sup>	Beginning of Record	Frequency <sup>b</sup> of Sampling	Sampled <sup>c</sup> by	Analysis on page
<u>Whitewater River</u>						
Near Whitewater	68	3S/ 3E- 2	February 1951	B	DWR	116, 172
Near Mecca	68b	7S/ 9E-31	July 1957	B	DWR	120, 172

- e. Except as indicated below, location is referenced to San Bernardino Base and Meridian.  
 b. M - Monthly, B - Bimonthly, Q - Quarterly, S - Semiannually.  
 c. DWR, Department of Water Resources; MWD, Metropolitan Water District; LACHD, Los Angeles County Health Department; LBDPH, Long Beach Department of Public Health; LADWP, Los Angeles Department of Water and Power.  
 d. Gila and Salt River Base and Meridian.

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**CENTRAL COASTAL DRAINAGE PROVINCE (T)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synsets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA YNEZ RIVER											
AT CACHUMA RESERVOIR											
10-2-63 0700 Clear; yellowish green color	738.57 11.43*	8.3	<0.45 <0.45				<25		9.4	110	DWR
11-14-63 1410 Clear	737.82 12.18*	7.8	6.2 2.3				<25		8.0	84	DWR
12-3-63 0830 Clear	737.79 12.21*	7.6	0.6 0.6				<25		8.4	82	DWR
1-3-64 1000 Clear; large fish and ducks	737.41 12.59*	7.6	<0.45 <0.45				<25		7.8	74	DWR
2-4-64 1505 Clear; large golden carp	737.01 12.99*	8.0	<0.45 0.6				<25		11.0	102	DWR
3-3-64 1115 Clear; large golden carp	736.42 13.58*	7.7	<0.45 0.6				<25		9.8	90	DWR
4-2-64 1110 Clear	736.00 14.00*	7.8	21 23				<25		10.4	92	DWR
5-4-64 1550 Clear	734.95 15.05*	8.0	0.6 <0.45				<25		8.8	85	DWR

\*Water surface below spillway in feet.  
 Note: See page 162 for footnotes.

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos of 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million				
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>
SANTA YNEZ RIVER 44B															
AT CACHUMA RESERVOIR															
10- 2-63	76	8.3	764	--	--	41 1.78	--	14 0.47	156 2.56	--	16 0.45	--	0.35	--	328
11-14-63	65	8.0	772	70 3.49 40	40 3.29 38	42 1.83 21	4 0.10 1	0 205 3.36 39	233 4.85 56	233 4.85 56	16 0.45 5	0.5	0.42	7	515 339
12- 3-63	58	7.9	785	70 3.49 40	39 3.21 37	43 1.87 22	4 0.10 1	0 212 3.47 40	228 4.75 54	228 4.75 54	17 0.48 6	0.5	0.40	8	516 335
1- 3-64	56	8.1	776	69 3.44 39	41 3.37 38	44 1.91 22	4 0.10 1	0 220 3.61 41	229 4.77 54	229 4.77 54	17 0.48 5	0.6	0.38	8	525 341
2- 4-64	54	8.3	754	66 3.29 37	41 3.37 38	47 2.04 23	4 0.10 1	12 0.40 5	190 3.11 35	228 4.75 54	18 0.51 6	0.6	0.36	9	560 333
3- 3-64	53	8.0	765	76 3.79 42	40 3.29 37	41 1.78 20	4 0.10 1	0 220 3.61 41	230 4.79 54	230 4.79 54	16 0.45 5	0.5	0.36	8	550 354
4- 2-64	54	8.1	756	77 3.84 43	40 3.29 37	41 1.78 20	4 0.10 1	0 220 3.61 41	230 4.79 54	230 4.79 54	17 0.48 5	0.6	0.38	11	540 357
5- 4-64	58	7.9	763	71 3.54 40	42 3.45 39	40 1.74 20	4 0.10 1	0 207 3.39 40	228 4.75 55	228 4.75 55	15 0.42 5	0.5	0.40	9	535 350
															512

Water surface below spillway in feet.  
Note: See page 102 for footnotes.

TABLE D-2  
 MINERAL ANALYSES OF SURFACE WATER  
 FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES  
 CENTRAL COASTAL DRAINAGE PROVINCE (T)

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synedets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA YNEZ RIVER 44B											
AT CACHUMA RESERVOIR											
6-2-64 1020 Clear	733.65 16.35*	8.0	0.6 23				< 25		8.6	90	DWR
7-1-64 1715 Clear; large fish	732.25 17.75*	7.8	2.3 2.3				< 25		9.4	107	DWR
8-4-64 1100 Clear	730.14 19.86*	8.0	< 0.45 < 0.45						9.6	90	DWR
9-1-64 1115 Clear	728.38 21.62*	8.0	2.3 0.6				< 25		10.0	115	DWR

\*Water surface below spillway in feet.

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million						
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	NI- tro- NO <sub>3</sub>	Fluo- ride F	Baron B	Sili- co SiO <sub>2</sub>	TDS Evap100°C Evap105°C Computed	Total hardness CaCO <sub>3</sub>
SANTA YNEZ RIVER																	
44B																	
Stream name and station number																	
AT CACHUMA RESERVOIR																	
6- 2-64	65	8.0	772	73 3,64 40	43 3,54 39	40 1,74 19	4 0.10 1	0	215 3,52 40	232 4,83 55	16 0,45 5	1.0 0.02	0.5	0.41	6	572	359
7- 1-64	72	8.3	774	71 3,54 39	43 3,54 39	42 1,83 20	4 0.10 1	12 0.40 4	190 3,11 35	237 4,93 55	17 0,48 5	2.0 0.03	0.5	0.36	10	570	354
8- 4-64	74	8.5	779	72 3,59 39	43 3,54 39	43 1,87 21	4 0.10 1	12 0.40 4	188 3,08 34	242 5,04 56	17 0,48 5	2 0.03	0.5	0.38	8	632	357
9- 1-64	73	8.4	789	74 3,69 41	42 3,45 38	42 1,83 20	4 0.10 1	12 0.40 4	187 3,06 34	240 5,00 55	20 0,56 6	1 0.02	0.5	0.37	6	585	357
																534	

TABLE D-2  
 MINERAL ANALYSES OF SURFACE WATER  
 FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES  
 CENTRAL COASTAL DRAINAGE PROVINCE (T)

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
STREAM NAME AND STATION NUMBER											
NEAR SOLVING											
SANTA YNEZ RIVER											
45A											
10-1-63 1515	Dry - no flow									DWR	
11-14-63 1350	Dry - no flow									DWR	
12-2-63 1315	Dry - no flow									DWR	
1-3-64 0900 Clear; some foam	3-36 6 est.	8.4	13 6.2	0.00	0.02		25		13.4	129	DWR
2-4-64 1345 Clear; green algae on surface	3-36 6 est.	8.0	62 0.45				25		14.0	141	DWR
3-3-64 1020 Clear; green algae and scum on upper banks	3-41 10 est.	7.7	6.2 240				25		10.0	93	DWR
4-2-64 1020 Clear; some foam	3-57 40 est.	7.8	240 62	0.30	0.06		25		10.6	101	DWR
5-4-64 1520 Yellowish sludge; vegetation growing in streambed	3-53 7 est.	8.0	240 23				25		12.2	127	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium		Magne-sium	Sodium	Potas-sium	Carbon-ate	Bicar-bonate	Sulfate	Chlo-ride	Ni-trate	Fluo-ride	Boron	Sili-co	Total
				Co	Mg	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	hardness CaCO <sub>3</sub>
Stream name and station number																	
NEAR SOLVANG																	
45A																	
10- 1-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
11-14-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
12- 2-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1- 3-64	57	8.3	1222	108	78	6.41	66	3	24	373	293	54	0.5	0.36	30	84.0	590
				5.39	6.41	2.87	2.87	0.08	0.80	6.11	6.10	1.52	0.01			84.1	
				37	43	19	19	1	6	42	42	10					
2- 4-64	61	8.0	1131	92	70	5.76	70	3	0	405	270	52	0.5	0.32	27	83.0	518
				4.59	5.76	3.04	3.04	0.08	6.64	5.62	5.62	1.47	0.01				
				34	43	23	23	1	48	48	41	11					
3- 3-64	54	7.9	1142	102	74	6.09	63	3	0	420	269	49	0.5	0.32	23	80.0	559
				5.09	6.09	2.74	2.74	0.08	6.88	5.60	5.60	1.38	0.01				
				36	44	20	20	1	50	50	40	10					
4- 2-64	56	8.1	902	93	46	3.78	52	3	0	305	216	45	1.0	0.34	29	64.0	421
				4.64	3.78	2.26	2.26	0.08	5.00	4.50	4.50	1.27	0.02				
				43	35	21	21	1	46	46	42	12					
5- 4-64	65	8.0	1030	81	69	5.67	59	2	0	342	258	44	0.8	0.37	26	71.5	486
				4.04	5.67	2.57	2.57	0.05	5.61	5.37	5.37	1.24	0.01				
				33	46	21	21		46	46	44	10					

TABLE D-2  
 MINERAL ANALYSES OF SURFACE WATER  
 BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES  
 CENTRAL COASTAL DRAINAGE PROVINCE (T)

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Cellform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synates	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA YNEZ RIVER											
45A											
NEAR SOLVANG											
6-2-64 0930 Clear; small fish and tadpoles observed	3.29 2 cst.	8.0	62 62				25		9.0	103	DWR
7-1-64 1635	Dry - no flow										DWR
7-4-64 1015	Dry - no flow										DWR
9-1-64 1350	Dry - no flow										DWR



**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Phenol	Dissolved oxygen Parts per million	Percent saturation	Analyzed by b
				PO <sub>4</sub>	Synclats	NH <sub>4</sub>	Turbidity				
Stream name and station number											
MATILILJA CREEK 45B											
ABOVE DAM											
10-2-63 0945 Clear; fish observed	2.38 1.9	8.0	13 21						10.0	111	DMR
11-14-63 1645 Clear; trout observed	2.42 2.3	7.8	6.2 0.6						8.0	83	DMR
12-3-63 0945 Clear; sulfur odor	2.49 4.0	7.8	0.6 2.0						9.0	88	DMR
1-15-64 1755 Clear; sulfur odor	2.48 4.0	8.0	2.3 <0.45						8.4	7.9	DMR
2-5-64 1230 Clear; sulfur odor; fish observed	2.51 5.8	7.9	<0.45 <0.45						10.0	100	DMR
3-4-64 1150 Clear; green algae on bottom; sulfur odor	2.50 4.5	7.8	0.6 <0.45						9.6	97	DMR
4-2-64 1340 Clear; large flow due to recent rain	2.87 32	7.9	2.3 23						11.0	107	DMR
5-5-64 1315 Clear	2.54 6.8	7.8	<0.45 <0.45						10.0	97	DMR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance				Mineral constituents in parts per million					Total hardness CaCO <sub>3</sub>	
				Calcium		Sodium		Potas-ium	Carbon-ate	Bicar-bonate	Sulfate	Chlo-ride	Ni-trate	Fluo-ride	Baron	Sili-co		IO <sub>3</sub>
				Co	Mg	No	No <sub>3</sub>	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>		EvapIO <sub>3</sub> C
Stream name and station number																		
ABOVE DAM																		
MATILUJA CREEK 45B																		
10- 2-63	70	7.9	1185	--	96	4.17	--	232	3.80	--	104	2.93	--	2.50	--	418		
11-14-63	64	8.0	1227	130	33	98	4	281	288	0	102	2.88	0.5	2.90	24	460		
				6.49	2.71	4.26	0.10	4.61	6.00	0	2.88	2.88	0.01			822		
				48	20	31	1	34	44		21							
12- 3-63	58	8.0	1211	131	37	87	3	278	329	0	74	3.29	0.5	2.10	20	479		
				6.54	3.04	3.78	0.08	4.56	6.85	0	2.09	6.85	0.01			821		
				49	23	28	1	34	51		15							
1-15-64	55	8.0	1151	123	38	86	3	288	311	0	66	3.11	0.5	2.10	20	464		
				6.14	3.13	3.74	0.08	4.72	6.48	0	1.86	6.48	0.01			800		
				47	24	29	1	36	50		14					793		
2- 5-64	60	7.9	1044	113	33	75	3	249	304	0	48	3.04	1.0	1.50	18	418		
				5.64	2.71	3.26	0.08	4.08	6.33	0	1.35	6.33	0.02			760		
				48	23	28	1	35	54		11					720		
3- 4-64	61	8.0	1054	123	34	74	3	259	300	0	55	3.00	0.5	1.70	18	447		
				6.14	2.80	3.22	0.08	4.25	6.25	0	1.55	6.25	0.01			755		
				50	23	26	1	35	52		13					738		
4- 2-64	58	8.2	876	121	29	46	2	259	268	0	22	2.68	1.0	0.75	23	421		
				6.04	2.38	2.00	0.05	4.25	5.58	0	0.62	5.58	0.02			640		
				58	23	19		41	53		6					641		
5- 5-64	57	7.8	996	118	34	68	2	244	313	0	45	3.13	1.8	1.50	17	435		
				5.89	2.80	2.96	0.05	4.00	6.52	0	1.27	6.52	0.03			714		
				50	24	25		34	55		11					721		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPH/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synodats	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
MATILLA CREEK 45B											
ABOVE DAM											
6-2-64 1330 Clear	2.46 3.1	7.8	6.2 6.0				< 25		9.2	96	DWR
7-2-64 1650 Clear; small fish observed	2.39 1.7	7.7	6.2 23				< 25		8.6	101	DWR
8-4-64 1415 Clear	2.35 0.9	7.8	23 6.2				--		8.0	96	DWR
9-1-64 1625 Clear; some foam; small fish observed	2.38 0.9	7.7	130 23	0.02	0.04		< 25		9.6	117	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance				Mineral constituents in parts per million						
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS EvapIO <sub>3</sub> C EvapIO <sub>3</sub> C Computed	Total hardness as CaCO <sub>3</sub>	
Stream name and station number																		
ABOVE DAM																		
MATILILJA CREEK																		
45B																		
6- 2-64	64	7.8	1054	115 5.74 48	35 2.88 24	76 3.30 28	0.08	3 0	0	243 3.98 34	293 6.10 52	62 1.75 15	0.1	0.5	2.30	18	785 724	431
7- 2-64	76	8.1	1087	111 5.54 45	35 2.88 24	86 3.74 31	0.08	3 1	0	242 3.97 32	288 6.00 49	79 2.23 18	1.0 0.02	1.5	2.20	22	796 748	421
8- 4-64	85	7.8	1139	102 5.09 41	35 2.88 23	101 4.39 35	0.08	3 1	0	214 3.51 28	266 5.54 45	115 3.24 26	1.6 0.03	1.7	2.95	20	820 753	399
9- 1-64	79	8.1	1234	114 5.69 43	33 2.71 21	108 4.70 36	0.10	4 1	0	238 3.90 30	251 5.23 40	142 4.00 30	1 0.02	1.8	3.45	22	867 797	420

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Colliform <sup>o</sup> MPN/ml	Constituents, in parts per million			Dissolved oxygen		Analyzed by b		
				PO <sub>4</sub>	Synsets	NH <sub>4</sub>	Turbidity	Phenol		Parts per million	Percent saturation
Stream name and station number											
AT LOS ANGELES - VENTURA COUNTY LINE											
SAWTA CLARA RIVER											
46											
10-2-63 1930 Clear	3.98 0.15	8.0	6.2 130	0.0	0.08		<25		9.4	105	DWR
11-15-63 1205 Clear	4.15 1.6	7.8	50 6.2				<25		8.8	88	DWR
11-20-63 1235 Clear; sample foams when shaken	-- 4 est.	--	--				--		--	--	DWR
12-3-63 1425 Clear; small fish observed	4.08 1.1	7.6	50 23				<25		9.2	93	DWR
1-15-64 1345 Clear; red floating algae; white salt on banks	4.24 1.4	8.0	1.3 0.6				<25		12.4	12.0	DWR
1-21-64 1310 Turbid due to storm runoff	4.44 15.9	--	--				5000		--	--	DWR
2-5-64 1630 Clear; earthwork being done around station	3.84 1.6	8.1	5. 6.2				<25		9.4	95	DWR
3-4-64 1630 Clear; banks have quicksand bases	3.84 1.5	7.6	23 0.6				<25		9.2	97	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million						
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	NI-trole NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Evap. 180°C Evap. 105°C Computed
Stream name and station number AT L. A. - VENTURA CO. L. 46																
SANTA CLARA RIVER																
10- 2-63	70	7.9	4218	--	--	526 22.87	--	--	415 6.80	--	250 7.05	--	1.50	--	1.50	1.73
11-15-63	60	7.9	3623	259 12.92 28	156 12.83 28	450 19.57 43	7 0.18	0	425 6.97 15	1567 32.62 72	202 5.70 13	1.0 0.02	1.36	16	2930 2869	1289
11-20-63	67	8.1	2920	255 12.72 31	131 10.77 26	400 17.39 42	8 0.20	0	331 5.43 13	1489 31.00 75	177 4.99 12	0	1.23	11	2816 2636	1175
12- 3-63	60	7.9	3546	281 14.02 32	133 10.94 25	430 18.70 43	9 0.23	0	407 6.67 15	1530 31.85 73	190 5.36 12	0.5 0.01	1.26	17	2880 2793	1249
1-15-64	58	8.1	3289	244 12.18 29	150 12.34 29	410 17.83 42	7 0.18	0	420 6.88 16	1440 29.98 72	174 4.91 12	0.5 0.01	1.16	17	2720 2652	1227
1-21-64	--	7.2	1205	121 6.04 44	40 3.29 24	98 4.26 31	11 0.28 2	0	222 3.64 27	413 8.60 63	46 1.30 10	1.5 0.02	0.44	16	900 857	467
2- 5-64	62	8.1	3155	255 12.72 32	133 10.94 27	380 16.52 41	8 0.20	0	439 7.20 18	1374 28.61 71	162 4.57 11	1.5 0.02	1.20	18	2700 2549	1184
3- 4-64	66	8.0	3155	250 12.48 30	149 12.25 30	380 16.52 40	7 0.18	0	407 6.67 16	1419 29.54 72	163 4.60 11	0.5 0.01	1.15	16	2715 2587	1237

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage Mt.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synedts	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
AT LOS ANGELES - VENTURA COUNTY LINE											
SARZA CLARA RIVER											
46											
4-2-64 1635	3.78 2.2	7.8	130 240	0.78	0.08		200		9.8	95	DWR
Slightly turbid; some foam; road washed out at sampling point											
5-5-64 1705 Clear	3.72 1.7	7.6	13 0.6				<25		9.4	94	DWR
6-2-64 1800 Clear	3.68 1.2	7.7	29 13				<25		9.6	117	DWR
7-3-64 1420 Clear	3.66 0.30	7.4	2.3 2.3				<25		10.8	136	DWR
8-4-64 1710 Clear	3.63 0.50	7.6	2.3 240				--		13.6	156	DWR
9-2-64 1325 Clear; small fish observed	3.36 0.25 est.	7.8	13 1.3	0.05	0.09		<25		10.4	127	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million									
				Calcium			Magnesium		Sodium		Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Baron	Silica	Total hardness at 100°C CaCO <sub>3</sub>
				Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>					
SANTA CLARA RIVER																				
46																				
4- 2-64	67	7.9	2907	266 13.27	129 10.61	325 14.13	10 0.26	0	468 7.67	1262 26.27	143 4.03	2.0 0.03	1.1	1.10	25	2470 2394	1195			
5- 5-64	59	7.8	2900	35 238	28 137	37 339	1 7	0	20 403	69 1290	11 144	1.8 0.03	1.1	1.12	19	2489 1158				
6- 2-64	79	7.7	3184	31 246	30 150	39 384	0.18	0	18 371	72 1427	11 175	2.0 0.03	1.7	1.36	17	2820 1232				
7- 3-64	82	7.7	3556	30 232	30 173	40 458	0.20	0	15 6.08	73 29.71	12 4.94	1.0 0.02	1.4	1.45	20	3120 1292				
8- 4-64	88	8.2	4735	25 248	31 229	43 684	0.26	0	12 214	75 34.52	13 212	0.8 0.01	1.6	2.20	18	4258 1562				
9- 2-64	79	8.0	4556	20 261	31 211	49 624	0.23	0	6 273	79 2171	15 296	13 0.21	1.0	2.00	20	3920 4015	1520			
				23 13.02	30 17.35	47 27.13			8 4.47	78 45.20	14 8.35					3142				

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by <sup>b</sup>	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
BEAR SANTA PAULA											
SANTA CLARA RIVER											
46A											
10-2-63 1200 Slightly turbid	None 20 est.	7.8	62 62	0.00	0.04		25		9.0	103	DWR
11-15-63 0900 Slightly turbid	None 15 est.	8.0	23 23				30		8.2	86	DWR
12-3-63 1230 Clear; some foam; high flow	None 30 est.	7.8	50 6.2	0.06	0.08		<25		9.6	102	DWR
1-15-64 1635 Clear; white salt on bank; dead fish in water	None 10 est.	7.4	50 62				<25		11.6	113	DWR
2-5-64 1400 Clear	None 20 est.	8.0	< 0.45 < 0.45				<25		11.8	123	DWR
3-4-64 1415 Clear	None 15 est.	7.8	23 23				<25		11.0	115	DWR
4-2-64 1515 Turbid; some foam; large flow due to recent rain	None 220 est.	7.6	62 62	0.08	0.06		750		9.8	98	DWR
5-5-65 1455 Clear; some vegetation floating in the water	None 25 est.	7.6	62 1.3				<25		10.8	111	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				paris per million equivalents per percent reactance				million million				Mineral constituents in paris per million				Total hardness as CaCO <sub>3</sub>
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	IDS Evap/105°C Computed	Total hardness as CaCO <sub>3</sub>			
																		73	64	
10- 2-63	73	8.1	1936	--	--	147 6.39	--	--	336 5.51	--	70 1.97	--	0.86	--	832					
11-15-63	64	7.8	1996	204 10.18 42	85 6.99 29	160 6.96 29	7 0.18 1	0	344 5.64 23	788 16.41 68	71 2.00 8	7.0 0.11	0.92	26	1555 859					
12- 3-63	65	8.0	1972	198 9.88 41	82 6.74 28	165 7.17 30	7 0.18 1	0	356 5.83 24	765 15.93 66	73 2.06 9	8.5 0.14 1	0.92	27	1545 832					
1-15-64	58	7.9	2315	225 11.23 38	111 9.13 31	210 9.13 31	8 0.20 1	0	364 5.97 20	995 20.72 71	88 2.48 8	11 0.18 1	1.04	28	1910 1019					
2- 5-64	64	8.1	1855	189 9.43 41	79 6.50 28	162 7.04 30	7 0.18 1	0	344 5.64 24	744 15.49 67	70 1.97 8	9.0 0.15 1	0.90	25	1550 797					
3- 4-64	64	7.8	1832	200 9.98 44	76 6.25 27	150 6.52 28	6 0.15 1	0	322 5.28 23	740 15.41 68	67 1.89 8	8.0 0.13 1	0.86	27	1515 812					
4- 2-64	64	7.6	687	77 3.84 51	23 1.89 25	38 1.65 22	3 0.08 1	0	159 2.61 36	197 4.10 56	21 0.59 8	2.5 0.04 1	0.58	20	475 287					
5- 5-64	62	7.3	1901	198 9.88 41	83 6.83 29	162 7.04 29	6 0.15 1	0	283 4.64 20	765 15.93 68	99 2.79 12	8.2 0.13 1	1.00	26	1566 836					

Santa Clara River 46A  
Near Santa Paula

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA CLARA RIVER											
NEAR SANTA PAULA											
46A											
6-2-64 1530 Clear	None 15 est.	7.6	23.0 6.2				<25		10.2	112	DWR
7-3-64 1305 Clear	None 15 est.	7.6	62 62				<25		11.4	127	DWR
8-4-64 1540 Clear	None 12 est.	7.8	700 240				--		11.2	127	DWR
9-2-64 1100 Clear	None 10 est.	7.4	240 240				<25		9.2	96	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million								
				Calcium			Sodium		Potas-	Carbon-	Bicar-	Sulfate	Chlo-	Ni-	Fluo-	Baron	Sili-	TOS	Total
				Ca	Mg	Na	ium	ium	ate	bonate	SO <sub>4</sub>	ride	trate	ride	B	co	Evap	Evap	hardnes
SANTA CLARA RIVER 46A																			
NEAR SANTA PAULA																			
6- 2-64	69	7.7	2372	249 12.43 40	106 8.72 28	220 9.57 31	8 0.20	0	340 5.57 18	1061 22.09 73	86 2.43 8	7.6 0.12	1.1	1.20	24	2100	1058		
7- 3-64	70	7.7	2343	238 11.88 39	110 9.05 30	212 9.22 30	8 0.20	0	328 5.38 18	1082 22.53 74	88 2.48 8	10 0.16 1	1.2	1.00	33	2132	1047		
8- 4-64	72	8.0	2084	216 10.78 40	93 7.65 29	186 8.09 30	7 0.18	0	330 5.41 21	889 18.51 71	76 2.14 8	8 0.13	1.2	1.00	29	1800	922		
9- 2-64	64	7.9	2278	242 12.08 42	96 7.90 28	196 8.52 30	8 0.20	0	347 5.69 20	970 20.20 71	88 2.48 9	8 0.13	1.4	1.02	29	1990	1000		
																	1810		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million			Phenol	Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synets	NH <sub>4</sub>		Turbidity	Parts per million		Percent saturation
PIRU CREEK 46C											
NEAR PIRU											
10-2-63 1845 Slightly turbid; swimmers in the water	None 10 est.	8.0	13 700 +					<25	9.0	100	DWR
11-15-63 1110 Clear	None 12 est.	8.2	23 23					<25	9.8	99	DWR
12-3-63 1405 Clear; small fish observed	None 5 est.	8.0	2.3 23					<25	10.0	98	DWR
1-15-64 1415 Clear	None 3 est.	8.0	0.6 2.3					<25	13.0	119	DWR
2-5-64 1555 Clear; yellowish tinge; some foam	None 5 est.	8.1	0.6 <0.45					<25	10.2	104	DWR
3-4-64 1600	None 3 est.	7.8	23 6.2					<25	9.4	99	DWR
4-2-64 1615 Clear	None 4 est.	7.6	6.2 6.2					<25	8.6	94	DWR
5-5-64 1630 Clear; released from Santa Felicia Reservoir	None 5 est.	7.8	2.3 6.2					<25	10.0	96	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million							
				Calcium Ca	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>
10- 2-63	70	8.3	1572	--	--	120 5.22	--	7 0.23	237 3.88	--	39 1.10	--	1.20	--	637
11-15-63	61	8.0	1565	148 7.39 40	68 5.59 30	125 5.44 29	7 0.18 1	0	322 5.28 29	584 12.16 66	37 1.04 6	0.5 0.01	1.34	24	650
12- 3-63	58	8.0	1464	132 6.59 38	64 5.26 30	120 5.22 30	7 0.18 1	0	283 4.64 27	545 11.35 67	35 0.99 6	1.0 0.02	1.26	17	593
1-15-64	53	8.3	1675	152 7.58 38	76 6.25 31	138 6.00 30	7 0.18 1	14 0.47 2	298 4.88 25	621 12.93 66	42 1.18 6	0.5 0.01	1.28	20	692
2- 5-64	62	7.9	1894	155 7.73 32	89 7.32 31	200 8.70 36	7 0.18 1	0	361 5.92 25	785 16.34 68	53 1.49 6	11 0.18 1	1.50	20	753
3- 4-64	65	7.9	1582	159 7.93 41	73 6.00 31	126 5.48 28	6 0.15 1	0	293 4.80 25	629 13.10 68	45 1.27 7	1.0 0.02	1.35	18	697
4- 2-64	68	8.0	1825	191 9.53 41	85 6.99 30	155 6.74 29	7 0.18 1	0	368 6.03 26	761 15.84 68	50 1.41 6	0.5 0.01	1.60	23	827
5- 5-64	58	7.7	1773	178 8.88 39	85 6.99 31	151 6.57 29	6 0.15 1	0	344 5.64 25	727 15.14 68	51 1.44 6	0.8 0.01	1.90	18	794
															1389

Stream name and station number  
NEAR PIRU  
PIRU CREEK  
46C

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by	
				PO <sub>4</sub>	Synedets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
PIRU CREEK 46C											
NEAR PIRU											
6-2-64 1730 Clear	None 0.5 est.	7.8	6.2 62				< 25		10.8	127	DWR
7-3-64 1405 Clear	None 1 est.	7.9	23 130				< 25		12.0	152	DWR
8-4-64 1650 Clear	None 0.5 est.	7.8	62 62				< 25		10.4	128	DWR
9-2-64 1305 Clear	None 0.25 est.	7.5	240 240				< 25		9.0	96	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					parts per million equivalents per million percent reactance value					Mineral constituents in parts per million				
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Evap. 105°C Computed	Total hardness CaCO <sub>3</sub>	
Stream name and station number																		
NEAR PIRU																		
PIRU CREEK 46C																		
6- 2-64	76	8.0	1838	176 8.78 38	88 7.24 31	162 7.04 30	6 0.15 1	0	271 4.44 19	805 16.76 74	55 1.55 7	1.0 0.02	1.6	1.95	14	1548 1444	802	
7- 3-64	83	7.9	1564	145 7.24 38	74 6.09 32	127 5.52 29	7 0.18 1	0	231 3.79 20	674 14.03 74	44 1.24 6	1 0.02	1.4	1.50	37	1277 1225	667	
8- 4-64	80	8.1	1736	156 7.78 36	87 7.15 33	147 6.39 30	7 0.18 1	0	257 4.21 20	741 15.43 73	51 1.44 7	2 0.03	1.5	1.85	20	1497 1341	747	
9- 2-64	66	7.9	1778	173 8.63 40	80 6.58 30	144 6.26 29	7 0.18 1	0	286 4.69 22	727 15.14 71	55 1.55 7	1 0.02	1.7	1.80	23	1460 1354	761	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Colliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by <sup>b</sup>	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SESEPE CREEK											
NEAR FILLMORE											
10-2-63 1800 Turbid; oil slick on surface	2.19 2.6	8.4	62 23				50		9.2	106	DWR
11-15-63 1015 Clear; oil slick on surface	2.30 18	8.2	6.2 2.3				<25		10.8	110	DWR
12-3-63 1305 Clear; oil slick on surface; fish observed	2.29 4.6	8.0	2.3 <0.45				<25		11.2	106	DWR
12-3-63 --	2.46 8.9	--	--				--		--	--	FGL
1-15-64 1505 Clear	1.97 0.6	7.8	0.6 2.3				<25		9.2	85	DWR
2-5-64 1305 Clear; evidence of recent high flow	2.77 21	8.1	6.2 23				<25		11.0	102	DWR
3-3-64 0845	2.38 1.7	--	--				--		--	--	FGL
3-4-64 1550 Clear; oil slick on surface	2.17 2.4	7.6	23 2.3				<25		10.2	103	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				parts per million equivalents per million reionce				Mineral constituents in parts per million			
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Baron B	Sil- ica SiO <sub>2</sub>
Stream name and station number															
NEAR FILLMORE															
SESPE CREEK															
10- 2-63	74	7.9	1270	--	--	122 5.30	--	--	246 4.03	--	128 3.61	--	2.30	--	396
11-15-63	62	8.1	1138	88 4.39 37	27 2.22 19	118 5.13 43	3 0.08 1	0	203 3.33 28	218 4.54 39	135 3.81 33	0.5 0.01	3.10	12 706	331
12- 3-63	56	7.9	1221	107 5.34 40	34 2.80 21	118 5.13 38	4 0.10 1	0	237 3.88 29	314 6.54 49	100 2.82 21	0.5 0.01	2.30	22 821	407
12- 3-63	--	8.1	1242	125 6.24	31 2.55	113 4.91	--	--	223 3.65	357 7.43	96 2.71	--	2.65	-- 866	440
1-15-64	54	8.1	1477	159 7.93 46	44 3.62 21	129 5.61 33	4 0.10 1	0	281 4.61 27	481 10.01 59	87 2.45 14	0.5 0.01	2.40	17 1064	578
2- 5-64	54	8.1	1127	111 5.54 43	34 2.80 22	102 4.43 34	3 0.08 1	0	232 3.80 30	34.9 7.27 56	63 1.78 14	1.0 0.02	1.70	17 798	417
3- 3-64	--	8.1	1253	119 5.94	32 2.63	103 4.48	--	--	227 3.72	354 7.37	77 2.17	--	2.15	-- 871	429
3- 4-64	61	7.9	1242	132 6.59 46	38 3.13 22	107 4.65 32	3 0.08 1	0	251 4.11 29	390 8.12 57	74 2.09 15	0.5 0.01	2.00	17 895	486

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Colliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
NEAR FILLMORE											
46D											
SESPE CREEK											
4-2-64 1555 Turbid; high, rapid - flow due to recent rain	3.86 236	8.0	240 62				325		10.6	101	DWR
5-5-64 1538 Clear	2.68 13	7.9	--				<25		12.0	113	DWR
6-1-64 --	1.87 0.5	--	--				--		--	--	FGL
6-2-64 1645 Clear	1.86 0.2	7.8	1.3 6.2				<25		9.8	116	DWR
7-3-64 1340 Clear; green algae	1.95 0.4	7.6	2.3 6.2				<25		12.2	149	DWR
8-4-64 1620 Clear	1.92 0.1	7.6	5.0 6.2				--		11.8	153	DWR
9-1-64 1000	1.98 0.23	--	--				--		--	--	FGL
9-2-64 1230 Clear; insects	1.97 0.2	7.5	2.3 6.2				<25		11.2	130	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos of 25°C)	Mineral constituents in				Mineral constituents in				Total hardness as CaCO <sub>3</sub>					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl		Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evap/100°C Computed
4- 2-64	56	7.8	589	70 3.49	20 1.64	30 1.30	2 0.05	0	156 2.56	165 3.44	15 0.42	1.5 0.02	0.7	0.50	14	4.00	257
5- 5-64	55	7.6	969	93 4.64	30 2.47	84 3.65	3 0.08	0	183 3.00	283 5.89	63 1.78	0.6 0.01	1.7	1.80	12	6.64	356
6- 1-64	--	8.0	1733	192 9.58	63 5.18	129 5.61	--	--	258 4.23	690 14.37	68 1.92	--	1.4	1.77	--	1306	739
6- 2-64	76	7.8	1567	188 9.38	55 4.52	122 5.30	5 0.13	0	233 3.82	632 13.16	67 1.89	1.2 0.02	1.6	1.75	19	1255	696
7- 3-64	80	7.7	1344	135 6.74	39 3.21	118 5.13	5 0.13	0	188 3.08	467 9.72	84 2.37	1 0.02	1.6	1.95	14	1015	498
8- 4-64	85	7.6	1389	134 6.69	40 3.29	128 5.57	5 0.13	0	165 2.70	469 9.76	101 2.85	1.8 0.03	1.5	2.25	13	1040	499
9- 1-64	--	7.9	1486	134 6.69	34 2.80	128 5.57	--	--	188 3.08	418 8.70	121 3.41	--	1.3	2.43	--	1027	475
9- 2-64	74	8.0	1330	127 6.34	31 2.55	120 5.22	4 0.10	0	173 2.84	382 7.95	121 3.41	1 0.02	1.6	2.30	11	940	445
				45	18	37	1		20	56	24					886	

Stream name and station number  
NEAR FILLMORE

SESPE CREEK

46D

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
NEAR SANTA PAULA											
SANTA PAULA CREEK											
46E											
10-2-63	1.74	8.2	700						12.2	139	DWR
1100	0.8		23								
Clear											
11-15-63	1.34	7.8	13	0.70	0.03				9.8	99	DWR
0800	0.6		6.2								
Clear											
12-3-63	1.42	7.8	2.3	0.02	0.12				10.6	101	JWR
1135	2 est.		6.2								
Clear; some foam											
12-6-63	1.41	--	--						--	--	FGL
--	3.8										
1-15-64	1.69*	7.8	6.2	0.00	0.06				8.4	76	DWR
1715	2.8		0.6								
Clear; some foam											
1-22-64	2.05*	--	--						--	--	DWR
1600	20.2										
1-23-64	1.99*	--	--						--	--	DWR
1300	30 est.										
Amber-colored											
2-5-64	1.82*	7.9	0.6						11.0	107	DWR
1335	6.1		1.3								
Clear											

\*New gage

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance value				Mineral constituents in parts per million			
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>
10- 2-63	72	7.9	1222	--	--	116 5.04	--	312 5.11	--	84 2.37	--	0.59	--	--	402
11-15-63	61	7.9	1196	100 4.99 38	36 2.96 22	120 5.22 39	3 0.08 1	0 5.33 40	0 3.25 271 5.64	82 2.31 17	0.7 0.01	0.70	15	780 789	398
12- 3-63	56	8.0	1144	116 5.79 45	35 2.88 22	96 4.17 32	2 0.05	0 305 5.00 39	285 5.93 46	67 1.89 15	1.0 0.02	0.40	22	780 775	434
12- 6-63	--	7.7	1190	116 5.79	33 2.71	95 4.13	--	287 4.70	277 5.77	70 1.97	--	0.40	--	782	425
1-15-64	52	8.1	1106	96 4.79 39	38 3.13 25	100 4.35 35	2 0.05	0 4.88 39	270 5.62 45	68 1.92 15	1.0 0.02	0.50	15	735 738	396
1-22-64	49	7.7	803	88 4.39 49	23 1.89 21	60 2.61 29	2 0.05 1	0 3.67 41	197 4.10 46	38 1.07 12	2.5 0.04	0.64	15	570 537	314
1-23-64	52	8.2	860	59 2.94 28	56 4.61 44	64 2.78 27	2 0.05	0 4.15 40	240 5.00 48	46 1.30 12	3.2 0.05	0.33	11	642 606	378
2- 5-64	58	8.0	922	86 4.29 41	31 2.55 24	82 3.57 34	2 0.05	0 4.25 40	239 4.98 47	50 1.41 13	1.0 0.02	0.36	15	660 634	342

Stream name and station number  
NEAR SANTA PAULA

46E

SANTA PAULA CREEK

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen Parts per million	Percent saturation	Analyzed by <sup>b</sup>
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity			
SANTA PAULA CREEK 46E										
NEAR SANTA PAULA										
3-3-64 1000	1.50 10.1	--	--					--	--	FGL
3-4-64 1310 Clear; some foam	1.78* 3.6	7.9	2.3 2.3					10.2	104	DWR
4-2-64 1450 Turbid; insects; large flow due to recent rain	2.34* 32	7.8	6.2 13					11.4	109	DWR
5-5-64 1430 Clear; some foam	1.78* 6.9	7.8	<0.45 0.6	0.0	0.06			11.0	101	DWR
6-1-64 0830	1.43 1.0	--	--					--	--	FGL
6-2-64 1455 Clear; some foam	1.66* 2.2	7.9	6.2 6.2					11.8	141	DWR
7-3-64 1230 Clear; foam	1.53* 0.9	8.0	13 23					13.4	152	DWR
8-4-64 1505 Clear	1.44* 0.5	7.8	23 2.3					11.0	137	DWR

\*New gage

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million				Mineral constituents in parts per million					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Evaporated or Computed	Total hardness as CaCO <sub>3</sub>
Stream name and station number NEAR SANTA PAULA SANTA PAULA CREEK 46E																	
3- 3-64	--	7.7	1172	104 5.19	35 2.88	91 3.96	--	--	290 4.75	270 5.62	62 1.75	--	0.4	0.57	--	725	404
3- 4-64	62	8.0	983	88 4.39 39	34 2.80 25	90 3.91 35	2 0.05	0	254 4.16 37	259 5.39 48	57 1.61 14	0.5 0.01	0.6	0.42	14	690	360
4- 2-64	56	8.1	497	64 3.19 58	13 1.07 19	28 1.22 22	1 0.03 1	0	166 2.72 49	117 2.44 44	15 0.42 8	1.0 0.02	0.4	0.12	19	330	213
5- 5-64	54	7.9	896	86 4.29 43	30 2.47 25	73 3.17 32	2 0.05 1	0	251 4.11 41	221 4.60 46	46 1.30 13	1.6 0.03	0.6	0.38	13	614	338
6- 1-64	--	7.8	1057	99 4.94	29 2.38	87 3.78	--	--	299 4.90	229 4.77	60 1.69	--	0.4	0.86	--	725	366
6- 2-64	77	8.0	900	78 3.89 39	30 2.47 25	82 3.57 36	2 0.05	0	225 3.69 37	227 4.73 48	53 1.49 15	0.8 0.01	0.6	0.47	14	630	318
7- 3-64	72	8.0	1020	82 4.09 37	34 2.80 25	97 4.22 38	2 0.05	0	256 4.20 37	249 5.18 46	66 1.86 17	2 0.03	0.6	0.48	26	708	345
8- 4-64	81	7.9	1186	69 3.44 27	34 2.80 22	147 6.39 50	2 0.05	0	259 4.25 33	275 5.73 45	100 2.82 22	1.0 0.02	0.7	0.90	17	800	312
																774	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Phenal	Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity		Parts per million	Percent saturation	
NEAR SANTA PAULA											
SANTA PAULA CREEK											
46E											
9-1-64 1050	1.32 1.3	--	--						--	--	FGL
9-2-64 1010 Clear	1.28 0.1	7.8	240 62			<25			13.2	136	DWR

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in				parts per million equivalents per percent				parts per million reoactance value					Mineral constituents in parts per million				
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baran B	Silica SiO <sub>2</sub>	IDS Evaporated	Total hardness as CaCO <sub>3</sub>				
9- 1-64	--	8.3	1404	92 4.59	37 3.04	149 6.48	--	--	378 6.20	241 5.02	106 2.99	--	0.4	1.07	--	1127	382				
9- 2-64	63	7.8	1328	97 4.84 33	39 3.21 22	146 6.35 44	3 0.08 1	0	356 5.83 40	274 5.70 39	108 3.05 21	1 0.02	0.7	0.86	17	895 862	403				

Stream name and station number  
SANTA PAULA CREEK 46E  
NEAR SANTA PAULA

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Colliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
AT FIGUEROA STREET											
10-2-63 1058 Clear	0.57 0.1	8.0	110					0	7.04	81	LACHD
12-4-63 1020 Clear	0.01 0.2	7.9	15					0.00	6.4	61	LACHD
1-8-64 1340 Slightly turbid; yellow color, musty odor	0.02 0.05	8.2	110+					0.01	18.2	173	LACHD
3-4-64 1145 Clear	0.03 0.3	8.0	110+					0.07	7.3	75	LACHD
4-8-64 0950 Oil and grease: 0.0; 5 day B.O.D. = 2.5 ppm	0.01 0.05	--	9.3						9.4	93	LACHD
5-6-64 1505 Clear; some foam	0.05 0.4	8.0	620 2400				30		9.6	108	DWR
6-3-64 1100	0.05 0.05	8.2	11.5					0.04	11.75	131	LACHD
8-5-64 1945 Clear; trash in streambed; green algae	0.03 0.01	8.4	230 230				35		4.4	35	DWR

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LOS ANGELES RIVER

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million																
				Calcium		Magnesium		Sodium		Potassium		Carbonate		Bicarbonate		Sulfate		Chloride		Nitrate	Fluoride	Baron	Silica	Total hardness as CaCO <sub>3</sub>
				Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Computed								
10- 2-63	74	--	--	112	5.59	82	414	--	80	300	601	440	0	--	--	--	1386	617						
				18	22	6.74	18.00		2.67	4.92	12.51	12.41					1877							
12- 4-63	58	--	--	91	4.54	33	315	--	0	365	275	300	2.2	--	--	--	1315	363						
				22	22	2.71	13.70			5.98	5.73	8.46	0.04				1196							
1- 8-64	56	8.2	--	91	4.54	51	340	--	0	217	489	344	2.1	--	--	--	1636	437						
				19	18	4.19	14.78			3.56	10.18	9.70	0.03				1424							
3- 4-64	62	--	--	103	5.14	32	200	--	0	235	276	200	4.0	--	--	--	1065	389						
				31	31	2.63	8.70			3.85	5.75	5.64	0.06				931							
4- 8-64	60	8.1	--	76	3.79	31	307	6	0	335	236	266	0.0	--	--	--	1190	317						
				19	19	2.55	13.35	0.15		5.49	4.91	7.50					1087							
5- 6-64	71	7.7	2335	85	4.24	35	403	8	0	454	302	393	1.4	0.8	1.80	19	1492	356						
				17	17	12	71	1		7.44	6.29	11.08	0.02				1472							
6- 3-64	70	8.2	--	84	4.19	46	418	--	0	328	383	414	0.9	--	--	--	1655	399						
				16	16	3.78	18.17			5.38	7.97	11.67	0.01				1507							
8- 5-64	78	8.1	2704	58	2.89	49	463	10	0	120	624	447	1.0	1.1	1.70	7	1829	346						
				11	11	4.03	20.13	0.26		1.97	12.99	12.61	0.02				1721							

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LOS ANGELES RIVER

Stream name and station number  
AT FIGUEROA STREET

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
LOS ANGELES RIVER											
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AT FIGUEROA STREET											
9-14-64 1330 Yellow color, floating green algae	0.08 0.05	8.4	<0.45 6				<25		14.2	192	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Evapitated at 105°C Computed	Total hardness CaCO <sub>3</sub>
9-14-64	89	8.7	2395	70 3.49 14	65 5.35 21	372 16.17 64	7 0.18 1	22 0.73 3	124 2.03 8	613 12.76 50	340 9.59 38	17 0.27 1	0.8	1.75	14	1624 1583	442

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LOS ANGELES RIVER

Stream name and station number  
AT FIGUEROA STREET

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Colliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synnets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number AT PACIFIC COAST HIGHWAY											
LOS ANGELES RIVER 48											
10-2-63 1010 Marked turbidity; green color; heavy algae; 5-day BOD = 67 ppm	0.46 6.4	7.7	24						0.40	46	LBDPH
11-13-63 1130 Marked turbidity; brownish color; 5-day BOD = 54.5 ppm; oil and grease = 13 ppm	0.48 10.5	7.3	13000						0.18	2	LBDPH
12-4-63 1015 Marked turbidity; brownish color; 5-day BOD = 46.0 ppm; oil and grease = 10.0 ppm	0.45 10.3	7.5	620						0.15	3	LBDPH
1-8-64 1025 Very turbid; blackish color; 5-day BOD = 102.6 ppm; oil and grease = 11 ppm; Alkalinity (CaCO <sub>3</sub> ) = 314 ppm	0.50 12.0	8.0	70						3.6	35	LBDPH
2-5-64 1025 Marked turbidity; brownish color; hydrocarbon chlor; 5-day BOD = 212 ppm; oil and grease = 10.0 ppm; Alkalinity (CaCO <sub>3</sub> ) = 606 ppm	0.60 13.0	7.5	130						--	--	LBDPH
3-4-64 1035 Marked turbidity; grayish color; 5-day BOD = 662 ppm; oil and grease = 38.8 ppm; Alkalinity (CaCO <sub>3</sub> ) = 606 ppm	0.61 18.6	7.6	130						0.10	6	LBDPH
4-8-64 1020 Very turbid; brownish color; 5-day BOD = 282 ppm; Oil and grease = 23 ppm	0.47 69.8	7.5	240						0.03	4	LBDPH
5-6-64 1425 Slightly turbid; black algae; hydrocarbon odor	0.51 12.5	7.4	<45 <45	93					2.0	25	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance value				Mineral constituents in parts per million				
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Evap105°C Computed
Stream name and station number AT PACIFIC COAST HIGHWAY																
LOS ANGELES RIVER																
10- 2-63	73	--	--	200 9.98 6	213 17.52 11	3000 130.44 83	--	0	244 4.00 3	500 10.41 7	4960 139.87 91	0.0	--	--	9580 8993	1376
11-13-63	66	--	--	254 12.67 6	250 20.56 10	4000 173.92 84	--	0	290 4.75 2	496 10.33 5	7035 198.39 93	0.9 0.01	--	--	12866 12178	1663
12- 4-63	59	--	--	340 16.97 4	650 53.46 14	7300 317.40 82	--	0	227 3.72 1	1557 32.42 8	12681 357.60 91	0.0	--	--	25638 22640	3524
1- 8-64	57	8.0	--	285 14.22 6	25 2.06 1	4750 206.53 93	--	0	314 5.15 2	535 11.14 4	8377 236.23 94	2.4 0.04	--	--	13486 14129	815
2- 5-64	62	7.5	--	350 17.47 7	85 6.99 3	5600 243.49 91	--	0	419 6.87 3	190 3.96 2	8500 239.70 96	0.9 0.01	--	--	15440 14932	1224
3- 4-64	78	--	--	590 29.44 6	285 23.44 5	10000 434.80 89	--	0	606 9.93 2	29 0.60 2	17164 484.02 98	0.4 0.01	--	--	29390 28366	2646
4- 8-64	69	7.5	--	452 22.55	230 18.92	5600 243.49	--	--	--	136 2.83	14342 404.44	0.0	0	405	20232	2075
5- 6-64	82	7.4	41824	619 30.89 6	342 28.13 5	10500 456.54 88	88 2.25	0	919 15.06 3	0	18100 510.42 97	2.5 0.04	2.0	40.00	31450 30185	2953



TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million									
				Calcium			Magnesium		Sodium		Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Barium	Silica	Total hardness at 105°C CaCO <sub>3</sub>
				Co	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>					
LOS ANGELES RIVER 48																				
Stream name and station number AT PACIFIC COAST HIGHWAY																				
6- 3-64	80	7.2	--	672 33.53	245 20.15	11200 486.98	--	0	589 9.65	--	17610 496.60	2.0 0.03	--	--	--	--	31167	2686		
7- 1-64	89	7.6	--	611 30.49	300 24.67	10500 456.54	--	0	620 10.16	17 0.35	17215 485.46	0.9 0.01	--	--	--	--	32046	2760		
8- 5-64	80	--	--	354 17.06	235 19.33	5600 243.49	--	0	510 8.36	360 7.50	8155 229.97	0.4 0.01	--	--	--	--	28949	1851		
9-14-64	79	7.6	13245	224 11.18	91 7.48	2544 110.61	33 0.84	0	402 6.59	265 5.52	4245 119.71	16 0.26	1.0	9.40	26	8425	934	7652		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Colliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by <sup>b</sup>	
				PO <sub>4</sub>	Syndepts	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
RIO HORDO											
AT WHITTIER NARROWS											
10-3-63 0800 Clear	1.62 3.0	8.2	23 62				<25		9.4	111	DWR
11-8-63 0830 Clear; small fish and insects observed	1.74 1.0	7.8	7000 620				<25		4.7	46	DWR
12-4-63 1255 Clear; mostly M.W.D. Colorado River water	3.23 1.60	8.1	4.5 6				<25		9.4	98	DWR
1-3-64 1100 Clear; mostly M.W.D. Colorado River water	3.02 1.49	8.0	0.60 0.60				<25		10.6	100	DWR
1-22-64 1130 Slightly turbid; evidence of past very high flow	2.51 40	--	--				140		--	--	DWR
2-10-64 1045 Clear	2.84 87	7.7	0.60 0.60				<25		10.2	9.6	DWR
3-5-64 1530 Clear; mostly M.W.D. Colorado River water	3.39 198	7.8	6.2 6.2				<25		9.4	89	DWR
4-4-64 0115 Clear	3.51 195	8.0	2.3 6.2				<25		10.0	94	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million					
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	Total hardness as CaCO <sub>3</sub>
Stream name and station number																
AT WHITTIER NARROWS																
RTO HONDO																
10-3-63	76	7.7	1031	--	--	106 4.61	--	238 3.90	196 4.08	84	--	0.32	--	297		
11-8-63	59	7.4	985	85 4.24 40	24 1.97 19	93 4.04 38	11 0.28 3	224 3.67 35	201 4.18 40	87 2.45 23	8.0 0.13 1	0.26	26	311 646		
12-4-63	65	8.3	1043	80 3.99 36	29 2.38 21	108 4.70 42	5 0.13 1	146 2.39 21	283 5.89 52	90 2.54 23	1.5 0.02	0.12	12	319 693		
1-13-64	56	8.3	1032	80 3.99 35	31 2.55 23	105 4.57 41	5 0.13 1	134 2.20 20	289 6.02 54	87 2.45 22	1.5 0.02	0.14	13	327 692		
1-22-64	50	7.5	304	25 1.25 44	8 0.66 23	17 0.74 26	8 0.20 7	71 1.16 43	38 0.79 29	23 0.65 24	7.4 0.12 4	0	--	96 161		
2-10-64	55	8.2	1017	90 4.49 41	22 1.81 17	103 4.48 41	5 0.13 1	161 2.64 24	276 5.75 53	87 2.45 23	2.5 0.04	0.14	10	315 675		
3-5-64	56	8.1	1020	87 4.34 39	30 2.47 22	96 4.17 38	5 0.13 1	163 2.67 24	287 5.98 54	86 2.43 22	2.0 0.03	0.12	11	341 685		
4-4-64	55	8.1	1015	90 4.49 40	28 2.30 21	98 4.26 38	5 0.13 1	166 2.72 24	286 5.95 53	88 2.48 22	2.5 0.04	0.18	14	340 694		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
RIO HONDO											
AT WHITTIER NARROWS											
5-6-64 1125	1.99 2.7	8.2	23 6.2	0.4	0.16		<25		16.8	165	DMR
6-3-64 1305 Clear; low flow; many tadpoles	1.81 1.8	7.4	62 62				<25		9.2	107	DMR
7-13-64 0850 Clear; low flow	1.73 0.5	7.2	62 62	1.3			<25		8.6	91	DMR
8-5-64 1430 Clear	1.75 0.6	7.8	700+ 23				--		10.2	137	DMR
9-14-64 1050	Dry - no flow										

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				Mineral constituents in				Total hardness as CaCO <sub>3</sub>					
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl		Ni- trate NO <sub>3</sub>	Fluo- ride F	Baron B	Sili- ca SiO <sub>2</sub>	IDS EvapIBOC EvapI05C Computed
Stream name and station number																	
AT WHITTIER NARROWS																	
49																	
5- 6-64	59	8.0	910	71 3.54 37	1.81 19	22 4.04 42	93 0.18 2	7	0	216 3.54 37	177 3.69 39	78 2.20 23	2.2 0.04	1.0	0.31 17	579 575	268
6- 3-64	75	7.4	1193	96 4.79 37	29 2.38 18	127 5.52 43	9 0.23 2	0	0	223 3.65 29	278 5.79 45	114 3.21 25	5.2 0.08 1	1.1	0.37 21	822 790	359
7-13-64	65	7.3	1277	101 5.04 37	29 2.38 17	139 6.04 44	10 0.26 2	0	0	243 3.98 29	299 6.23 45	124 3.50 25	2 0.03	1.3	0.40 26	892 851	371
8- 5-64	88	9.0	1105	78 3.89 33	31 2.55 21	120 5.22 44	11 0.28 2	29	0.97	168 2.75 23	246 5.12 43	105 2.96 25	2.2 0.04	1.3	0.38 27	775 733	322
9-14-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million	
MISSION CREEK 49A										
AT WHITTIER NARROWS										
10-3-63 1015	Dry - no flow									DWR
11-8-63 0745	Dry - no flow									DWR
12-4-63 1245	Dry - no flow									DWR
1-13-64 1025	5.66 0.05	7.2	6.2 23						10.0	DWR
Clear; first flow since 6-5-63										
2-10-64 0930	Dry - no flow									DWR
3-5-64 1525	Dry - no flow									DWR
4-4-64 0100	Dry - no flow									DWR
5-6-64 1110	Dry - no flow									DWR
6-3-64 1220	Dry - no flow									DWR
7-13-64 0840	Dry - no flow									DWR
8-5-64 1420	Dry - no flow									DWR
9-14-64 1040	Dry - no flow									DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million				Mineral constituents in parts per million						
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IOE Evaporated or Computed	Total hardness as CaCO <sub>3</sub>	
10- 3-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11- 8-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12- 4-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-13-64	47	7.5	1623	208 10.38	3.78 19	117 5.09	0.18 26	7 1	0	356 5.83	535 11.14	88 2.48	1.5 0.02	0.6	0.46	20	1225 1199	709
2-10-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3- 5-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4- 4-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5- 6-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Stream name and station number  
AT WHITTIER NARROWS  
MISSION CREEK  
49A

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
RIO HONDO 49B											
ABOVE SPREADING GROUNDS											
10-3-63 0845 Clear	-- 1 est.	8.0	620 50	13	1.4		< 25		8.0	89	DWR
11-8-65 0800 Clear; vegetation in streambed	-- 5 est.	8.2	620 230	17	1.3		< 25		7.6	74	DWR
12-4-63 1315 Clear; gages buried in mud	-- 120 est.	7.8	23 62	1.75							
1-13-64 1133 Clear	-- 90 est.	8.0	2.3 <0.45	0.44	0.06		< 25		10.0	99	DWR
2-10-64 1005 Clear; detergent odor; mud in channel	-- 38 est.	7.5	23 6.2	2.5	0.22		< 25		11.2	105	DWR
3-5-64 1600 Clear; small particles of vegetation and silt throughout water	-- 95 est.	7.6	23 21				< 25		9.2	91	DWR
4-4-65 0135 Clear; some foam and vegetation in water	-- 200 est.	8.0	130 130	0.42	0.10		< 25		9.8	92	DWR
5-6-64 1150 Clear; some foam	-- 60 est.	8.0	6.2 230	18	1.70		< 25		14.4	144	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million							
				Calcium		Magne- sium	Sodium	Potas- sium	Carbon- ate	Bicar- bonate	Sulfate	Chlo- ride	Ni- trate	Flua- ride	Baron	Sili- co	IDS	Total
				Co	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Extrac- t	Extrac- t	hardness
Stream name and station number																		
ABOVE SPREADING GROUNDS																		
RIO HONDO																		
49B																		
10- 3-63	70	8.0	1164	71	23	141	13	0	260	156	132	36	1.2	0.47	32	702	272	
				3.54	1.89	6.13	0.33	4.26	3.25	3.72	0.58	5				733		
				30	16	52	3	36	28	31								
11- 8-63	58	6.9	887	49	16	103	13	0	200	105	88	19	1.4	0.44	25	510	189	
				2.45	1.32	4.48	0.33	3.28	2.19	2.48	0.31	4				518		
				29	15	52	4	40	27	30								
12- 4-63	68	7.7	1042	71	32	106	6	0	156	271	88	7.5	0.7	0.14	14	680	309	
				3.54	2.63	4.61	0.15	2.56	5.64	2.48	0.12	1				673		
				32	24	42	1	24	52	23								
1-13-64	60	8.3	1030	80	30	105	5	14	134	284	86	2.0	0.6	0.14	12	680	323	
				3.99	2.47	4.57	0.13	0.47	2.20	5.91	2.43	0.03				685		
				36	22	41	1	4	20	54	22							
2-10-64	55	7.5	1010	76	28	105	6	0	163	263	87	7.5	0.6	0.16	13	690	305	
				3.79	2.30	4.57	0.15	2.67	5.48	2.45	0.12	1				666		
				35	21	42	1	25	51	23								
3- 5-64	60	7.8	1024	80	32	103	5	0	159	286	90	3.0	0.6	0.12	12	720	331	
				3.99	2.63	4.48	0.13	2.61	5.95	2.54	0.05					690		
				36	23	40	1	23	53	23								
4- 4-64	55	8.0	1011	96	24	98	5	0	161	286	87	3.0	0.6	0.18	14	700	338	
				4.79	1.97	4.26	0.13	2.64	5.95	2.45	0.05					693		
				43	18	38	1	24	54	22								
5- 6-64	60	7.4	1019	45	21	129	12	0	232	119	108	40	1.6	0.62	27	655	199	
				2.25	1.73	5.61	0.31	3.80	2.48	3.05	0.65	7				617		
				23	17	57	3	38	25	31								

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
RIO HONDO 49B											
ABOVE SPREADING GROUNDS											
6-3-64 1240 Clear; low flow; much marine life; insect larva	-- 1 est.	8.0	62 130	2.5	0.19		< 25		7.2	90	DWR
7-13-64 0940 Clear; some foam	-- 8 est.	7.6	240 240	29	0.9		< 25		8.0	89	DWR
8-5-64 1450 Yellowish tinge; very strong sewage odor; much marine life	-- Ponded	8.2	700 240				--		3.8	54	DWR
9-14-64 1100 Yellow color; foam	-- 0.25 est.	8.4	240 23				50		6.4	77	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance				Mineral constituents in parts per million					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total hardness as CaCO <sub>3</sub>	
Stream name and station number																	
RIO HONDO 49B																	
ABOVE SPREADING GROUNDS																	
6- 3-64	80	7.8	1005	85 4.24 39	26 2.14 20	100 4.35 40	6 0.15 1	0	204 3.34 31	238 4.96 46	87 2.45 23	2.2 0.04	0.7	0.27	15	688 660	319
7-13-64	70	7.2	991	45 2.25 23	25 2.06 21	116 5.04 52	14 0.36 4	0	227 3.72 39	151 3.14 33	92 2.59 27	10 0.16 2	1.7	0.47	31	638 598	216
8- 5-64	94	7.5	1617	110 5.49 32	36 2.96 17	190 8.26 48	19 0.49 3	0	339 5.56 32	310 6.45 38	182 5.13 30	1.8 0.03	1.2	0.52	31	1134 1048	423
9-14-64	78	8.5	1378	107 5.34 37	28 2.30 16	151 6.57 45	11 0.28 2	24 0.80 5	193 3.16 22	302 6.29 43	145 4.09 28	21 0.34 2	0.8	0.28	27	930 912	382

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
AT WHITTIER NARROWS											
SAN GABRIEL RIVER											
50											
10-3-63 1045	Dry - no flow									DWR	
11-8-63 0730	Dry - no flow									DWR	
12-4-63 1345	-- 125	8.2	240 130	0.54	0.12		<25		9.6	103	DWR
Clear; mostly Colorado River water											
1-13-64 0950	-- 140	8.0	62				<25		11.6	107	DWR
Clear; mostly Colorado River water											
2-10-64 0910	Dry - no flow										DWR
3-5-64 1505	Dry - no flow										DWR
4-4-64 0050	Dry - no flow										DWR
5-6-64 1055	-- 151	7.8	240 240				25		9.4	88	DWR
Clear											

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>						
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl		Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Expressed as CaCO <sub>3</sub> Computed	
Stream name and station number													50					
AT WHITTIER NARROWS																		
10- 3-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	685	317		
11- 8-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	685			
12- 4-63	68	8.3	1056	66 3.29 30	37 3.04 28	105 4.57 41	5 0.13 1	10 0.33 3	154 2.52 22	283 5.89 52	89 2.51 22	2.0 0.03	0.6	0.10	12	685	317	
1-13-64	54	8.4	1034	82 4.09 36	30 2.47 22	105 4.57 41	5 0.13 1	19 0.63 6	122 2.00 18	287 5.98 54	87 2.45 22	2.0 0.03	0.6	0.14	11	685	328	
2-10-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	689	
3- 5-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4- 4-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
5- 6-64	56	8.0	1012	85 4.24 39	28 2.30 21	98 4.26 39	5 0.13 1	0 2.67 24	163 2.67 24	284 5.91 54	85 2.40 22	1.5 0.02	0.6	0.19	11	730	327	
																	678	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Phenol	Dissolved oxygen Parts per million	Percent saturation	Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity				
Stream name and station number											
AT WHELFYER MARROW											
50											
SAN GABRIEL RIVER											
6-3-64 0825	Dry - no flow										DWR
7-13-64 0825	Dry - no flow										DWR
8-5-64 1405	Dry - no flow										DWR
9-14-64 1030	Dry - no flow										DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silico SiO <sub>2</sub>	TDS Evaporated as CaCO <sub>3</sub> Computed	Total hardness as CaCO <sub>3</sub>
Stream name and station number																	
AT WHITTIER NARROWS																	
SAN GABRIEL RIVER																	
50																	
6- 3-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7-13-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8- 5-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9-14-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
AT AZUSA POWERHOUSE											
SAN GABRIEL RIVER											
50D											
10-3-63	--	8.0	0.6	0.0	0.06		< 25		9.0	100	DWR
11-5 Slightly turbid; some foam	80		0.6								
11-7-63	--	8.3	< 0.45				55		10.4	103	DWR
11-10 Very turbid from storm runoff	80		< 0.45								
12-4-63	--	7.8	0.6	0.06	0.02		< 25		9.4	86	DWR
1005 Small particles of vegetation throughout water	37		2.3								
1-13-64	--	8.0	0.6				< 25		12.0	103	DWR
1235 Clear	10		0.6								
2-10-64	--	7.8	0.6				< 25		9.8	84	DWR
1135 Clear	37		< 0.45								
3-5-64	--	7.8	< 0.45				< 25		8.8	78	DWR
1330 Clear	37		< 0.45								
4-4-64	--	8.0	0.6				50		11.8	117	DWR
0405 Milky line; high flow	80		23								
5-6-64	--	7.6	0.6				< 25		10.4	100	DWR
1010 Clear	80		0.6								

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in						parts per million equivalents per million reagent value					Mineral constituents in parts per million			
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	Iron Fe	Total hardness CaCO <sub>3</sub>	
Stream name and station number AT AZUSA POWERHOUSE																		
SAN GABRIEL RIVER																		
500																		
10- 3-63	70	7.9	430	--	--	14	--	0	237	--	6	--	0.11	--	200			
						0.61		3.88			0.17							
11- 7-63	60	8.0	456	63	16	14	5	0	278	26	7	19	0.12	270	223			
				3.14	1.32	0.61	0.13	0	4.56	0.54	0.20	0.4	0.02	289				
				60	25	12	3	86	10	4								
12- 4-63	53	7.8	443	55	18	14	4	0	256	28	6	22	0.10	270	211			
				2.74	1.48	0.61	0.10	0	4.20	0.58	0.17	0.03	1	275				
				56	30	12	2	84	12	3								
1-13-64	48	8.3	443	60	15	18	4	12	239	30	5	16	0.12	245	211			
				2.99	1.23	0.78	0.10	0.40	3.92	0.62	0.14	0.01		279				
				59	24	15	2	8	77	12	3							
2-10-64	48	8.0	412	52	17	15	4	0	244	31	6	14	0.08	270	200			
				2.59	1.40	0.65	0.10	0	4.00	0.65	0.17	0.04		262				
				55	30	14	2	82	13	3								
3- 5-64	51	8.0	418	58	16	13	4	0	254	31	5	16	0.10	240	211			
				2.89	1.32	0.57	0.10	0	4.16	0.65	0.14	0.02		270				
				59	27	12	2	84	13	3								
4- 4-64	52	8.0	366	49	14	11	3	0	215	24	5	19	0.30	225	180			
				2.45	1.15	0.48	0.08	0	3.52	0.50	0.14	0.04		234				
				59	28	12	2	84	12	3								
5- 6-64	56	7.8	365	47	14	9	3	0	210	28	3	12	0.10	250	175			
				2.35	1.15	0.39	0.08	0	3.44	0.58	0.08	0.01		220				
				59	29	10	2	84	14	2								

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SAN GABRIEL RIVER 500											
AT AZUSA POWERHOUSE											
6-3-64 1115 Clear; little foam	-- 60 est.	7.6	0.6 0.45	0.0	0.02		<25		11.0	107	DWR
7-13-64 1000 Clear; little foam	-- 60	7.4	2.3 0.45	0.0	0.06		<25		9.0	89	DWR
8-5-64 1325 Clear	-- 60	7.6	2.3 0.6				--		9.4	93	DWR
9-14-64 0945 Clear	-- 60	7.8	0.45 13				<25		8.8	83	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million							
				Calcium			Magnesium			Sulfate			Fluoride		Boron		Total hardness at 100°C
				Ca	Mg	Na	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	F	B	SiO <sub>2</sub>	CO <sub>3</sub>		
				Calcium	Magnesium	Sodium	Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Boron	SiO <sub>2</sub>	TOS	
				Co	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Evap 100°C	
				53	12	10	3	0	207	27	5	1.2	0.5	0.11	7	216	
6-3-64	58	7.8	365	2.64	0.99	0.43	0.08	0	3.39	0.56	0.14	0.02				221	
				64	24	10	2		82	14	3						
7-13-64	62	7.5	367	4.45	1.07	0.43	0.08	0	208	26	5	2	0.4	0.09	11	224	
				61	27	11	2		3.41	0.54	0.14	0.03				176	
				61	27	11	2		83	13	3	1				222	
8-5-64	68	8.0	376	5.1	1.2	0.43	0.10	0	211	25	5	1.5	0.5	0.12	10	229	
				63	24	11	2		3.46	0.52	0.14	0.02				177	
				63	24	11	2		84	13	3					223	
9-14-64	72	7.9	374	4.7	1.4	0.43	0.10	0	206	28	4	2	0.4	0.09	11	223	
				58	29	11	2		3.38	0.58	0.11	0.03				175	
				58	29	11	2		82	14	3	1				222	

500

SAN GABRIEL RIVER

Stream name and station number

AT AZUSA POWERHOUSE

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phanol	Parts per million		Percent saturation
Stream name and station number											
NEAR VENTURA											
VENTURA RIVER											
61											
10-2-63 0830 Scum and vegetation on surface; small fish observed	6.28 0.1	7.6	23 23	0.00	0.00		< 25		11.4	126	DWR
11-14-63 1604 Clear; much algae	6.08 0.1	7.2	62 23				< 25		6.2	63	DWR
12-3-63 1910 Very clear	6.48 1.1	7.1	62 62				< 25		12.0	108	DWR
1-3-64 1400 Clear; much vegetation in stream	6.25 0.2	7.2	62 50				< 25		1.8	17	DWR
2-5-64 1135 Clear; fish and insects observed	6.33 0.5	7.4	13 6				< 25		12.0	114	DWR
3-4-64 1100 Clear; scum on surface; green algae on bottom	6.24 0.2	7.2	23 13				< 25		7.8	74	DWR
4-2-64 1250 Clear; small fish observed	6.35 0.8	7.4	23 62				< 25		8.6	88	DWR
5-5-64 1207 Clear; fish and insects observed	6.57 1.0	7.4	23 6.2				< 25		8.6	89	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in parts per million					parts per million equivalents per percent reactance					Mineral constituents in parts per million				
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	I.D.S. Evap. 105°C Computed	Total hardness as CaCO <sub>3</sub>	
Stream name and station number																		
NEAR VENTURA																		
VENTURA RIVER 61																		
10- 2-63	69	7.4	1234	--	--	72 3.13	--	--	0	356 5.83	--	64 1.80	--	0.58	--	530		
11-14-63	62	7.3	1242	162 8.08 53	41 3.37 22	83 3.61 24	2 0.05	0	381 6.24 42	317 6.60 44	75 2.12 14	0.5 0.01	0.7	0.62	30	573		
12- 3-63	52	7.5	1297	155 7.73 52	44 3.62 25	76 3.30 22	3 0.08 1	0	354 5.80 40	325 6.77 46	70 1.97 13	6.5 0.10 1	0.7	0.52	31	568		
1- 3-64	56	7.7	1282	164 8.18 54	41 3.37 22	78 3.39 23	3 0.08 1	0	368 6.03 40	334 6.95 46	70 1.97 13	0.5 0.01	0.7	0.58	23	578		
2- 5-64	56	7.5	1225	157 7.83 53	41 3.37 23	80 3.48 24	3 0.08 1	0	356 5.83 40	327 6.81 46	70 1.97 13	2.9 0.05	0.8	0.52	19	560		
3- 4-64	56	7.4	1253	160 7.98 53	45 3.70 24	78 3.39 22	2 0.05	0	378 6.20 41	326 6.79 45	73 2.06 14	2.5 0.04	0.7	0.52	20	584		
4- 2-64	62	7.7	1198	150 7.49 52	43 3.54 25	75 3.26 23	3 0.08 1	0	359 5.88 41	310 6.45 45	71 2.00 14	2.0 0.03	0.7	0.20	25	552		
5- 5-64	58	7.8	1159	143 7.14 53	41 3.37 25	69 3.00 22	2 0.05	0	334 5.47 40	304 6.33 46	67 1.89 14	1.0 0.02	0.7	0.62	19	526		
																812		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
VENTURA RIVER											
NEAR VENTURA											
6-2-64 1225 Clear; algae on bottom	6.30 0.1	7.2	240 23				< 25		7.6	81	DWR
7-2-64 1540 Slightly turbid; green	6.18 Ponded	7.4	23 13				< 25		9.4	109	DWR
8-4-64 1315 Clear	5.98 Ponded	7.2	62 700				--		8.2	94	DWR
9-1-64 1510 Clear; green algae on bottom and surface; floating dead fish	6.02 Ponded	7.3	23				< 25		12.2	152	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million percent reactance value				Mineral constituents in parts per million				
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evap 105°C Computed
Stream name and station number																
NEAR VENTURA																
VENTURA RIVER 61																
6- 2-64	66	7.3	1234	157 7.83 53	42 3.45 23	77 3.35 23	3 0.08 1	0	378 6.20 43	300 6.25 43	74 2.09 14	1.5 0.02	0.8	23	934 865	564
7- 2-64	74	7.6	1225	146 7.29 51	41 3.37 24	82 3.57 25	3 0.08 1	0	358 5.87 41	302 6.29 44	78 2.20 15	2 0.03	0.7	24	898 855	533
8- 4-64	73	7.7	1268	152 7.58 52	40 3.29 22	86 3.74 25	3 0.08 1	0	364 5.97 40	306 6.37 43	87 2.45 17	2.9 0.05	0.7	27	964 884	544
9- 1-64	72	7.6	1302	160 7.98 53	42 3.45 23	80 3.68 23	3 0.08 1	0	366 6.00 40	307 6.39 43	90 2.54 17	1 0.02	0.8	30	940 894	572

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**MINERAL ANALYSES, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Caliform <sup>o</sup> MPN/ml	Constituents, in parts per million			Phenol	Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Syngets	NH <sub>4</sub>		Turbidity	Parts per million	
STREAM name and station number AQUEDUCT AT LA VERNE										
10-1-63 Monthly composite sample;	--	--	-- = 1 ppm; Alkalinity (CaCO <sub>3</sub> ) = 109 ppm					0.6	--	MWD
11-1-63 Monthly composite sample;	--	--	-- = 1 ppm; Alkalinity (CaCO <sub>3</sub> ) = 111 ppm					0.7	--	MWD
12-1-63 Monthly composite sample;	--	--	-- = 1 ppm; Alkalinity (CaCO <sub>3</sub> ) = 114 ppm					0.8	--	MWD
1-1-64 Monthly composite sample;	--	--	-- = 1 ppm; Color = 6; Alkalinity (CaCO <sub>3</sub> ) = 118 ppm; Nitrite = 0.001 ppm					0.8	--	MWD
2-1-64 Monthly composite sample;	--	--	-- = 1 ppm; Alkalinity (CaCO <sub>3</sub> ) = 120 ppm					0.8	--	MWD
3-1-64 Monthly composite sample;	--	--	-- = 1 ppm					1.0	--	MWD
4-1-64 Monthly composite sample;	--	--	-- = 1 ppm					1.0	--	MWD
5-1-64 Monthly composite sample;	--	--	-- = 0					1.4	--	MWD

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COLORADO RIVER

AQUEDUCT AT LA VERNE

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				parts per million				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Evap/100°C Computed	Total hardness as CaCO <sub>3</sub>
Stream name and station number																	
AQUEDUCT AT LA VERNE																	
69																	
10- 1-63	--	8.2	1050	80 3.99 37	29 2.38 22	96 4.17 39	5 0.13 1	0	133 2.18 21	288 6.00 57	85 2.40 23	0.7 0.01	0.4	--	9	660 658	319
11- 1-63	--	8.2	1035	81 4.04 38	28 2.30 22	95 4.13 39	5 0.13 1	0	135 2.21 21	290 6.04 57	84 2.37 22	0.9 0.01	0.4	--	10	661 317	317
12- 1-63	60	8.3	1035	81 4.04 38	29 2.38 22	94 4.09 38	5 0.13 1	0	139 2.28 22	286 5.95 56	82 2.31 22	0.6 0.01	0.4	--	9	656 655	321
1- 1-64	57	8.4	1045	84 4.19 39	28 2.30 21	96 4.17 39	5 0.13 1	1 0.03	142 2.33 22	287 5.98 55	87 2.45 23	1.1 0.02	0.4	0.11	9	670 668	325
2- 1-64	55	8.4	1055	84 4.19 39	28 2.30 21	95 4.13 38	5 0.13 1	1 0.03	144 2.36 22	288 6.00 55	86 2.43 22	1.1 0.02	0.4	--	9	670 668	325
3- 1-64	56	8.4	1050	84 4.19 39	28 2.30 21	95 4.13 38	5 0.13 1	1 0.03	145 2.38 22	288 6.00 56	84 2.37 22	1.0 0.02	0.4	--	9	668 667	325
4- 1-64	--	8.4	1040	85 4.24 39	28 2.30 21	94 4.09 38	5 0.13 1	1 0.03	145 2.38 22	283 5.89 55	84 2.37 22	1.4 0.02	0.4	--	10	664 663	327
5- 1-64	--	8.5	1060	86 4.29 40	28 2.30 21	94 4.09 38	4 0.10 1	1 0.03	145 2.38 22	286 5.95 55	86 2.43 23	0.7 0.01	0.4	--	--	668 657	330

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million	
Stream name and station number										
AQUEDUCT AT LA VERNE										
COLORADO RIVER										
6-1-64 Monthly composite sample; Color = 8	--	--	--				1.0		--	MWD
7-1-64 Monthly composite sample; free CO <sub>2</sub> = 1 ppm	--	--	--				0.9		--	MWD
8-1-64 Monthly composite sample; free CO <sub>2</sub> = 2 ppm	--	--	--				1.4		--	MWD
9-1-64 Monthly composite sample; free CO <sub>2</sub> = 1 ppm	--	--	--				--		--	MWD

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TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evap. 180°C at 105°C Computed	Total hardness as CaCO <sub>3</sub>
Stream name and station number																	
AQUEDUCT AT LA VERNE																	
COLORADO RIVER 69																	
6- 1-64	67	8.3	1070	86 4.29 40	28 2.30 21	94 4.09 38	5 0.13 1	1 0.03	143 2.34 22	287 5.98 55	87 2.45 23	1.3 0.02	0.4	0.11	10	671 670	330
7- 1-64	72	8.2	1080	85 4.24 39	29 2.38 22	97 4.22 38	5 0.13 1	0	140 2.29 21	292 6.08 55	92 2.59 24	1.0 0.02	0.4	--	10	681 680	331
8- 1-64	77	8.1	1090	83 4.14 38	29 2.38 22	100 4.35 40	5 0.13 1	0	135 2.21 20	294 6.12 56	94 2.65 24	0.6 0.01	0.4	--	10	683 682	326
9- 1-64	76	8.2	1090	83 4.14 38	29 2.38 22	101 4.39 40	5 0.13 1	0	134 2.20 20	300 6.25 56	94 2.65 24	0.6 0.01	0.4	--	10	690 689	326

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
LOS ANGELES AQUEDUCT											
NEAR SAN FERNANDO											
10-22-63 -- 5 Day BOD = 1.6 ppm; color = 15; alkalinity = 119 ppm; Kjeldahl nitrogen = 0.49 ppm	-- 495	8.12	9.2			0.01	7		8.6	90	LADWP
11-19-63 -- 5 Day BOD = 0.8 ppm; color = 5; alkalinity = 115 ppm; Kjeldahl nitrogen = 0.41 ppm	-- 495	8.08	--			0.01	7		9.6	91	LADWP
12-17-63 -- 5 Day BOD = 0.6 ppm; color = 5; alkalinity = 120 ppm; Kjeldahl nitrogen = 0.32 ppm	-- 495	--	--			0.00	9		11.5	99	LADWP
1-21-64 -- 5 Day BOD = 1.1 ppm; color = 5; alkalinity = 123 ppm; nitrite (NO <sub>2</sub> ) = 0.00 ppm; organic nitrogen = 0.40 ppm; arsenic = 0.005 ppm	-- 495	7.92	0.0			0.02	6		12.2	99	LADWP
2-25-64 -- 5 Day BOD = 1.1 ppm; color = 5; alkalinity = 110 ppm; Kjeldahl nitrogen = 0.25 ppm	-- 409.3	7.78	--			0.01	--		11.8	98	LADWP
3-17-64 -- 5 Day BOD = 1.7 ppm; color = 5; alkalinity = 116 ppm; Kjeldahl nitrogen = 0.22 ppm; arsenic = 0.020 ppm	-- 439	8.40	0.05			0.01	--		11.6	97	LADWP
4-21-64 -- 5 Day BOD = 1.3 ppm; color = 5; alkalinity = 115 ppm; Kjeldahl nitrogen = 0.28 ppm	-- 495	8.46	0.09			<0.02	2		10.0	93	LADWP
5-19-64 -- Color = 1; Iron = 0.4 ppm	-- --	8.8	--				4		9.6	86	LADWP

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TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million								
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	Total hardness as CaCO <sub>3</sub>
Stream name and station number																
NEAR SAN FERNANDO																
70																
10-22-63	64	--	281	21 1.05	4 0.33	27 1.17	4 0.10	--	--	21 0.44	12 0.34	0.6 0.01	0.5	0.33	27	69
11-19-63	56	--	299	22 1.10	5 0.41	28 1.22	4 0.10	--	--	20 0.42	13 0.37	0.6 0.01	0.5	0.38	20	76
12-17-63	48	8.5	--	22 1.10	5 0.41	32 1.39	4 0.10	--	--	30 0.62	13 0.37	0.9 0.01	0.5	0.45	20	76
1-21-64	44	8.4	329	25 1.25	6 0.49	30 1.30	4 0.10	--	--	29 0.60	15 0.42	0.7 0.01	0.6	--	21	87
2-25-64	45	8.2	306	22 1.10	6 0.49	33 1.43	4 0.10	--	--	24 0.50	17 0.48	0.4 0.01	0.6	0.45	16	80
3-17-64	46	8.1	306	22 1.10	7 0.58	32 1.39	4 0.10	--	--	17 0.35	20 0.56	0.2	0.6	0.47	18	84
4-21-64	54	8.4	332	25 1.25	6 0.49	35 1.52	4 0.10	--	--	28 0.58	16 0.45	0.2	0.6	0.44	20	87
5-19-64	51	8.4	334	23 1.15 35	7 0.58 18	34 1.48 45	4 0.10 3	0	118 1.93 67	21 0.44 15	17 0.48 17	1.0 0.02 1	0.4	--	21 186	87

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LOS ANGELES DRAINAGE PROVINCE (U)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
LOS ANGELES AQUEDUCT											
NEAR SAN FERNANDO											
6-16-64 -- Color = 5	-- 495.2	8.4	--				4		8.8	92	LADWP
7-21-64 -- 5 day BOD	-- 495.5 1.5 ppm; color = 5; Alkalinity = 145 ppm; Arsenic = 0.008 ppm; Kjeldahl Nitrogen = 0.28 ppm	8.28	--				1		9.4	108	LADWP
8-18-64 -- 5 day BOD	-- 495.3 0.9 ppm; color = 10; Alkalinity = 125 ppm; Arsenic = 0.007 ppm	8.40	0.0				5		8.0	91	LADWP
9-22-64 -- 5 day BOD	-- 495.2 1.0 ppm; color = 15	8.70	--			0.00	8		8.2	88	LADWP

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LOS ANGELES DRAINAGE PROVINCE (U)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million					Total hardness at 25°C CaCO <sub>3</sub>			
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	NItrate NO <sub>3</sub>	Fluoride F	Baron B		Silica SiO <sub>2</sub>	IDS Evap. 105°C Computed	
Stream name and station number																		
NEAR SAN FERNANDO																		
LOS ANGELES AQUEDUCT																		
70																		
6-16-64	64	8.5	351	25 1.25	6 0.49	37 1.61	4 0.10	--	--	26 0.54	15 0.42	0.6	--	22	0.6	0.6	0.01	87
7-21-64	73	8.6	341	26 1.30	6 0.49	35 1.52	4 0.10	--	--	26 0.54	14 0.39	0.6	0.50	22	0.6	0.2	0.01	90
8-18-64	72	8.5	341	24 1.20	7 0.58	36 1.57	4 0.10	--	--	24 0.50	16 0.45	0.6	0.42	18	0.6	0.8	0.01	89
9-22-64	67	8.5	359	25 1.25	8 0.66	39 1.70	5 0.13	--	--	26 0.54	17 0.48	0.6	0.60	21	0.6	0.6	0.01	96

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LAHONTAN DRAINAGE PROVINCE (W)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by <sup>b</sup>	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
NEAR VICTORVILLE											
MOJAVE RIVER											
10-4-63	1.76	8.0	62						7.2	80	DMR
1030 Clear	22		23								
11-6-63	2.11	8.0	1300						7.4	75	DMR
1615 Clear; floating leaves, twigs and debris	30		620								
12-5-63	2.38	7.5	<4.5						8.6	78	DMR
1120 Clear	35		<4.5								
1-14-64	2.57	7.4	0.6						9.4	81	DMR
1300 Clear	38		2.3								
1-30-64											SBCFCD
1330											
2-6-64	2.55	7.5	2.3						9.2	83	DMR
1205 Clear; silt and sand flowing through water	31		23								
3-6-64	2.59	7.3	6.2						9.4	88	DMR
1225 Clear	34		1.3								
4-4-64	2.54	7.4	6.2						9.6	84	DMR
0610 Clear	26		<0.45								

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LAHONTAN DRAINAGE PROVINCE (W)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance value				Mineral constituents in parts per million			
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>
Stream name and station number															
NEAR VICTORVILLE															
67															
MOJAVE RIVER															
10- 4-63	69	7.8	516	--	--	50	--	0	210	--	34	--	0.13	--	156
						2.17		3.44			0.96				
11- 6-63	61	7.8	482	4.3	2.15	4.9	0.13	5	217	36	30	1.5	0.14	27	149
				4.1	4.1	4.1		2	3.56	0.75	0.85	0.02			309
12- 5-63	52	7.6	481	3.8	1.90	4.6	0.10	4	207	36	30	2.5	0.10	35	149
				3.7	3.7	2.00		2	3.39	0.75	0.85	0.04			270
1-14-64	48	7.9	432	3.9	1.95	4.5	0.08	3	195	38	27	2.5	0.10	23	135
				4.1	4.1	1.96		2	3.20	0.79	0.76	0.04			283
1-30-64	--	8.1	452	4.3	2.15	4.5	0.08	3	207	36	29	3.3	0.11	--	145
				4.4	4.4	1.96		2	3.39	0.75	0.82	0.05			281
2- 6-64	52	7.8	450	4.0	2.00	4.3	0.13	5	200	41	27	3.0	0.10	23	145
				4.1	4.1	1.87		3	3.28	0.85	0.76	0.05			285
3- 6-64	55	7.7	440	4.3	2.15	4.3	0.05	2	198	35	25	4.8	0.08	24	141
				4.5	4.5	1.87		1	3.25	0.73	0.71	0.08			270
4- 4-64	49	7.6	449	4.5	2.25	4.2	0.05	2	196	38	27	2.0	0.10	23	146
				4.7	4.7	1.83		1	3.21	0.79	0.76	0.03			260
						3.8			67	16	16	1			284

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LAHONTAN DRAINAGE PROVINCE (W)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
MOJAVE RIVER											
NEAR VICTORVILLE											
5-7-64 1630 Clear	2.49 24	7.4	13 2.3						7.4	80	DWR
6-4-64 1040 Clear; small fish observed	2.35 18	7.4	23 6.2						8.6	91	DWR
7-15-64 1120 Clear	2.26 8	7.4	130 23						9.4	106	DWR
8-7-64 1110 Clear; much vegetation	2.30 21.4	7.4	700+ 700+						9.0	94	DWR
9-3-64 1440 Clear	2.45 11	7.3	700 700						9.2	105	DWR

MINERAL ANALYSES OF SURFACE WATER  
LAHONTAN DRAINAGE PROVINCE (W)

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LAHONTAN DRAINAGE PROVINCE (W)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance				Mineral constituents in parts per million					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evap 105°C	Total hardness at CaCO <sub>3</sub>
Stream name and station number																	
NEAR VICTORVILLE 67																	
MOJAVE RIVER 67																	
5- 7-64	67	7.9	464	42	10	43	2	0	198	40	26	1.2	0.6	0.12	24	297	146
				2.10	0.82	1.87	0.05	0	3.25	0.83	0.73	0.02				286	
				43	17	39	1		67	17	15						
6- 4-64	65	7.7	473	42	12	43	3	0	205	41	28	2.2	0.5	0.13	27	298	155
				2.10	0.99	1.87	0.08	0	3.36	0.85	0.79	0.04				300	
				42	20	37	2		67	17	16	1					
7-15-64	71	7.4	503	46	9	49	3	0	210	46	33	2	0.6	0.15	28	321	152
				2.30	0.74	2.13	0.08	0	3.44	0.96	0.93	0.03				320	
				44	14	41	2		64	18	17	1					
8- 7-64	76	7.4	497	45	9	48	3	0	210	43	32	1	0.6	0.15	27	326	150
				2.25	0.74	2.09	0.08	0	3.44	0.90	0.90	0.02				312	
				44	14	41	2		65	17	17						
9- 3-64	73	7.8	516	38	14	50	3	0	205	47	34	0.9	0.7	0.14	--	305	153
				1.90	1.15	2.17	0.08	0	3.36	0.98	0.96	0.01				288	
				36	22	41	2		63	18	18						

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LAHONTAN DRAINAGE PROVINCE (W)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Cellform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen Parts per million	Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity			Phenol
MOJAVE RIVER										
AT THE FORKS										
10-4-63 1145 Clear; small fish and insects	None 15 est.	8.0	1.3 2.3					9.6	107	DWR
11-6-63 1415 Clear	None 20 est.	8.2	23 50					8.7	86	DWR
12-5-63 1015 Very clear	None 30 est.	7.6	2.3 2.3					10.2	83	DWR
1-14-64 1410 Clear	None 20 est.	7.6	2.3 .60					11.0	103	DWR
2-6-64 1040 Clear	None 22 est.	7.8	.60 .92					10.4	110	DWR
3-6-64 1115 Clear; snowing at time of sampling	None 30 est.	7.3	2.3 .60					9.8	79	DWR
4-4-64 0800 Yellowish tinge; foam	None 4 est.	7.4	62 6.2	0.08	0.04			11.2	91	DWR
5-7-64 1810 Clear; many trout observed	None 40 est.	7.6	1.3 6.2					8.6	84	DWR

67A

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LAHONTAN DRAINAGE PROVINCE (W)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance				Mineral constituents in parts per million					
				Calcium		Magnesium	Sodium	Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Barium	Silica	Total hardness at 25°C CaCO <sub>3</sub>
				Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>		
Stream name and station number AT THE FORKS																	
MOJAVE RIVER 67A																	
10- 4-63	70	7.9	444	--	--	59 2.57	--	0	151 2.47	--	13 0.37	--	0.23	--	95		
11- 6-63	59	7.6	379	24 1.20 30	6 0.49 12	51 2.22 56	3 0.08 2	0	146 2.39 64	49 1.02 27	12 0.34 9	0.5 0.01	0.16	24	85		
12- 5-63	44	7.5	289	17 0.85 28	7 0.58 19	36 1.57 51	2 0.05 2	0	122 2.00 67	33 0.69 23	10 0.28 9	0.5 0.01	0.10	32	72		
1-14-64	48	8.0	290	23 1.15 36	5 0.41 13	36 1.57 50	1 0.03 1	0	127 2.08 67	33 0.69 22	11 0.31 10	1.0 0.02 1	0.08	22	78		
2- 6-64	42	7.9	245	20 1.00 36	5 0.41 15	30 1.30 47	1 0.03 1	0	117 1.92 72	23 0.48 18	10 0.28 10	0.1	0.08	21	71		
3- 6-64	43	7.7	260	22 1.10 41	4 0.33 12	28 1.22 45	2 0.05 2	0	116 1.90 73	21 0.44 17	9 0.25 10	2.0 0.03 1	0.04	20	72		
4- 4-64	44	7.6	135	14 0.70 50	2 0.16 11	12 0.52 37	1 0.03 2	0	63 1.03 73	8 0.17 12	7 0.20 14	0.5 0.01 1	0.12	19	43		
5- 7-64	58	7.6	175	17 0.85 48	3 0.25 14	15 0.65 37	1 0.03 2	0	82 1.34 78	9 0.19 11	6 0.17 10	0.6 0.01 1	0.08	19	55		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**LAHONTAN DRAINAGE PROVINCE (W)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synates	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
MOJAVE RIVER 67A											
AT THE FORKS											
6-4-64 0930 Clear; large fish and trout observed	None 30 est.	7.4	62 23				< 25		9.0	92	DWR
7-15-64 1220 Clear; swimmers upstream	None 4 est.	7.4	23 13				< 25		6.8	77	DWR
8-7-64 0930 Clear; much green algae on bottom and surface	None 1 est.	--	240 62				--		7.8	96	DWR
9-3-64 1325 Clear; oily film on surface; Arsenic = 0.0 ppm	None 1.5 est.	7.3	240 62				< 25		8.4	97	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
LAHONTAN DRAINAGE PROVINCE (W)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	TDS Evap. 105°C Computed	Total hardness as CaCO <sub>3</sub>
Stream name and station number AT THE FORKS																	
MOJAVE RIVER 67A																	
6- 4-64	62	7.8	226	20 1.00 42	4 0.33 14	23 1.00 42	0 0.05 2	0	106 1.74 75	17 0.35 15	7 0.20 9	1.8 0.03 1	1.2	0.07	22	147	67
7-15-64	71	7.3	349	24 1.20 33	6 0.49 13	44 1.91 52	3 0.08 2	0	139 2.28 63	48 1.00 27	12 0.34 9	1 0.02 1	2.0	0.15	19	230	85
8- 7-64	80	7.5	369	27 1.35 35	5 0.41 11	46 2.00 52	3 0.08 2	0	167 2.74 71	35 0.73 19	13 0.37 10	1 0.02 1	2.4	0.17	26	255	88
9- 3-64	74	7.5	463	33 1.65 35	7 0.58 12	55 2.39 51	3 0.08 2	0	171 2.80 60	70 1.46 31	15 0.42 9	1 0.02 0.02	2.8	0.19	25	297	112
																296	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
NEAR TOPOCK, ARIZONA											
54											
COLORADO RIVER											
5-18-64 1720 Clear; large fish observed	18.19 9890	7.8	5 ≪ 0.45				≪ 25		9.2	97	DWR
9-11-64 1310 Clear; large fish observed; arsenic = 0.0 ppm	19.28 13520	8.1	0.60 ≪ 0.45				≪ 25		9.0	98	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million							
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Bicarbonate CO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	TDS Evap100°C Evap105°C Computed	Total hardness as CaCO <sub>3</sub>	
Stream name and station number														54			
NEAR TOPOCK, ARIZONA																	
5-18-64	65	7.6	1048	88	31	100	4	0	156	292	93	1.4	0.5	0.16	10	713	347
				4.39	2.55	4.35	0.10	2.56	6.08	2.62	0.02						
9-11-64	68	7.8	1079	88	29	100	5	0	151	294	94	2	0.5	0.15	11	726	339
				4.39	2.38	4.35	0.13	2.47	6.12	2.65	0.03						
				39	21	39	1	22	54	24						698	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
COLORADO RIVER											
55											
BELOW PARKER DAM											
5-19-64 0815 Clear	18.86 4450	7.8	6.2 62				< 25		8.8	95	DWR
9-9-64 1705 Clear	20.9 13200	8.3	2.3 2.3				< 25		7.2	86	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				ports per million equivalents per million reaction value				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	IDS Evap/105°C Computed	Total hardness as CaCO <sub>3</sub>
Stream name and station number																	
BELOW PARKER DAM																	
55																	
COLORADO RIVER																	
5-19-64	67	8.2	1031	87 4.34 38	31 2.55 23	98 4.26 38	5 0.13 1	0	156 2.56 23	289 6.02 54	90 2.54 23	1.6 0.03	0.5	0.13	10	711 689	345
9-9-64	77	7.7	1079	85 4.24 38	30 2.47 22	98 4.26 38	5 0.13 1	0	148 2.43 22	297 6.18 55	94 2.65 23	1 0.02	0.5	0.15	11	728 694	336

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenal	Parts per million		Percent saturation
COLORADO RIVER											
56											
AT YUMA, ARIZONA											
5-12-64 1450 Clear	114.03 1040	7.6	24 24				< 25		8.8	108	DWR
7-7-64 1215 Turbid	113.77 900 est.	7.4	24 240				100		8.8	117	DWR
9-8-64 1715 Clear	113.88 904	8.3	6.2 6.2				35		8.0	107	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance value				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Evaporated at 105°C Computed	Total hardness as CaCO <sub>3</sub>
5-12-64	80	7.7	2694	160 7,98 28	63 5.18 18	360 15.65 54	7 0.18 1	0	234 3.84 13	484 10.08 35	529 14.92 52	2.4 0.04	1.0	0.52	18	1814 1740	659
7- 7-64	87	7.8	3920	206 10,28 25	91 7.48 18	540 23.48 57	8 0.20	0	256 4.20 10	597 12.43 30	888 25.04 60	25 0.40 1	0.9	0.68	19	2732 2501	889
9- 8-64	88	7.5	4184	208 10,38 24	89 7.32 17	582 25.31 59	8 0.20	0	250 4.10 9	613 12.76 29	943 26.59 61	12 0.19	1.1	0.88	18	2883 2598	886

56

COLORADO RIVER

Stream name and station number  
AT YUMA, ARIZONA

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
NEAR PILOT KNOB											
ALL AMERICAN CANAL 56A											
5-13-64 0830 Clear	17.22 5800 est.	7.8	2.3 24				< 25		8.0	93	DWR
7-7-64 1245 Slightly turbid	17.43 8900	7.6	6.2 13				37		8.0	105	DWR
9-8-64 1645 Clear; arsenic = 0.0 ppm	17.30 6670	8.5	2400 2400				32		9.4	118	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Evap 180°C Evap 105°C Computed	Total hardness CaCO <sub>3</sub>
Stream name and station number																	
ALL AMERICAN CANAL																	
NEAR PILOT KNOB																	
5-13-64	75	8.0	1219	93 4.64 35	34 2.80 21	130 5.65 43	5 0.13 1	0	171 2.80 21	326 6.79 52	125 3.53 27	1.5 0.02	0.5	0.16	11	828 810	372
7- 7-64	86	8.0	1177	90 4.49 35	33 2.71 21	125 5.44 43	5 0.13 1	0	162 2.66 21	323 6.72 53	115 3.24 26	3 0.05	0.5	0.14	13	810 787	360
9- 8-64	82	7.7	1283	92 4.59 34	33 2.71 20	139 6.04 45	5 0.13 1	0	164 2.69 20	331 6.89 52	133 3.75 28	2 0.03	0.6	0.21	13	872 829	365

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
COLORADO RIVER											
56B											
BELOW MORELOS DAM											
5-12-64 1535 Clear; some vegetation in water	99.24 23.3	7.6	6.2 24						9.6	120	DWR
7-7-64 1055 Slightly turbid; large fish observed	109.10 60 est.	7.4	62 240						6.4	82	DWR
9-8-64 1805 Greenish tinge; large fish observed; arsenic = 0.0 ppm	99.15 18.5	8.2	0.60 24						9.0	123	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					parts per million equivalents per million reagent value					Mineral constituents in parts per million				
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Evap. Residue Evap. Residue Computed	Total hardness as CaCO <sub>3</sub>	
Stream name and station number RELOW MORELOS DAM																		
COLORADO RIVER 56B																		
5-12-64	82	7.5	2011	138 6.89 32	50 4.11 19	246 10.70 49	0.15 0.15 1	6 1	0	229 3.75 17	427 8.89 41	319 9.00 42	1.8 0.03	0.7	0.33	16	1364 1317	550
7- 7-64	84	7.7	2187	143 7.14 30	54 4.44 19	269 11.70 50	0.15 0.15 1	6 1	0	232 3.80 16	451 9.39 40	367 10.35 44	2 0.03	0.7	0.33	16	1518 1423	579
9- 8-64	90	7.6	2354	146 7.29 29	55 4.52 18	293 12.74 52	0.18 0.18 1	7 1	0	231 3.79 15	463 9.64 39	398 11.22 45	19 0.31 1	0.8	0.42	19	1580 1515	591

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
COLORADO RIVER											
NEAR BLYTHE											
5-20-64 0900 Clear; swimmers in water	None 10300	7.8	240 6.2						9.4	108	DWR
9-9-64 1435 Clear	None 10600	7.8	700 --				< 25		8.4	112	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in					parts per million equivalents per percent reagent value					Mineral constituents in parts per million						
				Calcium	Magnesium	Sodium	Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Boron	Silica	Iron	Aluminum	Calcium	Iron	Aluminum
				Co	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Fe	Al	Ca	Fe	Al
Stream name and station number																				
NEAR BLYTHE																				
COLORADO RIVER																				
56C																				
5-20-64	73	8.2	1063	89 4.44 38	32 2.63 23	101 4.39 38	5 0.13 1	0	157 2.57 23	297 6.18 54	92 2.59 23	1.4 0.02	0.5	0.13	11	724 706	354			
9- 9-64	88	7.8	1118	89 4.44 38	30 2.47 21	108 4.70 40	5 0.13 1	0	151 2.47 21	306 6.37 55	99 2.79 24	1 0.02	0.6	0.16	12	766 725	346			

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen Parts per million	Percent saturation	Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity			
Stream name and station number AT AQUEDUCT INTAKE 56D COLORADO RIVER										
10-1-63 Alkalinity	-- (CaCO <sub>3</sub> ) = 110 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				0.2	--	--	MWD
11-5-63 Alkalinity	-- (CaCO <sub>3</sub> ) = 117 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				0.7	--	--	MWD
12-3-63 Alkalinity	-- (CaCO <sub>3</sub> ) = 142 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				1.5	--	--	MWD
1-7-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 147 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				1.0	--	--	MWD
-- -64 Alkalinity	-- (CaCO <sub>3</sub> ) = 145 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				2.6	--	--	MWD
4-1-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 124 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				--	--	--	MWD
5-5-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 148 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				0.4	--	--	MWD
6-2-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 143 ppm;	-- free CO <sub>2</sub> = 1 ppm	-- CO <sub>2</sub> = 1 ppm				0.6	--	--	MWD

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million																													
				Calcium			Magnesium		Sodium		Potassium		Carbonate		Bicarbonate		Sulfate		Chloride		Nitrate		Fluoride		Boron		Silica		Total hardness at 105°C											
				Co	Mg	Na	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	SiO <sub>2</sub>	Ca	Mg	CO <sub>3</sub>	CO <sub>3</sub>	Ca	Mg	CO <sub>3</sub>	CO <sub>3</sub>										
Stream name and station number AT AQUEDUCT INTAKE																																								
COLORADO RIVER 560																																								
10- 1-63	79	--	1025	77	3.84	28	92	5	4	127	276	82	1.0	--	10	639	307																							
				37	2.30	22	4.00	0.13	0.13	2.08	5.75	2.31	0.02																											
11- 5-63	71	8.3	1025	80	3.99	28	94	5	0	143	277	81	1.0	--	10	647	315																							
				38	2.30	22	4.09	0.13	0.13	2.34	5.77	2.28	0.02																											
12- 3-63	60	--	1020	83	4.14	28	93	5	0	149	279	82	1.3	--	10	656	322																							
				39	2.30	22	4.04	0.13	0.13	2.44	5.81	2.31	0.02																											
1- 7-64	51	8.2	1045	83	4.14	29	94	5	0	149	283	85	1.6	--	10	665	326																							
				39	2.38	22	4.09	0.13	0.13	2.44	5.89	2.40	0.03																											
3- 3-64	50	--	1040	87	4.34	27	90	5	1	150	280	81	1.7	--	10	658	328																							
				41	2.22	21	3.91	0.13	0.03	2.46	5.83	2.28	0.03																											
4- 7-64	61	8.3	1050	87	4.34	28	88	5	1	149	279	80	1.2	--	10	654	332																							
				41	2.30	22	3.83	0.13	0.03	2.44	5.81	2.26	0.02																											
5- 5-64	66	8.4	1050	87	4.34	28	93	5	0	146	286	88	1.3	--	10	671	332																							
				40	2.30	21	4.04	0.13	0.13	2.39	5.95	2.48	0.02																											
6- 2-64	77	8.4	1100	38	4.39	29	96	5	0	150	293	88	1.2	--	10	686	339																							
				40	2.38	21	4.17	0.13	0.13	2.46	6.10	2.48	0.02																											

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliforms MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million	
COLORADO RIVER										
AT AQUEDUCT INTAKE										
7-7-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 112	-- ppm; free	-- CO <sub>2</sub> = 1.0 ppm				1.0		--	MWD
8-4-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 105	-- ppm; free	-- CO <sub>2</sub> = 1.0 ppm				0.5		--	MWD
9-1-64 Alkalinity	-- (CaCO <sub>3</sub> ) = 106	-- ppm; free	-- CO <sub>2</sub> = 0.0 ppm				0.7		--	MWD

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total hardness as CaCO <sub>3</sub>
Stream name and station number														560		
AT AQUEDUCT INTAKE																
7- 7-64	81	8.3	1100	87 4.34 39	29 2.38 22	96 4.17 38	6 0.15 1	4 0.13 1	129 2.11 19	294 6.12 55	95 2.68 24	0.9 0.01	0.4	--	12	688 336
8- 4-64	84	--	1100	82 4.09 37	30 2.47 22	101 4.39 40	6 0.15 1	0 2.10 19	128 2.10 19	302 6.29 57	96 2.71 24	0.6 0.01	0.4	--	11	688 693 328
9- 1-64	82	8.6	1090	79 3.94 36	30 2.47 23	100 4.35 40	6 0.15 1	4 0.13 1	122 2.00 18	294 6.12 56	96 2.71 25	0.3	0.4	--	10	680 680 321

TABLE D-2  
 MINERAL ANALYSES OF SURFACE WATER  
 FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES  
 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform* MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
NEW RIVER											
AT INTERNATIONAL BOUNDARY											
11-5-63 1035 Turbid, sewage odor; small fish observed	960.57 299	8.6	24,000 24,000	2.3	0.6				8.0	89	DWR
1-8-64 1030 Turbid, large amount of raw sewage; sewage odor	959.03 108	8.0	24,000 7,000			1.8	50		0.4	4	DWR
3-11-64 1330 Raw sewage in stream; black bottom; white salts deposited on banks	959.29 174	8.2	6,200 1,200				280		4.4	46	DWR
5-11-64 1215 Turbid; raw sewage in stream	959.18 158	8.2	2,400 24,000				200		6.2	70	DWR
7-7-64 1500 Turbid; raw sewage in stream; sewage odor	958.79 126	7.5	62,000 620,000			1.8			7.3	68	DWR
9-8-64 1310 Very turbid; much raw sewage in stream; arsenic = 0.0 ppm	959.00 166	7.6	62,000 240,000			2			7.4	86	DWR

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TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	Total hardness at 105°C CaCO <sub>3</sub>	
NEW RIVER														57			
AT INTERNATIONAL BOUNDARY														57			
11-5-63	70	7.4	4120	148 7.39 18	99 8.14 20	580 25.22 61	22 0.56 1	0	229 3.75 9	543 11.31 27	930 26.23 63	21 0.34 1	0.7	0.78	24	2630	777
1-8-64	52	7.4	5464	209 10.43 18	109 8.96 15	875 38.05 65	40 1.02 2	0	295 4.84 8	674 14.03 24	1385 39.06 67	5.0 0.08	0.7	1.12	16	3630	970
3-11-64	64	8.0	5288	214 10.68 19	104 8.55 15	874 38.00 66	4 0.10	0	325 5.33 9	670 13.95 24	1340 37.79 66	3.7 0.06	1.4	1.12	22	3500	962
5-11-64	77	7.5	6090	208 10.38 16	130 10.69 16	1008 43.83 67	37 0.95 1	0	306 5.02 8	770 16.03 24	1579 44.53 68	1.2 0.02	0.8	1.45	20	4078	1054
7-7-64	92	7.4	7825	248 12.38 15	140 11.51 14	1320 57.39 69	69 1.76 2	0	228 3.74 5	765 15.93 19	2220 62.60 76	20 0.32	1.0	1.80	23	5287	1195
9-8-64	91	7.2	7813	262 13.07 16	143 11.76 14	1311 57.00 68	67 1.71 2	0	370 6.06 7	790 16.45 19	2200 62.04 73	12 0.19	0.9	1.80	22	5150	1242
																4992	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
NEW RIVER											
NEAR WESTBORLAND											
11-4-63 1145 Turbid	773.05 632	8.4	6200 24000				--		7.0	76	DWR
1-8-64 1410 Turbid	772.50 687	7.6	24000 62000				200		8.8	80	DWR
3-11-64 0945 Turbid	773.58 677	7.4	2400 2400				370		8.2	79	DWR
5-11-64 1530 Turbid	773.19 526	7.4	2400 2400				185		6.6	78	DWR
7-6-64 1415 Turbid	772.92 442	7.4	2400 2400				200		6.6	83	DWR
9-7-64 1945 Turbid; arsenic = 0.0 ppm	773.37 515	7.4	2400 2400				200		8.2	107	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos of 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million							
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silico SiO <sub>2</sub>	IDS Evap 100°C Evap 105°C Computed	Total hardness CaCO <sub>3</sub>
NEW RIVER																	
NEAR WESTMORLAND																	
11- 4-63	68	7.6	4807	196 9.78 20	107 8.80 18	696 30.26 61	0.41 1	0	4.08 8	695 14.47 30	1050 29.61 61	24 0.39 1	0.7	1.00	16	3078 2924	930
1- 8-64	53	7.3	5405	228 11.38 19	121 9.95 17	880 38.26 64	0.56 1	0	4.84 8	773 16.09 27	1365 38.49 64	21 0.34 1	0.8	0.98	14	3770 1067	1067
3-11-64	57	7.5	4634	187 9.33 22	87 7.15 17	603 26.22 61	1 1	0	4.25 10	647 13.47 31	886 24.99 58	16 0.26 1	0.8	0.88	16	2664 2586	825
5-11-64	76	7.2	5496	235 11.73 19	127 10.44 17	864 37.57 62	21 0.54 1	0	286 4.69	817 17.01 28	1366 38.52 64	12.4 0.20	0.7	1.30	16	3752 3601	1109
7- 6-64	82	7.4	5685	229 11.43 19	124 10.20 17	890 38.70 63	28 0.72 1	0	264 4.33	805 16.76 27	1416 39.93 65	24 0.39 1	0.7	1.08	23	3946 3671	1082
9- 7-64	86	7.7	5405	226 11.28 19	114 9.38 16	840 36.52 63	27 0.69 1	0	255 4.18	794 16.53 28	1350 38.07 64	22 0.35 1	1.0	1.20	18	4630 3519	1034

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen Parts per million	Analyzed by <sup>b</sup>	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity			Phenol
ALAMO RIVER										
AT INTERATIONAL BOUNDARY										
11-5-63 0930 Clear; vegetation on bottom; small fish observed	0.38 3.15	7.8	62 240				< 25	6.8	75	DWR
1-8-64 1130 Clear; fish observed	0.27 1.89	7.2	6.2 62				< 25	2.0	20	DWR
3-11-64 1530 Clear; small fish observed	0.38 3.15	7.6	70 240				160	7.6	79	DWR
5-11-64 1310 Clear; small fish observed	0.27 2.67	7.5	62 62				< 25	9.4	108	DWR
7-7-64 1425 Clear; foam, small fish observed	0.44 3.54	7.4	2400 --	0.12			30	8.0	99	DWR
9-8-64 1210 Slightly turbid; little foam; arsenic = 0.0 ppm	0.42 3.67	7.4	620 240	0.12	0.10		100	8.6	110	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (microhmhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million reagent value				Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>		
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>		TDS Evaporated Computed	
11-5-63	69	7.5	3407	156 7.78 21	96 7.90 21	492 21.39 57	0.20	8	0	4.88 14	684 14.24 40	580 16.36 46	8.7 0.14	0.9	0.86	19	2244 2192	785
1-8-64	59	7.7	4219	10.18 21	121 9.95 20	650 28.26 58	0.26	10	0	5.56 12	884 18.40 38	840 23.69 50	10 0.16	0.8	1.12	18	2985 2906	1007
3-11-64	64	7.8	3137	160 7.98 24	80 6.58 19	440 19.13 56	0.20	8	0	4.75 14	703 14.64 43	524 14.78 43	5 0.08	1.2	0.88	11	2153 2076	729
5-11-64	73	7.4	1599	107 5.34 31	45 3.70 21	188 8.17 47	0.10	4	0	212 3.47 20	417 8.68 50	181 5.10 30	2.0 0.03	0.8	0.25	16	1111 1065	452
7-7-64	80	7.8	2809	142 7.09 23	73 6.00 20	392 17.04 56	0.20	8	0	262 4.29 14	603 12.55 41	488 13.76 45	3 0.05	0.7	0.74	18	1951 1857	655
9-8-64	84	7.5	3436	162 8.08 22	93 7.65 21	490 21.31 57	0.23	9	0	274 4.49 12	695 14.47 39	650 18.33 49	15 0.24	0.8	0.96	22	2330 2272	787

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ALAMO RIVER

Stream name and station number  
AT INTERNATIONAL BOUNDARY

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Cellform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
ALAMO RIVER 60											
NEAR CALIPATRIA											
11-4-63	769.63	8.3	620						8.2	90	DWR
1230	1031		2400								
Slightly turbid											
1-8-64	769.20	7.8	620						12.0	106	DWR
1325	1319		240								
Turbid; brownish color											
3-11-64	769.80	7.5	700						9.4	92	DWR
1050	932		700								
Turbid											
5-11-64	769.85	7.4	2400						7.4	87	DWR
1450	691		6200								
Turbid											
7-6-64	769.63	7.6	240						9.2	115	DWR
1315	696		240								
Turbid											
9-7-64	769.61	7.4	24000						10.1	200	DWR
1900	714		6200								
Turbid; arsenic = 0.0 ppm											

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER

COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl		Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	TDS Evap @ 180°C Computed
ALAMO RIVER													60				
Stream name and station number																	
NEAR CALIPATRIA																	
11- 4-63	69	7.8	3850	176 8.78	125 10.28	515 22.39	10 0.26	0	224 3.67	783 16.30	725 20.45	30 0.48	0.9	0.57	12	2608 2488	954
1- 8-64	50	7.5	3731	189 9.43	110 9.05	535 23.26	11 0.28	0	227 3.72	748 15.57	760 21.43	40 0.65	0.7	0.52	13	2600 2519	925
3-11-64	58	7.4	3465	190 9.48	96 7.90	483 21.00	11 0.28	0	222 3.64	733 15.26	664 18.72	31 0.50	0.9	0.52	14	2389 2333	870
5-11-64	75	7.4	3858	204 10.18	118 9.70	534 23.22	14 0.36	0	251 4.11	806 16.78	769 21.69	20 0.32	0.7	0.66	8	2730 2598	995
7- 6-64	81	7.5	4214	210 10.48	127 10.64	588 25.57	13 0.33	0	239 3.92	876 18.24	869 24.51	37 0.60	0.8	0.64	15	3026 2854	1047
9- 7-64	83	7.6	3817	181 9.03	119 9.79	525 22.83	11 0.28	0	217 3.56	823 17.13	750 21.15	28 0.45	0.6	0.72	16	2660 2561	942

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Cellform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
NEAR WHITEWATER											
WHITEWATER RIVER											
68											
11-5-63 1630 Very clear	1.21 30 Est.	7.4	1.3 <0.45						9.8	103	DWR
1-10-64 0900 Clear	1.36 45 Est.	8.0	<0.45 0.46						9.8	97	DWR
3-14-64 1520 Clear	1.33 5.1	7.6	<0.45 <0.45						10.0	102	DWR
5-10-64 1612 Clear	1.16 7.7	7.6	2.3 130						8.2	87	DWR
7-6-64 0800 Clear	1.52 50 Est.	7.3	13 6.2						8.0	93	DWR
9-7-64 1505 Clear	1.40 45 Est.	7.4	240 240						8.6	92	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				parts per million equivalents per million				Mineral constituents in parts per million																										
				Calcium		Magnesium		Sodium		Potassium		Carbonate		Bicarbonate		Sulfate		Chloride		Nitrate		Fluoride		Barium		Silica		Iron		Copper		Zinc		Total hardness as CaCO <sub>3</sub>				
				Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Fe	Cu	Zn	CaCO <sub>3</sub>																			
Stream name and station number																																						
NEAR WHITEWATER																																						
WHITEWATER RIVER																																						
68																																						
11- 5-63	65	7.6	467	56	18	15	5	0	227	42	5	1.0	0.9	0.09	15	279	214																					
				2.79	1.48	0.65	0.13		3.72	0.87	0.14	0.02																										
				55	29	13	3		78	18	3																											
1-10-64	60	7.9	424	56	15	16	5	0	234	43	5	2.0	1.0	0	17	270	201																					
				2.79	1.23	0.70	0.13		3.84	0.90	0.14	0.03																										
				58	25	14	3		78	18	3																											
3-14-64	62	8.0	439	58	12	16	5	0	233	41	4	2.0	1.1	0.02	17	262	194																					
				2.89	0.99	0.70	0.13		3.82	0.85	0.11	0.03																										
				61	21	15	3		79	18	2																											
5-10-64	65	7.8	451	59	15	16	5	0	237	41	5	1.6	1.0	0	19	275	209																					
				2.94	1.23	0.70	0.13		3.88	0.85	0.14	0.03																										
				59	25	14	3		79	17	3																											
7- 6-64	74	7.8	428	54	15	15	4	0	222	41	5	2	1.0	0.02	17	258	196																					
				2.69	1.23	0.65	0.10		3.64	0.85	0.14	0.03																										
				58	26	14	2		78	18	3																											
9- 7-64	66	7.8	412	48	16	15	4	0	217	39	4	2.0	1.0	0.02	17	240	186																					
				2.40	1.32	0.65	0.10		3.56	0.81	0.11	0.03																										
				54	30	15	2		79	18	2																											

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform* MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number AT STATE PARK 66A SALTON SEA											
11-5-63 1350 Slightly turbid; grimy, large fish observed	None Sea	8.5	2.3 6.2 observed				--		12.0	141	DWR
1-9-64 1350 Slightly turbid; grimy	None Sea	8.4	0.6 0.6				30		16.8	159	DWR
3-12-64 1400 Slightly turbid; high winds 30 to 40 mph	None Sea	8.2	2.3 <0.45				100		10.4	110	DWR
5-10-64 1830 Slightly turbid	None Sea	8.2	2.3 6.2				< 25		14.6	169	DWR
7-6-64 1010 Clear; saline odor	None Sea	7.9	23 6.2				< 25		2.8	35	DWR
9-7-64 1600 Grimy; small fish observed	None Sea	8.0	2.3 2.3				< 25		8.8	115	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER

COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silico SiO <sub>2</sub>	Total hardness as CaCO <sub>3</sub>	
11- 5-63	75	8.2	43100	770 38.42	1058 87.01	9560 415.67	144 3.68	0	187 3.06	7330 152.61	13750 387.75	12 0.19	2.8	7.10	0	34156 32726	6277
1- 9-64	56	8.3	40650	776 38.72	1010 83.06	9950 432.63	160 4.09	24 0.80	173 2.84	7262 151.19	14100 397.62	7.4 0.12	2.9	7.80	5	34375 33390	6094
3-12-64	65	8.3	38595	800 39.92	986 81.09	9600 417.41	152 3.89	31 1.03	199 3.26	7139 148.63	13750 387.75	1.2 0.02	2.5	7.80	1	33315 32568	6055
5-10-64	74	7.3	37750	776 38.72	1013 83.31	9576 416.36	154 3.94	0	246 4.03	7114 148.11	13732 387.24	17 0.27	2.5	7.70	1	33770 32514	6106
7- 6-64	81	7.9	40048	770 38.42	1030 84.71	9680 420.89	154 3.94	0	190 3.11	7353 153.09	13910 392.26	9 0.15	3.0	13.80	7	34471 33023	6161
9- 7-64	86	7.5	40160	754 37.62	1080 88.82	9800 426.10	165 4.22	0	173 2.84	7400 154.07	14050 396.21	10 0.16	2.6	8.80	3	34640 33358	6327

68A

SALTON SEA

Stream name and station number  
AT STATE PARK

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**COLORADO RIVER BASIN DRAINAGE PROVINCE (X)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million	
Stream name and station number										
NEAR MECCA										
WHITEWATER RIVER										
68B										
11-5-63 1145 Turbid	None 100 Est.	8.6	230 230	2.0	0.1	--	8.2	96	DWR	
1-9-64 1630 Slightly turbid	None 100 Est.	8.0	620 230			75	9.8	101	DWR	
3-12-64 1610 Gray tinge; vegetation floating throughout water	None 110 Est.	7.8	62 230			390	8.6	94	DWR	
5-10-64 1810 Turbid	None 110 Est.	8.0	620 230			225	9.2	108	DWR	
7-6-64 0925 Turbid; fiam; sewerage odor	None 130 Est.	7.6	620 2400	0.30	0.14	195	7.8	89	DWR	
9-7-64 1720 Turbid	None 130 Est.	7.7	23 23			300	9.0	115	DWR	

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in				parts per million equivalents per percent reoactance				million milliequivalents per million value				Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	NItrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evap. 180°C	Evap. 105°C	Computed		
Stream name and station number																				
NEAR MECCA																				
68B																				
11- 5-63	75	8.2	3804	173 8.63 22	55 4.52 11	605 26.31 66	13 0.33 1	0	357 5.85 14	957 19.92 49	500 14.10 35	38 0.61 2	3.6	1.08	23	2583	658			
1- 9-64	61	8.0	3425	164 8.18 21	45 3.70 10	600 26.09 68	14 0.36 1	0	351 5.75 15	900 18.74 49	468 13.20 35	32 0.52 1	3.2	1.00	22	2425	594			
3-12-64	68	8.1	3640	171 8.53 21	47 3.87 10	630 27.39 68	12 0.31 1	0	357 5.85 15	954 19.86 50	480 13.54 34	29 0.47 1	3.4	1.06	21	2523	620			
5-10-64	76	7.4	3406	173 8.63 23	49 4.03 11	582 25.31 66	13 0.33 1	0	342 5.61 15	913 19.01 50	461 13.00 34	14.8 0.24 1	3.4	1.00	20	2464	634			
7- 6-64	72	7.9	3166	160 7.98 23	46 3.78 11	520 22.61 65	12 0.31 1	0	342 5.61 16	830 17.28 50	401 11.31 33	24 0.39 1	4.0	0.88	18	2260	588			
9- 7-64	84	7.8	3356	160 7.98 22	53 4.36 12	560 24.35 66	13 0.33 1	0	337 5.52 15	913 19.01 50	450 12.69 33	45 0.73 2	3.5	1.14	24	2380	617			
																2388				

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**MINERAL ANALYSES, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million			Dissolved oxygen		Analyzed by b		
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol		Parts per million	Percent saturation
WARM CREEK AT COLTON 50B											
10-1-63 -- Composite;	None -- samples taken at 0730, 1145, and 1600 hours	7.6	6.2 -- --			1.9	<25		6.7 7.1 4.8	78 94 60	DMR
11-5-63 -- Composite;	None -- samples taken at 0725, 1235, and 1600 hours	7.4	6.2 -- --	27	2.72	0.7	100		7.2 7.5 6.7	74 89 76	DMR
12-3-63 -- Composite;	None 8 est. -- samples taken 0735, 1205, and 1530 hours	--	240 -- --	27	6.0	9.5	50		7.5 7.2 7.6	74 79 81	DMR
1-3-64 -- Composite;	None 6 est. -- samples taken at 0400, 1215, and 1930 hours	7.4	23 -- --	29	3.28	2.9	75		7.9 7.9 8.4	83 80 79	DMR
2-3-64 -- Composite;	None -- -- samples taken at 1145, 1430, and 1600 hours	7.3	13 -- --	33	4.3	3.6	<25		8.3 9.0 8.1	87 78 80	DMR
3-5-64 -- Composite;	None -- -- samples taken at 0725, 1230, and 1530 hours	7.5	700 + -- --	31	3.52	18	100		6.3 7.1 6.8	62 79 73	DMR
4-9-64 -- Composite;	None 4 est. -- samples taken at 0730, 1230, and 1610 hours	7.3	220 -- --	28	5.0	6.5	<25		6.8 7.1 5.8	73 78 65	DMR
5-7-64 1100 Slightly turbid; some foam	None 9 est. 2400	7.2	2400 2400	19	3.20	10	100		7.8	82	DMR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million							
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	TDS Evaporated at 105°C Computed	Total hardness at CO <sub>3</sub>
Stream name and station number																	
AT COLTON																	
WARM CREEK																	
10- 1-63	75	7.3	900	44	20	106	13	0	183	68	105	74	0.9	0.48	32	552	192
				2.20	1.64	4.61	0.33	4	3.00	1.42	2.96	1.19				553	
				25	19	53	4		35	17	35	14					
11- 5-63	63	7.5	1022	52	19	122	15	0	176	77	134	87	1.1	0.56	30	630	208
				2.59	1.56	5.30	0.38	4	2.88	1.60	3.78	1.40				624	
				26	16	54	4		30	17	39	14					
12- 3-63	65	7.3	1040	41	24	120	15	0	256	66	122	69	1.1	0.50	40	610	201
				2.05	1.97	5.22	0.38	4	4.20	1.37	3.44	1.11				624	
				21	20	54	4		42	14	34	11					
1- 3-64	--	7.1	955	50	20	112	15	0	161	76	117	104	1.0	0.56	29	630	207
				2.50	1.64	4.87	0.38	4	2.64	1.58	3.30	1.68				604	
				27	17	52	4		29	17	36	18					
2- 3-64	64	7.0	822	61	13	85	15	0	178	75	69	114	1.0	0.44	27	540	206
				3.04	1.07	3.70	0.38	5	2.92	1.56	1.95	1.84				548	
				37	13	45	5		35	19	24	22					
3- 5-64	66	7.5	1154	66	17	125	16	0	320	71	143	32	1.0	0.62	29	654	235
				3.29	1.40	5.44	0.41	4	5.24	1.48	4.03	0.52				658	
				31	13	52	4		46	13	36	5					
4- 9-64	67	7.4	962	46	20	115	14	0	204	69	132	64	1.0	0.68	29	590	197
				2.30	1.64	5.00	0.36	4	3.34	1.44	3.72	1.03				591	
				25	18	54	4		35	15	39	11					
5- 7-64	65	7.1	969	41	23	114	14	0	254	67	124	35	1.1	0.66	31	615	197
				2.05	1.89	4.96	0.36	4	4.16	1.39	3.50	0.56				576	
				22	20	54	4		43	14	36	6					

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million			Dissolved oxygen		Analyzed by b		
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol		Parts per million	Percent saturation
<p align="center">WARM CREEK                      AT COLTON                      50B</p>											
6-1-64	None	7.4	230	4.75	3.05	7	160		7.8	88	DWR
--	--		--						8.5	101	
Composited;	samples taken at 0745, 1230, and 1530 hours								9.5	113	
7-1-64	None	7.5	620	32	1.7		30		8.3	97	DWR
--	10 est.		62						10.0	120	
Composited;	samples taken at 0730, 1200, and 1600 hours								5.5	68	
8-3-64	None	7.4	7000	29	2.6				9.4	112	DWR
--	8 est.		7000+						8.9	110	
Composited;	samples taken at 0800, 1145, and 1545 hours								8.0	101	
9-3-64	None	7.3	7000	28	3.4	2	56		8.6	104	DWR
0945	6 est.		7000								
Slightly turbid											

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million					Total hardness as CaCO <sub>3</sub>				
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>		Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Exposed or Computed
6- 1-64	71	6.9	778	42 2,10 28	22 1.81 24	74 3.22 43	14 0.36 5	0	186 3.05 40	62 1.29 17	71 2.00 26	78 1.26 17	0.8	0.38	28	490	196
7- 1-64	75	7.1	921	44 2.20 24	19 1.56 17	114 4.96 55	13 0.33 4	0	162 2.66 29	83 1.73 19	120 3.38 36	94 1.52 16	1.3	0.56	29	602	188
8- 3-64	82	7.2	765	38 1.90 25	18 1.48 20	87 3.78 51	12 0.31 4	0	146 2.39 31	69 1.44 19	80 2.26 29	100 1.61 21	1.2	0.45	29	564	169
9- 3-64	79	7.4	820	39 1.95 24	19 1.56 19	96 4.17 52	13 0.33 4	0	204 3.34 41	71 1.48 18	89 2.51 31	50 0.81 10	1.6	0.64	27	553	176

Stream name and station number

WARM CREEK

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AT COLTON

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/mi	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synchets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
NEAR ARLINGTON											
10-3-63 1520 Clear	1.23 22	8.0	230 62	0.1	0.07		<25		9.6	107	DWR
11-7-63 1005 Slightly turbid; storm runoff	1.23 12	8.2	130 230	0.22	0.08		30		9.2	94	DWR
12-6-63 1105 Clear; small fish observed; some foam	1.09 20	7.7	23 4,5	0.20	0.08		<25		9.0	92	DWR
1-14-64 1650 Clear; fish and insects observed	1.07 22	7.6	62 23				<25		8.6	85	DWR
2-7-64 1150 Clear	1.14 24	7.8	240 ---	0.14	0.08		<25		9.8	99	DWR
3-5-64 1000 Clear; no foam	1.15 20	7.6	50 23				55		8.4	83	DWR
4-6-64 1450 Clear; little foam	1.12 24	7.6	62 130	0.40	0.08		<25		8.0	89	DWR
5-8-64 0935 Clear; foam	1.14 18	7.6	700+ 700+	0.36	0.1		<25		8.4	75	DWR

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SANTA ANA RIVER

NEAR ARLINGTON

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million							
				Calcium		Magnesium	Sodium	Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Boron	SiO <sub>2</sub>	TDS
				Co	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Evap. 105°C	Total Hardness as CaCO <sub>3</sub>
Stream name and station number																	
NEAR ARLINGTON																	
51																	
10- 3-63	70	8.0	1050	114 5.69 51	25 2.06 18	76 3.30 30	5 0.13 1	0	334 5.47 49	116 2.42 22	101 2.85 25	30 0.48 4	0.8	0.14	25	681 657	388
11- 7-63	62	7.9	1066	117 5.84 51	25 2.06 18	77 3.35 29	5 0.13 1	0	342 5.61 50	120 2.50 22	101 2.85 25	23 0.37 3	0.8	0.14	26	670 663	395
12- 6-63	62	7.8	1068	107 5.34 47	31 2.55 22	78 3.39 30	5 0.13 1	0	349 5.72 50	120 2.50 22	102 2.88 25	21 0.34 3	0.5	0.14	35	645 671	395
1-14-64	60	8.1	1022	114 5.69 50	27 2.22 19	78 3.39 30	5 0.13 1	0	346 5.67 49	120 2.50 22	104 2.93 26	23 0.37 3	0.7	0.12	25	695 667	396
2- 7-64	63	8.0	1027	116 5.79 52	21 1.73 16	80 3.48 31	5 0.13 1	0	349 5.72 50	123 2.56 22	102 2.88 25	21 0.34 3	0.8	0.14	25	690 666	376
3- 5-64	59	7.9	1058	117 5.84 50	27 2.22 19	80 3.48 30	4 0.10 1	0	348 5.70 48	121 2.52 21	102 2.88 24	45 0.73 6	0.7	0.16	26	677 694	403
4- 6-64	69	8.0	1018	110 5.49 48	29 2.38 21	80 3.48 30	5 0.13 1	0	340 5.57 49	120 2.50 22	102 2.88 25	24 0.39 3	0.6	0.16	25	660 663	394
5- 8-64	51	7.5	1013	115 5.74 51	26 2.14 19	74 3.22 29	5 0.13 1	0	332 5.44 50	117 2.44 22	102 2.88 26	12.4 0.20 2	0.7	0.14	29	707 644	394

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synfels	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
51											
NEAR ARLINGTON											
6-5-64 1250 Clear	1.13 18	7.6	62 62	0.06	0.06		<25		8.8	97	DWR
7-14-64 1315 Clear	1.12 17	7.8	6 6				<25		9.0	93	DWR
8-6-64 1215 Clear; some foam	2.36 16.7	7.7	7000 620	0.06	0.06		--		8.0	92	DWR
9-4-64 1005 Clear	6.02 17	7.5	62 < 0.45	0.04	0.08		<25		9.8	102	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactivity				Mineral constituents in parts per million					
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	NI- trate NO <sub>3</sub>	Fluo- ride F	Baron B	Sil- ica SiO <sub>2</sub>	TDS Evap.100°C Evap.105°C Computed	Total hardness at CaCO <sub>3</sub>
Stream name and station number																	
NEAR ARLINGTON																	
SANTA ANA RIVER 51																	
6- 5-64	69	7.9	1006	116 5.79 52	26 2.14 19	69 3.00 27	5 0.13 1	0	330 5.41 49	119 2.48 22	99 2.79 25	22 0.35 3	0.7	0.13	27	697 646	397
7-14-64	69	7.6	1010	112 5.59 51	25 2.06 19	72 3.13 29	4 0.10 1	0	327 5.36 49	117 2.44 22	101 2.85 26	24 0.39 4	0.6	0.12	25	699 641	383
8- 6-64	73	7.2	1010	114 5.69 52	23 1.89 17	74 3.22 29	8 0.20 2	0	305 5.00 46	115 2.39 22	101 2.85 26	42 0.68 6	1.2	0.14	27	713 655	379
9- 4-64	64	7.8	1015	106 5.29 49	29 2.38 22	70 3.04 28	5 0.13 1	0	320 5.24 48	117 2.44 22	102 2.88 26	23 0.37 3	0.7	0.14	26	680 636	384

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
51A											
BELOW PRADO DAM											
10-3-63 1400 Slightly turbid; foam	2.11 40	7.8	620 620	3.0	0.44		<25		8.8	96	DWR
11-7-63 1130 Slightly turbid; storm runoff	2.22 52	8.2	7000 620	4.3	0.32		35		8.7	89	DWR
12-6-63 0925 Slightly turbid; foam	2.17 44	7.6	230 62	2.65	0.34		<25		7.8	71	DWR
1-14-64 1810 Clear	2.23 46	7.8	7000+ 2400	4.5	0.56		<25		8.6	84	DWR
2-7-64 1345 Clear; some foam	2.24 48	7.6	620 620	3.7	0.41		<25		9.2	91	DWR
3-5-64 1120 Slightly turbid; foam; water spreading over fields upstream	2.26 50	7.3	60 230	3.5	0.38		33		8.8	86	DWR
4-6-64 1130 Clear; much foam	2.29 62	7.4	62 620	5.2	0.70		<25		8.0	86	DWR
5-8-64 1155 Clear; little foam, cattle in water upstream	2.20 50	7.4	230 230	1.8	0.9		50		9.8	105	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				parts per equivalent per percent				million milliequivalents per million				Mineral constituents in parts per million			
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	Total hardness at 105°C Computed	Total hardness at 105°C Computed		
Stream name and station number																			
BELOW PRADO DAM																			
SANTA ANA RIVER																			
51A																			
10- 3-63	68	8.2	1153	108 5.39 45	26 2.14 18	98 4.26 36	6 0.15 1	0	343 5.62 46	123 2.56 21	125 3.53 29	29 0.47 4	0.9	0.35	35	708 720	377		
11- 7-63	62	7.7	1148	105 5.24 43	27 2.22 18	102 4.43 37	8 0.20 2	0	342 5.61 47	123 2.56 22	122 3.44 29	17 0.27 2	0.8	0.34	27	690 700	373		
12- 6-63	52	7.8	1171	103 5.14 41	32 2.63 21	103 4.48 36	6 0.15 1	0	364 5.97 48	125 2.60 21	129 3.64 29	12 0.19 2	0.7	0.32	34	700 724	389		
1-14-64	58	7.7	1114	108 5.39 44	27 2.22 18	105 4.57 37	6 0.15 1	0	344 5.64 46	128 2.66 22	126 3.55 29	20 0.32 3	0.7	0.35	25	730 715	381		
2- 7-64	59	7.9	1124	113 5.64 45	28 2.30 18	100 4.35 35	6 0.15 1	0	359 5.88 47	128 2.66 21	128 3.61 29	17 0.27 2	0.9	0.38	23	715 721	397		
3- 5-64	58	7.4	1131	110 5.49 44	27 2.22 18	104 4.52 37	6 0.15 1	0	354 5.80 47	121 2.52 21	127 3.58 29	22 0.35 3	0.7	0.44	37	707 729	386		
4- 6-64	67	7.7	1079	105 5.24 44	27 2.22 19	100 4.35 36	6 0.15 1	0	336 5.51 47	122 2.54 21	123 3.47 29	19 0.31 3	0.6	0.44	23	680 691	373		
5- 8-64	66	7.7	1106	111 5.54 45	28 2.30 19	97 4.22 35	6 0.15 1	0	344 5.64 47	130 2.71 23	124 3.50 29	6.8 0.11 1	0.7	0.35	31	738 704	392		

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
51A											
BELOW PRADO DAM											
6-5-64 1140 Clear; silty; foam	2.08 32	7.3	2400 7000	1.6	0.26		40		8.8	9.6	DMR
7-14-64 1445 Clear; some foam; swimmers upstream	1.96 23	7.6	60 230	0.84	0.18		40		9.8	108	DMR
8-5-64 1120 Clear; little foam	1.94 20.8	7.4	1300 2300	0.91	0.26		--		9.6	112	DMR
9-4-64 1230 Clear	1.96 22	7.3	230	1.4	0.28		< 25		8.8	100	DMR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance				million					Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Iron	Aluminum	Other	Total hardness at 105°C as CaCO <sub>3</sub>			
Stream name and station number																			51A			
BELOW PRADO DAM																						
6- 5-64	68	7.4	1119	116 5.79 47	27 2.22 18	94 4.09 33	6 0.15 1	0	372 6.10 50	122 2.54 21	124 3.50 29	7.4 0.12 1	0.6	0.33	27	725 707	401					
7-14-64	78	7.5	1125	112 5.59 47	28 2.30 19	92 4.00 33	5 0.13 1	0	347 5.69 47	137 2.85 23	126 3.55 29	8 0.13 1	0.7	0.33	24	754 704	395					
8- 5-64	75	7.3	1126	115 5.74 47	26 2.14 18	95 4.13 34	5 0.13 1	0	356 5.83 47	129 2.69 22	127 3.58 29	22 0.35 3	0.7	0.34	26	750 721	394					
9- 4-64	72	7.6	1133	106 5.29 42	38 3.13 25	96 4.17 33	5 0.13 1	0	348 5.70 46	132 2.75 22	131 3.69 30	11 0.18 1	0.5	0.52	26	710 717	421					

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
NEAR MENTONE											
51B											
10-4-63 1400 Clear	None 15	8.4	23 13	0.0	0.00	< 25	< 25		10.4	106	DWR
11-6-63 1105 Clear; raining	None --	8.2	13 130			< 25	< 25		9.6	88	DWR
12-5-63 1310 Clear	None 15	8.0	1.3 6.2			< 25	< 25		10.6	94	DWR
1-14-64 1450 Clear	None 15	7.8	0.60 0.46			< 25	< 25		11.0	89	DWR
2-7-64 0930 Clear	None 15	7.8	1.30 2.30			< 25	< 25		11.0	87	DWR
3-6-64 1340 Clear	None 17	7.8	0.60 0.60			< 25	< 25		10.6	87	DWR
4-4-64 1050 Clear; little foam	None 17	7.6	2.3 2.3	0.00	0.00	< 25	< 25		10.0	83	DWR
5-7-64 1305 Clear; high flow	None 80 est.	8.2	6.2 13			< 25	< 25		11.2	87	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million				Total hardness at 105°C CaCO <sub>3</sub>				
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl		Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>
Stream name and station number																
NEAR MENTONE																
SANTA ANA RIVER																
S1B																
10- 4-63	62	8.4	280	28 1.40 49	7 0.58 20	19 0.83 29	2 0.05 2	0	134 2.20 77	19 0.40 14	3 0.08 3	9.9 0.16 6	0.08	18	159 172	99
11- 6-63	53	8.1	293	29 1.45 48	8 0.66 22	20 0.87 29	2 0.05 2	0	138 2.26 78	22 0.46 16	6 0.17 6	0.0	0.09	18	195 173	106
12- 5-63	50	8.0	266	20 1.00 34	12 0.99 34	20 0.87 30	2 0.05 2	0	146 2.39 82	15 0.31 11	7 0.20 7	1.0 0.02 1	0.06	29	155 178	100
1-14-64	43	8.2	257	29 1.45 51	6 0.49 17	19 0.83 29	2 0.05 2	0	139 2.28 83	15 0.31 11	6 0.17 6	0	0.06	20	170 166	97
2- 7-64	42	8.1	248	26 1.30 47	7 0.58 21	19 0.83 30	2 0.05 2	0	146 2.39 83	16 0.33 11	5 0.14 5	1.0 0.02 1	0.06	21	155 169	94
3- 6-64	44	7.8	247	25 1.25 46	8 0.66 24	18 0.78 28	2 0.05 2	0	131 2.15 79	16 0.33 12	8 0.23 8	1.0 0.02 1	0.06	19	145 162	96
4- 4-64	45	8.0	221	25 1.25 51	6 0.49 20	15 0.65 27	2 0.05 2	0	127 2.08 90	2 0.04 2	6 0.17 7	1.5 0.02 1	0.06	19	135 139	87
5- 7-64	41	7.6	212	24 1.20 56	4 0.33 15	13 0.57 27	1 0.03 1	0	117 1.92 85	11 0.23 10	4 0.11 5	0	0.06	20	155 135	77

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Cellform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenal	Parts per million		Percent saturation
SANTA ANA RIVER 51B											
NEAR MENTONE											
6-6-64 0725 Clear	None 80 est.	7.5	6.2 6.2				< 25		10.4	98	DWR
7-14-64 1110 Clear	None 20	7.4	5 6.2				< 25		10.2	100	DWR
8-6-64 1500 Slightly turbid	None 20	--	700+ 700+				--		10.0	107	DWR
9-3-64 1130 Clear; arsenic = 0.0 ppa	None 22	7.8	23 240				< 25		10.0	79	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	TDS Evap 180°C Evap 105°C Computed	Total Hardness as CaCO <sub>3</sub>
Stream name and station number														51B			
NEAR MENTONE																	
6- 4-64	55	7.4	236	27	5	18	2	0	125	14	4	1.1	0.4	0.05	20	147	88
				1.35	0.41	0.78	0.05	2.05	0.29	0.11	0.02	0.29	0.11	0.02	1	153	
7-14-64	59	7.3	239	27	6	15	1	0	128	15	6	0.6	0.4	0.07	18	157	92
				1.35	0.49	0.65	0.03	2.10	0.31	0.17	0.01	0.31	0.17	0.01	7	152	
8- 6-64	66	7.3	243	28	5	15	2	0	126	12	6	1	0.5	0.06	17	166	91
				1.40	0.41	0.65	0.05	2.07	0.25	0.17	0.02	0.25	0.17	0.02	1	148	
9- 3-64	58	7.9	245	29	5	15	2	0	129	12	7	1	0.5	0.08	14	161	93
				1.45	0.41	0.65	0.05	2.11	0.25	0.20	0.02	0.25	0.20	0.02	1	149	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Colliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
NEAR NORCO											
10-3-63 1445 Clear	None 20 est.	8.0	620 620	11	1.2		< 25		9.2	104	DWR
11-7-63 1100 Slightly turbid; storm runoff	None 30 est.	7.7	620 2400	9.25	0.90		45		5.0	52	DWR
12-6-63 1005 Slightly turbid; some foam	None 40 est.	7.4	620 620	5.8	0.90		< 25		5.2	48	DWR
1-14-64 1720 Clear; some foam	None 35 est.	7.6	7000 2400	11	1.48		< 25		6.0	59	DWR
2-7-64 1350 Slightly turbid; some foam	None 22 est.	7.4	130 500	6.3	0.70		30		8.8	94	DWR
3-5-64 1055 Slightly turbid; some foam	None 20 est.	7.1	230 1300	8.75	1.40		35		8.6	84	DWR
4-6-64 1335 Clear; some foam	None 50 est.	7.3	130 2300	10	1.60		< 25		8.2	92	DWR
5-8-64 1120 Clear; foam	None 18 est.	7.4	620 620	4.3	0.9		< 25		7.0	73	DWR

51E

SANTA ANA RIVER

Stream name and station number

NEAR NORCO

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Ca	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	TDS Evaporated at 100°C	Total hardness at 100°C
Stream name and station number																	
NEAR NORCO																	
SANTA ANA RIVER																	
51E																	
10- 3-63	72	7.7	1187	98 4.89 40	28 2.30 19	112 4.87 40	8 0.20 2	0	322 5.28 43	131 2.73 22	130 3.67 30	37 0.60 5	1.0	0.43	28	724 732	360
11- 7-63	62	7.8	1100	89 4.44 39	2.06 2.06 18	106 4.61 41	9 0.23 2	0	300 4.92 44	120 2.50 22	120 3.38 30	26 0.42 4	0.9	0.42	25	660 669	325
12- 6-63	54	7.6	1252	100 4.99 38	32 2.63 20	122 5.30 40	8 0.20 2	0	349 5.72 44	140 2.91 22	146 4.12 31	21 0.34 3	1.1	0.46	34	755 776	381
1-14-64	59	7.5	1122	97 4.84 40	26 2.14 18	112 4.87 40	8 0.20 2	0	317 5.20 43	132 2.75 23	125 3.53 29	34 0.55 5	1.0	0.52	26	720 717	349
2- 7-64	61	7.5	1101	109 5.44 44	25 2.06 17	106 4.61 38	7 0.18 1	0	344 5.64 46	130 2.71 22	124 3.50 28	29 0.47 4	1.0	0.44	26	710 727	375
3- 5-64	58	7.3	1106	63 3.14 26	49 4.03 34	105 4.57 38	7 0.18 2	0	325 5.33 45	123 2.56 22	125 3.53 30	23 0.37 3	0.8	0.60	27	695 683	359
4- 6-64	70	7.5	1066	94 4.69 41	27 2.22 19	103 4.48 39	7 0.18 2	0	314 5.15 45	122 2.54 22	118 3.33 29	28 0.45 4	0.8	0.46	27	675 682	346
5- 8-64	64	7.6	1155	109 5.44 44	27 2.22 18	106 4.61 37	6 0.15 1	0	332 5.44 45	135 2.81 23	133 3.75 31	12.0 0.19 2	0.9	0.43	30	762 723	383

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**MINERAL ANALYSES, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen Parts per million	Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity			Phenol
SANTA ANA RIVER										
51E										
NEAR NORCO										
6-5-64 1215 Clear	None 30 est.	7.3	2400 620	4.5	0.5		< 25	8.0	87	DWR
7-14-64 1410 Clear; swimmers upstream	None 18 est.	7.4	620 62				35	9.0	109	DWR
8-6-64 1135 Clear; some foam; swimmers in river	None 20 est.	7.5	2400 2400	5	0.57		--	5.6	67	DWR
9-1-64 1115 Clear; arsenic = 0.0 ppm	None 15 est.	7.4	62 210	8.8	0.82		< 25	9.0	98	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (microhmhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evaporated at 100°C Computed	Total Inorganic CaCO <sub>3</sub>
Stream name and station number																	
NEAR NORCO																	
SANTA ANA RIVER																	
51E																	
6- 5-64	68	7.5	1144	111 5.54 44	26 2.14 17	107 4.65 37	7 0.18 1	0	336 5.51 45	132 2.75 22	131 3.69 30	20 0.32 3	0.8	0.42	27	754 727	384
7-14-64	79	7.4	1139	101 5.04 42	27 2.22 18	108 4.70 39	7 0.18 1	0	334 5.47 44	138 2.87 23	129 3.64 30	20 0.32 3	0.9	0.49	24	758 720	363
8- 6-64	77	7.2	1169	108 5.39 43	24 1.97 16	114 4.96 40	7 0.18 1	0	347 5.69 45	128 2.66 21	135 3.81 30	35 0.56 4	1.4	0.53	26	780 750	368
9- 4-64	68	7.6	1145	100 4.99 41	25 2.06 17	111 4.83 40	8 0.20 2	0	320 5.24 43	127 2.64 22	137 3.86 32	26 0.42 3	0.6	0.50	27	720 719	353

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by <sup>b</sup>	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SANTA ANA RIVER											
AT COLTON											
3-6-64 0930 Turbid; foam; solid particles flowing throughout stream	5.44 19	7.2	240 700+	34	5.0	12	400		7.2	79	DWR
4-4-64 0520 Clear; low flow	5.66 16	7.3	62 62	38	6.3	14	< 25		10.2	97	DWR
5-7-64 1045 Turbid, foam	6.01 18	7.4	700 210	32	5.20	15	750		8.6	90	DWR
6-4-64 0615 Clear; some foam	5.22 6.0	7.4	620 2400	4.5	4.20		70		8.2	91	DWR
7-14-64 1240 Clear; some foam	5.16 16.0	7.4	620 62	0.8	3.1	6	53		8.4	105	DWR
8-6-64 1250 Slightly turbid; foam	4.99 16.2	7.5	230 230	25	4	13	--		8.0	107	DWR
9-3-64 1015 Slightly turbid; some foam; arsenic = 0.0 ppm	4.84 9.8	7.3	7000+ 620	40	4.2	21	95		8.6	106	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million							
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	IO <sub>3</sub> -Evapio <sub>3</sub> C Computerd	Total hardness CaCO <sub>3</sub>
Stream name and station number																	
AT COLTON																	
SANTA ANA RIVER																	
51F																	
3- 6-64	68	7.4	1028	52 2.59 26	20 1.64 16	123 5.35 54	16 0.41 4	0	4.75 46	76	128 3.61 35	20 0.32 3	1.0	0.62	31	615 610	212
4- 4-64	56	7.5	921	33 1.65 18	22 1.81 20	117 5.09 57	15 0.38 4	0	4.57 49	79 1.64 17	96 2.71 29	30 0.48 5	1.2	0.76	35	570 566	173
5- 7-64	64	7.2	801	29 1.45 20	21 1.73 23	88 3.83 52	14 0.36 5	0	4.08 52	71 1.48 19	63 1.78 22	36 0.58 7	1.5	0.52	32	510 478	159
6- 4-64	70	7.3	1093	42 2.10 20	28 2.30 22	134 5.83 55	16 0.41 4	0	4.77 46	73 1.52 15	139 3.92 38	12 0.19 2	1.7	0.70	34	645 623	220
7-14-64	81	7.3	865	36 1.80 23	21 1.73 22	92 4.00 51	13 0.33 4	0	4.79 57	71 1.48 18	72 2.03 24	3 0.05 1	2.0	0.65	31	526 485	177
8- 6-64	88	7.3	851	39 1.95 25	20 1.64 21	91 3.96 51	10 0.26 3	0	4.7 47	72 1.50 18	79 2.23 27	42 0.68 8	1.8	0.56	31	543 504	180
9- 3-64	80	7.5	903	36 1.80 22	23 1.89 23	92 4.00 50	14 0.36 4	0	5.28 57	73 1.52 17	77 2.17 24	14 0.23 3	1.6	0.64	30	544 520	185

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Celliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synjets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
SAN TIMOTEO CREEK 51G											
NEAR LOMA LINDA											
3-6-64 1035 Clear; little foam	2.27 1.8	7.4	62 500	33	3.44	15	<25		8.2	88	DWR
4-4-64 1205 Clear; foam; sewage odor; insects	2.20 0.6	7.7	700+ 700+	38	4.7	24	<25		7.8	83	DWR
5-7-64 1150 Turbid; much foam	-- 1.3	7.6	7000 230	24	1.40	5.8	100		8.4	100	DWR
6-4-64 0655 Clear; foam	2.15 0.3	7.6	620 1300	28.5	2.6		<25		8.0	84	DWR
7-14-64 1150 Clear; foam; green algae covering streambed	2.34 1.2	7.8	620 130	1.7	1.8	3	35		9.2	102	DWR
8-6-64 1350 Clear; some foam	2.34 1.6	8.2	1300 620	15	1.8	6	--		8.8	119	DWR
9-3-64 1050 Slightly turbid; some foam; arsenite = 0.0 ppm	2.42 2.2	7.3	130 620	11	1	0.4	132		9.0	104	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in					parts per million equivalents per million milligram value					Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IDS Evap/100°C Computed		
																	Baron B	
SAN TIMOTEO CREEK																		
516																		
NEAR LOMA LINDA																		
3- 6-64	66	7.8	1024	57 2.84 28	23 1.89 18	120 5.22 51	13 0.33 3	0	393 6.44 59	82 1.71 16	96 2.71 25	3.1 0.05	1.2	0.46	26	600	237	
4- 4-64	70	7.6	1104	52 2.59 24	32 2.63 24	124 5.39 49	12 0.31 3	0	437 7.16 59	107 2.23 18	98 2.76 23	5.0 0.08 1	1.0	0.44	25	640	261	
5- 7-64	58	7.2	703	44 2.20 32	18 1.48 21	70 3.04 44	9 0.23 3	0	224 3.67 53	53 1.10 16	65 1.83 26	23 0.37 5	1.0	0.20	22	440	184	
6- 4-64	65	7.4	1004	53 2.64 24	31 2.55 23	124 5.39 49	14 0.36 3	0	369 6.05 55	123 2.56 23	77 2.17 20	10 0.16 1	1.4	0.40	28	634	260	
7-14-64	79	7.4	1028	50 2.50 23	32 2.63 24	122 5.30 49	12 0.31 3	0	408 6.69 61	95 1.98 18	84 2.37 21	0.6 0.01	1.4	0.44	24	650	257	
8- 6-64	89	7.4	845	49 2.45 29	19 1.56 18	98 4.26 50	10 0.26 3	0	288 4.72 54	80 1.67 19	63 1.78 20	38 0.61 7	2.1	0.28	25	552	201	
9- 3-64	74	7.4	707	49 2.45 33	18 1.48 20	75 3.26 44	8 0.20 3	0	250 4.10 55	62 1.29 17	52 1.47 20	35 0.56 8	1.6	0.22	24	468	197	
																526	448	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syneds	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
CHINO CREEK											
NEAR CHINO											
10-3-63 1300 Turbid; mosquito larvae and insects	None 2 Est.	8.2	6200 1300	7.8			25		6.8	79	DWR
11-7-63 1215 Very turbid; sewage odor	None 4 Est. 13,000	8.2	24,000 13,000	3.4	0.52		100		9.5	91	DWR
12-6-63 0845 Turbid; sewage odor; foam	None 1.5 Est.	8.0	60 130	15	1.72		100		6.2	50	DWR
1-14-64 1850 No flow; sewage odor	None Ponded	8.0	62 62	--	--		<25		6.8	58	DWR
2-7-64 1400 Turbid; sewage odor; little foam	None 0.5 Est.	7.9	230 620	8.3	0.72		150		7.2	66	DWR
3-5-64 1200 Turbid; foam; approx. 2 cfs. of irrigation water into stream	None 4 Est.	8.0	230 2400	13	1.40		50		6.6	60	DWR
4-6-64 1050 Slightly turbid; foam; sewage odor; small marine life	None 0.5 Est.	8.0	23 62	10	0.78		40		7.4	73	DWR
5-8-64 1220 Turbid; sewage odor; some foam	None 2 Est.	7.8	240 700				30		13.2	133	DWR

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CHINO CREEK

Stream name and station number

NEAR CHINO

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million										Mineral constituents in parts per million				
				equivalents per percent reactance value										Fluoride F	Boron B	Silica SiO <sub>2</sub>	IDS Evap105°C Computed	Total hardness CaCO <sub>3</sub>
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>						
Stream name and station number														86				
NEAR CHINO														CHINO CREEK				
10- 3-63	74	7.7	548	44 2.20 39	13 1.07 19	45 1.96 35	16 0.41 7	0	229 3.75 67	31 0.65 12	35 0.99 18	12 0.19 3	0.9	0.32	25	338 335	164	
11- 7-63	57	7.2	357	37 1.85 51	9 0.74 20	17 0.74 20	13 0.33 9	0	134 2.20 62	17 0.58 16	17 0.48 14	17 0.27 8	0.8	0.12	12	230 217	130	
12- 6-63	44	7.6	909	53 2.64 28	22 1.81 19	29 4.17 45	29 0.74 8	0	386 6.33 66	52 1.08 11	74 2.09 22	7.5 0.12 1	1.1	0.28	34	560 559	223	
1-14-64	48	7.7	977	77 3.84 35	22 1.81 17	102 4.43 41	33 0.84 8	0	483 7.92 71	44 0.92 8	70 1.97 18	17 0.27 2	1.5	0.48	26	625 630	283	
2- 7-64	53	7.3	632	59 2.94 41	17 1.40 20	55 2.39 33	16 0.41 6	0	273 4.47 63	56 1.17 16	36 1.02 14	30 0.48 7	0.6	0.16	29	410 433	217	
3- 5-64	52	7.7	800	57 2.84 34	19 1.56 19	77 3.35 40	24 0.61 7	0	346 5.67 66	53 1.10 13	56 1.58 18	15 0.24 3	1.1	0.34	27	505 500	220	
4- 6-64	60	8.0	798	61 3.04 35	16 1.32 15	87 3.78 44	18 0.46 5	0	352 5.77 65	51 1.06 12	62 1.75 20	15 0.24 3	1.4	0.48	23	515 508	218	
5- 8-64	61	7.1	869	65 3.24 37	18 1.48 17	85 3.70 42	13 0.33 4	0	228 3.74 45	33 0.69 8	132 3.72 44	15 0.24 3	1.1	0.27	25	563 499	236	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage hi.(ft) Flow(cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million			Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol		Parts per million
CHINO CREEK 86										
NEAR CHINO										
6-5-64 1100 Turbid; some foam	None 0.5 Est. some foam	7.7	2400 620	9.5	0.6		230	7.2	78	DWR
7-14-64 1525 Turbid; many insects;	None Ponded much foam	8.0	230 620	6.0	0.7		110	14.2	181	DWR
8-5-64 1155 Turbid; sewage odor	None Ponded	8.2	620 230				--	12.8	162	DWR
9-4-64 1255 Very turbid, sewage odor	None Ponded	7.4	500 2300				100	12.3	152	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million								
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total Dissolved Solids Computed
6- 5-64	67	7.2	824	64	23	75	27	0	330	64	68	9.6	1.0	0.29	30	552
				3.19	1.89	3.26	0.69	0	5.41	1.33	1.92	0.15	524	254		
7-14-64	84	7.9	894	35	21	36	8	0	61	15	22	2				
				63	21	104	16	0	355	68	87	1	2.0	0.61	33	601
8- 5-64	83	7.2	1119	3.14	1.73	4.52	0.41	0	5.82	1.42	2.45	0.02				
				32	18	46	4	60	15	25	67	9	0.8	0.38	30	788
9- 4-64	80	7.4	1311	101	34	91	19	0	354	246	67	9	0.8	0.38	30	788
				5.04	2.80	3.96	0.49	0	5.80	5.12	1.89	0.15	772	392		
				41	23	32	4	45	40	15	1					
				133	52	93	18	0	421	316	67	4	0.6	0.16	33	940
				6.64	4.28	4.04	0.46	6.90	6.58	1.89	1.89	0.06				546
				43	28	26	3	45	43	12						924

Stream name and station number  
NEAR CHINO  
CHINO CREEK  
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**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SANTA ANA DRAINAGE PROVINCE (Y)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b
				PO <sub>4</sub>	Syndets	NH <sub>4</sub>	Turbidity	Phenol	Parts per million	
LAKE ELSINORE										
AT STATE PARK										
11-12-63 1230	Dry Lake									DWR
1-6-64 1215	Dry Lake									DWR
2-19-64 1645	-- Lake	8.6	--						--	DWR
Lake 2-1/2 ft. deep;	Colorado River									
	water entering lake.									
3-9-64 1015	1228.46 Lake	8.0	6.2 23						9.2	DWR
Grayish-white cast to water;	USGS gage at State Park									
5-15-64 1305	1232.40 Lake	8.0	6 <0.45						10.4	DWR
Clear; swimmers in lake; mosquito larvae and tadpoles observed										
7-10-64 1330	None Lake	8.2	<0.45 0.6						10.8	DWR
Slightly turbid; pieces of vegetation throughout water										
9-18-64 1135	None Lake	8.0	0.6 0.6						10.2	DWR
Clear										

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TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE (Y)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in							Mineral constituents in parts per million											
				paris per million equivalents per percent reaction value							Fluoride F	Baron B	Sili-co SiO <sub>2</sub>	Total hardness at 105°C CaCO <sub>3</sub>								
				Calcium Ca	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>					Chloride Cl	Nitrate NO <sub>3</sub>						
Stream name and station number AT STATE PARK													89									
11-12-63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1-6-64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-19-64	59	8.6	2915	83 4.14 14	23 1.89 6	538 23.39 78	16 0.41 1	19 0.63 2	203 3.33 11	535 11.14 36	545 15.37 50	7.5 0.12	0.9	0.78	8	1910	302					
3-9-64	54	8.0	1802	87 4.34 23	26 2.14 11	278 12.09 64	10 0.26 1	0	181 2.97 16	397 8.27 44	270 7.61 40	3.1 0.05	0.5	0.40	6	1175	324					
5-15-64	74	8.2	1760	86 4.29 24	29 2.38 13	259 11.26 62	9 0.23 1	0	198 3.25 18	376 7.83 43	250 7.05 39	1.0 0.02	0.6	0.46	7	1170	334					
7-10-64	89	7.6	2299	88 4.39 18	32 2.63 11	388 16.87 70	14 0.36 1	0	259 4.25 18	465 9.68 40	363 10.24 42	1.0 0.02	1.0	0.84	8	1520	351					
9-18-64	73	8.3	3040	83 4.14 13	45 3.70 11	550 23.91 74	18 0.46 1	19 0.63 2	279 4.57 14	600 12.49 38	526 14.83 45	7 0.11	1.0	0.94	8	2020	392					
																						1995

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

Date Time Remarks	Gage hi.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen Parts per million	Analyzed by b	
				PO <sub>4</sub>	Synates	NH <sub>4</sub>	Turbidity			Phenol
Stream name and station number										
NEAR FALLBROOK										
SANTA MARGARITA RIVER										
51C										
11-12-63 1500 Clear	2.19 5 est.	7.4	6.2 2.3				<25	8.0	79	DWR
1-6-64 1300 Very clear	2.40 8 est.	7.8	<0.45 2.3				<25	11.0	93	DWR
3-9-64 1145 Clear	2.28 4.4	7.6	2.3 2.3				<25	10.4	92	DWR
5-15-64 1100 Clear	2.27 2.0	7.6	23 50				<25	8.8	90	DWR
7-10-64 1200 Clear	2.17 0.6	7.5	6.2 1.3		0.4		<25	11.6	135	DWR
9-18-64 1005 Clear; arsenic = 0.0 ppm	1.15 Ponded	7.3	62 5				<25	9.6	96	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SAN DIEGO DRAINAGE PROVINCE (Z)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance				Mineral constituents in parts per million					
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- tride NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TOS Evap. Evap. at 105°C Computed	Total hardness at 105°C CaCO <sub>3</sub>
Stream name and station number																	
NEAR FALLBROOK																	
SANTA MARGARITA RIVER																	
51C																	
11-12-63	59	8.0	1242	93 4.64 35	32 2.63 20	135 5.87 44	4 0.10 1	0	420 6.88 52	99 2.06 15	155 4.37 33	0.5 0.01	0.8	0.20	33	740 759	364
1-6-64	47	8.0	1139	92 4.59 36	29 2.38 19	127 5.52 44	4 0.10 1	0	356 5.83 47	125 2.60 21	142 4.00 32	0	0.6	0.18	38	725 733	349
3-9-64	50	8.1	1134	91 4.54 36	32 2.63 21	122 5.30 42	3 0.08 1	0	342 5.61 45	137 2.85 23	146 4.12 33	0.5 0.01	0.5	0.16	22	715 722	359
5-15-64	62	7.5	1179	95 4.74 38	31 2.55 20	121 5.26 42	3 0.08 1	0	349 5.72 46	128 2.66 21	147 4.15 33	0.5 0.01	0.5	0.22	31	760 729	365
7-10-64	74	7.9	1220	97 4.84 37	32 2.63 20	130 5.65 43	3 0.08 1	0	409 6.70 50	110 2.29 17	155 4.37 33	1.0 0.02	0.6	0.24	32	772 762	374
9-18-64	67	7.6	1367	109 5.44 36	34 2.80 19	151 6.57 44	4 0.10 1	0	443 7.26 49	125 2.60 18	176 4.96 33	2 0.03	0.6	0.27	32	857 852	412

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

Date Time Remarks	Gage ht.(ft) Flow(cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synete	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
ESCONDIDO CREEK											
NEAR HARMONY GROVE											
11-12-63 1615 Clear	1.92 4 est.	7.2	7,000 7,000	38	4.7	12	< 25		2.6	28	DWR
1-6-64 1525 Turbid; foam;	1.98 4 est. sewage odor	7.4	130 --	28	6.0	25	175		5.0	46	DWR
3-9-64 1315 Turbid; some foam; mosquito larva in water	2.19 5 est.	7.2	62 13	31	6.4	30	50		6.6	63	DWR
5-14-64 1420 Turbid; sewage odor; foam	2.42 3 est.	7.4	130 230	28.5	3.6	10.0	< 25		4.0	45	DWR
7-10-64 0845 Very turbid; some foam; fish observed	2.51 4 est.	7.2	2,400 230	3	2.2	14			9.4	114	DWR
9-17-64 1530 Clear; much foam; arsenic = 0.0 ppm	2.88 2.5 est.	7.1	2,400 130	3.7	3.7	29	130		8.7	98	DWR

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TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SAN DIEGO DRAINAGE PROVINCE (Z)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per percent reactance value				Mineral constituents in parts per million					
				Calcium Mg	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	NI- trate NO <sub>3</sub>	Fluo- ride F	Baron B	Sili- ca SiO <sub>2</sub>	IDS EvapibOC EvapIO5C Computed	Total hardness CaCO <sub>3</sub>
ESCONDIDO CREEK 63																	
Stream name and station number NEAR HARMONY GROVE																	
11-12-63	66	7.1	1984	78 3.89 21	43 3.54 19	255 11.09 59	17 0.43 2	0	198 3.25 17	276 5.75 30	343 9.67 50	37 0.60 3	1.8	0.84	22	1195	372
1- 6-64	53	7.5	1773	75 3.74 21	40 3.29 19	234 10.17 58	18 0.46 3	0	289 4.74 25	288 6.00 32	260 7.33 39	37 0.60 3	1.4	0.84	25	1075	352
3- 9-64	56	7.4	1698	76 3.79 23	41 3.37 20	205 8.91 54	16 0.41 2	0	310 5.08 28	296 6.16 34	233 6.57 37	6.2 0.10 1	0.4	0.76	18	1040	358
5-14-64	70	7.1	2083	86 4.29 21	45 3.70 18	273 11.87 59	17 0.43 2	0	287 4.70 22	289 6.02 28	369 10.41 49	0.9 0.01	1.8	0.08	25	1283	400
7-10-64	79	7.0	2184	91 4.54 22	42 3.45 17	279 12.13 59	17 0.43 2	0	217 3.56 17	306 6.37 30	398 11.22 53	2.0 0.03	1.0	0.76	22	1370	400
9-17-64	71	7.1	2053	84 4.19 22	45 3.70 19	254 11.04 57	20 0.51 3	0	276 4.52 22	305 6.35 31	342 9.64 46	17 0.27 1	1.1	0.92	22	1234	395
																1227	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

Date Time Remarks	Gage ht. (ft) Flow (cfs)	Field pH	Coliform <sup>o</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Sydetals	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number AT OLD MISSION DAM SAN DIEGO RIVER 65											
11-13-63 1215 Slightly turbid; some foam; algae	None 2 est.	7.4	230 130	0.78	1.1		40		6.6	69	DWR
1-7-64 1430 Slightly turbid; some foam; insects	None 2 est.	7.4	130 60	3.6	1.72		50		4.4	41	DWR
3-10-64 1120 Clear; much green algae throughout stream; fish and insects observed	1.49 8 est.	7.8	240 240	5.1	1.46		< 25		8.8	84	DWR
5-13-64 1425 Slightly turbid; some foam	None 2 est.	7.4	230 2,400	3.9	1.1		37		9.6	109	DWR
7-9-64 1050 Slightly turbid; green algae throughout stream	None 0.05 est.	7.2	62 23			16	100		7.6	93	DWR
9-15-64 1335 Clear; little foam; much green algae on bottom	None 0.15 est.	7.6	23 620	0.42	1.00		76		9.6	115	DWR
Arsenic = 0.0 ppm											

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SAN DIEGO DRAINAGE PROVINCE (Z)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total Dissolved Solids on CaCO <sub>3</sub>	
SAN DIEGO RIVER																	
65																	
AT OLD MISSION DAM																	
11-13-63	64	7.8	2874	119 5.94 20	69 5.67 19	415 18.04 60	11 0.28 1	0	437 7.16 24	288 6.00 20	578 16.30 55	5.0 0.08	0.9	0.66	21	1745 1722	581
1-7-64	54	7.3	2381	110 5.49 21	67 5.51 21	335 14.57 56	12 0.31 1	0	354 5.80 23	341 7.10 28	436 12.30 48	15 0.24 1	0.7	0.78	19	1550 1510	550
3-10-64	58	7.4	1988	101 5.04 23	54 4.44 21	270 11.74 55	10 0.26 1	0	303 4.97 23	304 6.33 30	350 9.87 46	17 0.27 1	0.4	0.46	11	1295 1267	474
5-13-64	72	7.2	2047	96 4.79 22	58 4.77 22	274 11.91 55	9 0.23 1	0	319 5.23 24	296 6.16 29	355 10.01 47	2.0 0.03	0	0.65	18	1340 1265	478
7-9-64	79	7.2	2536	113 5.64 21	69 5.67 21	348 15.13 57	7 0.18 1	0	520 8.52 31	242 5.04 18	490 13.82 50	0.2	0.8	0.78	37	1648 1563	566
9-15-64	78	7.3	2648	126 6.29 22	71 5.84 21	368 16.00 56	8 0.20 1	0	458 7.51 26	301 6.27 22	512 14.44 51	18 0.29 1	0.8	0.78	30	1690 1661	607

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Colliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synedete	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
NEAR LA PRESSA											
SPRING VALLEY CREEK											
11-13-63 0930 Clear; small fish observed	None 0.5 est.	8.0	620 60	0.68	0.90		<25		16.6	171	DWR
1-7-64 0945 Slightly turbid; small fish; thin scum on surface	None 0.25 est.	8.0	45 60				30		0	0	DWR
3-10-64 0930 Clear; horses in stream	None 0.10 est.	7.6	620 230				<25		14.6	139	DWR
5-14-64 0900 Clear; green algae on bed; insects	None 0.25 est.	7.6	2,400 130				<25		12.4	133	DWR
7-9-64 1005 Clear; much green algae	None 0.25 est.	7.6	23 23				30		12.0	152	DWR
9-15-64 1525 Clear; many small fish; some foam; Arsenic = 0.0 ppm	None 0.25 est.	7.3	4.6 230	0.3	0.7		<25		8.6	102	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SAN DIEGO DRAINAGE PROVINCE (Z)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million										
				Calcium Co	Magne sium Mg	Sodium No	Potas sium K	Carbon ate CO <sub>3</sub>	Bicar bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo ride Cl	Ni trate NO <sub>3</sub>	Fluo ride F	Baron B	Sili co SiO <sub>2</sub>	Total hardness at CaCO <sub>3</sub>		
Stream name and station number																		
NEAR LA PRESSA																		
SPRING VALLEY CREEK 65B																		
11-13-63	63	--	11161	543 27.10 23	287 23.60 20	1575 68.48 57	0.13	5	0	427 7.00 6	732 15.24 13	3440 97.01 81	0.0	0.9	0.88	15	7900 6809	2537
1-7-64	58	7.9	10989	533 26.60 21	322 26.48 21	1650 71.74 57	0.13	5	0	395 6.47 5	792 16.49 13	3575 100.82 81	20 0.32	0.8	0.98	12	8060 7105	2656
3-10-64	56	7.8	8130	409 20.41 21	249 20.48 21	1300 56.52 58	0.10	4	0	386 6.33 6	674 14.03 14	2780 78.40 79	10 0.16	0.5	0.76	10	6000 5627	2046
5-14-64	66	7.9	10383	502 25.05 21	286 23.52 20	1573 68.39 58	0.13	5	0	267 4.38 4	764 15.91 14	3405 96.02 83	3.7 0.06	0.8	1.00	12	8300 6684	2430
7-9-64	82	7.2	11990	553 27.59 21	324 26.65 20	1840 80.00 60	0.15	6	0	216 3.54 3	890 18.53 14	3936 111.00 83	14 0.23	0.6	1.20	3	9707 7674	2714
9-15-64	77	7.3	13099	613 30.59 22	331 27.22 19	1900 82.61 59	0.18	7	0	160 2.62 2	915 19.05 13	4230 119.29 84	20 0.32	1.6	1.25	8	9355 8105	2893

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen		Analyzed by b	
				PO <sub>4</sub>	Synates	NH <sub>4</sub>	Turbidity	Phenol	Parts per million		Percent saturation
Stream name and station number											
NEAR MISSION GORGE ROAD											
65C											
11-13-63 1245 Clear; much foam; much algae	1.28 4 est.	7.8	1,300 620	7.4	2.5		<25		12.2	125	DWR
1-7-64 1515 Clear; much foam; brown algae; insects	1.32 5 est.	8.0	23 6	3.7	1.56		<25		4.4	40	DWR
3-10-64 1120 Clear; much green algae throughout stream; fish and insects observed	1.49 8 est.	7.8	240 240	5.1	1.46		<25		8.8	84	DWR
5-13-64 1455 Clear; much green algae; some foam	1.30 1.5 est.	8.0	23 23				<25		14.8	166	DWR
7-9-64 1125 Slightly turbid; low flow; foam; small fish observed	1.01 0.05 est.	7.4	0.60 0.60	5.4	0.7		45		22.2	268	DWR
9-15-64 1310 Yellowish color; Arsenic = 0.0 ppm	0.72 Ponded	7.3	240 13				70		9.0	74	DWR

TABLE D-2  
MINERAL ANALYSES OF SURFACE WATER  
SAN DIEGO DRAINAGE PROVINCE (Z)

DATE SAMPLED	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Baron B	Silica SiO <sub>2</sub>	IOS Evap/IOSc Computed	Total hardness as CaCO <sub>3</sub>
SAN DIEGO RIVER 65C																	
11-13-63	63	7.8	2959	144 7.19 23	80 6.58 21	395 17.17 55	12 0.31 1	0	386 6.33 20	358 7.45 24	598 16.86 55	15 0.24 1	0.9	0.66	34	1905 1827	689
1-7-64	53	8.2	2421	116 5.79 22	68 5.59 21	335 14.57 56	11 0.28 1	0	346 5.67 22	349 7.27 28	450 12.69 49	11 0.18 1	0.7	0.78	12	1580 1524	569
3-10-64	56	7.7	2037	98 4.89 22	59 4.85 22	275 11.96 55	9 0.23 1	0	312 5.11 23	296 6.16 28	368 10.38 48	10 0.16 1	0.5	0.64	6	1310 1276	487
5-13-64	71	7.6	2028	98 4.89 23	58 4.77 22	264 11.48 54	9 0.23 1	0	306 5.02 24	299 6.23 29	356 10.04 47	3.0 0.05	0.7	0.69	21	1320 1260	483
7-9-64	78	7.3	3229	169 8.43 24	131 10.77 31	364 15.83 45	6 0.15	0	444 7.28 20	391 8.14 23	708 19.97 56	24 0.39 1	1.0	0.78	30	2327 204.3	961
9-15-64	68	7.2	3113	172 8.58 25	110 9.05 27	371 16.13 48	5 0.13	0	476 7.80 23	366 7.62 23	633 17.85 53	19 0.31 1	1.0	0.78	53	2128 1.765	882
Stream name and station number NEAR MISSION GORGE ROAD																	

**TABLE D-2**  
**MINERAL ANALYSES OF SURFACE WATER**  
**FIELD OBSERVATIONS, BACTERIOLOGICAL DETERMINATIONS, AND ADDITIONAL CHEMICAL ANALYSES**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

Date Time Remarks	Gage ht.(ft) Flow (cfs)	Field pH	Coliform <sup>a</sup> MPN/ml	Constituents, in parts per million				Dissolved oxygen	Analyzed by <sup>b</sup>
				PO <sub>4</sub>	Synates	NH <sub>4</sub>	Turbidity		
TLA JUANA RIVER									
AT INTERNATIONAL BOUNDARY									
11-13-63 0830	Dry -- no flow								
1-7-64 0815	Dry -- no flow								
3-10-64 0805	Dry -- no flow								
5-14-64 1100	None 0.1 est.	7.8	70,000 + 7,000 +	13.4	18	700	1.4	17	DWR
Turbid; small organisms and trash in stream; sewage odor									
7-9-64 0915	Dry -- no flow								DWR
9-16-64 1015	Dry -- no flow								DWR

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a. Tests made by agency reporting analysis. Tests on samples collected in pairs by Department of Water Resources were made by California Department of Public Health, Division of Laboratories, Los Angeles, California.  
b. Analyses made by Department of Water Resources (DWR); Los Angeles Department of Water and Power (LADWP); Los Angeles County Health Department (LACHD).



TABLE D-2

## MINERAL ANALYSES OF SURFACE WATER

DRY STATIONS: The stations below were dry on the dates and times shown

Central Coastal Drainage Province (T) :		San Diego Drainage Province (Z)	
Date	Time (FST)	Date	Time (FST)
10- 1-63	1330	11-12-63	1700
11-14-63	1310	1- 6-64	1605
12- 2-63	1150	3- 9-64	1520
1- 3-64	0730	5-14-64	1350
2- 4-64	0730	7- 9-64	1650
3- 3-64	0845	9-16-64	1350
4- 2-64	0845		
5- 4-64	1355		
6- 2-64	0815		
7- 2-64	1115		
8- 3-64	1515		
9- 1-64	1005		

Cuyama River, near Garey (Sta. No. 44A)		San Luis Rey River, near Pala (Sta. No. 62)		San Dieguito River, below San Pasqual Valley (Sta. No. 64)	
Date	Time (FST)	Date	Time (FST)	Date	Time (FST)
10- 1-63	1330	11-12-63	1530	11-12-63	1700
11-14-63	1310	1- 6-64	1415	1- 6-64	1605
12- 2-63	1150	3- 9-64	1245	3- 9-64	1520
1- 3-64	0730	5-15-64	1025	5-14-64	1350
2- 4-64	0730	7-10-64	1145	7- 9-64	1650
3- 3-64	0845	9-18-64	0835	9-16-64	1350
4- 2-64	0845				
5- 4-64	1355				
6- 2-64	0815				
7- 2-64	1115				
8- 3-64	1515				
9- 1-64	1005				

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 CENTRAL COASTAL DRAINAGE PROVINCE (T)

Station	Sta No	Date	Picouries per Liter <sup>a</sup>			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1963 - 1964</u>		<u>1964</u>				
Cuyama River near Garey	44a	5- 4 9- 1	Dry Dry			
Santa Ynez River at Cachuma Reservoir	44b	5- 4 9- 1	- 0.36 + 2.85 - 0.73 ± 1.61	- 0.28 + 0.44 1.97 ± 1.35	8.46 + 12.52 - 13.00 ± 12.43	- 0.16 + 8.18 - 5.75 ± 8.61
Santa Ynez River near Solvang	45a	5- 4 9- 1	- 0.72 ± 4.41 Dry	0.51 ± 0.89	- 2.79 ± 13.19	- 1.08 ± 8.21

a. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 LOS ANGELES DRAINAGE PROVINCE (U)

Station	Sta. No	Date	Pico curies per Liter <sup>a</sup>									
			Dissolved	Alpha	Solid	Alpha	Dissolved	Beta	Solid	Beta		
<u>Water Year 1963 - 1964</u>		<u>1964</u>										
Matilija Creek above Matilija Dam	45b	5- 5 9- 1	- 3.78 ± - 2.21 ±	5.96 1.94	- 0.50 ± 0.39 ±	0.62 0.80		- 10.28 ± - 5.29 ±	12.83 11.59		-10.84 ± - 4.86 ±	8.24 8.46
Santa Clara River at Los Angeles-Ventura County Line	46	5- 5 9- 2	- 5.67 ± - 10.01 ±	11.12 10.65	0.78 ± 0.11 ±	1.26 1.00		- 34.37 ± 20.16 ±	83.76 32.83		- 3.24 ± 2.65 ±	9.07 8.89
Santa Clara River near Santa Paula	46a	5- 5 9- 2	0.63 ± 54.00 ±	1.45 63.94	- 0.50 ± -12.99 ±	0.62 8.45		- 7.02 ± 3.76 ±	12.13 18.19		- 5.31 ± 0.30 ±	8.51 1.07
Piru Creek near Piru	46c	5- 5 9- 2	- 7.63 ± 0.21 ±	3.74 11.29	0.62 ± - 1.45 ±	1.06 8.63		- 14.63 ± 25.96 ±	13.61 16.75		- 4.50 ± - 0.35 ±	8.73 3.94
Sespe Creek near Fillmore	46d	5- 5 9- 2	0.65 ± 3.94 ±	6.70 6.36	- 0.40 ± 0.35 ±	0.20 0.90		8.40 ± - 20.76 ±	14.90 13.95		1.89 ± - 3.20 ±	8.54 7.60
Santa Paula Creek near Santa Paula	46e	5- 5 9- 2	0.91 ± 2.75 ±	1.50 6.37	- 0.48 ± 0.79 ±	0.28 0.97		14.18 ± - 12.88 ±	12.21 14.12		0.46 ± 1.12 ±	8.21 8.74
Los Angeles River at Figueroa Street	47	5- 6 9-14	- 26.69 ± 0.00 ±	11.70 20.45	- 0.39 ± - 0.30 ±	0.20 2.84		- 37.22 ± - 5.94 ±	15.98 13.16		28.93 ± - 8.90 ±	9.56 7.42
Los Angeles River at Pacific Coast Highway	48	5- 6 9-14	141.38 ± - 22.22 ±	209.58 7.85	5.11 ± 1.56 ±	2.89 1.31		-128.00 ± 9.78 ±	36.96 66.94		- 5.67 ± 10.09 ±	8.87 9.31
Rio Hondo at Whittier Narrows	49	5- 6 9-14	6.07 ± Dry	7.99	0.77 ±	1.41		34.62 ±	15.19		- 4.81 ±	9.01
Mission Creek at Whittier Narrows	49a	5- 6 9-14	Dry Dry									

a. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 LOS ANGELES DRAINAGE PROVINCE (U)

TABLE D-3

 RADIOASSAYS OF SURFACE WATER  
 LOS ANGELES DRAINAGE PROVINCE (U)  
 (continued)

Station	Sta No	Date	Picouries per Liter <sup>a</sup>								
			Dissolved	Alpha	Solid	Alpha	Dissolved	Beta	Solid	Beta	
<u>Water Year 1963 - 1964</u>		<u>1964</u>									
Rio Hondo above Spreading Grounds	49b	5-6 9-14	- 2.40 + - 3.68 ±	1.11 1.47	0.29 + - 0.39 ±	1.11 0.85		20.70 + 12.60 ±	14.38 14.54	5.75 + - 2.55 ±	8.32 8.88
San Gabriel River at Whittier Narrows	50	5-6 9-14	- 5.82 + Dry	2.33	- 0.10 ±	0.85		3.80 ±	11.59	14.99 ±	10.20
San Gabriel River at Azusa Powerhouse	50d	5-6 9-14	- 1.55 + - 0.36 ±	3.29 4.53	0.44 + 0.63 ±	1.15 0.96		- 39.52 + 25.64 ±	12.76 11.47	2.26 + 6.12 ±	8.16 8.76
Ventura River near Ventura	61	5-5 9-1	1.20 + 0.57 ±	4.94 5.41	0.43 + 0.46 ±	0.89 1.07		4.01 + 0.53 ±	13.09 14.28	17.59 + 96.76 ±	9.84 11.49
Colorado River Aqueduct near La Verne	69	See Page 168 for Radiological Assay									
Los Angeles Aqueduct near San Fernando, Upper Van Norman Inlet	70	See Page 169 for Radiological Assay									

a. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 LOS ANGELES DRAINAGE PROVINCE (U)  
 (continued)

Source and Sampling Point	Date Sampled <sup>b</sup>	Date of Analysis	Picouries per liter <sup>a</sup>	
			Gross Alpha	Gross Beta
Colorado River Aqueduct at Weymouth Softening and Filtration Plant, La Verne, Station 69  Analyses received from The Metropolitan Water District of Southern California	October 1963	11-22-63	5.1 ± 0.7	10.3 ± 2.6
	November 1963	12-19-63	3.0 ± 0.7	10.2 ± 2.6
	December 1963	1- 6-64	3.7 ± 0.7	13.7 ± 2.6
	January 1964	2-12-64	2.4 ± 0.7	15.3 ± 2.6
	February 1964	3-12-64	3.1 ± 0.7	24.7 ± 2.6
	March 1964	4- 7-64	1.9 ± 0.7	13.0 ± 2.6
	April 1964	5-28-64	1.6 ± 0.7	1.1 ± 2.6
	May 1964	7-14-64	3.4 ± 0.7	7.8 ± 2.6
	June 1964	7-17-64	3.6 ± 0.7	35.0 ± 2.6
	July 1964	8-13-64	5.0 ± 0.7	15.3 ± 2.6
	August 1964	9- 4-64	5.3 ± 0.7	15.4 ± 2.6
	September 1964	10-11-64	5.4 ± 0.7	15.2 ± 2.6

a. Deviations reported at the 90 percent confidence level.  
 b. Monthly composite.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 LOS ANGELES DRAINAGE PROVINCE (U)  
 (continued)

Source and Sampling Point	Date Sampled	Beta-Gamma Activity <sup>a</sup>	Date Sampled	Beta-Gamma Activity	Date Sampled	Beta-Gamma Activity
Upper Van Norman Inlet	10- 7-63	9.5 ± 4.1	2-19-64	6.2 ± 4.4	6-10-64	6.0 ± 3.8
	10-14-63	15.7 ± 4.1	2-26-64	9.1 ± 4.7	6-17-64	9.5 ± 3.9
Los Angeles Aqueduct near San Fernando, Station 70	10-21-63	10.6 ± 3.3	3- 4-64	13.0 ± 4.7	6-24-64	7.8 ± 3.8
	10-30-63	10.6 ± 4.2	3-11-64	14.3 ± 4.5	7- 1-64	7.8 ± 3.8
Analyses received from the Los Angeles Department of Water and Power	11- 6-63	14.4 ± 4.3	3-18-64	14.1 ± 4.6	7- 8-64	5.5 ± 3.8
	11-13-63	12.1 ± 4.2	3-25-64	13.7 ± 4.6	7-15-64	7.6 ± 3.8
	11-27-63	13.0 ± 4.9	4- 1-64	13.5 ± 4.6	7-22-64	9.4 ± 3.9
	12- 4-63	11.3 ± 4.9	4- 8-64	10.3 ± 4.5	7-29-64	9.8 ± 4.0
	12-11-63	9.2 ± 4.8	4-15-64	13.8 ± 4.6	8- 5-64	9.0 ± 3.9
	12-18-63	13.1 ± 4.6	4-22-64	7.1 ± 4.4	8-12-64	10.0 ± 3.9
	12-23-63	14.3 ± 4.6	4-29-64	12.2 ± 4.6	8-25-64	8.8 ± 4.0
	1- 2-64	14.1 ± 4.6	5- 6-64	9.6 ± 4.5	9- 2-64	9.2 ± 3.9
	1-22-64	8.9 ± 4.7	5-13-64	12.4 ± 4.5	9-10-64	8.5 ± 4.0
	1-29-64	9.2 ± 4.7	5-20-64	11.8 ± 4.5	9-16-64	18.6 ± 3.7
2- 5-64	9.8 ± 4.7	5-27-64	10.0 ± 4.5	9-23-64	14.5 ± 3.4	
2-12-64	13.7 ± 4.8	6- 3-64	5.1 ± 4.3	9-30-64	23.9 ± 4.3	

a. Picocuries per liter. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 LAHONTAN DRAINAGE PROVINCE (W)

Station	Sta. No.	Date	Picouries per Liter <sup>a</sup>			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1963 - 1964</u> Mojave River near Victorville	67	<u>1964</u> 5-7	0.39 + 1.58	0.21 + 1.06	9.73 + 12.28	- 2.00 + 10.12
		9-3	0.76 ± 1.66	- 0.07 ± 2.31	18.14 ± 11.40	- 3.30 ± 8.26
Mojave River at the Forks	67a	5-7	3.95 + 4.20	- 1.68 + 0.75	- 5.57 + 13.05	- 7.75 + 11.24
		9-3	2.88 ± 2.48	0.26 ± 0.73	7.29 ± 12.53	0.64 ± 8.54

a. Deviations reported at the 95 percent confidence level.

TABLE D-3

RADIOASSAYS OF SURFACE WATER  
 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

Station	Sta. No	Date	Picouries per Liter <sup>a</sup>				
			Dissolved	Alpha	Solid	Alpha	
<u>Water Year 1963 - 1964</u>		<u>1964</u>					
Colorado River near Topock, Arizona	54	5-18 9-11	- 1.35 + 2.68 ±	2.60 3.91	0.88 + 0.42 - 0.18 ± 2.31	9.77 + 13.43 13.75 ± 11.61	- 7.01 + 11.12 0.32 ± 8.43
Colorado River below Parker Dam	55	5-19 9- 9	8.77 + 2.17 ±	10.32 3.74	0.10 + 1.06 0.49 ± 0.73	11.71 + 15.90 4.81 ± 13.16	2.54 + 8.40 - 5.53 ± 8.50
Colorado River at Yuma, Arizona	56	5-12 9- 8	- 1.31 + - 2.09 ±	3.82 1.45	- 0.50 + 0.22 - 0.37 ± 2.84	20.94 + 14.25 - 2.00 ± 11.39	4.16 + 8.13 1.72 ± 7.94
All American Canal at Pilot Knob	56a	5-13 9- 8	- 0.91 + 2.04 ±	1.24 4.47	1.14 + 1.51 0.37 ± 0.73	3.98 + 12.53 2.52 ± 11.48	- 9.27 + 9.04 3.56 ± 8.40
Colorado River below Morelos Dam	56b	5-12 9- 8	- 0.65 + - 0.79 ±	2.41 12.09	- 0.21 + 0.76 0.07 ± 0.73	9.04 + 12.98 0.20 ± 12.05	5.77 + 8.97 6.27 ± 8.93
Colorado River near Blythe	56c	5-19 9- 9	10.03 + 0.79 ±	7.93 3.11	0.32 + 0.80 1.00 ± 1.03	- 5.31 + 14.52 15.08 ± 11.21	- 1.69 + 9.00 - 1.86 ± 7.55
Colorado River, Lake Havasu at Aqueduct Intake	56d		See Page 173 for Radiological Assay				
New River at International Boundary	57	5-11 9- 8	- 8.01 + 0.00 ±	3.20 1.25	0.55 + 1.44 0.59 ± 0.81	7.77 + 28.40 56.10 ± 37.41	- 6.77 + 10.80 6.35 ± 8.73
New River near Westmorland.	58	5-11 9- 7	- 5.55 + 68.75 ±	2.64 47.53	1.30 + 1.61 0.00 ± 0.63	-44.51 + 30.33 168.33 ± 238.95	3.17 + 8.49 2.64 ± 8.56
Alamo River at International Boundary	59	5-11 9- 8	2.16 + 0.82 ±	7.01 1.03	- 0.09 + 0.75 3.41 ± 5.35	3.36 + 13.10 7.10 ± 7.95	- 1.38 + 9.21 - 9.81 ± 9.39

a. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)  
 (continued)

Station	Sta. No	Date	Picrocuries per Liter <sup>a</sup>									
			Dissolved	Alpha	Solid	Alpha	Dissolved	Beta	Solid	Beta		
<u>Water Year 1963 - 1964</u>		<u>1964</u>										
Alamo River near Calipatria	60	5-11 9-7	- 1.70 + - 3.50 ±	3.17 31.05	0.85 + 2.57 - 0.11 ± 2.31	-	1.28 + 7.02 ±	22.56 31.34	3.48 + 2.64 ±	12.42 7.75		
Whitewater River near Whitewater	68	5-10 9-17	0.19 + 5.61 ±	1.49 3.41	- 0.10 + 0.80 - 0.39 ± 0.61	-	0.91 + 3.50 ±	11.07 12.22	3.84 + 3.89 ±	8.07 7.98		
Salton Sea at Salton Sea State Park	68a	5-10 9-7	-83.42 + 0.00 ±	258.51 91.50	0.66 + 0.97 - 0.48 ± 1.63		119.79 + 111.90 ±	417.06 336.51	6.73 + 10.59 ±	9.14 9.04		
Whitewater River near Mecca	68b	5-10 9-7	5.30 + 4.48 ±	7.25 4.17	1.60 + 2.75 0.59 ± 1.04		8.11 + 13.24 ±	15.47 11.99	20.22 ± 2.22 ±	12.18 8.82		

a. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)  
 (continued)

Source and Sampling Point	Date Sampled	Date of Analysis	Picrocuries per liter <sup>a</sup>	
			Gross Alpha	Gross Beta
Colorado River Lake Havasu at Aqueduct Intake, Station 56d  Analyses received from The Metropolitan Water District of Southern California	10-1-63	10-20-63	4.0 ± 0.7	17.4 ± 2.6
	11-5-63	11-25-63	2.6 ± 0.7	15.0 ± 2.6
	12-3-63	12-26-63	4.0 ± 0.7	19.4 ± 2.6
	1-7-64	1-13-64	3.6 ± 0.7	8.1 ± 2.6
	3-3-64	3-14-64	3.2 ± 0.7	16.5 ± 2.6
	4-2-64	4-18-64	2.0 ± 0.7	23.7 ± 2.6
	5-5-64	5-30-64	1.6 ± 0.7	10.7 ± 2.6
	6-2-64	7-20-64	3.2 ± 0.7	23.1 ± 2.6
	7-7-64	7-24-64	2.8 ± 0.7	23.1 ± 2.6
	8-4-64	8-15-64	5.2 ± 0.7	24.5 ± 2.6
9-1-64	9-20-64	3.3 ± 0.7	19.6 ± 2.6	

a. Deviations reported at the 90 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 SANTA ANA DRAINAGE PROVINCE (Y)

Station	Sta No	Date	Pico curies per Liter <sup>a</sup>			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1963 - 1964</u>						
Warm Creek at Colton	50b	5-7 9-3	- 2.67 ± 1.01 - 0.26 ± 7.94	2.68 ± 2.17 0.59 ± 0.89	6.45 ± 12.98 18.44 ± 11.79	5.24 ± 10.39 - 2.00 ± 8.26
Santa Ana River near Arlington	51	5-8 9-4	0.70 ± 5.35 9.11 ± 22.87	0.38 ± 2.32 - 0.33 ± 2.18	14.40 ± 15.30 22.37 ± 12.56	9.33 ± 10.99 - 2.96 ± 7.58
Santa Ana River below Prado Dam	51a	5-8 9-4	2.91 ± 4.59 2.10 ± 4.18	1.14 ± 1.57 0.38 ± 0.99	13.42 ± 13.02 17.13 ± 12.60	3.00 ± 10.28 2.49 ± 8.11
Santa Ana River near Mentone	51b	5-7 9-3	6.46 ± 3.58 11.15 ± 3.82	0.18 ± 1.11 - 0.07 ± 2.82	15.30 ± 12.50 6.13 ± 10.87	8.79 ± 8.64 2.55 ± 8.79
Santa Ana River near Norco	51e	5-8 9-4	0.94 ± 4.31 6.00 ± 4.84	1.91 ± 1.52 0.89 ± 0.96	2.22 ± 13.77 23.98 ± 11.39	0.92 ± 9.61 - 4.02 ± 8.86
Santa Ana River at Colton	51f	5-7 9-3	- 2.61 ± 0.98 4.93 ± 4.13	2.68 ± 2.41 0.04 ± 0.52	32.10 ± 13.72 16.77 ± 12.38	28.68 ± 11.37 - 1.70 ± 8.32
San Timoteo Creek near Loma Linda	51g	5-7 9-3	- 1.46 ± 1.55 0.50 ± 2.45	3.20 ± 2.55 0.52 ± 0.81	16.87 ± 13.04 10.81 ± 10.55	10.45 ± 10.92 11.60 ± 7.96
Chino Creek near Chino	86	5-8 9-4	- 3.93 ± 1.54 12.89 ± 8.71	0.64 ± 2.09 1.69 ± 1.50	58.77 ± 14.54 18.83 ± 13.52	7.91 ± 12.28 3.12 ± 8.58
Lake Elsinore at North Shore	89	5-15 9-18	- 1.85 ± 4.26 5.79 ± 7.74	0.18 ± 1.11 - 0.11 ± 3.27	2.94 ± 13.00 6.36 ± 13.59	10.64 ± 8.86 - 2.11 ± 8.65

a. Deviations reported at the 95 percent confidence level.

TABLE D-3  
 RADIOASSAYS OF SURFACE WATER  
 SAN DIEGO DRAINAGE PROVINCE (Z)

Station	Sta. No.	Date	Picocuries per Liter <sup>a</sup>				
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta	
<u>Water Year 1963 - 1964</u>		<u>1964</u>					
Santa Margarita River near Fallbrook	51c	5-15 9-18	0.28 ± 2.86 ±	0.93 3.51	- 0.05 + 0.80 - 0.57 ± 0.48	- 8.55 + 8.70 - 0.79 ± 13.12	13.52 + 9.07 1.53 ± 7.93
San Luis Rey River near Pala	62	5-15 9-18	Dry Dry				
Escondido Creek near Harmony Grove	63	5-14 9-17	4.53 ± 3.48 ±	7.18 9.53	0.73 + 1.35 0.59 ± 1.03	9.65 + 15.84 20.89 ± 14.70	- 3.54 + 9.17 - 2.54 ± 7.86
San Dieguito River near San Fasal Valley	64	5-14 9-16	Dry Dry				
San Diego River at Old Mission Dam	65	5-13 9-15	- 3.55 + - 4.53 ±	1.36 2.09	2.43 + 2.16 0.29 ± 0.80	10.06 + 15.25 0.31 ± 16.09	- 4.47 + 9.85 - 3.72 ± 8.91
Spring Valley Creek near La Pressa	65b	5-14 9-15	58.79 ± 4.88 ±	107.92 29.71	- 0.03 + 0.77 0.99 ± 1.04	- 42.98 ± 76.62 - 47.97 ± 79.76	0.48 + 8.39 10.72 ± 8.99
San Diego River near Mission Gorge Road	65c	5-13 9-15	3.68 + 4.09 ±	5.82 13.36	0.02 + 0.74 0.07 ± 0.71	13.61 + 15.52 12.91 ± 29.90	1.32 + 7.95 - 3.57 ± 8.47
Tia Juana River at International Boundary	66	5-14 9-16	0.91 ± Dry	7.00	5.44 ± 5.17	80.89 ± 35.76	13.81 ± 47.88

a. Deviations reported at the 95 percent confidence level.

TABLE D-4  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1993-04

Station	Site No	Date	Constituents in parts per billion															
			Alum. num (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)
Santa Ynez River near Solvang	45a	5-4	1.4	0.57**	0.29**	1.4**	1.4*	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	0.57**	2.2	5.7**
	45b	9-1	6.6	0.57**	0.29**	1.4**	1.4*	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	0.57**	2.1	5.7**
Santa Clara River at L.A.-Ventura County Line	46	5-5 9-2	1.4 11	0.57** 0.57**	0.29** 0.29**	1.4** 1.4**	1.4** 1.4**	0.57** 0.57**	0.29** 0.94	5.7** 5.7**								
	46a	5-5 9-12	1.4 7.7	0.57** 0.57**	0.71 0.29**	1.4** 1.4**	1.6 1.4**	1.4** 1.4**	1.4** 1.4**	0.52** 0.57**	0.69 1.6	5.7** 5.7**						
Los Angeles River at Figueroa Street	47	5-6 9-14	1.4 10	0.57** 0.57**	0.29** 0.29**	1.4** 1.4**	1.4** 1.4**	0.57** 0.57**	2.7 1.5	5.7** 5.7**								
	48	5-6 9-14	1.5 17	0.57** 0.57**	0.29** 0.29**	1.4** 1.4**	1.4** 1.4**	0.57** 0.57**	0.29** 6.9	5.7** 5.7**								
Rio Hondo at Whittier Narrows	49	5-6 9-14	1.4 Dry - No Flow	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	0.57**	4.6	5.7**
Rio Hondo above Spreading Grounds	49b	5-6 9-14	1.4 0.3	0.57** 0.57**	0.29** 0.29**	1.4** 1.4**	1.4** 1.4**	0.57** 0.57**	5.1 13	5.7** 5.7**								
	50	5-6 9-14	1.4 Dry - No Flow	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	1.4**	0.57**	5.1	5.7**
Ventura River near Ventura	61	5-5 9-1	1.4 0.0	0.57** 0.57**	0.29** 0.29**	1.4** 1.4**	3.4 1.4**	1.4** 1.4**	1.4** 1.4**	0.57** 0.57**	0.51 0.66	5.7** 40						
	56	5-12 9-8	1.4 8.0	0.57** 0.57**	0.29** 0.29**	1.4** 1.4**	1.4** 1.4**	0.57** 0.57**	3.1 3.7	5.7** 5.7**								

CENTRAL COASTAL DRAINAGE PROVINCE (TC)

LOS ANGELES DRAINAGE PROVINCE (E)

COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

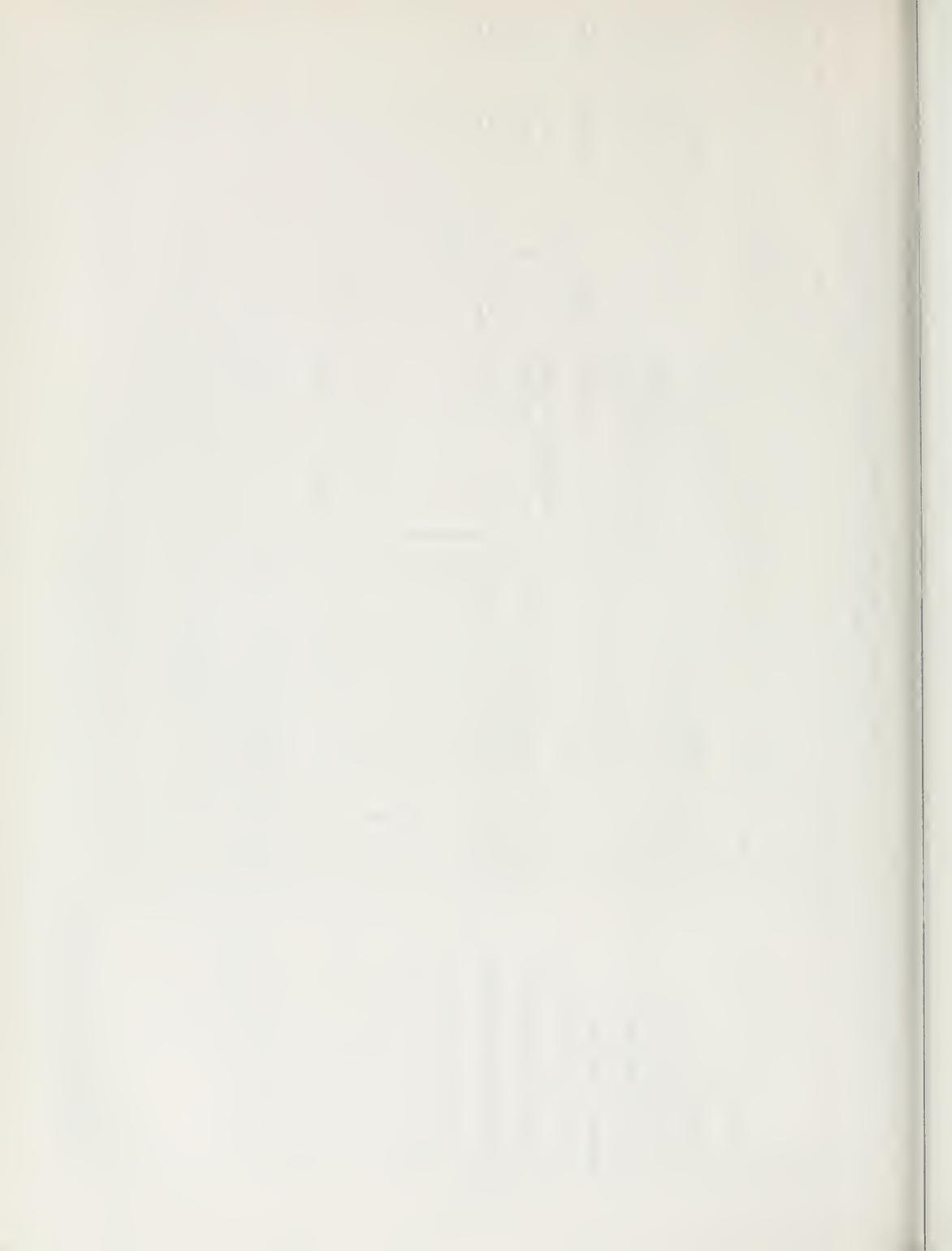
TABLE D-4  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER  
WATER YEAR 1993-04  
COUNTY (MUNICIPALITY)

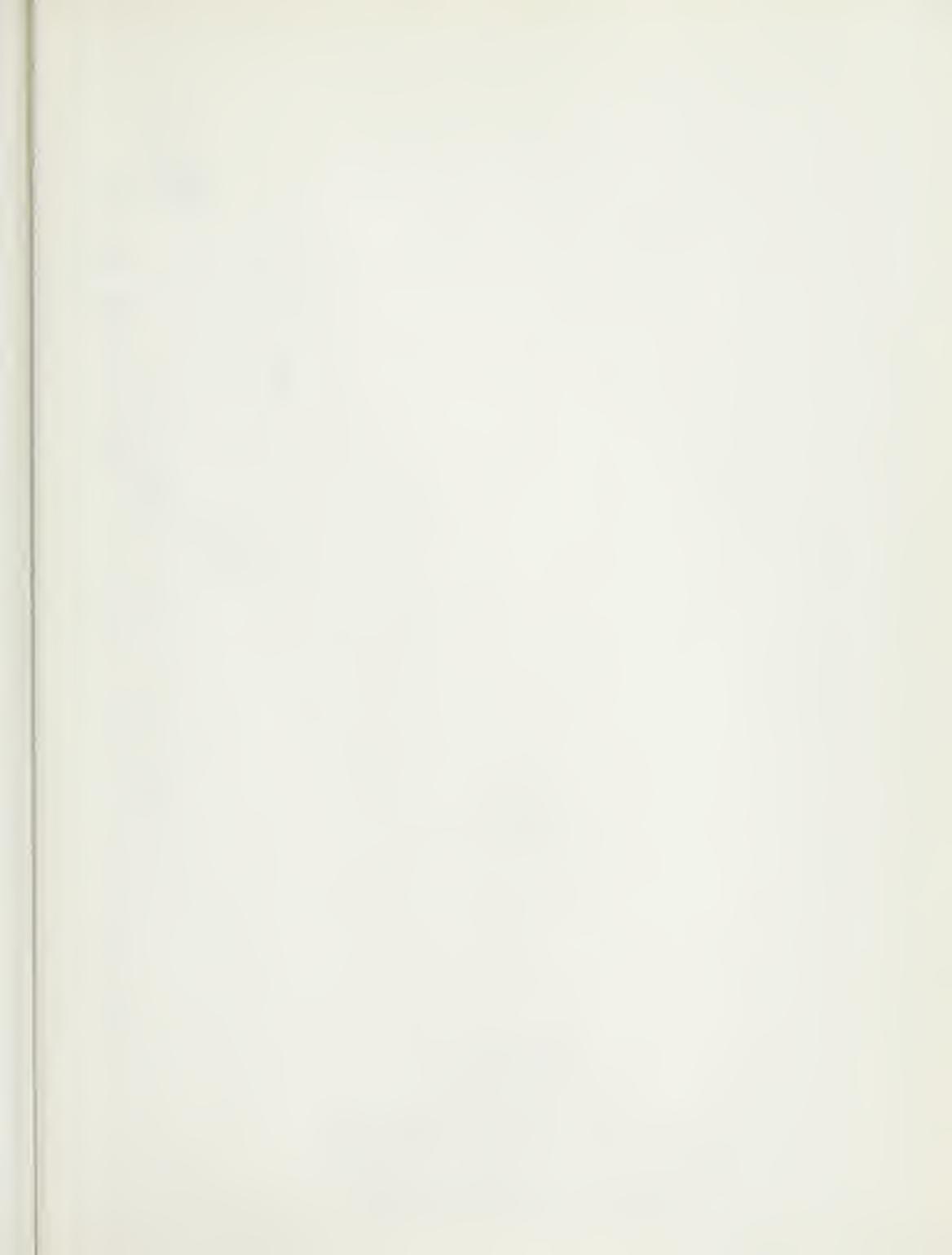
TABLE D-4  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1953-54  
(continued)

Station	Site No	Date	Constituents in parts per billion																
			Alumi- num (Al)	Beryl- ium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germa- num (Ge)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Warm Creek at Colton	50b	5- 7 9- 3	1.4*	0.57**	0.29**	1.4**	1.4**	1.4**	4.3	1.4**	31	5.7**	0.29**	3.7	4.9	39	1.4**	6.3	5.7**
			11	0.57**	0.29**	1.4**	1.4**	1.4**	13	49	5.7**	0.29**	7.7	4.6	0.57**	2.9	0.57**	4.3	5.7**
Santa Ana River near Arlington	51	5- 8 9- 4	1.4*	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	21	5.7**	0.29**	1.4**	4.3	0.54	1.4**	4.3	5.7**
			6.9	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	5.4	5.7**	0.29**	1.4**	4.9	0.57**	4.9	0.57**	4.9	5.7**
Santa Ana River below Frio Dam	51a	5- 8 9- 4	1.4*	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	8.0	5.7**	0.29**	1.4**	4.9	6.3	1.4**	9.7	5.7**
			6.6	0.57**	0.29**	1.4**	1.4**	1.4**	8.3	2.9	5.7**	0.29**	1.4**	7.4	0.57**	8.6	0.57**	8.6	5.7**
Santa Ana River near Norco	51e	5- 8 9- 4	1.4*	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	3.4	5.7**	0.29**	1.4**	6.6	2.1	1.4**	3.4	5.7**
			7.4	0.57**	0.29**	1.4**	1.4**	1.4**	2.9	2.9	5.7**	0.29**	1.4**	4.6	0.57**	4.3	0.57**	4.3	5.7**
Escondido Creek near Harmony Grove	63	5-14 9-17	1.4*	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	19	5.7**	0.29**	10	3.7	14	1.4**	3.1	5.7**
			11	0.57**	0.29**	1.4**	1.4**	1.4**	34.3	34.3	5.7**	0.29**	154	6.6	0.57**	1.4	0.57**	1.4	5.7**
San Diego River near Mission Gorge Road	65c	5-13 9-15	6.3	0.57**	0.29**	1.4**	1.4**	1.4**	1.4**	1.4**	22	5.7**	0.29**	1.4**	7.7	17	1.4**	33	5.7**
			30	0.57**	0.29**	1.4**	1.4**	1.4**	54	54	5.7**	0.29**	1,000***	8.0	0.57**	2.7	0.57**	2.7	5.7**

\*Results are equal to but slightly less than the amount indicated.  
 \*\*Results are less than the amount indicated.  
 \*\*\*Results are more than the amount indicated.







Sta.  
No.

44a  
44b

45a  
45b  
46

46a

46c  
46d  
46e

47

48

49  
49a

49b

50

50b  
50d

51

51a

51b  
51c

51e  
51f  
51g

54

55



POCK

OKA  
102U

56d

55 Parker Dam

river

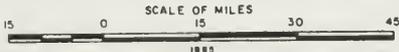
CONA

LEGEND

● SURFACE WATER SAMPLING STATION

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES  
SOUTHERN DISTRICT  
HYDROLOGIC DATA, 1964

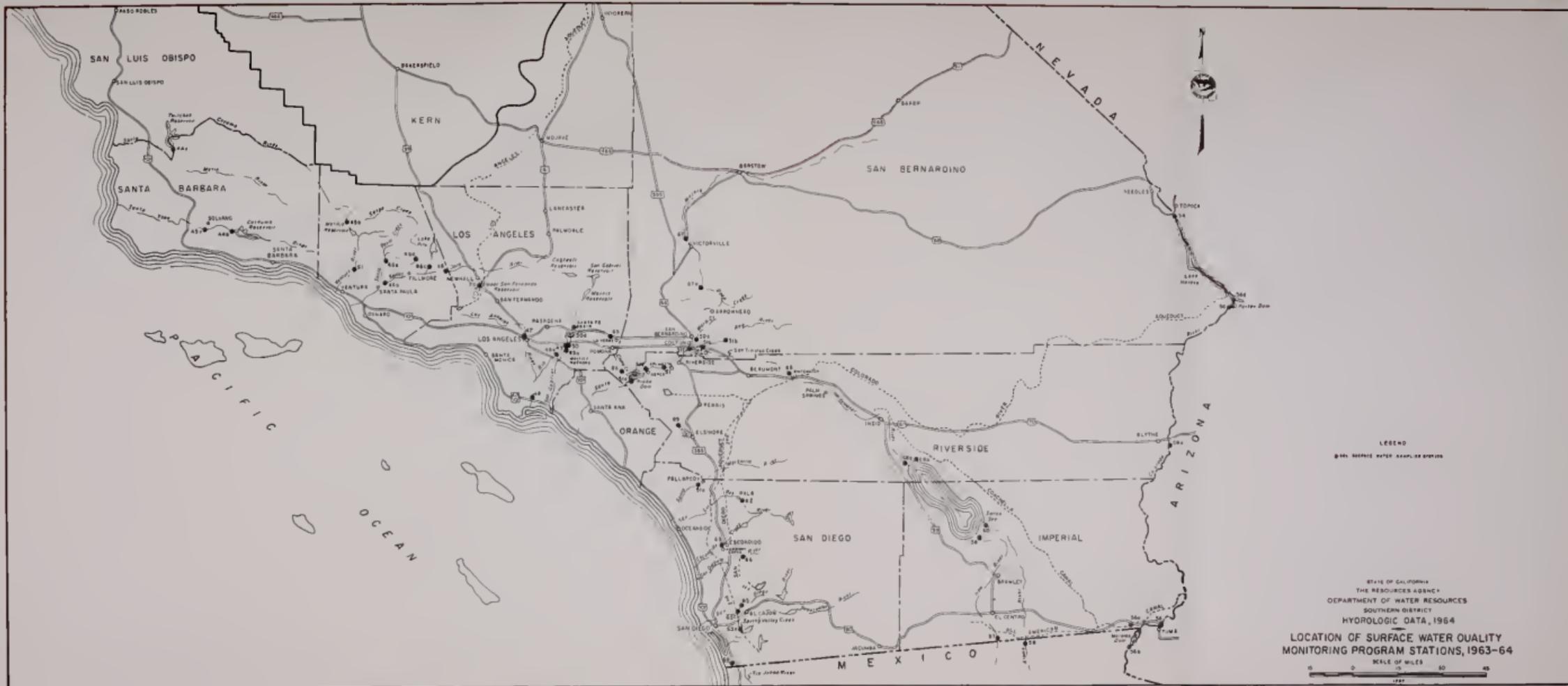
LOCATION OF SURFACE WATER QUALITY  
MONITORING PROGRAM STATIONS, 1963-64





STREAM SAMPLING STATIONS 1963-1964

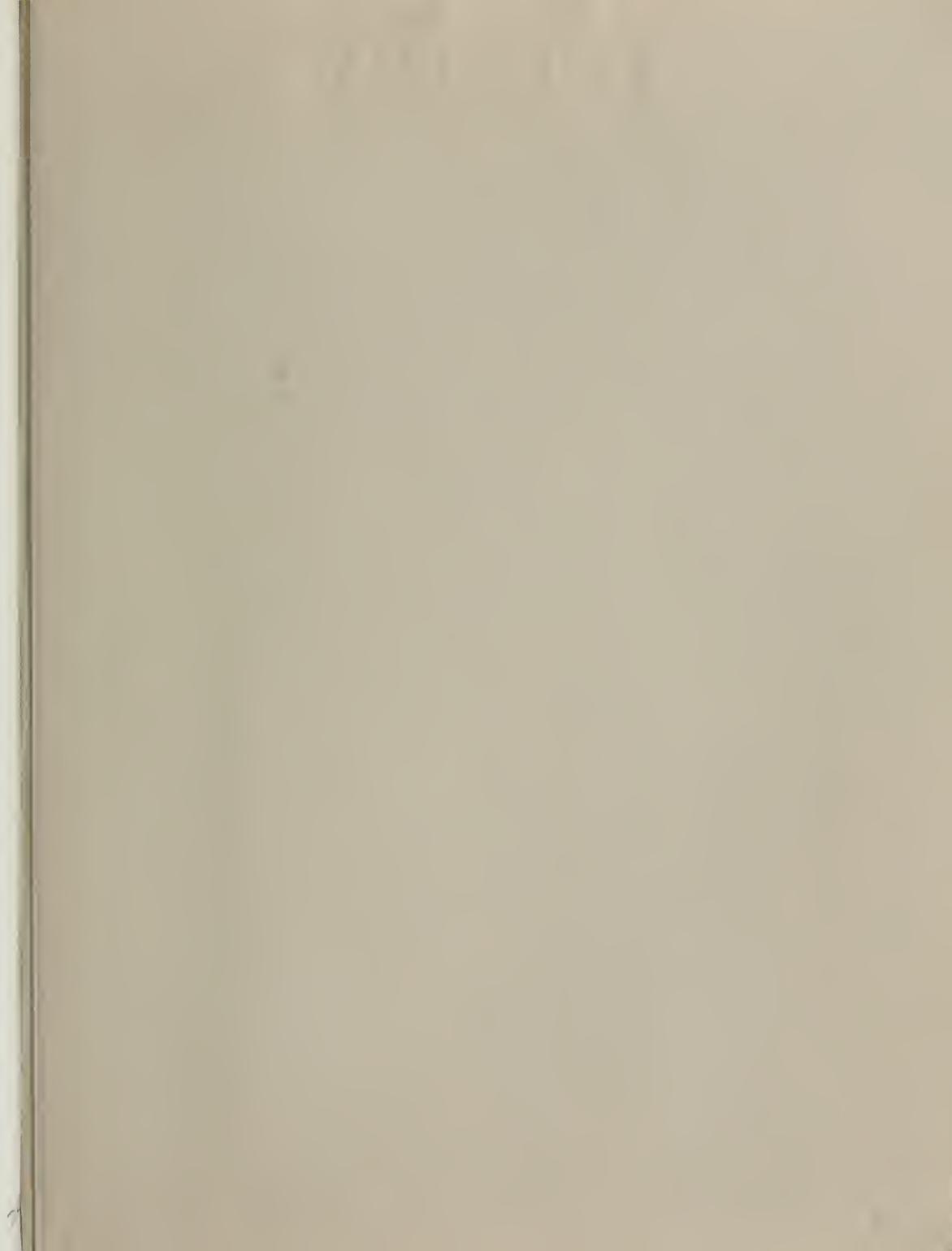
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49b	64
50	65
50a	65b
51	66
51a	67
51b	67a
51c	68
51e	68a
51f	68b
51g	69
54	70
55	86
	89



*[The text on this page is extremely faint and illegible. It appears to be a list or index of items, possibly with columns for descriptions and numbers. The text is mirrored across the page, suggesting bleed-through from the reverse side.]*







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