

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

HYDROLOGIC REPORT

1987 - 88

PREPARED BY THE
HYDRAULIC/WATER CONSERVATION DIVISION

NOVEMBER 1988

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NOTE ON CONSOLIDATION

This report contains hydrologic data for the 1987-88 water year. On January 1, 1985, the Los Angeles County Flood Control District consolidated with the Los Angeles County Road Department and portions of the Los Angeles County Engineer to become the Los Angeles County Department of Public Works. The hydrologic data processing and reporting functions formerly carried out by the Flood Control District have now been assumed by the Department of Public Works.

ABOUT THIS REPORT

The 1987-88 Hydrologic Report represents a significant departure in terms of data content and format from reports published previously by the Department of Public Works and its predecessor, the Los Angeles County Flood Control District. The changes primarily entail the reporting of less detailed hydrologic data than were previously published, such as monthly and annual summaries instead of daily data. We apologize for any inconvenience this may cause our users, but it was felt necessary to make these changes to be current in our data publishing.

With the rapid development of computing technology, there appears to be less demand for hydrologic data in written form, and it is our intention at some future time to phase out the published book reports and make the data available on computer diskettes. In the meantime, any user who desires more detailed information about any of the types of hydrologic data which we manage can write the Custodian of Hydrologic Records at:

Los Angeles County Department
of Public Works
Hydraulic/Water Conservation Division
P.O. Box 1460
Alhambra, CA 91802-1460

or telephone: (818) 458-6112

I N T R O D U C T I O N

This report contains hydrologic data within Los Angeles County for the period beginning October 1, 1987 and ending September 30, 1988. The data are presented in seven sections.

1. Precipitation - lists 385 active rainfall stations and presents corresponding seasonal rainfall amounts.
2. Evaporation - lists all locations for which evaporation data is on file and provides monthly evaporation amounts at 14 locations.
3. Runoff - presents the maximum, minimum, and mean of the daily flow rates for each month and the monthly volumes for 53 streamflow stations and three Metropolitan Water District outlets.
4. Dam Operation - presents the maximum and minimum of the daily inflow and outflow rates for each month, the instantaneous peak inflow and outflow rates and storage volumes for 14 dams and reservoirs.
5. Erosion Control - list debris basins and debris production amounts and displays maps of major watershed burns.
6. Water Quality Monitoring - presents maps of surface and groundwater sampling locations, and data at selected locations.
7. Conservation and Groundwater - presents records of water conserved at various facilities, water injected at seawater barrier projects, well hydrographs, and groundwater basins.

Where practical, data which would satisfy immediate needs and serve as useful reference are published in these reports. Several tables appear listing locations where unpublished data are available. Additional information may be obtained by writing to:

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THE LOS ANGELES COUNTY

TOPOGRAPHY

The County of Los Angeles covers an area of 4,083 square miles and measures approximately 66 miles in the east - west and 73 miles in the north - south directions.

The terrain within the County can be classified in broad terms as being 26 percent mountainous, 12 percent coastal plain; and 62 percent hills, valleys, or deserts. Relief of the terrain ranges from sea level to a maximum elevation of 10,000 feet. The coastal plain is generally of mild slope and contains relatively few depressions or natural ponding areas. The slopes of main river systems crossing the coastal plain, such as the San Gabriel River, Los Angeles River, and Ballona Creek, range from 4 to 14 feet per mile.

Topography in the mountainous area is generally rugged with deep, V-shaped canyons separated by sharp dividing ridges. Steepwalled canyons with side slopes of 70 percent or more are common. The gradient of principal canyons in the San Gabriel Mountains ranges from 150 to 850 feet per mile. Mountain ranges are aligned in a general east-west direction, the major range being the San Gabriel Mountains. The majority of mountain ridges lie below Elevation 5,000, the total area above this level being approximately 210 square miles.

GEOLOGY - SOILS

Igneous, sedimentary, and metamorphic rock groups are all represented within the County. The San Gabriel Mountains and Verdugo Hills are composed primarily of highly fractured igneous rock, with large areas of granitic rock formation being exposed above soils which are coarse and porous. Faulting and deep weathering have produced porous zones in the rock formation; however, rock masses have produced a comparatively shallow soil mantle due to the steepness of slopes which accelerates erosion of the fine material.

LAND USE

The principal vegetative cover of upper mountain areas consists of various species of brush and shrubs known as chaparral. Most trees found on mountain slopes are oak, with alder, willow, and sycamore found along streambeds at lower elevations. Pine, cedar, and juniper are found in ravines at higher elevations and along high mountain summits.

The chaparral is extremely flammable, and extensive burns of the mountain vegetation frequently occur during dry, low-humidity weather accompanied by high winds. Chaparral has the ability to sprout following fires and grows rapidly to re-establish the watershed cover within a period of 5 to 10 years.

Grasses are the principal natural vegetation on the hills. Much of the hill land and nearly all of the valley land in the densely populated portion of the County south of the San Gabriel Mountains has been converted to urban and suburban use. Development of the Santa Clarita Valley and desert areas to the north of the San Gabriel Mountains is sparse at present but is proceeding at an accelerated rate.

Other mountains and hilly reaches within the Department are composed primarily of folded and faulted sedimentary rocks, including shale, sandstone, and conglomerate. Residual soils in these areas are shallow and are generally less pervious than those of the San Gabriel Mountain range.

Valley and desert soils are alluvial and vary from coarse sand and gravel near canyon mouths to silty clay and gravel or clay in lower valleys and the coastal plain. The alluvial fill has been built up by repeated deposition of debris to depths as great as 2,000 feet in places. This fill is quite porous in areas of relatively low clay content. Impervious layers and irregularities in the underlying bedrock divide the alluvium into several County groundwater basins. Valley soils are generally well drained and relatively few perched water or artesian areas are present.

CLIMATE

The climate within the County varies between subtropical on the Pacific Ocean side of the San Gabriel mountain range to arid in the Mojave Desert. Nearly all precipitation occurs during the months of December through March. Precipitation during summer months is infrequent, and rainless periods of several months are common. Snowfall at elevations above 5,000 feet is frequently experienced during the winter storms, but the snow melts rapidly except on higher peaks and the northern slopes. Snow is rarely experienced on the coastal plain.

January and July are the coldest and warmest months of the year, respectively. At Los Angeles, the 30-year average daily minimum temperature for January is 48 degrees above zero. The average daily maximum temperature for July is 84 degrees. At Mount Wilson (Elevation 5,850 feet), the 30-year average daily minimum temperature for January is 36 degrees above zero and the average daily maximum temperature for July is 81 degrees.

HYDROMETEOROLOGIC CHARACTERISTICS

Coastal and Mountain Areas

Precipitation in the Los Angeles area occurs primarily in the form of winter orographic rainfall associated with extratropical cyclones of North Pacific origin. Major storms consists of one or more frontal systems and occasionally last four days or longer. Air masses and frontal systems associated with major storms commonly extend for 500 to 1,000 miles in length and produce rainfall simultaneously throughout the County. Major storms approach Southern California from the west or southwest with southerly winds which continue until frontal passage. The mountain ranges lie directly across the path of the inflow of warm, moist air, and orographic effects cause precipitation to be greatly intensified.

The effect of snowmelt upon flood runoff is of significance in the few cases when warm spring rains from southerly storms fall on a snowpack. During major storms, temperatures throughout the County may remain above freezing.

Average individual storm rainfall amounts and intensities conform to a fairly definite aerial pattern which reflects general effects of topographic differences.

Desert Areas

Summer convective rainfall is principally experienced in the upper San Gabriel Mountains and the Mojave Desert regions. In many desert areas, the most serious flooding occurs as a result of summer convective storms.

RUNOFF CHARACTERISTICS

Mountain Areas

In mountain areas, the steep canyon slopes and channel gradients are conducive to rapid concentration of storm runoff quantities. Depression storage and detention storage effects are minor in the rugged terrain. Soil moisture during a storm has a pronounced effect on runoff from the porous soils supporting a good growth of deeprooted vegetation such as chaparral. Soil moisture deficiency is greatest at the beginning of a rainy season, having been depleted by evapotranspiration process during the dry summer months. Precipitation during periods of soil moisture deficiency is nearly entirely absorbed by soils, and except for periods of extremely intense rainfall, significant runoff does not occur until soils are wetted to field moisture capacity. Due to high infiltration rates and porosity of mountain soils, runoff occurs primarily as subsurface flow or interflow rather than as direct runoff. Spring or base flow is essentially limited to portions of the San Gabriel mountain range, most streams in the Department being intermittent.

Runoff from a mountain watershed recently denuded by fire exceeds that for the unburned state due to greatly increased quantities of inorganic debris present in the flow and lowflows from a denuded watershed. Debris production from a major storm has amounted to as much as 120,000 cubic yards per square mile of watershed. Boulders up to eight feet in diameter have been deposited in a valley area a considerable distance from their source.

Debris quantities equal in volume to storm runoff, or in other words 100 percent bulking of runoff from a major storm, have been recorded. Where debris-laden flow traverses an alluvial fill unconfined by flood control works, flood discharges follow an unpredictable path across the debris cone formed at the canyon mouth.

Hill and Valley Areas

In hill areas, runoff concentrates rapidly from the generally steep slopes; however, runoff rates from undeveloped hill areas are normally smaller than those from mountain areas of the same size. In those hill areas which have been developed for residential use, concentration times become considerably decreased due to drainage improvements, and runoff volumes and rates become increased due

to increased imperviousness. On the other hand, erosion is controlled and debris content of storm flow is practically eliminated. Debris production rates from undeveloped hill areas are normally smaller than those from mountain areas of the same size.

In highly developed valley areas, local runoff volumes have increased as the soil surface has become covered by impervious materials. Peak runoff rates for valley areas have also increased due to elimination of natural ponding areas and improved hydraulic efficiency of water carriers such as streets and storm drain systems.

FLOOD CONTROL AND WATER CONSERVATION

FLOODS. . .AN OLD STORY

Floods in Los Angeles County have been recorded as far back as the days of the Mission Padres. For centuries waters have swept out of the San Gabriel Mountains causing extensive property damage and taking a great toll of lives.

Such a flood occurred in 1914 causing over \$10 million in property damage and taking many lives. As a result, the State legislature passed an act creating the Los Angeles County Flood Control District.

The Department was assigned two tasks. . .control the floods and conserve the water.

CONTROLLING THE WATERS

Successful early bond issues financed construction of the 14 dams which the Department built high in the San Gabriel Mountains to impound storm waters until they could be released in an orderly fashion. Debris basins were constructed to trap eroded materials which had caused terrible damage in the past. Flood channel improvements were undertaken to confine the waters.

Department engineers prepared a Comprehensive Plan in the early 1930's which provided for the control of flooding and the saving of as much of the water as practicable. With minor modifications, it is still the plan today.

Federal legislation in 1936 brought the United States Army Corps of Engineers into the local flood control picture. Since that time, the two agencies have been jointly pursuing construction of the Comprehensive Plan. The Department also cooperates with the United States Soil Conservation Service and Forestry Service in erosion control and debris reduction programs.

CONSERVING THE WATERS

In addition to its flood control program, the Department has the equally important task of conserving as much of the storm and other waste waters as practicable. The use of water conservation facilities adjacent to river channels and their tributaries permits water to be percolated into ground reservoirs for later pumping by consumers. These water conservation facilities are located in areas where the underlying soils are composed of porous sands and gravel formations. Some resemble rice paddies, while others are deep basins which were once gravel pits.

The importance of this activity is apparent when it is realized that about 35 to 40 percent of the water used in the County is pumped from ground supplies. The growth of the County, combined with periodic droughts, seriously depleted these supplies on numerous occasions down through the years.

Other major conservation efforts by the Department include combatting the serious intrusion by salt water to underground fresh well supplies along the Pacific Ocean and the utilization of reclaimed sewage waters in spreading operations.

ORGANIZED TO DO THE JOB

Day-to-day administration of Department affairs is vested in the Director of Public Works who is appointed by and responsible to the Los Angeles County Board of Supervisors. A part of the Department's activities involve the construction of flood control and water conservation facilities, and the operation and maintenance of dams, debris basins, spreading grounds, channels, and storm drains.

PRECIPITATION



P R E C I P I T A T I O N

This section contains annual precipitation data collected by the Department for the period beginning October 1, 1987 and ending September 30, 1988. Although the Department operates and maintains 385 rainfall stations, including standard and automatic gages which record amounts for durations ranging from 15 minutes to 24 hours, only annual amounts for the report period are listed herein. Additional data can be obtained by contacting the custodian of hydrologic records at the location shown in the front of the report.

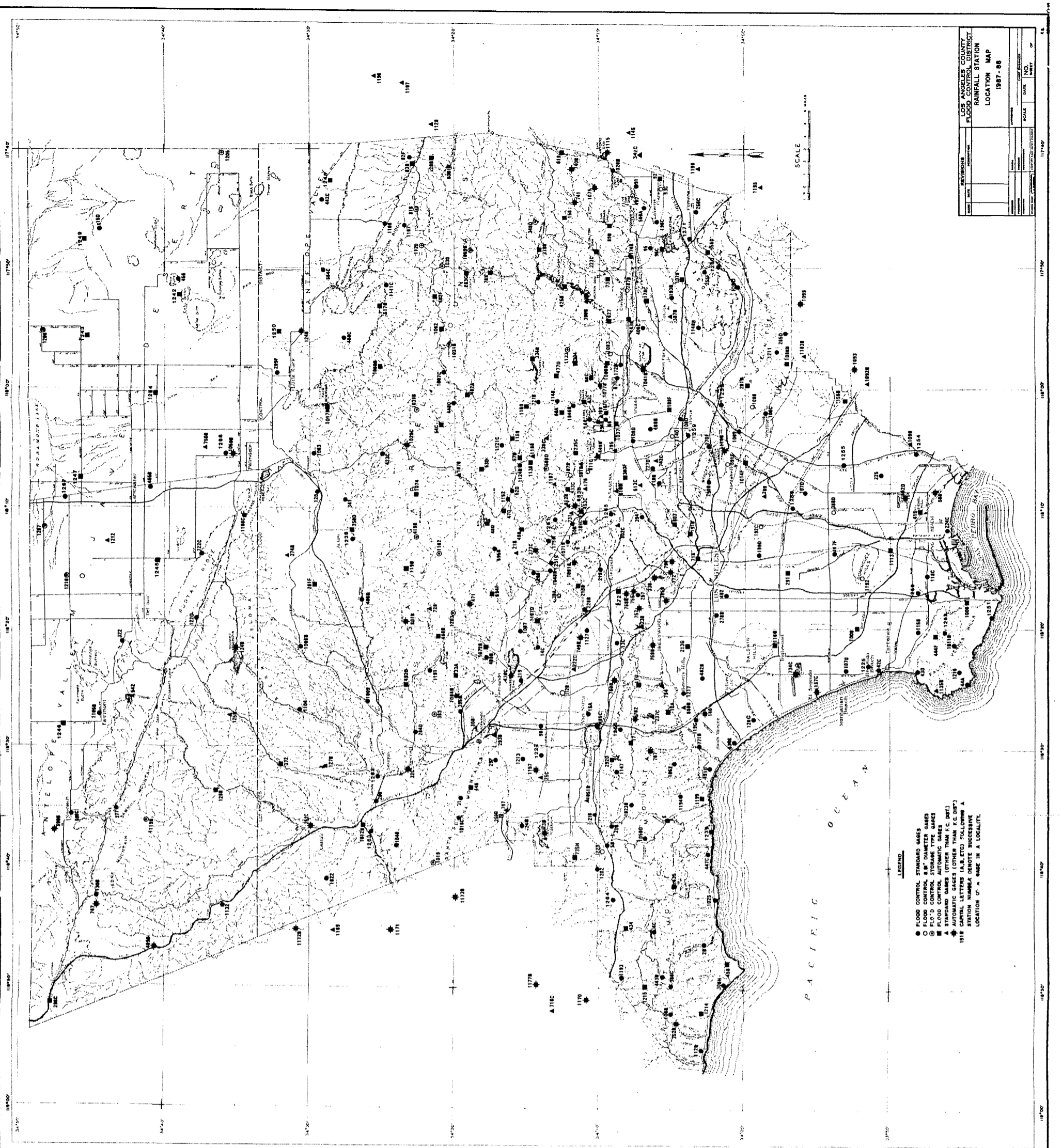
ALERT SYSTEM (AUTOMATIC LOCAL EVALUATION IN REAL TIME)

The Department of Public Works has installed a state-of-the-art ALERT computer system to monitor meteorological conditions in the County and Southern California in real time, i.e., as they occur. The system includes a network of field sensors that monitor precipitation amounts, river stages, and reservoir levels, and which forecast peak flows in the Los Angeles River and the Rio Hondo.

During the report period, the Department has continued to install and expand its ALERT System. The Department's ALERT system is also now automatically receiving rainfall data from the Corps of Engineers' Los Angeles Telemetry System.

COOPERATION

The cooperation of observers in furnishing rainfall data to the Department as a public service is appreciated. The effort of the many agencies and individuals who have so freely cooperated with us in the collection of this data have resulted in the large number of complete records for the period covered by this report.



LEGEND

- FLOOD CONTROL, STANDARD GAGES
- ⊙ FLOOD CONTROL, 8" DIAMETER GAGES
- ⊗ FLOOD CONTROL, STORAGE TYPE GAGES
- ⊕ FLOOD CONTROL, AUTOMATIC TYPE GAGES
- ⊖ STANDARD GAGES (OTHER THAN F.C. DIST.)
- ⊘ STANDARD GAGES (OTHER THAN F.C. DIST.)
- ⊙ CAPITAL LETTERS (A, B, ETC.) FOR LOCALITY
- 111# STATION NUMBER DENOTE SUCCESSIVE LOCATION OF A GAGE IN A LOCALITY.

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
RAINFALL STATION	
LOCATION MAP	
1987-88	
REVISIONS	DATE
NO.	OF
SCALE	DATE

ACTIVE RAINFALL STATIONS 1987 - 1988

STA. NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
2 B	ESCONDIDO CANYON	S	112 E3	34-02-55	118-46-25	1050	13.8*
5 B	CALABASAS	S	100 F3	34-09-24	118-38-14	924	19.5
6	TOPANGA PATROL STATION	A	109 C5	34-05-03	118-35-57	745	21.6
9 B	SEPULVEDA AND RAYEN	S	8 C6	34-13-52	118-28-04	828	20.1
10 A	BEL AIR HOTEL	A	22 E5	34-05-11	118-26-45	540	18.5*
11 D	UPPER FRANKLIN CANYON RESERVOIR	SP A	33 B1	34-07-10	118-24-35	867	17.7
13 C	NORTH HOLLYWOOD-LAKESIDE	S	23 F4	34-08-46	118-21-13	550	20.3
14 C	ROSCOE-MERRILL	S	9 F5	34-14-19	118-21-32	1050	20.2*
15 A	VAN NUYS	S	15 D6	34-10-48	118-27-03	695	14.4
17	SEPULVEDA CANYON @ MULHOLLAND HWY	A	22 A5	34-07-51	118-29-26	1425	25.4
20 B	GIRARD RESERVOIR	S	13 B3	34-09-07	118-36-36	986	19.0*
21 B	WOODLAND HILLS	S	13 C1	34-10-14	118-35-33	875	18.0
23 B	CHATSWORTH RESERVOIR	SP AP	6 A6	34-13-44	118-37-18	900	18.3*
24 A	CHATSWORTH	S	6 C3	34-15-25	118-36-20	960	18.1*
25 C	NORTHRIDGE-L.A.D.W.P.	SP	7 B6	34-13-52	118-32-28	810	18.1*
29 F	GRANADA HILLS	S 8.81	7 D2	34-15-03	118-31-08	1035	18.1
30 B	SYLMAR	SP	2 B3	34-18-37	118-28-15	1250	17.7*
32 C	NEWHALL-SOLEDAD DIV HDQTRS	S AP	127 C3	34-23-07	118-31-54	1243	19.0*
33 A	PACOIMA DAM	S A	128 F9	34-19-48	118-23-59	1500	21.6
39 B	SUNSET DEBRIS BASIN	8.81	18 A3	34-12-18	118-17-05	1610	21.0*
42 C	REDONDO BEACH-CITY HALL	S	67 D3	33-50-43	118-23-20	70	12.7
43 D	PALOS VERDES ESTATES	S	72 C2	33-47-58	118-23-29	216	12.7
44 A	POINT VINCENTE LIGHTHOUSE	A	77 B3	33-44-30	118-24-38	125	10.6
46 D	BIG TUJUNGA DAM	S A	M C2	34-17-40	118-11-14	2315	26.5
47 D	CLEAR CREEK-CITY SCHOOL	A	M D3	34-16-38	118-10-12	3150	27.8*
50 B	LA CANADA-ARROYO SECO	S	19 C4	34-11-52	118-11-05	1155	23.8*
53 D	COLBY'S	A	M F2	34-18-05	118-08-39	3620	26.3
54 C	LOOMIS RANCH-ALDER CREEK	S A	(197)	34-20-55	118-02-54	4325	17.6
57 B	CAMP HI HILL (OPIDS)	A	M F3	34-15-18	118-05-41	4250	31.0*
60 A	HOEGEE'S	A	20A D1	34-12-32	118-02-02	2412	24.5*
63 C	SANTA ANITA DAM	S A	20A F2	34-11-03	118-01-12	1400	27.8
67 G	MONROVIA-MOUNTAIN AVENUE	S	29 C4	34-08-46	117-59-05	602	17.4
68 C	SAWPIT DAM	S A	20B C6	34-10-30	117-59-07	1375	26.4
73	GLENDORA-ENGLEWILD RANCH	A	87 C3	34-09-22	117-50-57	1165	20.2*
78 B	COLDBROOK RANGER STATION	A	P A2	34-17-26	117-50-26	3280	32.4
80 B	PRAIRIE FORKS	ST	P F1	34-20-20	117-41-30	5640	17.0*
81 B	VINCENT GAP	ST	(200)	34-22-26	117-45-05	6590	21.0*
82 F	TABLE MOUNTAIN	S	(201)	34-22-56	117-40-39	7420	17.0
83 B	BIG PINES RECREATION PARK	A	(201)	34-22-44	117-41-20	6860	17.5*
89 B	SAN DIMAS DAM	S A	95A C3	34-09-10	117-46-17	1350	23.2
91	INDIAN HILL-CLAREMONT	S	91 B1	34-07-22	117-43-11	1403	22.3
92	CLAREMONT-POMONA COLLEGE	SP A	91 C4	34-05-48	117-42-33	1185	17.8

ACTIVE RAINFALL STATIONS 1987 - 1988

STA. NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
1209	SAN JOSE CHANNEL @ WORKMAN MILL RD	8.81	47 F4	34-01-55	118-06-39	275	12.7
1210	NEENACH	ST	146 H4	34-46-42	118-15-48	2413	6.0*
1211	HACIENDA GOLF CLUB	S	98A A1	33-57-40	117-56-57	750	11.0*
1212	LANCASTER FSS/FAA	SP	147 C9	34-44-00	118-13-00	2340	6.0*
1213	NORTHRIDGE-DAVIS	S	7 D3	34-15-15	118-30-58	950	18.0*
1214	ENCINAL CANYON-FIRE STATION	A	111 B4	34-02-52	118-52-07	175	16.2
1215	SANTA MONICA MTS-CAMP KILPATRICK	A	105 F4	34-06-45	118-49-52	1775	23.0*
1216	PALOS VERDES-MONACO	S	77 C1	33-45-10	118-23-32	780	13.3
1217	LOS ANGELES COUNTRY CLUB	S	42 A1	34-04-10	118-25-17	380	16.1
1222	NORTHRIDGE-GARLAND	8.81	7 E3	34-14-	118-30-		18.3
1223	WOODLAND HILLS-SHERMAN	8.81	100 E1	34-05-29	118-38-53	1035	17.3
1225	REDONDO BEACH-LACFCD YARD	S	67 D1	33-51-	118-23-		10.4
1238	ACTON-MEARNS	S	189 G2	34-27-05	118-12-50		15.0*
1239	MALIBU-BIG ROCK MESA	A	115 A4	34-02-34	118-37-16	725	13.5*
1240	PEARBLOSSOM-CAL.D.W.R. BOOSTER STA.	SP AP	185 B7	34-30-32	117-55-15	3050	9.6
1242	ROCKY BUTTES	A	(162)	34-39-00	117-51-48	2540	7.0*
1243	REDMAN	A	(150)	34-45-52	117-55-30	2360	6.7
1244	LANCASTER-ROPER	A	161 C6	34-40-27	118-00-37	2450	6.0*
1245	QUARTZ HILL-HALL	A	159 B7	34-40-28	118-14-40	2395	5.0*
1246	SCOTT RANCH	A	(145)	34-46-59	118-28-10	2710	14.0*
1247	NORTH LANCASTER	A	148 D6	34-45-41	118-07-30	2310	6.0*
1248	MESCAL-SMITH	A	(194)	34-28-03	117-42-40	3810	9.2*
1249	RELAY	A	(150)	34-45-43	117-47-55	3140	7.0*
1250	AVEK	A	185 B5	34-32-21	117-55-23	2825	8.4
1251	PALOS VERDES-WHITES POINT	S	78 D6	33-42-50	118-19-02	100	12.1
1252	PALOS VERDES LANDFILL	S	73 A4	33-45-40	118-20-03	400	13.7
1253	CARSON-COUNTY SANITATION	S	74 A2	33-48-07	118-16-58	40	12.0
1254	LONG BEACH RECLAMATION PLANT	S	76 F1	33-48-11	118-05-20	20	8.0
1255	LOS COYOTES RECLAMATION PLANT	S	66 E4	33-53-05	118-06-24	70	8.9
1256	SOUTH GATE TRANSFER STATION	S	59 E3	33-56-40	118-09-56	100	9.7
1257	SAN JOSE CREEK RECLAMATION PLANT	S	47 F4	34-01-55	118-01-16	275	13.3
1258	PUENTE HILLS LANDFILL	S	47 E5	34-01-35	118-01-49	300	14.3
1259	WHITTIER NARROWS RECLAMATION PLANT	S	47 B1	34-03-59	118-03-54	225	11.2
1260	SPADRA LANDFILL	S	93 E4	34-02-36	117-49-50	700	13.7
1261	LA CANADA RECLAMATION PLANT	S	19 D2	34-13-00	118-11-14	1800	19.1
1262	SAUGUS RECLAMATION PLANT	S	124 B9	34-24-48	118-32-23	1150	17.0
1263	VALENCIA RECLAMATION PLANT	S	123 D7	34-25-55	118-37-13	1000	16.7
1264	CALABASAS LANDFILL	S	100A E3	34-08-25	118-42-35	800	19.3
1265	SCHOLL CANYON LANDFILL	S	26 C4	34-08-38	118-11-07	1000	18.7
1266	MISSION CANYON LANDFILL	S	22 B6	34-08-40	118-28-45	1150	18.9
1267	LANCASTER RECLAMATION PLANT	S	147 H4	34-46-38	118-09-11	2302	7.5

ACTIVE RAINFALL STATIONS 1987 - 1988

STA. NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
1132	OAK FLAT GUARD STATION	S	(166)	34-35-56	118-43-15	2800	18.0*
1133	FISH CANYON	ST	N D5	34-12-23	117-56-43	2600	32.0*
1135 B	LUNADA BAY	SP	72 A4	33-46-37	118-25-01	250	13.0*
1138	MOUNT DISAPPOINTMENT	A	M F4	34-14-42	118-06-07	5725	28.0*
1140	ROSEMEAD	8.81	38 B5	34-04-53	118-03-55	305	13.4
1145	UPLAND	SP	S.B.CO.	34-07-57	117-38-38	1605	22.0*
1146	SANTA ANITA CANYON-HELIPORT	S	20A F1	34-12-52	118-01-05	2575	38.0*
1147	EL CABALLERO COUNTRY CLUB	S	21 C4	34-08-52	118-31-53	1000	25.1
1148 B	SAN JOSE HILLS	S	92 C3	34-03-00	117-54-53	440	12.4*
1152	CLEAR CREEK RANGER STATION	S	M D3	34-16-15	118-09-11	3625	25.7
1157	CAL STATE UNIVERSITY-NORTHRIDGE	SP AP	7 C5	34-14-17	118-31-48	890	18.0*
1158	TORRANCE MUNICIPAL AIRPORT	S	73 B2	33-47-59	118-20-08	102	14.3
1159	SHORTCUT CANYON-WEST FORK	A	N A3	34-15-55	118-04-08	4425	28.0*
1160	SAN GABRIEL CYN-WEST FORK HELIPORT	A	N B4	34-15-02	118-01-30	3200	39.0*
1162	IRON MOUNTAIN	ST	(196)	34-21-06	118-13-46	5320	29.0*
1166	MILE HIGH RANCH	S	(193)	34-24-40	117-46-15	5280	17.6
1167	FENNER CANYON	S	(200)	34-23-25	117-46-27	5380	21.0*
1169 B	PIRU-TEMESCAL GUARD STATION	SP	V.CO.	34-28-22	118-45-21	1150	19.7
1170 B	THOUSAND OAKS WEATHER STATION	AP	V.CO.	34-10-44	118-51-01	805	17.8
1171 B	CAMULOS RANCH	SP AP	V.CO.	34-24-22	118-45-21	725	16.7
1172 B	PIRU CANYON ABOVE PIRU LAKE	AP	(177)	34-30-48	118-45-24	1150	17.0
1173 B	TAPO CANYON	AP	V.CO.	34-19-54	118-42-39	1525	16.8
1177 B	BARD RESERVOIR	AP	V.CO.	34-14-32	118-49-41	1010	15.5
1183 B	LA HABRA FIRE STATION	3" P	84 F4	33-55-53	117-57-17	315	10.0*
1187	MILLARO-CAMP SIERRA	SP	20 B2	34-13-04	118-07-58	2760	26.0*
1188	EATON-MARKHAM SADDLE	SP	M F4	34-14-31	118-05-38	5400	28.8*
1190	PACOIMA CYN-NORTH FORK RANGER STA.	A	(195)	34-23-17	118-15-06	4180	29.0*
1191	BEAR DIVIDE	S	128 F6	34-21-35	118-23-37	2700	27.0
1192	CARSON FIRE STATION	8.81	64 C6	33-52-04	118-15-45	92	11.0*
1193	WESTLAKE VILLAGE	S	102 A5	34-08-19	118-49-05	885	20.0*
1194	SANTA YNEZ RESERVOIR	S	109 F6	34-04-23	118-33-59	735	18.0*
1195	CHINO FIRE STATION NO.2	SP	S.B.CO.	33-59-00	117-43-20	655	11.0*
1196	MONTCLAIR FIRE DEPARTMENT	SP	95 E2	34-03-41	117-41-16	965	16.0*
1197	CAJON WEST SUMMIT	SP	S.B.CO.	34-23-30	117-34-35	4838	13.0*
1198	PHELAN FIRE CONTROL	SP	S.B.CO.	34-25-30	117-34-00	4160	10.0*
1199	CLOUDCROFT DEBRIS BASIN	A	115 F3	34-02-58	118-34-12	350	15.0
1202	CAMP CISQUITO	S	157A D4	34-10-04	118-40-03	1135	18.0*
1203	LITTLE TUJUNGA-ALDER CREEK	ST	(195)	34-20-03	118-18-50	2625	24.0*
1205	MOODY SPRING	ST	(176)	34-36-04	117-40-23	2915	7.0*
1206	MUROC	ST	(138)	34-48-26	117-55-03	2310	7.0*
1207	ROSAMOND-WEST	ST	147 F1	34-48-14	118-11-35	2340	7.0*
1208	LA CRESCENTA-VIRGITH	S	11 C5	34-14-30	118-15-25	1707	22.0*

ACTIVE RAINFALL STATIONS 1987 - 1988

STA.NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
1048 B	LA CRESCENTA-L.A.CO.ROAD DEPT.	S	18 C1	34-13-27	118-15-23	1410	21.8*
1050 F	OLD TOPANGA CANYON	S	108 F3	34-06-24	118-37-43	1000	24.0*
1051 B	CANOGA PARK-PIERCE COLLEGE	SP	12 E5	34-10-51	118-34-23	800	21.0*
1052	CAMP JOSEPHO	S	30 D5	34-04-51	118-31-10	660	20.0*
1058 B	PALMDALE	SP AP	172 E7	34-35-17	118-05-31	2595	7.6
1059 B	SOUTH MT. HAWKINS	ST	P B1	34-18-46	117-48-32	7700	28.0*
1060 B	LITTLE ROCK-SYCAMORE CAMP	A	(191)	34-25-02	117-58-13	4000	17.0*
1062	BUCKHORN FLAT	A	(199)	34-20-44	117-55-08	6760	25.0*
1063	SOLEDAD PASS	S	189 E9	34-29-35	118-05-28	3520	12.2
1068	RATTLESNAKE CANYON-CAMP NO.13	S	105 C5	34-05-00	118-51-55	1290	20.0*
1070	MANHATTAN BEACH	S	62 D4	33-53-00	118-23-19	182	10.0*
1071 B	DESCANSO GARDENS	S	19 B2	34-12-07	118-12-46	1325	22.0
1072 B	LITTLE TUJUNGA RANGER STATION	SP A	3 F5	34-17-37	118-21-38	1275	22.6
1074	LITTLE GLEASON	A	(197)	34-22-43	118-08-57	5600	23.8*
1075	UPPER WOLFSKILL	AP	96 B2	34-10-13	117-43-16	3625	27.0*
1076	MONTE CRISTO RANGER STATION	SP	M E1	34-19-42	118-07-20	3360	23.1
1077 B	MONROVIA-FIVE POINTS	S	29 B1	34-09-58	117-59-37	962	22.9
1078	COVINA-GRIFFITH	A	93 C1	34-04-10	117-50-47	975	16.2
1079	RUBIO DEBRIS BASIN	8.81	20 C4	34-11-57	118-07-22	1653	26.5*
1080 B	BRADBURY DEBRIS BASIN	A	29 E3	34-09-23	117-57-58	935	23.0*
1081 B	GLENDALE-GREGG	SP AP	18 D4	34-11-45	118-14-30	1350	20.8
1087	GREEN-VERDUGO PUMPING PLANT	S	10 B3	34-15-25	118-20-11	1340	19.0*
1088 B	LA HABRA HEIGHTS-MUTUAL WATER CO.	S A	84 E2	33-56-55	117-57-51	445	10.6
1090	LOS ALAMITOS	SP	81 B6	33-48-35	118-04-35	25	8.5
1092 B	BUENA PARK	3"P	OC10 C1	33-51-28	117-59-29	80	9.0
1093 E	FULLERTON AIRPORT	SP AP	83 D5	33-52-23	117-58-24	100	9.0
1095	ORANGE COUNTY RESERVOIR	SP AP	OC 2 F4	33-56-07	117-52-58	660	10.9
1099	WHITTIER-CATE	S	55 C2	34-00-20	118-03-30	280	13.4*
1104	BOUQUET CANYON AT TEXAS CANYON	S	(180)	34-30-35	118-27-00	1760	15.2
1105 B	FAIRMONT	S	(145)	34-44-23	118-27-15	2855	14.4*
1107 D	LA TUNA DEBRIS BASIN	A	10 C5	34-14-13	118-19-37	1160	20.0*
1111 C	DEVILS PUNCHBOWL	S	(192A)	34-24-48	117-51-25	4760	21.1
1113	DOMINGUEZ WATER CO.	A	69 F4	33-49-54	118-13-30	30	12.0*
1114 B	WHITTIER NARROWS DAM	AP	47 A6	34-01-29	118-05-02	239	9.1
1115	SAN ANTONIO DAM	AP	96 F3	34-09-24	117-40-20	2120	22.1
1119 B	ATMORE MEADOW	ST	(155)	34-41-18	118-36-16	4325	26.5*
1120	DAWSON SADDLE	ST	(200)	34-22-08	117-48-10	7900	23.7*
1121 C	BARLEY FLAT	S	N A3	34-16-40	118-04-40	5525	26.0*
1126	L.A. WATER DEPT.-EAST VALLEY	8.81	16 A2	34-12-30	118-24-35	780	21.0*
1127	WEST BURBANK	S	17 B6	34-10-47	118-20-07	615	15.9
1128	WRIGHTWOOD FIRE DEPARTMENT	SP	S.B.CO.	34-21-34	117-37-57	5960	16.0*
1129 B	NICHOLAS CANYON	S	110 D3	34-02-52	118-54-57	340	14.8

ACTIVE RAINFALL STATIONS 1987 - 1988

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735 H	BELL CANYON	A	5 D4	34-11-40	118-39-23	895	19.0*
740 B	SAN DIMAS CANYON-FERN NO.2	AP	P F6	34-11-48	117-41-45	5200	27.9*
741	SAN DIMAS CYN-UPPER EAST FORK	AP	P E6	34-11-41	117-44-26	2675	28.0*
742 C	SAN GABRIEL-FIRE DEPARTMENT	SP	37 E3	34-06-11	118-05-56	445	28.0*
747	SANDBERG-AIRWAYS STATION	SP AP	(142)	34-44-47	118-43-29	4517	18.5*
749 B	BURBANK VALLEY PUMP PLANT	SP AP	17 A5	34-11-11	118-20-54	655	16.0*
750 B	PALMDALE-F.A.A. AIRPORT	SP	172 F6	34-37-20	118-05-00	2528	8.5
755	GRIFFITH PARK-LITTLE CANYON	AP	25 A6	34-07-32	118-16-58	900	15.0*
757	GRIFFITH PARK-FERN DELL	AP	34 E1	34-07-12	118-18-20	750	17.0*
759 B	NICHOLS DEBRIS BASIN	AP	33 F2	34-06-10	118-21-23	440	16.0*
762	UPPER STONE CANYON	AP	22 D6	34-07-27	118-27-15	943	20.0*
767	MANDEVILLE CANYON ROAD	SP AP	30 F2	34-06-24	118-30-10	1160	23.0*
771 B	PACIFIC PALISADES-RIVIERA C. C.	S	40 F3	34-03-03	118-29-58	315	17.0*
772	LOS ANGELES-ECHO PARK & LUCRETIA	AP	35 C5	34-05-02	118-15-11	475	15.0*
794 E	LOWER FRANKLIN RESERVOIR	SP	33 B4	34-05-43	118-24-40	585	16.0*
795	PASADENA-JOURDAN	SP	27 F4	34-08-52	118-05-14		18.8
796	ELYSIAN PARK-FIRE DEPARTMENT	AP	35 E5	34-04-55	118-14-22	757	15.0*
797	DE SOTO RESERVOIR	SP	6 D1	34-16-17	118-35-12	1127	19.0*
801 B	MAGIC MOUNTAIN	AP	(195)	34-23-18	118-19-27	4720	27.7*
802 C	EAGLE ROCK RESERVOIR	SP	26 C4	34-08-47	118-11-20	970	17.0*
807	ASCOT RESERVOIR	SP A	36 C5	34-04-46	118-11-14	620	14.0*
1005 B	MINT CANYON FIRE STATION	S	(180)	34-30-35	118-21-40	2300	18.8
1006	SAN PEDRO-CITY RESERVOIR	A	78 F2	33-44-37	118-17-47	150	12.0*
1008 E	LA FRESA-S.C.E.CO. SUBSTATION	A	63 C6	33-52-07	118-19-55	65	14.0*
1011 B	PALOS VERDES FIRE STATION	S	78 A1	33-45-25	118-21-11	1275	14.2
1012 B	CASTAIC JUNCTION	A	123 E6	34-26-18	118-36-43	1005	17.0*
1014 F	RIO HONDO SPREADING GROUNDS	S A	54 E3	33-59-57	118-06-04	170	10.0*
1017 B	LITTLE ROCK CREEK ABOVE DAM	A	(191)	34-28-41	118-01-24	3280	11.0*
1019	SANTA SUSANA MOUNTAINS-SALT CYN	ST	128 A6	34-21-24	118-39-42	2850	17.0*
1020 B	PADUA HILLS PATROL STATION	S	96 D4	34-08-52	117-41-55	1800	20.1
1022	HASLEY CANYON	S	(122)	34-28-44	118-41-04	1725	17.5*
1023 B	SANTA MARIA CREEK-SPEER	S	13 E6	34-07-44	118-34-42	1415	23.0*
1025	MALIBU BEACH-DUNNE	S	113 E5	34-02-00	118-42-42	160	12.4
1029 C	TUJUNGA-MILL CK SUMMIT RANGER STA	AP	(197)	34-23-22	118-04-49	4990	21.0
1030	MOUNT ISLIP-LITTLE JIMMY CAMP	ST	(200)	34-20-50	117-49-57	7520	26.5*
1031 B	MOUNT WATERMAN	ST	(199)	34-20-23	117-56-21	7960	24.4*
1037	ARCADIA-ARBORETUM	S	28 C4	34-08-48	118-02-59	565	16.9
1038 B	PACIFICO MT.	ST	(198)	34-22-40	118-01-44	6880	17.5*
1040	POTRERO CANYON-SUNRAY DX DIL CO.	S	126 C2	34-23-50	118-38-18	1150	17.0*
1041 B	SANTA FE DAM	AP	39 D1	34-07-04	117-58-24	427	15.2
1046 B	SANTA ANITA CANYON-CHANTRY FLAT	S	20A F1	34-11-46	118-01-20	2175	34.3

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458	ZUMA CANYON PATROL STATION	A	112 C6	34-01-10	118-47-46	115	14.0*
460 C	PLEASANT VIEW MESA	S	192 A4	34-27-40	117-55-51	3960	14.0*
462 B	LOS ANGELES-HILLCREST C. C.	S	42 B3	34-02-54	118-24-06	185	14.9
465 C	SEPULVEDA DAM	AP	22 B1	34-10-06	118-28-11	683	19.0
466 B	PACOIMA CANYON-DUTCH LOUIE	A	(195)	34-21-07	118-20-38	3220	26.0*
471	LITTLE TUJUNGA-GOLD CREEK	AP	M D5	34-18-57	118-18-02	2750	23.2*
477 D	SANTA ANITA-SPRING CAMP	A	208 C2	34-12-52	117-58-56	4655	38.0*
480 B	TEMPLE CITY FIRE STATION	S	38 C2	34-08-31	118-03-25	404	16.0*
482	LOS ANGELES - U.S.C.	S	43 F6	34-01-14	118-17-15	208	12.4
488 B	KAGEL CANYON PATROL STATION	S	3 E4	34-17-45	118-22-30	1450	21.2
491 D	PACIFIC PALISADES	S	40 C4	34-02-22	118-31-43	293	14.0*
492 A	CHILAO-STATE HWY MAINTENANCE STA	A	N C1	34-19-02	118-00-30	5280	23.5*
493 D	SAND CANYON-MACMILLAN RANCH	A	128 D3	34-23-17	118-24-50	1805	25.7*
497	CLAREMONT-SLAUGHTER	8.81	91 A1	34-07-35	117-43-55	1350	20.8*
498	DARK CYN TRAIL-ANGELES CREST HWY	A	M C3	34-15-21	118-11-45	2800	27.0*
517 B	LEWIS RANCH	A	(192A)	34-25-12	117-53-11	4615	21.7*
542 E	FAIRMONT	SP	(145)	34-42-15	118-25-40	3050	14.4*
560 A	LA VERNE HEIGHTS	S	90 E2	34-06-48	117-45-02	1210	19.2
564 C	LLANO	S	185 J9	34-29-13	117-50-02	3390	10.6
588 D	MT. LOWE	ST	20 D1	34-13-37	118-06-33	4435	28.0*
591 B	SANTA ANITA RESERVOIR	SP	20 E5	34-11-08	118-06-16	1205	28.4
598 C	NEENACH-ERSTAD	S	(143)	34-46-28	118-35-55	3062	19.6*
598 D	NEENACH-CHECK 43-CALIFORNIA D.W.R.	SP AP	(143)	34-47-40	118-37-15	2965	18.6*
610 B	PASADENA-CITY HALL	SP	27 A4	34-08-54	118-08-36	864	17.4
611 C	ALTADENA GOLF COURSE-DEBRIS BASIN	8.81	20 C6	34-10-48	118-07-01	1186	22.0*
612 B	PASADENA-CHLORINE PLANT	SP	19 E3	34-12-04	118-09-49	1160	22.9
613 C	PASADENA-HURLBUT FIRE STATION	SP	27 B5	34-07-15	118-08-05	779	16.7
619	SAN ANTONIO CYN-SIERRA POWER HOUSE	A	P F5	34-12-29	117-40-26	3110	27.8
627	SAN GABRIEL CANYON-POWER HOUSE	SP A	86 D3	34-09-20	117-54-28	744	21.2
634 C	SANTA MONICA	S	49 A1	34-00-43	118-29-27	94	13.0*
662 D	LONG BEACH AIRPORT-W.S.O.	AP	71 A6	33-49-	118-09-	34	8.0*
680 B	WESTWOOD - U.C.L.A.	SP	41 E1	34-04-10	118-26-30	430	16.5*
683 B	SUNSET RIDGE	S AP	19 E4	34-12-53	118-08-47	2110	20.0
694 G	BIG TUJUNGA CANYON-CAMP 15	A	M D6	34-17-22	118-17-17	1525	22.0*
695 B	TUJUNGA CANYON-VOGEL FLAT	S	M B2	34-17-12	118-13-32	1850	29.3
716	LOS ANGELES-DUCOMMUN ST.	SP A	44 E3	34-03-09	118-14-13	306	13.4
718 C	THOUSAND OAKS WEATHER STATION		V.CO.	34-13-06	118-51-56	800	19.0*
722 C	BELLEVIEW	S	171 B3	34-37-23	118-13-55	2880	5.0*
726 C	ANGELES CREST GUARD STATION	S	M D4	34-14-01	118-11-04	2300	31.42
727 B	NEWCOMB PASS	S	N B4	34-14-17	118-01-04	4025	39.0*
731	OAK GROVE HDQTRS	SP	19 D4	34-11-47	118-10-29	1080	21.0*
734 C	LOS ANGELES INTL AIRPORT	SP AP	56 C3	33-56-25	118-23-44	105	9.0*

ACTIVE RAINFALL STATIONS 1987 - 1988

STA.NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
321 E	PINE CANYON PATROL STATION	A	157 D7	34-40-24	118-25-45	3286	14.5*
322	MUNZ VALLEY RANCH	S	158 A2	34-42-50	118-21-15	2600	11.8
334 B	COGSWELL DAM	S A	N D4	34-14-37	117-57-35	2300	38.1
336	SILVER LAKE RESERVOIR	SP AP	35 B3	34-06-08	118-15-54	445	15.0*
338 C	MT. WILSON-OBSERVATORY	SP	20A C1	34-13-	118-03-		32.0*
341	ALISO CANYON-BLUM RANCH	S	189 J4	34-27-33	118-09-20	2900	13.0*
348 D	EAST FORK RANGER STATION	ST	P D4	34-14-20	117-46-09	2075	21.5*
352 B	LECHUZA PATROL STATION	S AP	105 B6	34-04-38	118-52-47	1620	18.5
355 B	LOS ANGELES-CITY COLLEGE	S AP	34 F4	34-05-14	118-17-28	310	16.0*
356 C	SPADRA PACIFIC COLONY	S A	93 F4	34-02-31	117-48-35	690	13.8
363	WILSON CANYON	ST	128 A7	34-21-17	118-27-00	3175	21.0*
372	SAN FRANCISQUITO CANYON #2	SP A	(179)	34-32-02	118-31-27	1580	19.7
373 C	BRIGGS TERRACE	S A	11 F5	34-14-17	118-13-27	2200	25.1
379 B	SAN GABRIEL-EAST FORK	A	P C4	34-14-09	117-48-18	1600	27.0*
386 C	ZUMA CANYON-OAKLEY	S	105 F5	34-04-58	118-49-38	1500	24.9
387 B	COVINA CITY YARD	SP	88 E5	34-05-02	117-53-57	508	12.0*
388 D	PARAMOUNT-COUNTY FIRE DEPT	8.81	65 E3	33-53-50	118-10-02	80	9.0*
390 B	MORRIS DAM	SP	P A6	34-10-53	117-52-43	1210	24.4
391 C	MONTEBELLO-FIRE DEPARTMENT	8.81	54 E1	34-01-08	118-06-15	250	10.0*
394	HIGHLAND PARK-LINDSAY	S	36 D1	34-07-06	118-10-39	620	16.5
395 B	OLIVE VIEW SANITARIUM	S	2 D1	34-19-29	118-26-55	1425	17.0*
402 F	CEDAR SPRINGS	A	(199)	34-21-21	117-52-34	6780	25.7*
405 B	SOLEDAD CANYON	S	188 F6	34-26-23	118-17-33	2150	18.9
406 C	WEST AZUSA	S	88 C2	34-06-53	117-54-56	505	18.6
409 B	PYRAMID RESERVOIR	SP AP	(154)	34-40-34	118-46-47	2505	19.0*
415	SIGNAL HILL-CITY HALL	S A	75 E2	33-47-49	118-10-03	140	8.8
419 B	SANTA CLARA RIDGE-MT. GLEASON	ST	(196)	34-22-36	118-12-23	5420	28.0*
423 C	ANGELES FOREST-ALISO CYN	S	(190A)	34-24-57	118-05-26	3920	18.7
425 B	SAN GABRIEL DAM	S A	P A5	34-12-19	117-51-38	1481	30.1
433 C	FAIR OAKS DEBRIS BASIN	A	20 B3	34-12-15	118-08-18	1585	24.0*
434	AGOURA	A	100A A5	34-08-08	118-45-08	800	20.3
435	MONTE NIDO	A	108 A6	34-04-41	118-41-35	600	19.9
436 C	HANSEN DAM	AP	9 C2	34-16-08	118-23-59	1110	21.7
440 D	CHILAO-U.S.F.S. CAMP	S	N B1	34-20-00	118-01-23	5220	20.0*
442 C	MESCAL CREEK	S	(194)	34-29-05	117-44-10	3570	8.9
443 B	LATIGO CANYON-BEACH RANCH	S	106 B4	34-05-35	118-48-52	1700	24.4*
444 F	ROLLING HILLS-SO.COAST GARDENS	A	73 B4	33-47-00	118-20-35	400	11.7
446	ALISO CANYON-OAT MOUNTAIN	A	1 A2	34-18-53	118-33-25	2367	20.0*
447 C	CARBON CANYON	S	114 E4	34-02-18	118-38-56	50	18.0*
449 B	EATON WASH DAM	A	27 E1	34-10-06	118-05-33	880	22.0*
453 C	DEVILS GATE DAM	S A	19 D6	34-11-08	118-10-19	1090	21.0*
455 B	LANCASTER STATE HWY MAINTENANCE STAS		160 B6	34-40-57	118-08-02	2395	9.1

ACTIVE RAINFALL STATIONS 1987 - 1988

STA.NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
201 D	HACIENDA HEIGHTS	A	85 C3	33-59-40	117-59-28	875	15.9
210 B	BRAND PARK	A	18 B5	34-11-18	118-16-20	1250	20.5*
213 G	LOS ANGELES-HANCOCK PARK	A	42 F1	34-03-52	118-21-17	200	17.0*
216 B	GLENDALE-ANDREE	S	25 D2	34-09-54	118-15-01	615	18.6
222 C	NORTH HOLLYWOOD PUMPING PLANT	SP	16 C4	34-11-39	118-23-17	717	21.0*
223 C	BIG DALTON DAM	S A	87 F2	34-10-06	117-48-36	1587	26.8
224 C	LONG BEACH-ALAMITOS LAND CO	S	75 C5	33-46-01	118-11-48	220	7.5
225	MONTANA RANCH	S	71 C3	33-50-35	118-07-09	47	9.7
226 B	BURBANK-FIRE STATION	S	17 E6	34-10-58	118-18-23	680	17.7
227 D	SAN GABRIEL-BRUINGTON-ORTON	S	37 D2	34-06-18	118-06-32	472	15.7
228 C	BEVERLY HILLS CITY HALL	S AP	33 C6	34-06-	118-23-		15.8
235 C	HENNIGER FLATS	A 8.81	20 F4	34-11-38	118-05-17	2550	29.0*
237 C	STONE CANYON RESERVOIR	SP	32 D2	34-06-21	118-27-13	865	21.0*
238	HOLLYWOOD DAM	SP	34 C1	34-07-04	118-19-55	750	16.0*
250 D	ACTON CAMP	A	189 E5	34-27-02	118-11-55	2625	15.2*
251 C	LA CRESCENTA	S	18 D1	34-13-20	118-14-40	1440	21.8
252 C	CASTAIC DAM	SP AP	(178)	34-29-53	118-36-53	1150	14.0*
255 F	MT. SAN ANTONIO COLLEGE	S	93 C4	34-02-41	117-50-19	720	14.0
256 C	POMONA-FIRE STATION	S	94 E3	34-03-16	117-45-10	844	15.5*
257	GRIFFITH PARK NURSERY	S	35 A1	34-07-18	118-17-04	850	13.0*
259 D	CHATSWORTH-TWIN LAKES	S A	1A D6	34-16-43	118-35-41	1275	19.5*
261 F	ACTON-ESCONDIDO CANYON	A	181 H9	34-29-42	118-16-22	2960	12.2
269 D	DIAMOND BAR FIRE STATION	SP AP	97 F2	33-59-	117-48-	870	11.8*
272 F	GENE AUTRY MUSEUM	AP	25 A4	34-08-	118-16-		17.0*
274 B	ACTON-HUBBARD	SP	182 B5	34-31-31	118-13-58	3490	11.0*
277	SAWMILL MOUNTAIN	S	(155)	34-43-15	118-35-00	3700	26.5
278 B	LOS ANGELES-CLARK MEMORIAL LIB	S	43 D5	34-02-00	118-18-46	203	13.8*
280 C	FLINTRIDGE-SACRED HEART	A	19 D6	34-10-54	118-11-08	1600	23.8
283 C	CRYSTAL LAKE-EAST PINE FLAT	A	P B1	34-19-02	117-50-28	5370	39.6
287 B	GLENDORA-CITY HALL	8.81	87 B5	34-08-09	117-51-52	785	22.2
289	LAGUNA-BELL-S.C.E. CO. SUBSTATION	SP	54 A5	33-58-37	118-08-48	140	10.9
290 B	MONTEREY PARK-FIRE STATION	S	46 B4	34-02-27	118-07-42	305	14.0*
291	LOS ANGELES-96th AND CENTRAL	A	58 C3	33-56-56	118-15-17	121	11.0
292 D	ENCINO RESERVOIR	A	21 D3	34-08-56	118-30-57	1075	21.6
293 B	LAKE LOS ANGELES	SP	2 A4	34-17-18	118-28-54	1150	19.0
294 B	SIERRA MADRE-MIRA MONTE P. P.	SP	28 C1	34-10-11	118-02-51	985	24.8
298 C	GORMAN-SHERIFF	A	(141)	34-47-47	118-51-27	3835	17.0*
299 F	LITTLE ROCK-SCHWAB	S	184 F5	34-32-12	117-58-43	2800	9.5*
303 F	PASADENA-CAL TECH	A	27 C5	34-08-14	118-07-25	800	18.0*
304	SAWPIT CANYON-DEER PARK	A	208 E4	34-11-38	117-57-52	2690	31.0*
306 H	ZUMA BEACH	S	111 F6	34-01-15	118-49-42	15	15.1

ACTIVE RAINFALL STATIONS 1987 - 1988

STA. NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88
							SEASONAL TOTAL (in inches)
93 C	CLAREMONT-POLICE STATION	8.81	91 B4	34-05-45	117-43-18	1170	17.5
95	SAN DIMAS-FIRE WARDEN	S	89 F3	34-06-26	117-48-19	955	16.7
96 C	PUDDINGSTONE DAM	S A	89 F4	34-05-31	117-48-24	1030	16.8
102 D	WALNUT-N.I.	S	97 B2	34-00-11	117-52-10	500	11.8
106 F	WHITTIER CITY YARD	S	55 D4	33-58-	118-01-	300	11.6
107 D	DOWNEY-FIRE DEPARTMENT	S	60 A5	33-55-48	118-08-47	110	11.5
108 D	EL MONTE FIRE STATION	S	38 D6	34-04-30	118-02-30	275	13.3
109 D	WEST ARCADIA	S	28 A6	34-07-42	118-04-22	547	16.8
110 B	ALHAMBRA	S	37 C4	34-05-40	118-07-41	533	15.2
116 G	INGLEWOOD COURTHOUSE	A	57 A1	33-57-53	118-21-22	153	12.0*
117 F	COMPTON FIRE STATION	S	64 F3	33-53-42	118-13-34	78	10.5*
118 C	WILMINGTON	S	74 C3	33-47-27	118-15-30	40	12.0*
119 G	SAWTELLE-SOLDIERS' HOME	S	32 D2	34-03-21	118-27-20	345	16.0*
120	VINCENT PATROL STATION	S	183 A9	34-29-17	118-08-27	3135	11.8*
122 G	LEONA VALLEY-RACKETT RANCH	S	171 G3	34-37-52	118-19-22	3300	5.0*
124 B	BOUQUET CANYON RESERVOIR	AP	(169)	34-35-14	118-21-45	3050	11.0*
125 B	SAN FRANCISQUITO CANYON #1	SP	(169)	34-35-25	118-27-15	2105	18.4
126 C	BOONE OLIVE PUMP PLANT	A	49 D4	33-58-58	118-27-33	30	11.8*
127 B	DRY CANYON RESERVOIR	SP	124 D1	34-28-55	118-31-32	1511	17.5*
128 B	ELIZABETH LAKE-WARM SPRINGS CAMP	A	(168)	34-36-28	118-33-40	2075	21.0*
130 B	SANDBERG-QUAIL LAKE PATROL STA	S	(142)	34-44-37	118-42-43	4025	DISC.
134 C	PUDDINGSTONE DIVERSION	8.81	95A C5	34-07-52	117-46-55	1160	18.2
140 C	SAWTELLE - W. L.A. MUNICIPAL BLDG	AP	41 D3	34-02-43	118-26-55	250	14.0*
143 B	AZUSA-CITY PARK	S	86 D5	34-08-03	117-54-17	610	19.8
144	SIERRA MADRE DAM	S	20A D3	34-10-34	118-02-32	1100	25.9
156 B	LA MIRADA-STANDARD OIL COMPANY	A	83 A4	33-52-59	118-01-00	75	10.0*
157 C	EL SEGUNDO-STANDARD OIL COMPANY	S AP	56 A6	33-54-57	118-25-05	150	9.5
158	TANBARK FLATS	SP A	P D5	34-12-20	117-45-40	2750	27.0*
167 C	ARCADIA PUMPING PLANT #1	S	28 E2	34-09-31	118-02-02	611	21.1
169	SIERRA MADRE PUMPING PLANT	SP	28 D2	34-09-47	118-02-21	700	21.9
170 F	POTRERO HEIGHTS	S	47 A4	34-02-32	118-04-44	285	11.9
172 B	DUARTE	S	29 E4	34-08-26	117-58-02	548	14.9
174 B	GLENORA-WARREN	S	87 E6	34-07-43	117-49-08	930	18.5
175 B	LA CANADA IRRIGATION DISTRICT	S	19 A1	34-13-39	118-12-40	2020	24.2
176	ALTADENA-RUBIO CANYON	SP	20 B6	34-10-55	118-08-15	1125	18.7
178 C	AZUSA VALLEY WATER CO.	A	88 F2	34-06-38	117-52-50	620	17.0
191 C	ALCAZAR - PUBLIC WORKS WAREHOUSE	A	45 B1	34-03-	118-11-		13.0*
192 C	BELL-FIRE STATION	8.81	53 C5	33-58-45	118-11-16	145	10.5*
193 B	COVINA-TEMPLE	S	88 F5	34-04-57	117-52-29	580	18.6
196 C	LA VERNE-FIRE STATION	S	90 D3	34-06-06	117-46-20	1050	17.7
199 D	HUNTINGTON PARK	S	52 E5	33-59-00	118-13-47	175	11.2*
200	SAUGUS-S.C.E. CO. SUBSTATION	S	123 H8	34-25-21	118-34-26	1096	18.0*

ACTIVE RAINFALL STATIONS 1987 - 1988

STA.NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	ELEV OF GAGE	1987-88 SEASONAL TOTAL (in inches)
1268	PALMDALE RECLAMATION PLANT	S	172 G6	34-35-30	118-05-10	2565	6.3
1271	POMONA WASTE RECLAMATION PLANT	S	94 B3	34-03-18	117-47-34		14.4
X 15 D	HI VISTA	S	(151)	34-44-31	117-46-43	3087	7.0*
X 22	ISLIP SADDLE	ST	(199)	34-21-27	117-51-05	6680	25.5*
X 23	DORR CANYON	ST	(200)	34-22-16	117-46-51	7280	22.7*
X 24	GRASSY HOLLOW	ST	(201)	34-22-30	117-43-05	7360	19.0*
X 25	BEAR GULCH	ST	(201)	34-21-58	117-41-27	7880	17.8*
X 26	BLUE RIDGE CAMP	ST	(201)	34-20-57	117-40-23	8450	16.8*
X 27	GUFFY'S CAMP	ST	(201)	34-20-20	117-38-55	8080	17.0*
X 28 B	HOLIDAY HILL	A	(201)	34-21-29	117-40-54	8130	17.0*

LEGEND REGARDING GAGE TYPE, OWNERSHIP, AND W.Y. 1987-88 SEASONAL TOTAL

S	STANDARD 8" DIAMETER NON RECORDING GAGE OWNED BY THE DEPARTMENT OF PUBLIC WORKS
A	AUTOMATIC RECORDING GAGE OWNED BY THE DEPARTMENT OF PUBLIC WORKS
ST	STORAGE TYPE GAGE OWNED BY THE DEPARTMENT OF PUBLIC WORKS
8.81	8.81" DIAMETER NON RECORDING GAGE OWNED BY THE DEPARTMENT OF PUBLIC WORKS
3"P	3"DIAMETER NON RECORDING GAGE OWNED BY OUTSIDE INTERESTS
SP	STANDARD 8" DIAMETER NON RECORDING GAGE OWNED BY OUTSIDE INTERESTS
AP	AUTOMATIC RECORDING GAGE OWNED BY OUTSIDE INTERESTS
SUFFIX B OR C	DENOTES SECOND OR THIRD LOCATION OF STATION IN SAME AREA
()	THOMAS GUIDE FUTURE PAGE ASSIGNMENT
O.CO.	ORANGE COUNTY THOMAS GUIDE PAGE
V.CO.	VENTURA COUNTY THOMAS GUIDE PAGE
S.B.CO.	SAN BERNARDENO COUNTY THOMAS GUIDE PAGE
*	ESTIMATED SEASONAL TOTAL
DISC.	DISCONTINUED

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
ISONYETAL MAP
1987-88 SEASONAL TOTAL



SCALE
1 1/2 1 1/4 1 3/4 2 miles

EVAPORATION



E V A P O R A T I O N

Data for 14 active evaporation stations were reported to the Department during the 1987-88 water year. Daily records of active and inactive Department stations, as well as some stations of other agencies, are available in the Department's files. Monthly and seasonal evaporation has been published in the Department's Annual or Biennial Reports on Hydrologic Data since the 1931-32 season.

COOPERATION

The Department receives evaporation data from the Los Angeles City Department of Water and Power, The Metropolitan Water District, Southern California Edison Company, United States Forest Service, County Departments, California Department of Water Resources, and various individuals.

LENGTH OF RECORD

The first land pan installed by this Department was at Santa Anita Dam in March of 1929. There are 30 evaporation stations which have records of 15 seasons or more in the Department's files.

EVAPORATION STATION LIST 1987 - 88

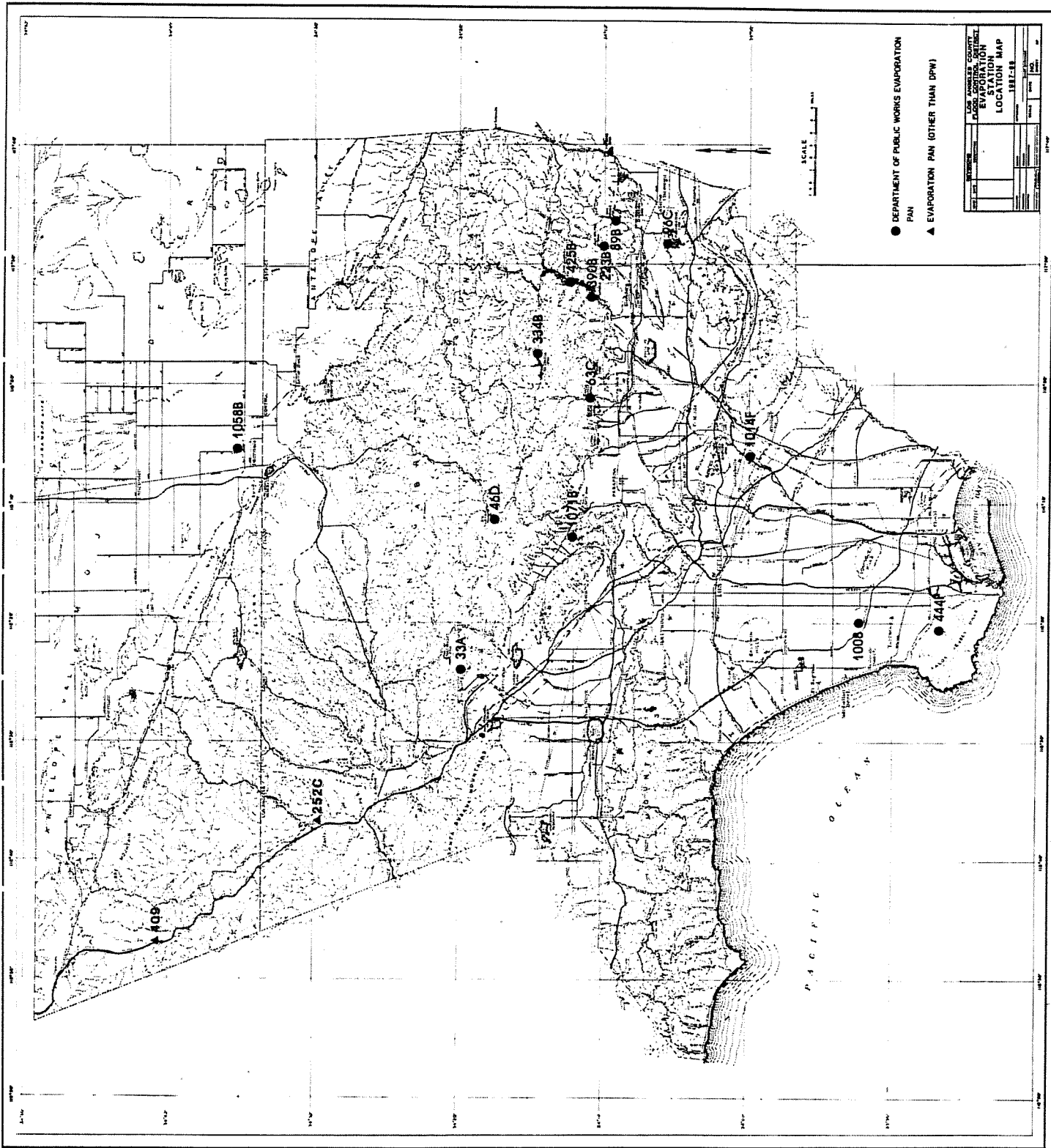
STA.NO.	STATION NAME	EQUIPMENT	ELEVATION OF PAN	THOMAS GUIDE	NORTH LATITUDE	WEST LONGITUDE
33 A	Pacoima Dam	24X36 S	1500	145 F9	34-19-48	118-23-59
46 D	Big Tujunga Dam	24X36 S	2315	F C2	34-17-40	118-11-14
63 D	Santa Anita Dam	24X36 S	1400	99 F2	34-11-03	118-01-12
89 B	San Dimas Dam	24X36 S	1350	95A C3	34-09-10	117-46-17
96 C	Puddingstone Dam	24X36 S	1030	89 F4	34-05-31	117-48-24
223 B	Big Dalton Dam	24X36 S	1587	87 F1	34-10-06	117-48-36
252 C	Castaic Reservoir	48X10 S	1150	(178)	34-29-53	118-36-53
334 B	Cogswell Dam	24X36 S	2300	G D4	34-14-37	117-57-35
390 B	Morris Dam	72X36 US	1210	86 F1	34-10-53	117-52-43
409	Pyramid Reservoir	48X10 S	2505	(154)	34-40-34	118-46-47
425 B	San Gabriel Dam	24X36 S	1481	H A5	34-12-19	117-51-38
1014 F	Rio Hondo S. G.	24X36 S	170	54 D3	33-59-57	118-06-04
1058 B	Palmdale	24X36 S	2595	172 F7	34-35-17	118-05-31
1071 B	Descanso Gardens	24X36 S	1325	19 B3	34-12-07	118-12-46

LEGEND

- 24X36 S = Screened land pan, 24 inches in diameter by 36 inches deep.
- 48X10 S = Screened land pan, 48 inches in diameter by 10 inches deep.
- 72X36 US = Unscreened land pan, 72 inches in diameter by 36 inches deep.
- () = Thomas Guide future page assignment.

EVAPORATION MONTHLY SUMMARY 1987 - 88 (in inches)

STA. NO.	STATION NAME	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
33 A	Pacoima Dam	7.66	5.83	4.68	6.21	8.12	9.10	6.89	8.62	7.26	8.51	7.94	8.12	88.93
46 D	Big Tujunga Dam	5.72	3.16	3.16	3.60	4.69	5.82	4.87	7.56	7.30	10.34	9.40	8.48	74.10
63 D	Santa Anita Dam	4.06	2.94	2.35	2.52	3.58	4.21	3.44	4.80	4.63	5.94	5.34	5.37	49.18
89 B	San Dimas Dam	4.13	1.87	1.96	1.33	2.52	3.62	4.05	5.91	6.40	7.59	6.75	5.89	52.02
96 C	Puddingstone Dam	4.68	2.86	2.43	2.17	3.54	5.23	5.19	7.88	8.44	9.23	8.62	7.34	67.60
223 B	Big Dalton Dam	4.09	2.26	2.08	1.80	2.72	3.94	3.76	5.98	6.74	7.47	6.64	5.89	53.37
252 C	Castaic Reservoir	7.25	5.12	6.64	6.29	3.37	3.85	5.21	6.56	7.99	9.00	8.17	7.75	77.20
334 B	Cogswell Dam	3.87	1.52	1.22	1.32	2.10	3.48	3.38	5.93	7.02	8.90	8.03	6.39	53.16
390 B	Morris Dam	6.02	3.25	5.70	3.95	6.02	6.95	6.82	8.82	9.24	10.80	9.66	8.42	85.65
409	Pyramid Reservoir	6.07	6.58	4.67	2.93	2.54	4.43	4.45	6.40	8.61	8.73	8.14	7.99	71.54
425 B	San Gabriel Dam	5.52	3.43	2.87	2.70	4.20	5.61	4.70	7.36	7.38	8.70	8.16	7.44	68.07
1014 F	Rio Hondo S. G.	4.41	3.87	2.54	2.22	3.95	5.11	4.74	6.96	6.90	7.23	7.31	5.56	60.80
1058 B	Palmdale	3.48	1.54	1.47	1.92	1.84	4.52	4.48	7.57	8.71	9.83	7.82	5.65	58.83
1071 B	Descanso Gardens	4.00	2.33	1.65	1.52	2.79	3.60	3.54	5.26	5.65	6.77	6.06	5.22	48.39



- DEPARTMENT OF PUBLIC WORKS EVAPORATION PAN
- ▲ EVAPORATION PAN (OTHER THAN DPW)

LOS ANGELES COUNTY	
CLEAN AIR ACT CONTROL	
STATION LOCATION MAP	
1982-83	
Station No.	
Station Name	
Station Type	
Station Status	
Station Coordinates	
Station Elevation	
Station Operator	
Station Date	
Station Notes	

RUNOFF



R U N O F F

The Department operated or received data from 88 water-stage recording stations during the 1987-88 water year. Data from 56 of those stations are summarized and published in this volume.

RECORDS OF STREAMFLOW

Records published give the following information:

1. Station description which presents location, drainage area, type of channel, control, regulations, diversions, and available records.
2. Discharge tabulation which summarizes the maximum, minimum, and mean of the daily flow rates in second-feet for each month and the total monthly volumes in acre-feet.

ALERT SYSTEM (AUTOMATIC LOCAL EVALUATION IN REAL TIME)

The Department of Public Works has installed a state-of-the-art ALERT computer system to monitor meteorological conditions in the County and Southern California in real time, i.e., as they occur. The system includes a network of field sensors that monitor precipitation amounts, river stages, and reservoir levels, and which forecast peak flows in the Los Angeles River and the Rio Hondo.

During the report period, the Department has continued to install and expand its ALERT System. The Department's ALERT system is also now automatically receiving rainfall data from the Corps of Engineers' Los Angeles Telemetry System.

COOPERATION

The Department receives streamflow data from other agencies and publishes, or has access to, the records for local stations. Department hydrographers also make periodic streamflow measurements and observations at installations belonging to these organizations. Data from 25 of the Department's stations are reviewed and published in the Geological Survey's annual water supply papers.

Agencies with which the Department exchanges data are:

United States Geological Survey, Water Resources Division

United States Corps of Engineers

State Department of Water Resources

The Metropolitan Water District

San Gabriel River Water Committee

L E G E N D

Stations are designated by letters and numbers which indicate ownership, operation agency, and type of station. The letters used have the following connotations:

Prefix F - Indicates a station owned and operated by the Los Angeles County Department of Public Works.

Prefix E - Indicates a station owned and operated by the Corps of Engineers, Department of the Army but operated and maintained by the United States Geological Survey.

Prefix U - Indicates a station originally constructed and operated by the United States Geological Survey, Water Resources Division, now operated by the Department.

Prefix P - Indicates a station owned and operated by the Department formerly, operated by the Pasadena Water Department.

Prefix L - Indicates a station owned and operated by the Department formerly, operated in cooperation with the Little Rock - Palmdale Irrigation District.

Suffix R - Indicates a recorder station.

Suffix B - Indicates that the station has been moved. B represents second location, C a third location, etc.



PACIFIC OCEAN

LEGEND

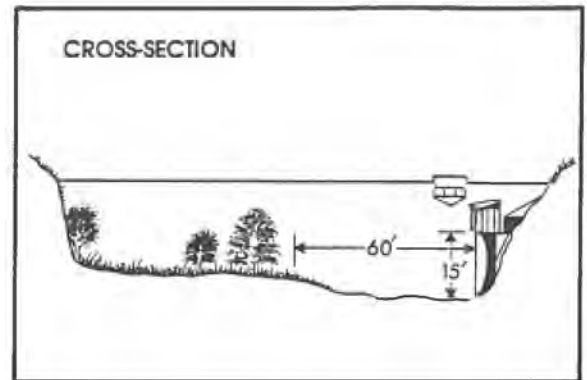
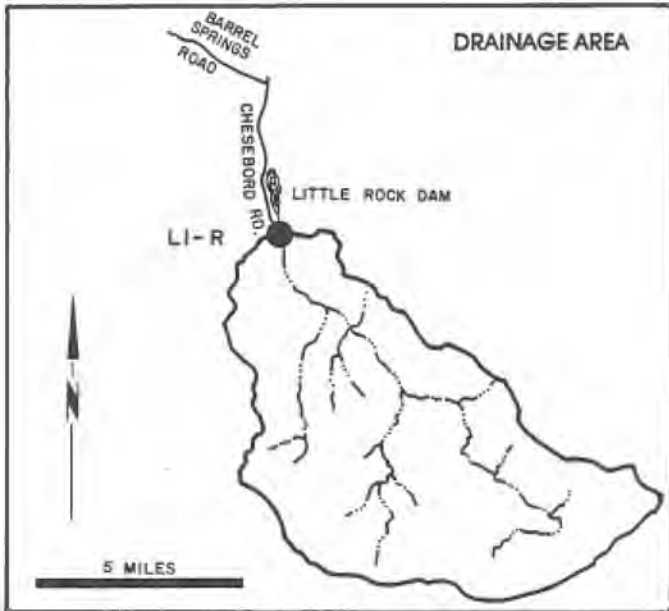
- ACTIVE STREAMFLOW STATIONS NOT PUBLISHED
- STREAMFLOW STATIONS PUBLISHED IN THIS REPORT

SCALE
0 1 2 3 4 5 MILES

REVISIONS		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
NO.	DATE	DESCRIPTION	

ACTIVE STREAMFLOW STATIONS LOCATION MAP 1987-88			
SCALE	DATE	NO.	OF

LITTLE ROCK CREEK above Little Rock Dam STATION NO. L1-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 49.2 square miles.
 LOCATION- 2.0 miles above Little Rock Dam, 5.0 miles south of Little Rock.
 REGULATION- none.
 CHANNEL- sand, gravel, and boulders, natural in section.
 CONTROL- channel forms control.
 LENGTH OF RECORD- October 1, 1930 to date.

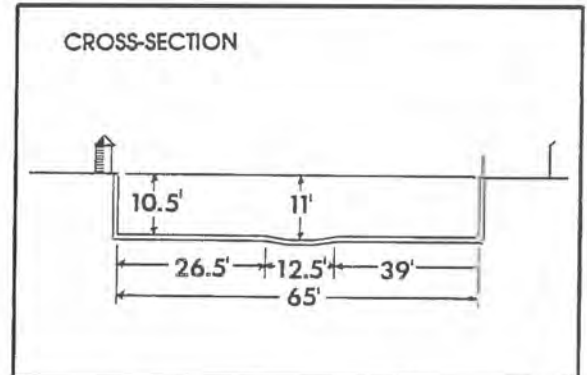
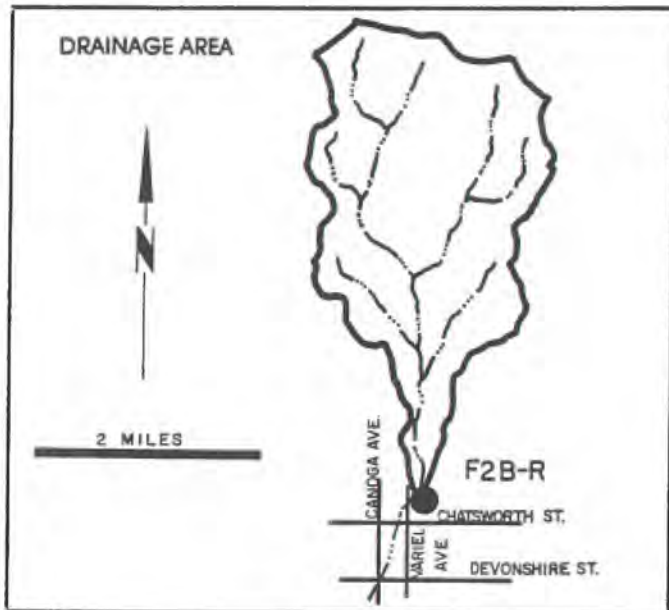
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : L1-R

DRAINAGE AREA : 49.20 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR	MEAN	6.6	19.6	9.3	19.4	33.8	43.4	67.0	76.9	24.0	1.5	0.35	0.0
	MAX.	95.2	140.0	17.2	38.0	181.0	178.0	205.0	88.3	59.0	2.5	2.3	0.0
87-88	MIN.	0.0	6.1	5.9	8.8	20.1	24.4	32.7	59.5	2.6	0.0	0.0	0.0
TOTAL AF		408.0	1170.0	573.0	1190.0	1940.0	2670.0	3990.0	4730.0	1430.0	89.0	21.0	0.0

BROWNS CREEK at Variel Avenue STATION NO. F2B-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading.
 DRAINAGE AREA- 13.5 square miles.
 LOCATION- 100.0 feet upstream from Variel Avenue, 1.0 mile northeast of Chatsworth.
 REGULATION- none.
 CHANNEL- sand and gravel with pipe and wire revetments, temporarily improved section.
 CONTROL- concrete stabilizer.
 LENGTH OF RECORD- at Station F2-R, December 11, 1928, to August 27, 1932 and October 2, 1935, to October 31, 1939. at Station F2B-R, October 12, 1961, to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F2B-R

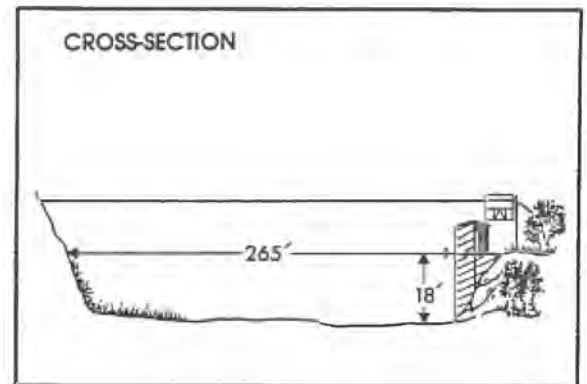
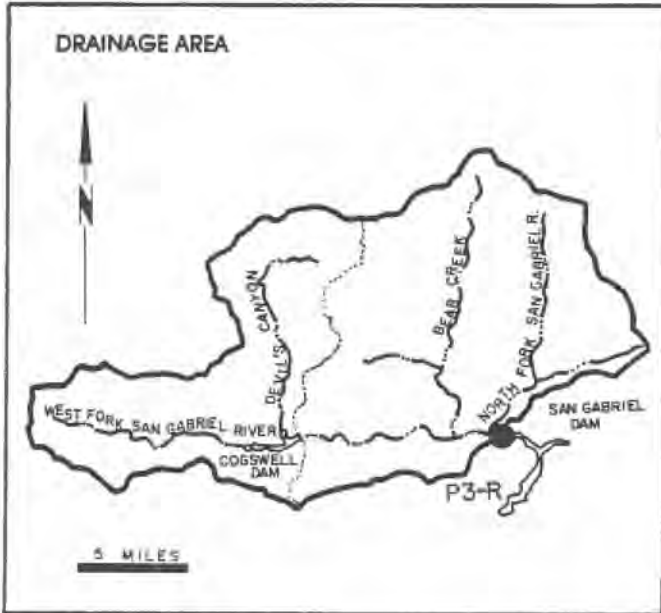
DRAINAGE AREA : 13.50 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.22	0.51	0.87	0.67	0.84	1.4	0.66	0.17	0.01	0.0	0.0	0.0
	MAX.	5.3	4.6	5.0	1.0	7.4	11.8	4.8	0.3	0.10	0.0	0.0	0.0
	MIN.	0.0	0.10	0.30	0.30	0.40	0.10	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		13.0	30.0	54.0	41.0	49.0	84.0	39.0	10.0	0.40	0.0	0.0	0.0

SAN GABRIEL RIVER

West Fork above Forks

STATION NO. P3-R



RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from cable car.
DRAINAGE AREA- 102.0 square miles.
LOCATION- 1.5 miles above confluence with East Fork.
REGULATION- partially regulated by Cogswell Dam.
CHANNEL- natural, sand, gravel, and boulders.
CONTROL- subject to shifts in natural bottom.
LENGTH OF RECORD- at Station P3-R, December 3, 1930 to July 12, 1938 and September 27, 1938 to date. at Station P3B-R, July 12, 1938, to September 27, 1938.
REMARKS- for records prior to December 3, 1930 refer to Station P1-R.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : P3-R

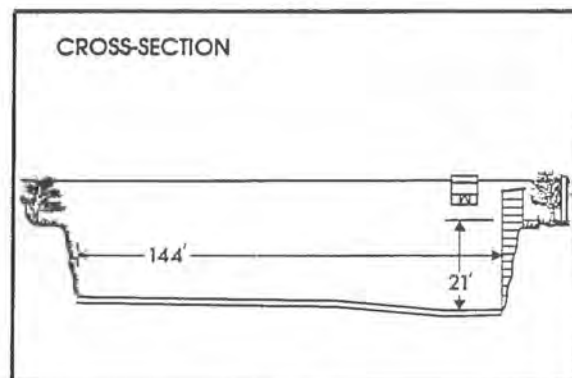
DRAINAGE AREA : 102.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	14.9	46.6	63.8	78.7	44.7	107.0	62.7	48.6	33.9	27.8	20.4	19.1
	MAX.	123.0	165.0	126.0	168.0	102.0	375.0	202.0	83.0	40.8	194.0	29.2	28.6
	MIN.	5.1	28.6	37.1	20.7	24.9	36.2	23.4	32.8	26.7	18.9	16.4	12.0
TOTAL AF		914.0	2770.0	3920.0	4840.0	2570.0	6590.0	3730.0	2990.0	2020.0	1710.0	1260.0	1140.0

SAN GABRIEL RIVER

East Fork above Forks

STATION NO. P4B-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 88.2 square miles.
 LOCATION- 2.5 miles above the West Fork, 12.0 miles north of Azusa.
 REGULATION- none.
 CHANNEL- sand, gravel, and boulders, natural section.
 CONTROL- concrete, stabilizer with a 20-foot-wide low flow notch (constructed in November 1947).
 LENGTH OF RECORD- at Station P4-R, November 30, 1932 to December 10, 1938. at Station P4B-R, December 10, 1938 to date.
 REMARKS- the control height was increased 2.0 feet in September, 1955.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

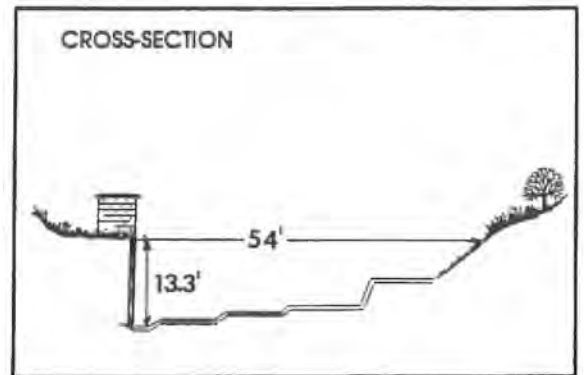
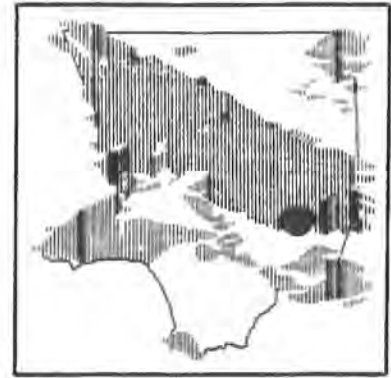
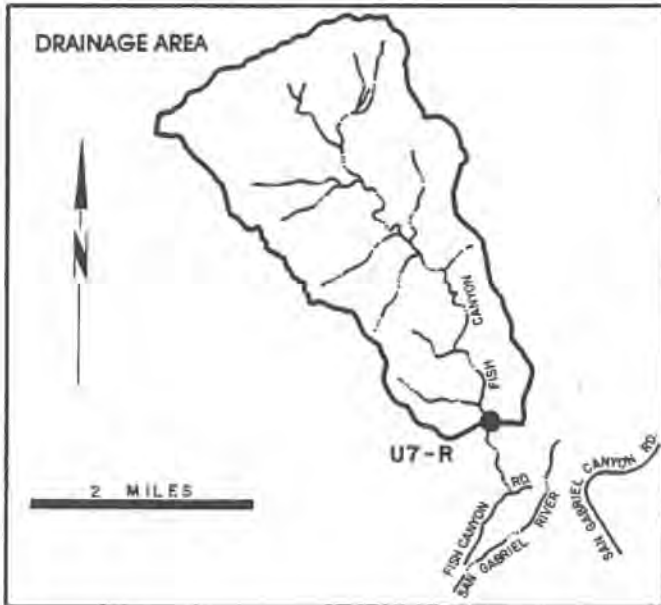
STATION NO. : P4B-R

DRAINAGE AREA : 88.20 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	16.7	57.9	31.0	50.6	39.4	59.8	84.6	64.3	28.9	9.3	20.4	4.4
	MAX.	182.0	244.0	81.8	207.0	92.3	211.0	294.0	117.0	40.1	15.9	29.2	17.8
	MIN.	1.1	20.4	3.0	24.0	27.3	26.5	28.6	40.6	17.7	4.6	16.4	0.50
TOTAL AF		1030.0	3440.0	1900.0	3110.0	2270.0	3680.0	5030.0	3950.0	1720.0	573.0	1260.0	262.0

FISH CREEK

above Mouth of Canyon
STATION NO. U7-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading.
 DRAINAGE AREA- 6.36 square miles.
 LOCATION - 0.8 miles upstream of mouth of canyon and 3.0 miles northeast of Duarte.
 REGULATION- none.
 CHANNEL- natural, rock and gravel.
 CONTROL- concrete control.
 LENGTH OF RECORD- July to September 1916. July 1917 to date.
 REMARKS- operated and maintained by USGS until October 1, 1971.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : U7-R

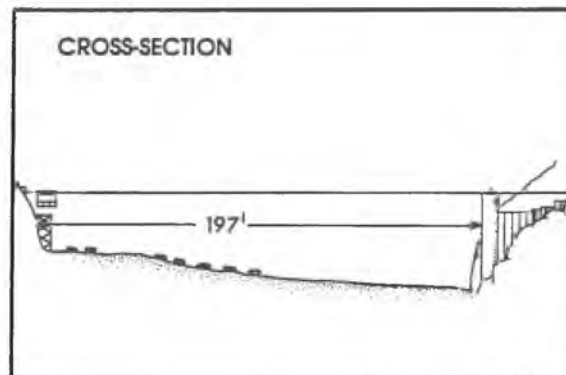
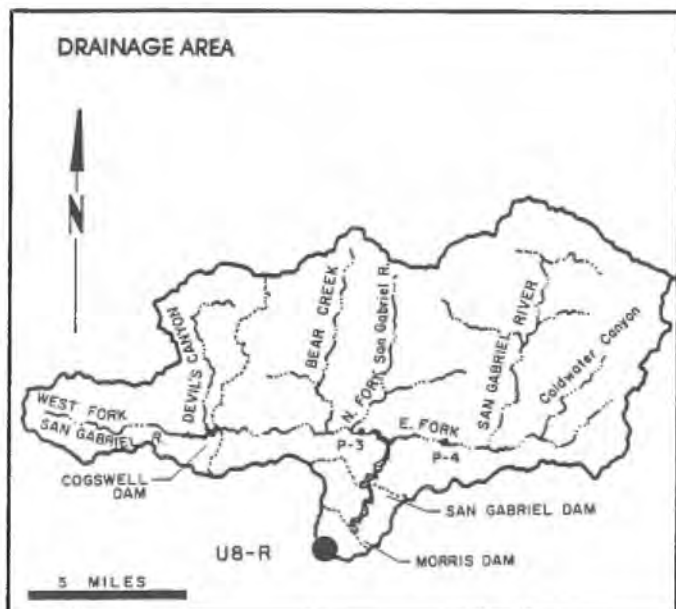
DRAINAGE AREA : 6.36 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	1.5	2.5	0.78	3.69	1.3	1.6	3.6	1.8	0.38	0.0	0.15	0.59
	MAX.	17.9	14.2	4.0	48.9	5.4	6.4	24.7	2.8	1.2	0.0	0.30	0.90
	MIN.	0.0	0.80	0.50	0.50	0.80	0.70	0.60	1.1	0.0	0.0	0.10	0.30
TOTAL AF		93.0	150.0	48.0	227.0	76.0	96.0	216.0	108.0	23.0	0.0	9.5	35.0

SAN GABRIEL RIVER

below Morris Dam

STATION NO.U8-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 212.4 square miles.

LOCATION- 1.1 miles downstream of Morris Dam, 2.7 miles northeast of Azusa.

REGULATION- all flows regulated by Cogswell, San Gabriel, and Morris Dams.

CHANNEL- gravel and boulders, natural section.

CONTROL- concrete control.

LENGTH OF RECORD- May 1894 to date.

REMARKS- flows up to 90 cfs are at times diverted past the station through the Azusa Conduit; flows at station may include imported water from the MWD outlet below Morris Dam.

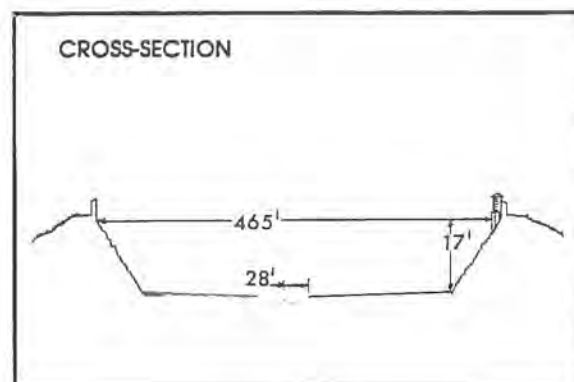
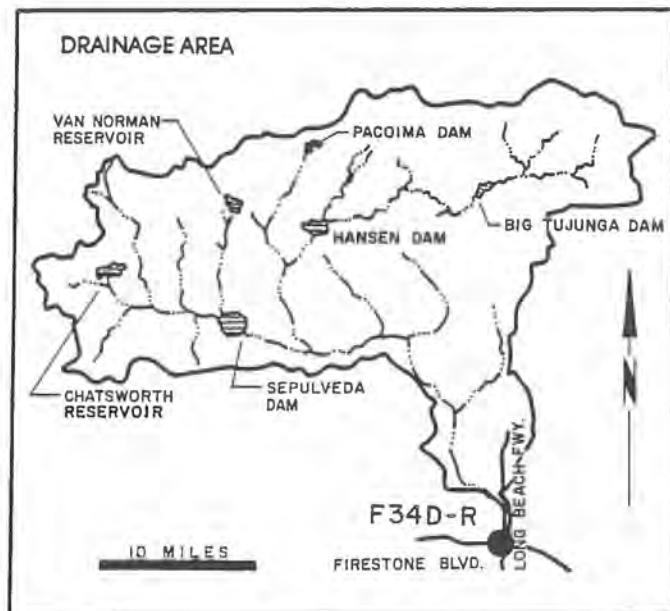
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : U8-R

DRAINAGE AREA : 212.40 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	22.4	137.0	119.0	226.0	200.0	53.4	48.4	36.0	239.0	0.01	0.0	49.6
	MAX.	26.0	228.0	250.0	253.0	242.0	61.0	50.6	49.7	600.0	0.40	0.0	242.0
	MIN.	21.4	24.0	0.0	195.0	48.8	49.7	45.2	19.5	21.0	0.0	0.0	0.0
TOTAL AF		1380.0	8150.0	7310.0	13910.0	11490.0	3280.0	2880.0	2220.0	14200.0	0.80	0.0	2950.0

LOS ANGELES RIVER below Firestone Boulevard STATION NO. F34D-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from bridge.

DRAINAGE AREA- 596.0 square miles.

LOCATION- 472.0 feet downstream of Firestone Boulevard 3.0 miles west of Downey.

REGULATION- partially regulated by Sepulveda, Pacoima, Big Tujunga, Hansen, and Devil's Gate Dam; and by several spreading grounds, reservoirs, and debris basins.

CHANNEL- concrete, with rip-rap side slopes, trapezoidal in section, with trapezoidal low-flow channel.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F34-R, March 4, 1928 to April 11, 1938. at Station F34B-R, April 11, 1938 to November 3, 1949. at Station F34C-R November 4, 1949, to December 11, 1956. at Station F34D-R December 11, 1956 to date.

REMARKS- subject to diversions from Big Tujunga Creek, Arroyo Seco, and other domestic and irrigation diversions.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

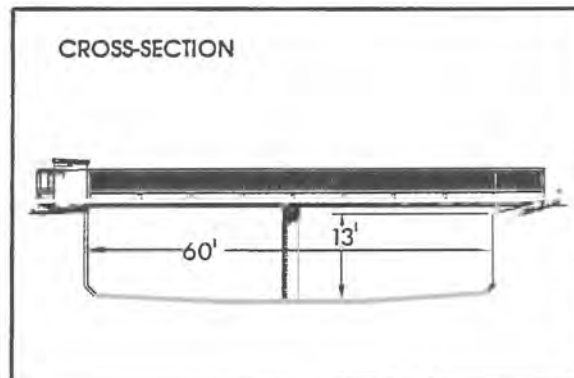
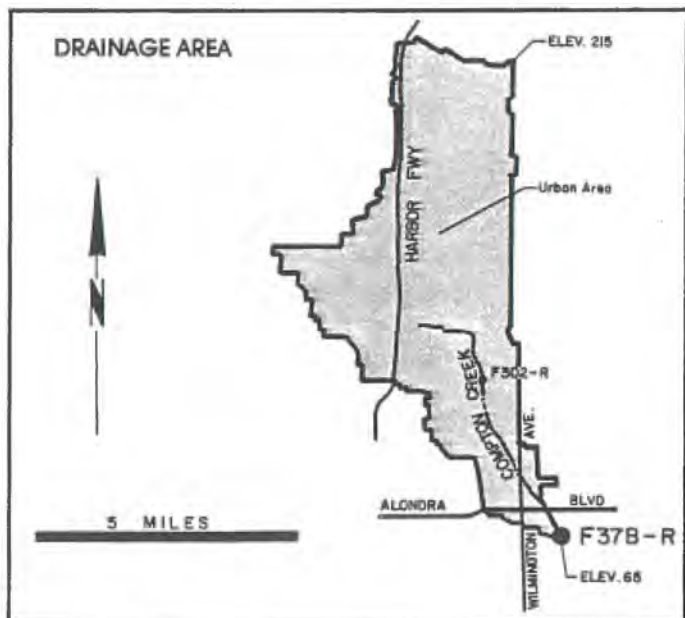
STATION NO. :

DRAINAGE AREA :

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	NO DATA AVAILABLE AT TIME OF PRINTING											
	MAX.												
	MIN.												
TOTAL AF													

COMPTON CREEK

near Greenleaf Drive
STATION NO. F37B-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from bridge.

DRAINAGE AREA- 22.6 square miles.

LOCATION- 120.0 feet above Greenleaf Boulevard, 1.5 miles south west of Compton.

REGULATION- none.

CHANNEL- concrete, rectangular in section, 60 feet wide by 13 feet deep.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F37-R January 22, 1928 to June 9, 1938. at Station F37B-R October 3, 1938 to date

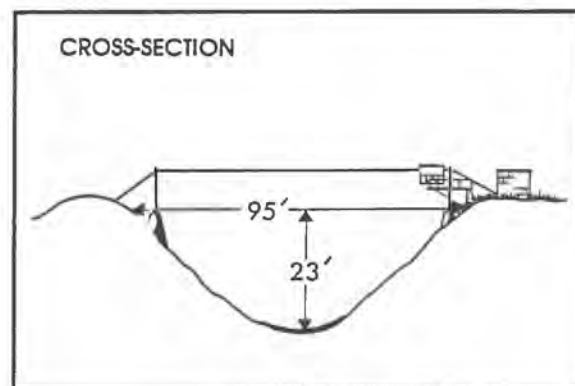
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F37B-R

DRAINAGE AREA : 22.60 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	16.7	7.4	15.3	18.2	14.7	2.9	13.3	0.53	.76	1.1	3.9	1.6
	MAX.	276.0	64.6	192.0	443.0	167.0	28.9	134.0	0.70	1.2	1.6	79.0	10.1
	MIN.	0.60	0.70	0.40	0.40	0.40	0.30	0.40	0.40	0.60	0.90	0.70	0.30
TOTAL AF		1030.0	439.0	940.0	1120.0	846.0	180.0	790.0	33.0	45.0	69.0	237.0	97.0

BALLONA CREEK above Sawtelle Boulevard STATION NO. F38C-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 88.6 square miles.

LOCATION- 530.0 feet above Sawtelle Boulevard, 1.5 miles southwest of Culver City.

REGULATION- Stone Canyon Reservoir prior to January, 1951. Upper and Lower Franklin Canyon Reservoir, Hollywood Reservoir, and Silverlake Reservoir.

CHANNEL- concrete rubble, trapezoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F38-R February 27, 1928 to April 27, 1936. at Station F38B-R, May 14, 1936 to August 10, 1967. at Station F38C-R August 10, 1967, to date.

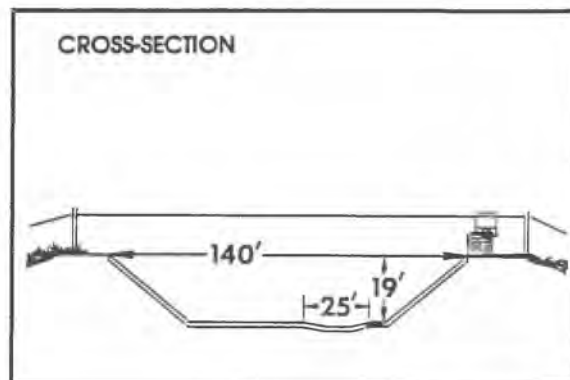
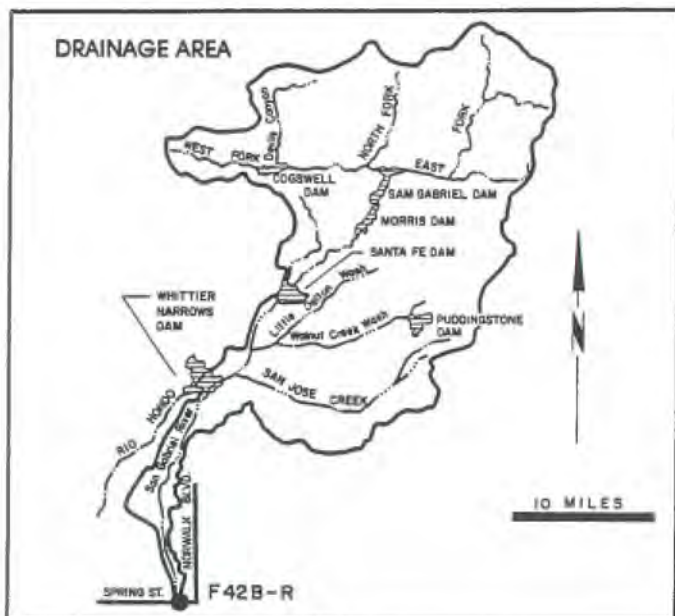
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F38C-R

DRAINAGE AREA : 88.60 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	179.0	58.0	50.6	111.0	120.0	66.0	93.0	12.4	10.6	10.3	16.8	9.9
	MAX.	2320.0	840.0	925.0	2920.0	1320.0	1530.0	838.0	17.0	13.0	11.8	217.0	12.4
	MIN.	10.0	5.0	9.4	10.0	11.2	12.4	7.6	8.8	8.8	9.4	8.2	8.8
TOTAL AF		10980.0	3450.0	3110.0	6820.0	6890.0	4060.0	5540.0	760.0	632.0	636.0	1030.0	588.0

SAN GABRIEL RIVER above Spring Street STATION NO. F42B-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 231.0 square miles (excludes area above Santa Fe Dam).

LOCATION- 455.0 feet north of Spring Street, 4.0 miles east of Signal Hill, Long Beach.

REGULATION- partially regulated by Cogswell, San Gabriel, Morris, Santa Fe, Big Dalton, San Dimas, Puddingstone Diversion, Puddingstone, Live Oak, Thompson Creek, and Whittier Narrows Dams, several debris basins, MWD outlet, and several spreading grounds.

CHANNEL- concrete, trapezoidal section with a low-flow channel.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F42-R February 6, 1928 to May 26, 1964. at Station F42B-R, November 16, 1964 to date.

REMARKS- high flows into Whittier Narrows Reservoir are partially diverted to the Rio Hondo.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

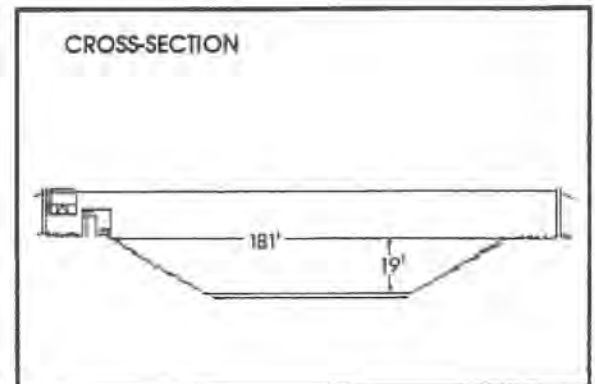
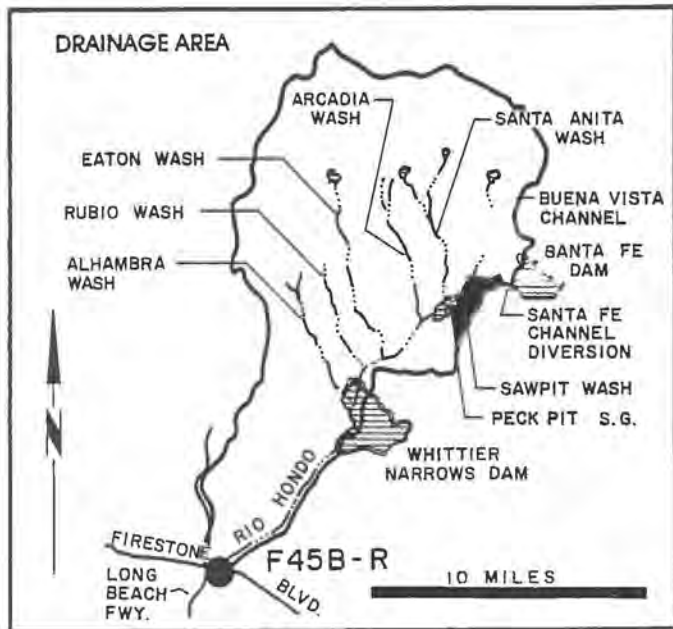
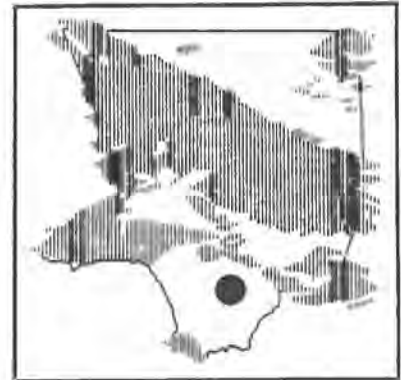
STATION NO. : F42B-R

DRAINAGE AREA : 231.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER	MEAN	115.0	121.0	116.0	138.0	152.0	125.0	101.0	44.5	97.6	92.5	114.0	85.4
	MAX.	359.0	201.0	222.0	575.0	556.0	727.0	320.0	133.0	137.0	142.0	148.0	141.0
	MIN.	46.0	44.4	42.8	44.0	54.0	43.2	36.8	26.0	36.3	40.6	42.2	42.3
TOTAL AF		7070.0	7170.0	7110.0	8500.0	8760.0	7710.0	6030.0	2740.0	5810.0	5690.0	7000.0	5080.0

RIO HONDO

above Stewart and Gray Road
STATION NO. F45B-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 140 square miles (excludes area above Santa Fe Dam).

LOCATION- 0.6 mile upstream of the confluence of Rio Hondo and Los Angeles River, 1.5 miles west of Downey.

REGULATION- partially regulated by Sierra Madre, Santa Anita, Sawpit, Eaton, Santa Fe, and Whittier Narrows Dams, several debris basins, and spreading grounds.

CHANNEL- concrete with rip-rap side slopes. trapezoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F45-R March 1, 1928 to April 18, 1951. at Station F45B-R October 31, 1951 to date.

REMARKS- subject to diversions from Eaton Creek, Monrovia Creek, Sawpit Creek, Little Santa Anita Canyon and other locations for irrigation and spreading. High flows from San Gabriel River may flow into Rio Hondo above Whittier Narrows Dam.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F45B-R

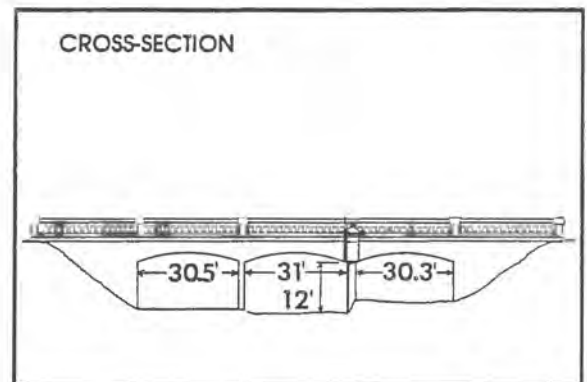
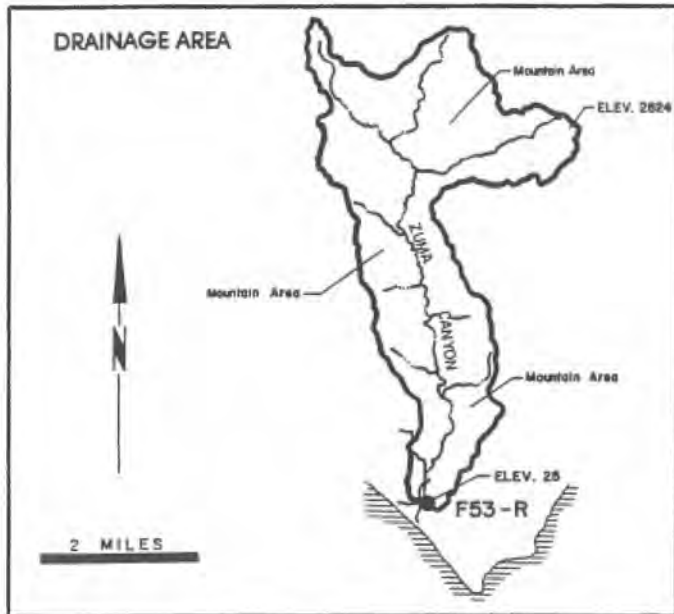
DRAINAGE AREA : 140.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	36.3	9.2	34.9	88.7	6.7	5.4	13.1	1.1	0.42	0.31	0.30	1.9
	MAX.	592.0	154.0	913.0	2660.0	86.4	93.1	163.0	13.1	1.0	0.70	0.70	21.7
	MIN.	0.10	0.30	0.0	0.10	0.90	0.7	0.90	0.10	0.10	0.10	0.10	0.10
TOTAL AF		2230.0	546.0	2150.0	5460.0	383.0	331.0	779.0	65.0	25.0	19.0	18.0	111.0

DUME CREEK

at Pacific Coast Highway

STATION NO. F53-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from highway bridge.

DRAINAGE AREA- 8.8 square miles.

LOCATION- on the downstream side of Pacific Coast Highway bridge near Dume Point about 0.2 miles from Pacific Ocean.

REGULATION- none.

CHANNEL- sand and gravel.

CONTROL- channel forms control.

LENGTH OF RECORD- January 15, 1930 to November 26, 1937 and November 3, 1938 to date.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

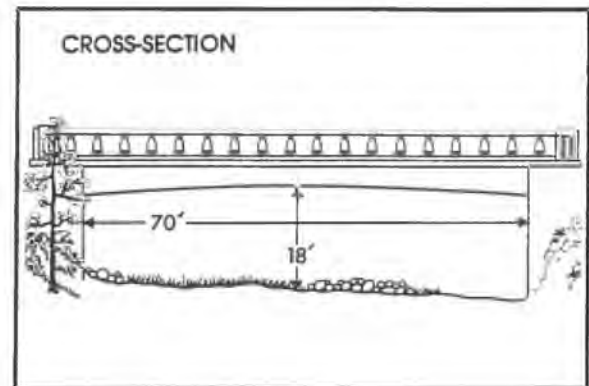
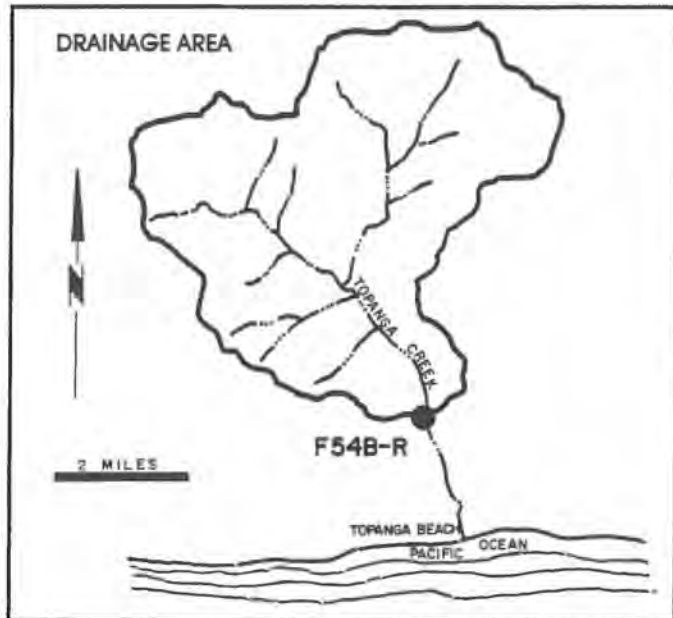
STATION NO. : F53-R

DRAINAGE AREA : 8.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR	MEAN	1.6	0.12	0.03	0.09	0.05	0.0	0.02	0.0	0.01	0.0	0.0	0.0
	MAX.	7.9	1.2	0.80	2.8	1.5	0.0	0.70	0.0	0.10	0.0	0.0	0.0
87-88	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		95.0	7.3	1.6	5.8	3.0	0.0	1.4	0.0	0.60	0.0	0.0	0.0

TOPANGA CREEK

above Mouth of Canyon
STATION NO. F54B-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading.
 DRAINAGE AREA- 18.0 square miles.
 LOCATION- downstream side of Topanga Canyon Road bridge, 2.0 miles north of Topanga Beach.
 REGULATION- none.
 CHANNEL- rock and gravel, natural section.
 CONTROL- none.
 LENGTH OF RECORD- at Station F54-R January 1, 1930 to June 4, 1940. at Station F54B-R, June 5, 1940 to date.

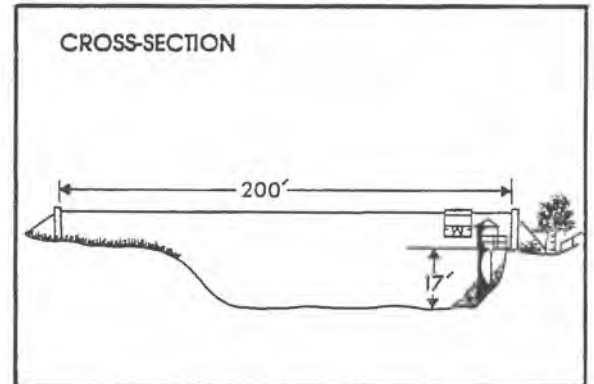
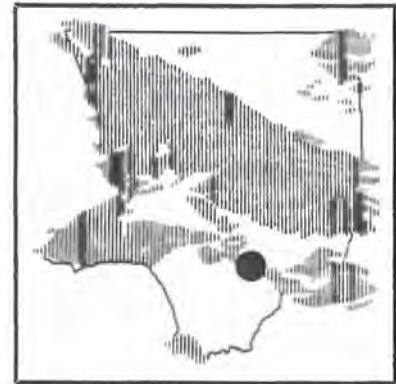
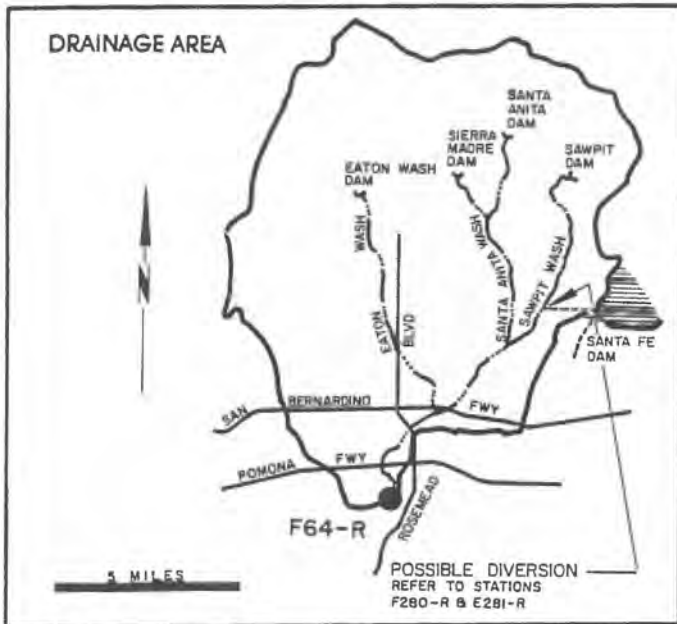
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. :

DRAINAGE AREA :

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	NO DATA AVAILABLE AT TIME OF PRINTING											
	MAX.												
	MIN.												
TOTAL AF													

RIO HONDO above Mission Bridge STATION NO. F64-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 115 square miles (excludes area above Santa Fe Dam).
 LOCATION- 1,000 feet above San Gabriel Boulevard, west of Rosemead Boulevard, 2.0 miles northeast of Montebello.
 REGULATION- partially regulated by Sierra Madre, Santa Anita, Sawpit, Eaton, and Santa Fe Dams and several debris basins.
 CHANNEL- sand and silt, natural in section.
 CONTROL- none.
 LENGTH OF RECORD- July 1, 1928 to date.
 REMARKS- subject to diversions; water purchased from the MWD passes this station for spreading in the coastal basin.

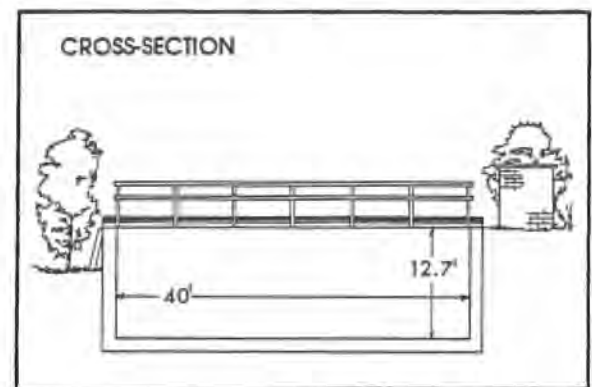
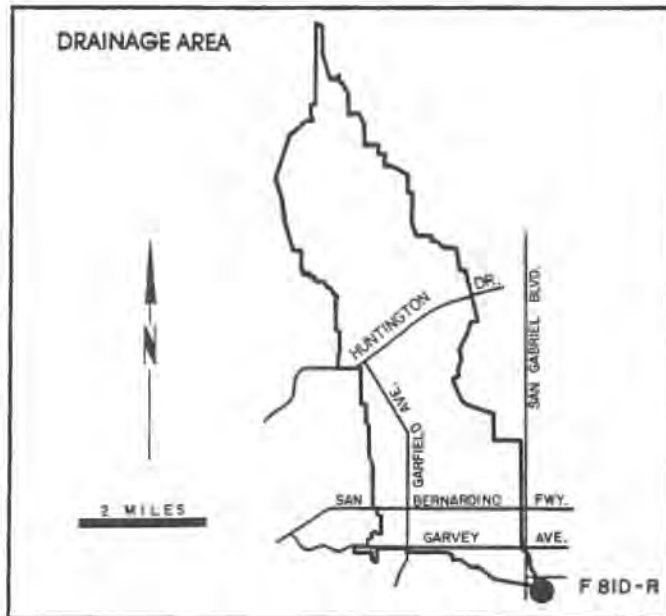
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F64-R

DRAINAGE AREA : 115.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	59.5	34.8	40.2	46.5	26.6	7.1	36.7	2.8	88.5	2.0	0.34	3.4
	MAX.	963.0	558.0	671.0	1260.0	311.0	98.7	355.0	3.9	258.0	4.8	2.5	71.0
	MIN.	1.0	0.80	1.2	1.2	3.4	3.0	1.7	2.3	1.6	0.0	0.0	0.0
TOTAL AF		3660.0	2070.0	2470.0	2860.0	1530.0	436.0	2180.0	173.0	5260.0	121.0	21.0	199.0

ALHAMBRA WASH near Klingerman Street STATION NO. F81D-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from footbridge.

DRAINAGE AREA- 15.2 square miles.

LOCATION- 250± feet above Klingerman Street and 2,650.0 feet below Garvey Avenue, South San Gabriel.

REGULATION- none.

CHANNEL- concrete, rectangular in section, 40.0 feet wide by 12.7 feet deep.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F81- R January 14, 1930 to September 30, 1934. at Station F81B- R October 1, 1934 to February 25, 1935. at Station F81C- R February 25, 1935 to April 27, 1936. at Station F81B- R April 27, 1936 to May 22, 1936. at Station F81D- R September 2, 1936 to date.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F81D-R

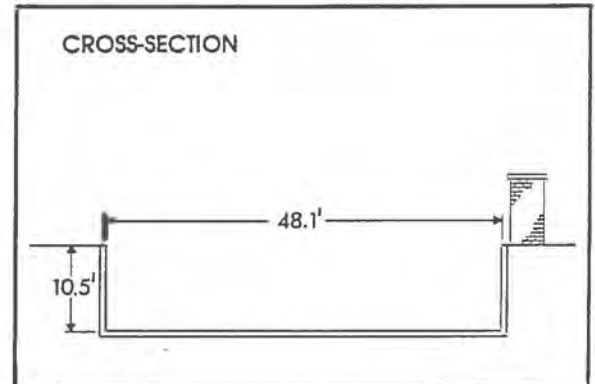
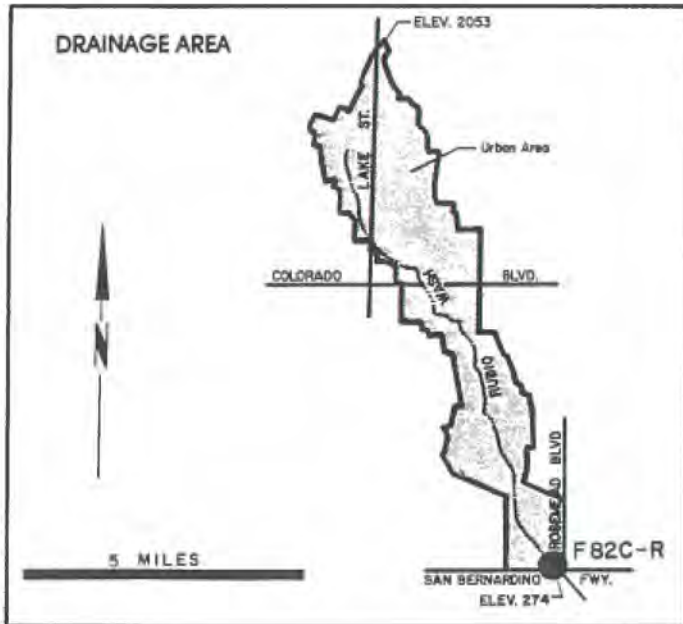
DRAINAGE AREA : 15.20 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	23.2	9.8	10.8	13.6	8.0	2.1	9.9	1.1	1.2	1.2	1.2	1.5
	MAX.	382.0	130.0	220.0	386.0	117.0	19.0	90.7	1.4	1.8	1.6	1.8	6.9
	MIN.	0.90	0.90	0.60	0.60	0.60	0.60	0.60	0.60	0.90	0.90	0.90	0.90
TOTAL AF		1430.0	580.0	664.0	836.0	458.0	127.0	588.0	68.0	70.0	71.0	72.0	87.0

RUBIO WASH

at Glendon Wash

STATION NO. F82C-R



RECORDER- 15 minute punched tape.
 METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from footbridge at station.
 DRAINAGE AREA- 10.9 square miles.
 LOCATION- on the east side of channel, 10 feet south of the westerly extension of Glendon Way, Rosemead.
 REGULATION- flow partly regulated by Las Flores and Rubio debris basins.
 CHANNEL- rectangular concrete.
 CONTROL- channel forms control.
 LENGTH OF RECORD- see station summary.

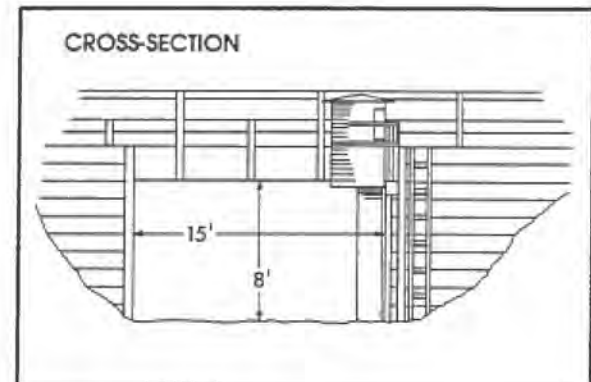
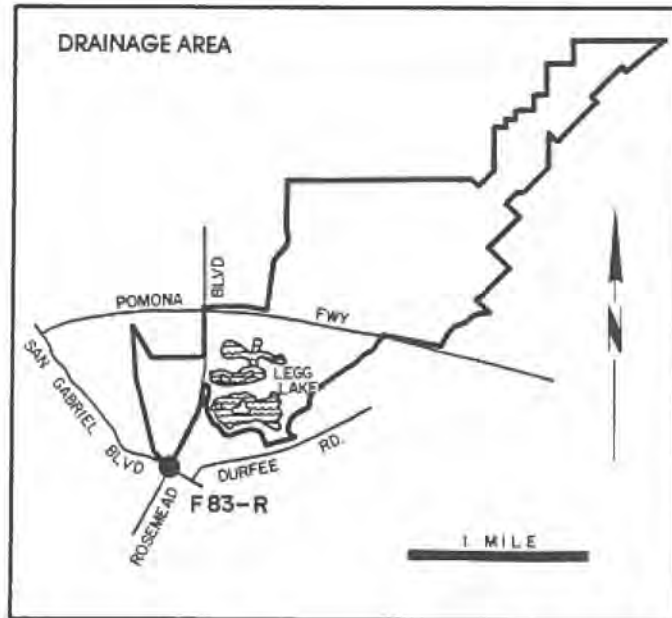
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F82C-R

DRAINAGE AREA : 10.90 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	11.3	7.1	6.5	8.3	6.2	2.0	7.7	0.45	0.39	0.38	0.46	0.74
	MAX.	165.0	96.9	145.0	246.0	102.0	30.0	76.2	1.0	0.60	0.60	1.0	10.5
	MIN.	0.10	0.10	0.10	0.0	0.0	0.20	0.20	0.10	0.20	0.20	0.20	0.20
TOTAL AF		696.0	421.0	399.0	512.0	357.0	122.0	459.0	28.0	23.0	23.0	28.0	44.0

MISSION CREEK at San Gabriel Boulevard STATION NO. F83-R



RECORDER- continuous water stage.
 METHOD MEASUREMENTS- wading or from bridge.
 DRAINAGE AREA- 4.2 square miles.
 LOCATION- upstream of San Gabriel Boulevard, 0.2 miles northeast of Montebello.
 REGULATION- partially regulated by outflow from Legg Lake.
 CHANNEL- sand with brush and fences, natural in section.
 CONTROL- channel forms control.
 LENGTH OF RECORD- June 14, 1930 to date.
 REMARKS- nearly all flows originate in rising water.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. :

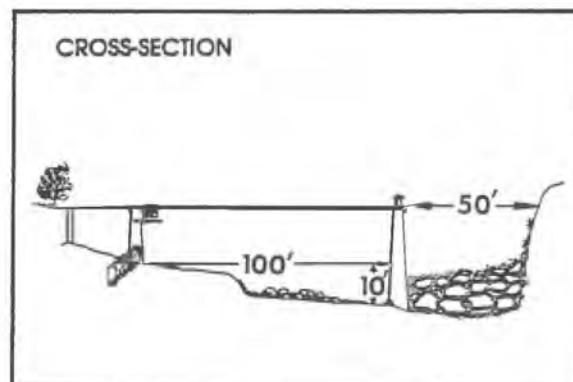
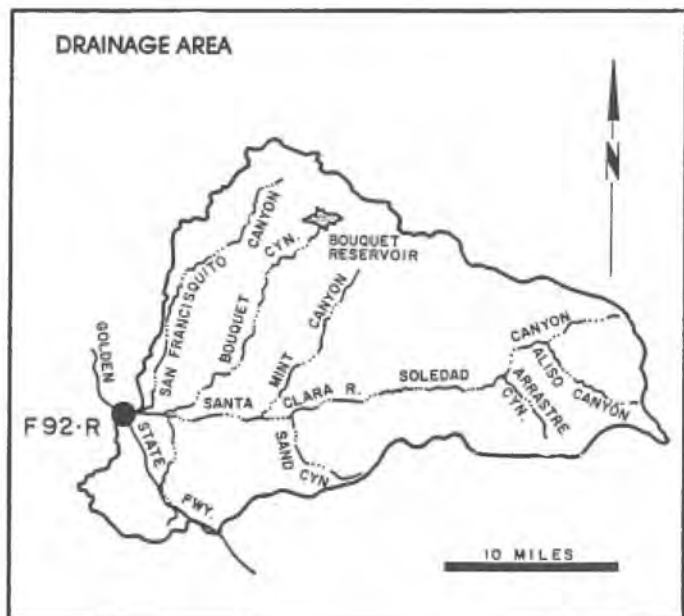
DRAINAGE AREA :

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN												
	MAX.	NO DATA AVAILABLE AT TIME OF PRINTING											
	MIN.												
TOTAL AF													

SANTA CLARA RIVER

below Highway 5

STATION NO. F92-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 410.4 square miles.
 LOCATION- downstream side of Old Highway bridge, 3.0 miles west of Saugus.
 REGULATION- partially regulated by Bouquet Canyon and Dry Canyon Reservoirs.
 CHANNEL- sand and gravel with brush, natural section.
 CONTROL- none.
 LENGTH OF RECORD- at Station F92-R January 18, 1930 to March 28, 1938, and September 24, 1956 to date. at Station F92B-R, October 1, 1938 to September 24, 1956.
 REMARKS- subject to diversions for irrigation.

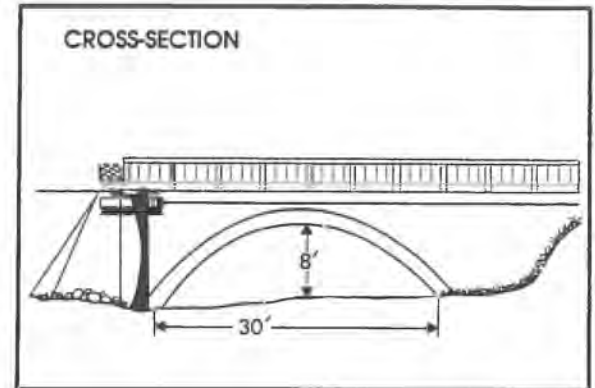
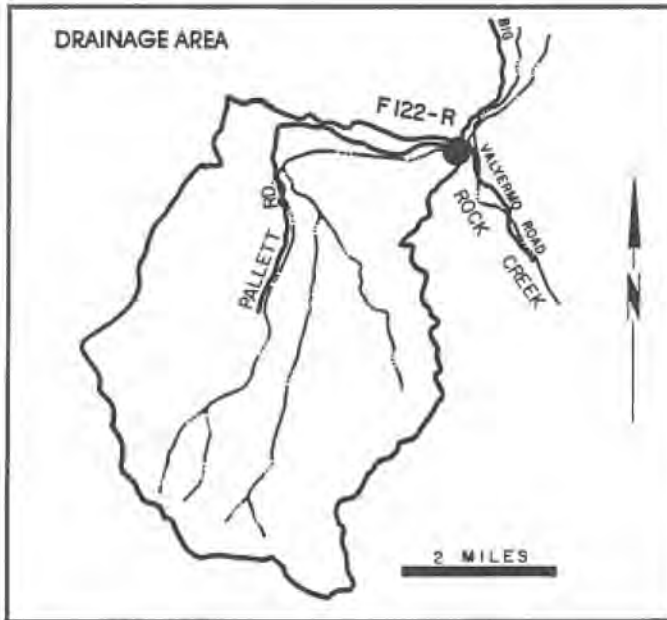
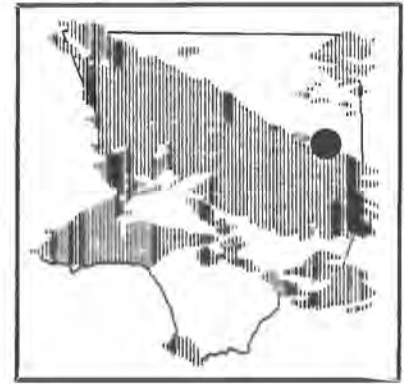
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F92C-R

DRAINAGE AREA : 410.40 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER	MEAN	18.9	21.7	33.1	26.2	19.6	12.5	10.2	11.3	14.9	11.2	9.0	9.3
	MAX.	485.0	198.0	447.0	281.0	128.0	17.0	17.0	15.3	15.3	14.0	9.3	9.3
	MIN.	0.0	14.6	10.6	11.5	7.6	12.0	3.9	8.8	14.0	8.4	8.8	9.3
TOTAL AF		1160.0	1290.0	2030.0	1610.0	1130.0	768.0	607.0	698.0	887.0	690.0	556.0	553.0

PALLETT CREEK at Valyermo Highway STATION NO. F122-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from bridge.
 DRAINAGE AREA- 15.8 square miles.
 LOCATION- upstream side of Valyermo Highway bridge, 5.0 miles southeast of Pearblossom.
 REGULATION- none.
 CHANNEL- sand and gravel, natural section.
 CONTROL- channel forms control for low flows; bridge culvert forms control for high flows.
 LENGTH OF RECORD- at Station F122-S December 29, 1930 to October 31, 1961. at Station F122-R, October 31, 1961 to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

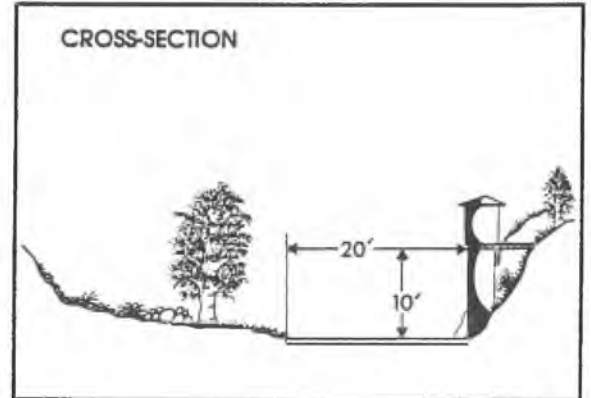
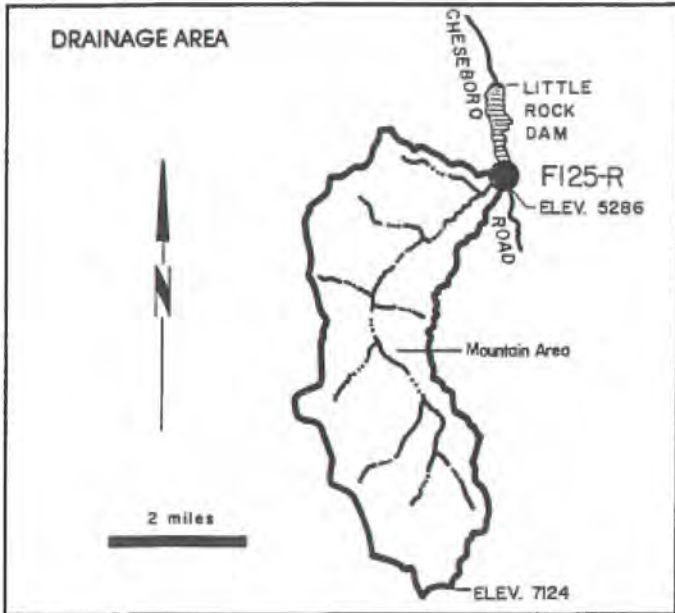
STATION NO. : F122-R

DRAINAGE AREA : 15.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.61	0.73	0.0	0.56	0.09	0.20	0.21	0.23	0.45	0.48	0.19	0.30
	MAX.	18.9	21.9	0.0	16.0	0.10	0.20	0.50	0.60	0.50	0.50	0.50	0.50
	MIN.	0.0	0.0	0.0	0.0	0.0	0.20	0.0	0.10	0.30	0.40	0.0	0.20
TOTAL AF		37.0	43.0	0.0	35.0	5.2	12.0	13.0	14.0	27.0	29.0	12.0	18.0

SANTIAGO CREEK

above Little Rock Creek
STATION NO. F125-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading.
 DRAINAGE AREA- 11.2 square miles.
 LOCATION- 1,000 feet above Little Creek and 4.5 miles south of Little Rock.
 REGULATION- none.
 CHANNEL- sand, gravel and boulders.
 CONTROL- concrete and rubble wall.
 LENGTH OF RECORD- September 29, 1953 to date.
 REMARKS- no high flow measurements.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F125-R

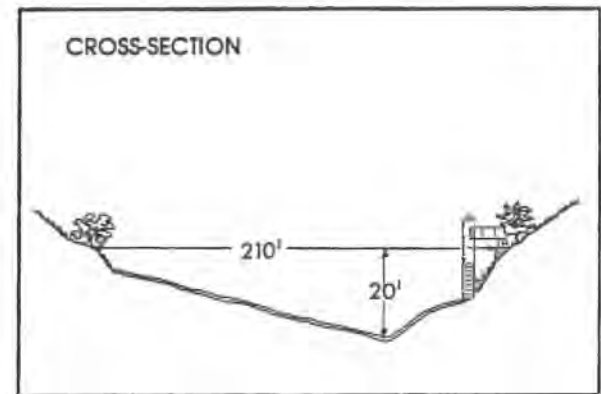
DRAINAGE AREA : 11.20 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.0	0.0	0.0	0.44	0.93	1.7	0.32	0.003	0.0	0.0	0.0	0.0
	MAX.	0.0	0.0	0.0	1.9	10.0	17.0	3.5	0.10	0.0	0.0	0.0	0.0
	MIN.	0.0	0.0	0.0	0.0	0.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		0.0	0.0	0.0	27.0	54.0	104.0	19.0	0.20	0.0	0.0	0.0	0.0

MALIBU CREEK

below Cold Creek

STATION NO. F130-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 104.96 square miles

LOCATION- 0.2± mile downstream of Cold Creek, 6.0 miles southwest of Calabasas.

REGULATION- Lake Sherwood Dam, Lake Eleanor Dam, Malibu Lake Dam, and Crag's Dam. Other small recreational dams affect low summer flows.

CHANNEL- coarse sand and gravel, lined with trees and brush, natural in section.

CONTROL- concrete stabilizer.

LENGTH OF RECORD- January 17, 1931 to date.

REMARKS- cableway washed out on January 25, 1969; no high flow measurements since that date.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F130-R

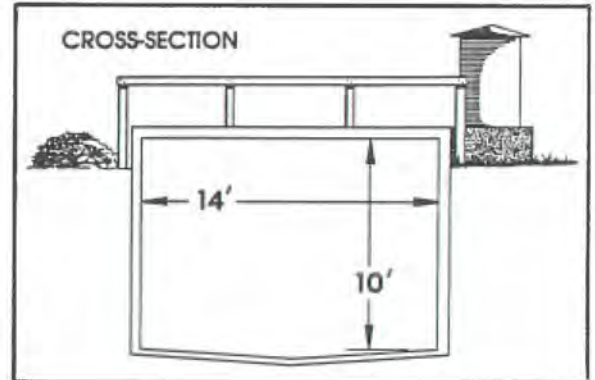
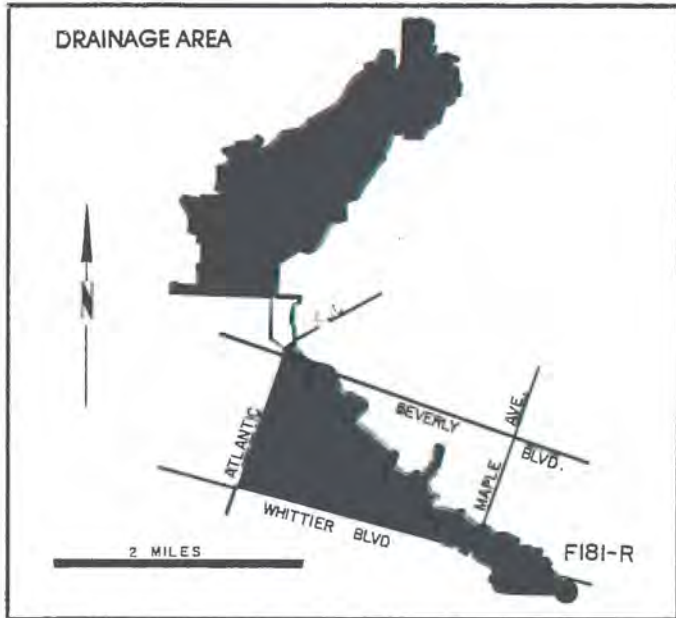
DRAINAGE AREA : 104.96 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	15.2	28.4	52.2	53.9	51.4	28.0	34.5	7.5	4.8	2.7	2.1	INC.
	MAX.	143.0	295.0	368.0	559.0	471.0	226.0	299.0	14.8	7.1	6.9	4.4	INC.
	MIN.	1.4	13.1	13.1	16.8	12.7	6.6	6.3	4.4	3.5	0.6	0.9	INC.
TOTAL AF		934.0	1690.0	3210.0	3320.0	2960.0	1720.0	2050.0	462.0	283.0	167.0	128.0	INC.

MONTEBELLO STORM DRAIN

above Rio Hondo

STATION NO. F181-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from footbridge.
 DRAINAGE AREA- 9.6 square miles.
 LOCATION- 150.0 feet east of Mines Avenue and 500.0 feet west of Rio Hondo.
 REGULATION- none.
 CHANNEL- 14.0-foot by 10.0-foot concrete, box section.
 CONTROL- channel forms control.
 LENGTH OF RECORD- January 12, 1932 to date.
 REMARKS- may be affected by backwater during flood flows.

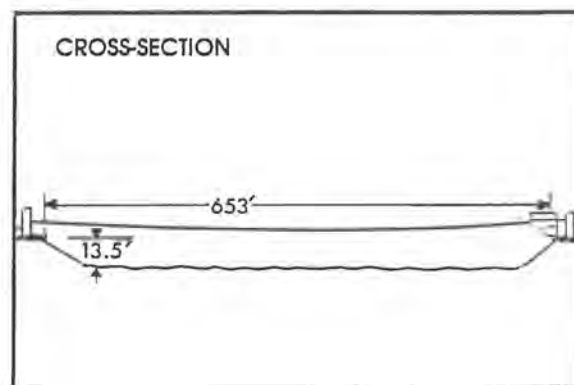
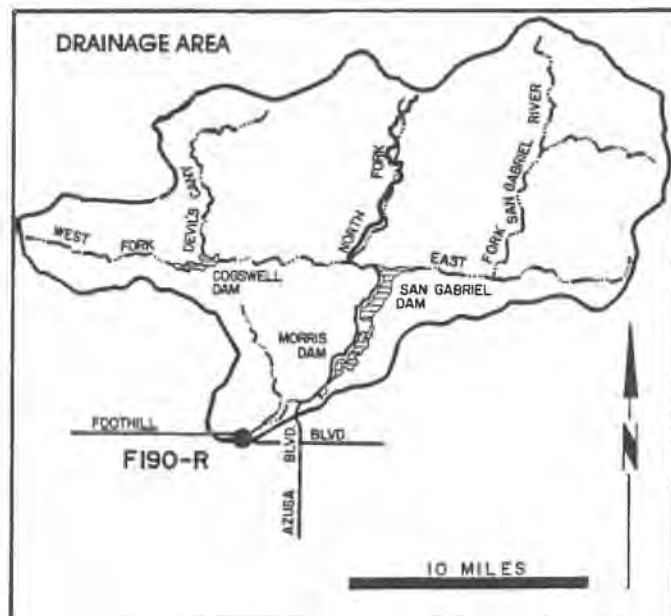
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F181-R

DRAINAGE AREA : 9.60 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	2.5	0.98	1.7	2.9	1.1	0.35	1.8	0.22	0.26	0.37	0.33	0.28
	MAX.	36.2	10.1	26.9	81.2	14.2	3.2	20.6	0.40	0.40	0.40	0.60	0.80
	MIN.	0.10	0.0	0.0	0.0	0.10	0.10	0.10	0.10	0.20	0.30	0.20	0.10
TOTAL AF		156.0	59.0	107.0	178.0	61.0	21.0	104.0	13.0	16.0	23.0	20.0	17.0

SAN GABRIEL RIVER at Foothill Boulevard STATION NO. F190-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 230.0 square miles.
 LOCATION- downstream side of Foothill Boulevard bridge, 2.0 miles west of Azusa.
 REGULATION- partially regulated by Cogswell, San Gabriel, and Morris Dams.
 CHANNEL- sand, gravel and rock, trapezoidal section with soft bottom.
 CONTROL- gunited rock stabilizers.
 LENGTH OF RECORD- February 22, 1932 to date.
 REMARKS- flows may include imported water originating at the Metropolitan Water District outlet below Morris Dam.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F190-R

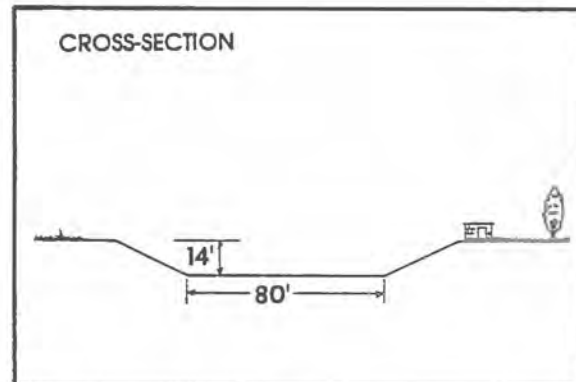
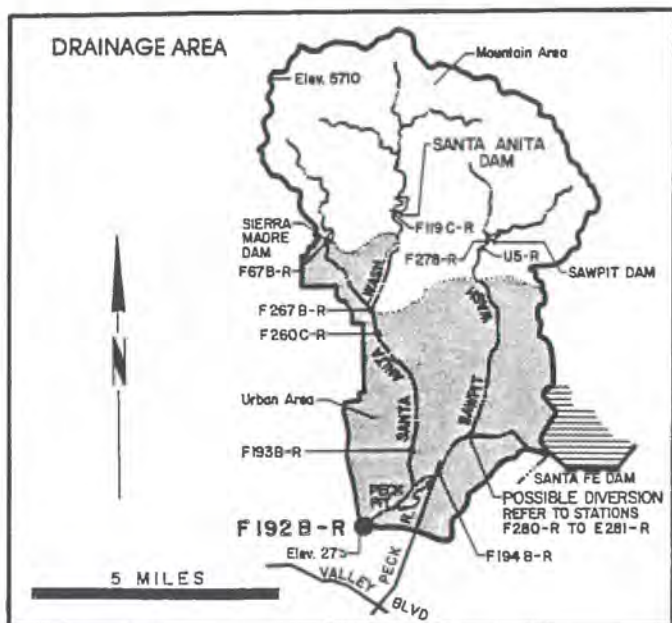
DRAINAGE AREA : 230.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	4.9	42.6	107.0	230.0	172.0	0.0	0.0	0.0	172.0	0.0	5.7	13.2
	MAX.	7.6	100.0	151.0	387.0	296.0	0.0	0.0	0.0	544.0	0.0	18.8	100.0
	MIN.	3.6	0.0	8.2	179.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		299.0	2540.0	6570.0	14160.0	9920.0	0.0	0.0	0.0	10260.0	0.0	348.0	783.0

RIO HONDO

below Lower Azusa Road

STATION NO. F192B-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading.

DRAINAGE AREA- 40.9 square miles (excludes area above Santa Fe Dam).

LOCATION- 300.0 feet downstream from Lower Azusa Road, 1.5 miles north of El Monte.

REGULATION- partially regulated by Sierra Madre Dam, Santa Anita Dam, Sawpit Dam, Santa Fe Dam, Peck Pit, Buena Vista Pit, and several debris basins.

CHANNEL- concrete, trapezoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F192-R February 22, 1932 to May 7, 1958. at Station F192B-R May 7, 1958 to date.

REMARKS- subject to diversions from Monrovia, Sawpit, and Little Santa Anita Creeks. Also from the San Gabriel River below Santa Fe Dam; and for irrigation and spreading.

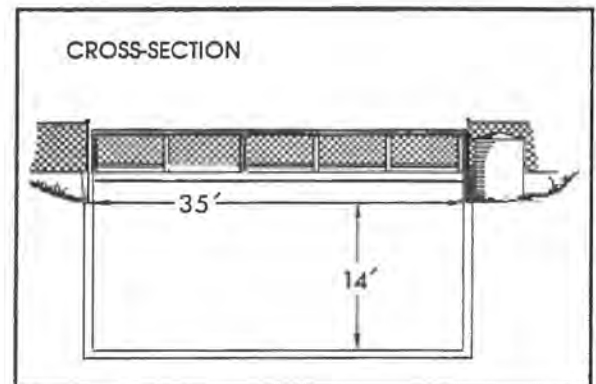
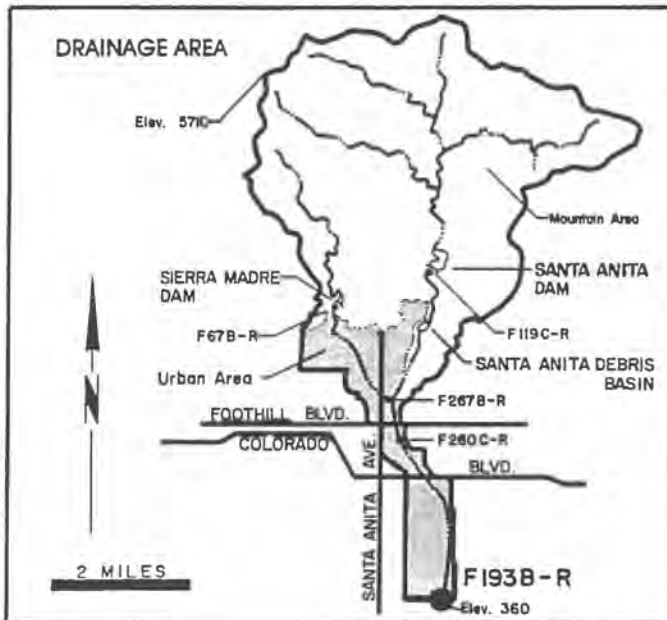
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F192B-R

DRAINAGE AREA : 40.90 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.75	0.29	0.55	0.83	0.34	0.03	0.49	0.04	68.6	0.04	0.03	0.06
	MAX.	16.1	6.4	12.0	25.4	3.7	0.60	6.6	0.10	223.0	0.10	0.10	0.50
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		46.0	17.0	34.0	51.0	20.0	1.6	29.0	2.6	4080.0	2.2	2.0	3.8

SANTA ANITA WASH at Longden Avenue STATION NO. F193B-R



RECORDER - continuous water stage.
 METHOD OF MEASUREMENTS- wading or from bridge.
 DRAINAGE AREA- 18.8 square miles.
 LOCATION - 30.0 feet above Longden Avenue, 1.5 miles south of Arcadia.
 REGULATION - regulated by Santa Anita and Sierra Madre Dams, and Santa Anita Debris Basin.
 CHANNEL - concrete rectangular section.
 CONTROL- channel forms control.
 LENGTH OF RECORD- at Station F193-R, April 25, 1932 to March 1, 1938. at Station F193B-R, January 5, 1960 to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

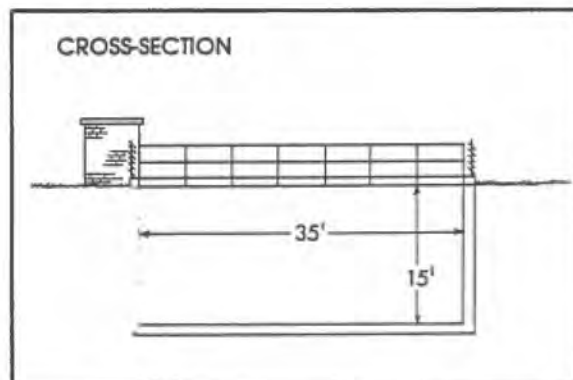
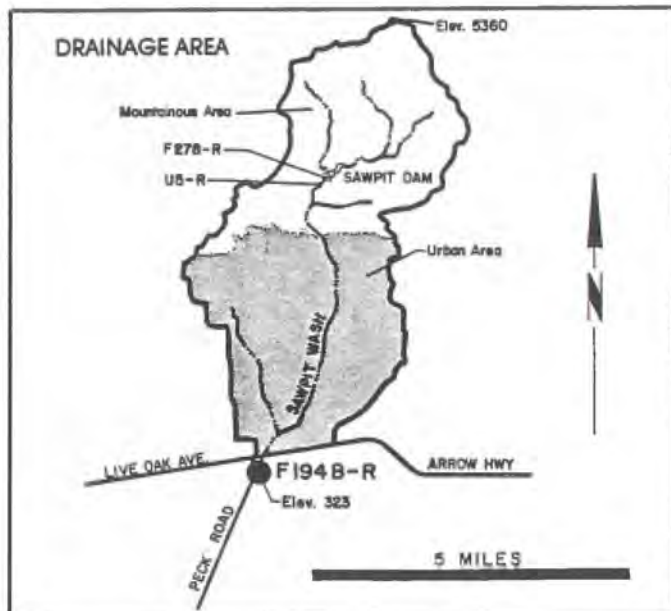
STATION NO. : F193B-R

DRAINAGE AREA : 18.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	3.1	2.0	1.8	3.0	3.8	1.7	2.1	0.11	0.48	0.51	0.25	0.33
	MAX.	48.1	31.9	30.4	82.0	74.3	42.3	27.3	0.30	1.0	1.0	0.70	3.6
	MIN.	0.20	0.10	0.0	0.0	0.0	0.10	0.0	0.0	0.10	0.20	0.0	0.0
TOTAL AF		191.0	121.0	112.0	182.0	217.0	106.0	125.0	6.5	29.0	32.0	15.0	20.0

SAWPIT WASH

below Live Oak Avenue
STATION NO. F194B-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from footbridge.
 DRAINAGE AREA- 16.1 square miles.
 LOCATION- 1,500 feet below Arrow Highway, 3.0 miles south of Monrovia.
 REGULATION- partially regulated by Sawpit and Santa Fe Dams, and by several debris basins.
 CHANNEL- concrete, rectangular section.
 CONTROL- channel forms control.
 LENGTH OF RECORD- at Station F194-R February 22, 1932 to September 1, 1935. at Station F194B-R December 5, 1960 to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F194B-R

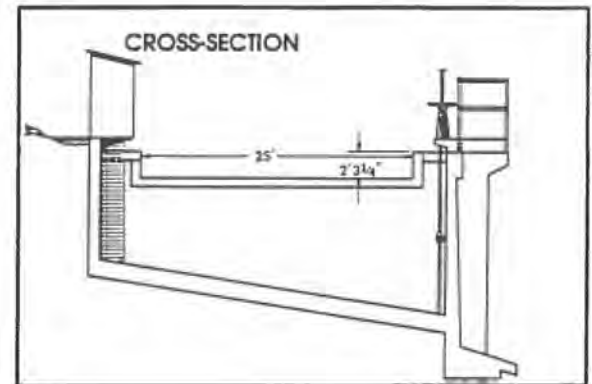
DRAINAGE AREA : 16.10 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	6.0	3.4	3.3	4.8	2.7	0.83	4.6	0.45	130.0	0.13	0.18	0.41
	MAX.	111.0	59.1	61.4	137.0	26.2	17.1	47.8	0.90	385.0	0.20	0.40	6.9
	MIN.	0.10	0.10	0.0	0.10	0.10	0.10	0.10	0.30	0.10	0.10	0.10	0.10
TOTAL AF		368.0	202.0	205.0	294.0	153.0	51.0	273.0	28.0	7730.0	8.1	11.0	24.0

SAN GABRIEL-AZUSA CONDUIT

at 25 ft. Weir below San Gabriel Dam

STATION NO. F250-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- weir formula with gage height observation.
 DRAINAGE AREA- none.
 LOCATION- on the concrete conduit which diverts from San Gabriel Dam, 160 feet below the Dam.
 REGULATION- regulated in section.
 CONTROL- 25-foot concrete weir.
 LENGTH OF RECORD- February 26, 1933, to date.
 REMARKS- approximate capacity 95 second-feet.

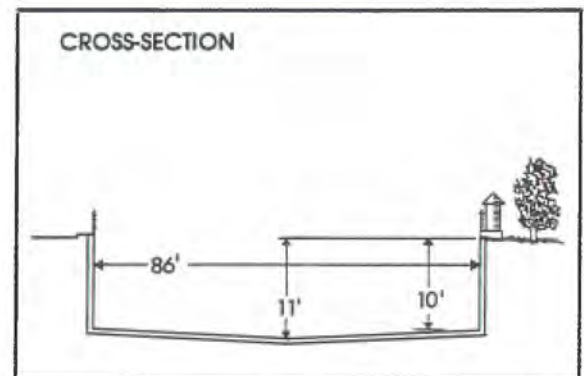
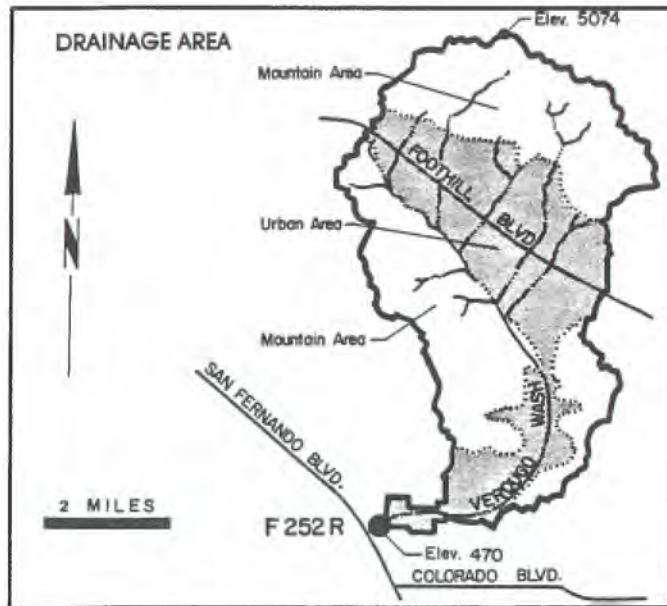
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F250-R

DRAINAGE AREA : NONE

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	5.6	43.9	20.7	16.6	22.1	37.5	22.4	61.6	46.2	50.1	49.2	51.8
	MAX.	29.8	79.4	44.9	45.9	60.1	53.4	53.4	70.7	69.5	50.2	50.2	54.1
	MIN.	0.0	24.6	0.20	0.20	0.20	0.20	0.20	0.20	0.20	49.1	23.4	48.0
TOTAL AF		346.0	2610.0	1270.0	1020.0	1270.0	2310.0	1330.0	3790.0	2750.0	3080.0	3030.0	3080.0

VERDUGO WASH at Estelle Avenue STATION NO. F252-R



RECORDED- continuous water stage.
METHOD OF MEASUREMENTS- wading or from Concord Street Bridge.
DRAINAGE AREA- 26.8 square miles.
LOCATION- 800.0 feet east of San Fernando Road, 2.0 miles northwest of Glendale.
REGULATION- partially regulated by several debris basins.
CHANNEL- concrete, rectangular in section.
CONTROL- channel forms control.
LENGTH OF RECORD- December 2, 1935 to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F252-R

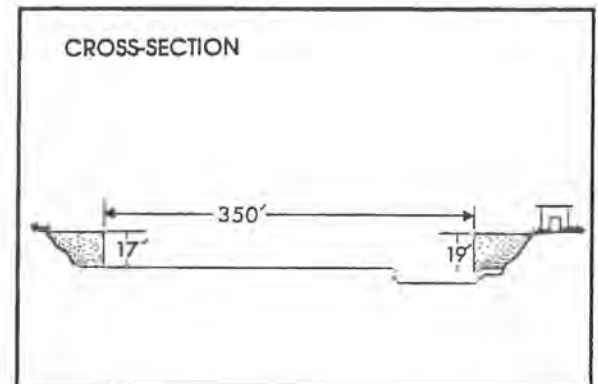
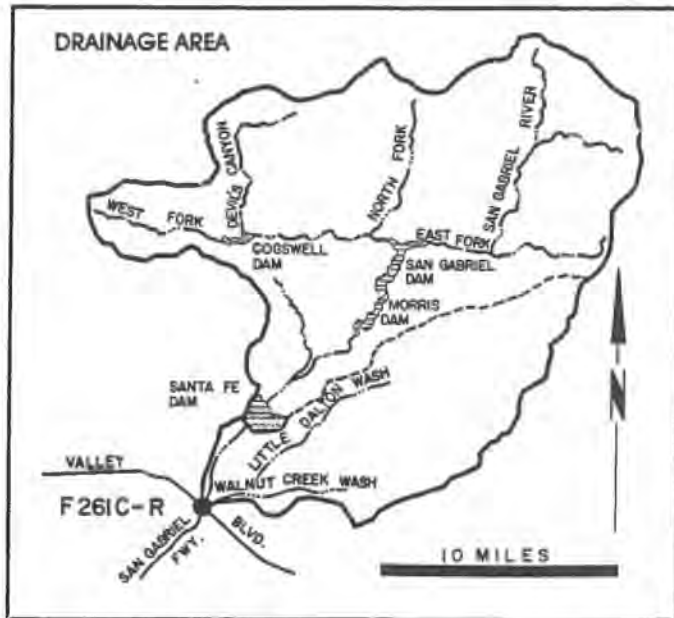
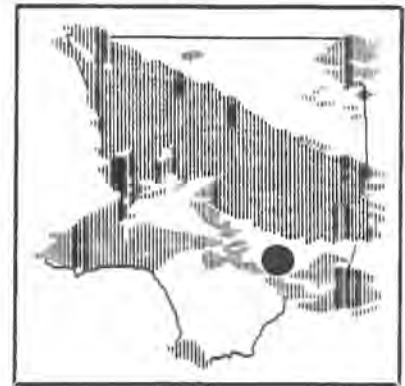
DRAINAGE AREA : 26.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	38.1	32.8	54.1	25.7	31.9	5.9	14.8	5.1	7.8	4.9	6.8	4.6
	MAX.	294.0	272.0	688.0	478.0	423.0	74.0	163.0	14.8	10.6	8.4	80.6	30.2
	MIN.	2.8	3.9	5.0	5.0	2.8	2.8	2.5	2.5	5.0	2.8	2.3	2.3
TOTAL AF		2340.0	1950.0	3330.0	1580.0	1830.0	364.0	878.0	313.0	462.0	301.0	418.0	275.0

SAN GABRIEL RIVER

below Valley Boulevard

STATION NO. F261C-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading.

DRAINAGE AREA- 118.0 square miles (excludes area above Santa Fe Dam).

LOCATION- 1,150.0 feet below Valley Boulevard, 2.5 miles east of El Monte.

REGULATION- partly regulated by Santa Fe, Big Dalton, Puddingstone Diversion, and Puddingstone Dams.

CHANNEL- sand and gravel bottom with rip-rap side slopes; trapezoidal section.

CONTROL- concrete stabilizer with low-flow notch.

LENGTH OF RECORD- at Station F261-R March 11, 1937 to September 30, 1941. at Station F261B-R October 1, 1941 to April 23, 1946. at Station F261C-R November 29, 1960 to date.

REMARKS- flows may include imported water originating at Metropolitan Water District outlets at San Dimas Canyon and below San Bernardino Road.

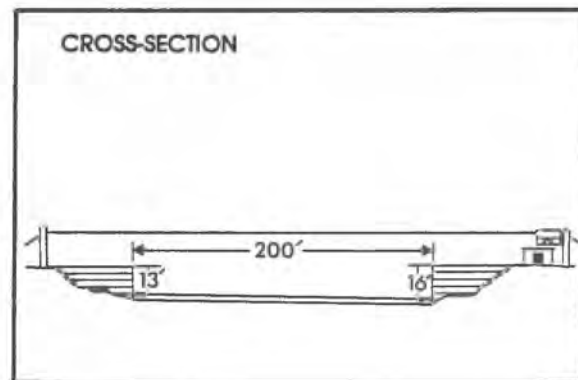
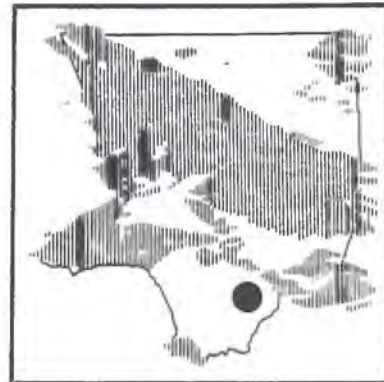
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F261C-R

DRAINAGE AREA : 118.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	36.4	97.3	30.9	46.7	68.6	103.0	53.8	142.0	63.5	2.5	5.1	7.0
	MAX.	738.0	315.0	448.0	1000.0	234.0	160.0	571.0	219.0	157.0	11.0	27.0	16.6
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.6
TOTAL AF		2240.0	5790.0	1900.0	2870.0	3940.0	6340.0	3200.0	8700.0	3780.0	153.0	316.0	415.0

SAN GABRIEL RIVER above Florence Avenue STATION NO. F262B-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 215.8 square miles (excludes area above Santa Fe Dam).

LOCATION- 1,400 feet above Florence Avenue, 2.0 miles east of Downey.

REGULATION- partially regulated by Cogswell, San Gabriel, Morris, Santa Fe, Big Dalton, San Dimas, Puddingstone Diversion, Puddingstone, Live Oak, Thompson Creek and Whittier Narrows Dams, several debris basins, MWD outlets, and several spreading grounds.

CHANNEL- sand bottom with rip-rap slopes, trapezoidal section.

CONTROL- concrete stabilizer.

LENGTH OF RECORD- at Station F267-R February 27, 1937 to September 30, 1967. at Station F262B-R August 6, 1968 to date.

REMARKS- no record during 1967-1968 season due to channel construction.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

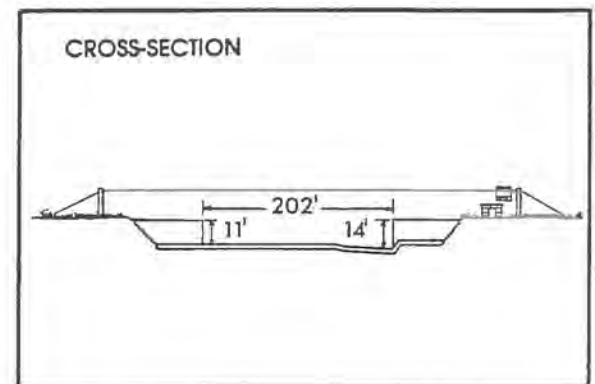
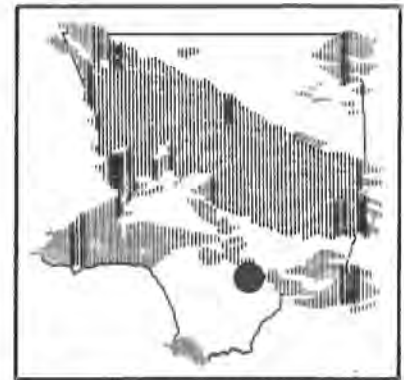
STATION NO. : F262B-R

DRAINAGE AREA : 215.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.0	0.0	0.07	5.8	0.0	0.04	1.8	0.0	0.0	0.0	0.0	0.0
	MAX.	0.0	0.0	2.1	75.9	0.0	0.80	34.4	0.0	0.0	0.0	0.0	0.0
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		0.0	0.0	4.6	354.0	0.0	2.2	105.0	0.0	0.0	0.0	0.0	0.0

SAN GABRIEL RIVER

below San Gabriel River Parkway
STATION NO. F263C-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 206.3 square miles (excludes area above Santa Fe Dam).

LOCATION- 462.0 feet below San Gabriel River Parkway, 1.4 miles northeast of Pico Rivera.

REGULATION- partly regulated by Santa Fe, Big Dalton, Puddingstone Diversion, Puddingstone, and Thompson Creek Dams. Flows may include imported water from several Metropolitan Water District outlets. Water is at times diverted to the Zone I ditch upstream of Whittier Narrows Dam.

CHANNEL- rip-rap slopes with sand bottom trapezoidal section.

CONTROL- concrete stabilizer.

LENGTH OF RECORD - at Station F263-R February 4, 1937 to March 6, 1952. at Station F263B-R March 6, 1952 to August 9, 1968. at Station F263C-R August 9, 1968 to date.

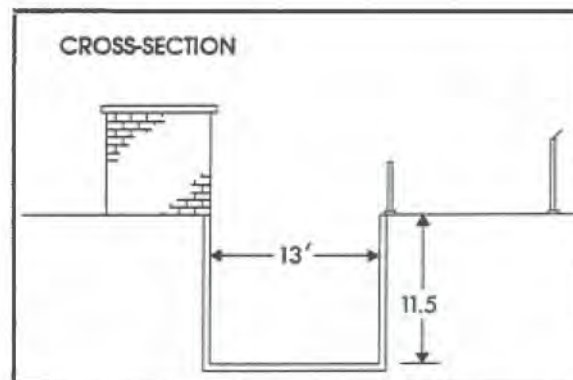
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F263C-R

DRAINAGE AREA : 206.30 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	21.1	49.6	55.7	39.3	54.1	63.6	52.4	7.9	34.7	4.4	10.1	0.0
	MAX.	189.0	124.0	168.0	395.0	262.0	141.0	559.0	24.4	90.0	45.6	26.8	0.0
	MIN.	0.0	1.4	3.8	2.6	7.8	22.5	1.2	0.80	0.0	0.0	0.0	0.0
TOTAL AF		1300.0	2950.0	3420.0	2420.0	3110.0	3910.0	3120.0	487.0	2070.0	271.0	619.0	0.0

SIERRA MADRE WASH at Highland Oaks Avenue STATION NO. F267B-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from upstream end of conduit 50 feet below station.

DRAINAGE AREA- 3.8 square miles.

LOCATION- on the south bank of the channel 50 feet above Highland Oaks Avenue, one and one-half miles southeast of Sierra Madre.

REGULATION- partially regulated by Sierra Madre Dam. Usual regulation affects high flows only.

DIVERSIONS- underground and surface flows developed and diverted by Sierra Madre Water Department. Flow also diverted about one mile above station for spreading in Sierra Madre Spreading Grounds.

CHANNEL-rectangular concrete 13 feet wide and 11.5 feet deep.

LENGTH OF RECORD- see station summary.

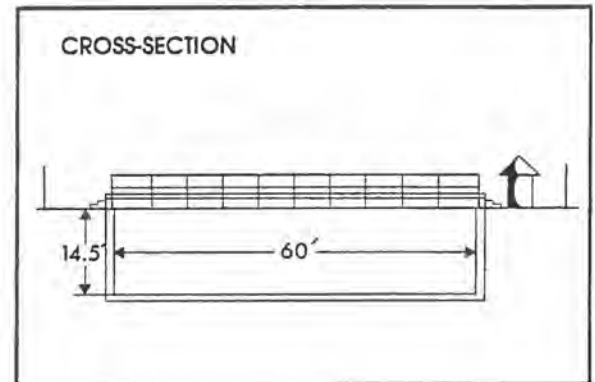
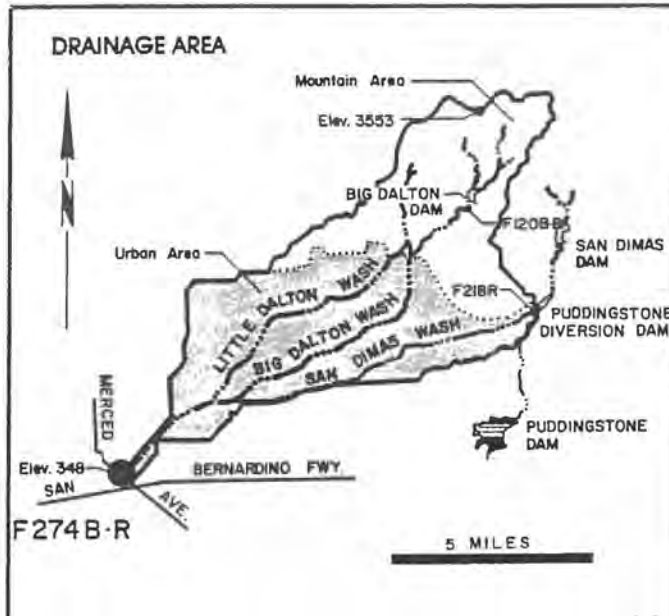
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F267B-R

DRAINAGE AREA : 3.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.75	0.43	1.7	0.64	0.43	0.33	0.38	0.01	0.05	0.08	0.05	0.10
	MAX.	12.0	5.9	11.9	18.6	7.6	6.7	4.5	0.10	0.10	0.20	0.10	2.4
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		46.0	26.0	102.0	39.0	25.0	20.0	23.0	0.40	2.8	5.0	2.2	6.0

DALTON WASH at Merced Avenue STATION NO. F274B-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from footbridge 100 feet upstream from station.

DRAINAGE AREA- 36.0 square miles, not including the area above Puddingstone Diversion Dam.

LOCATION- on the west bank and upstream of Merced Avenue about 150 feet, about one-half mile above the junction with Walnut Wash and about one mile south of Baldwin Park.

REGULATION- partly regulated by Big Dalton Dam, San Dimas Dam, Puddingstone Diversion Dam, Big Dalton Spreading Grounds, Little Dalton Spreading Grounds, Big Dalton Debris Basin, Little Dalton Debris Basin, and Irwindale Spreading Grounds.

REMARKS- flow may include imported water originating at San Dimas.

WATER YEAR : 1987-88

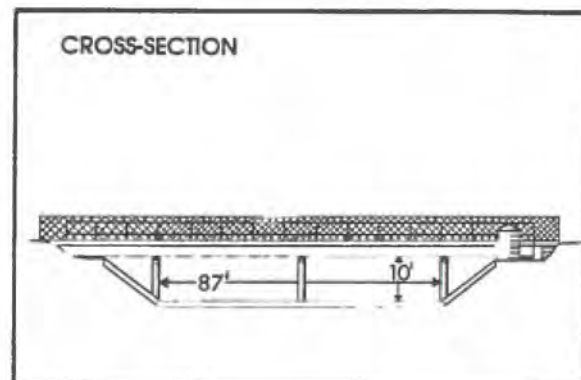
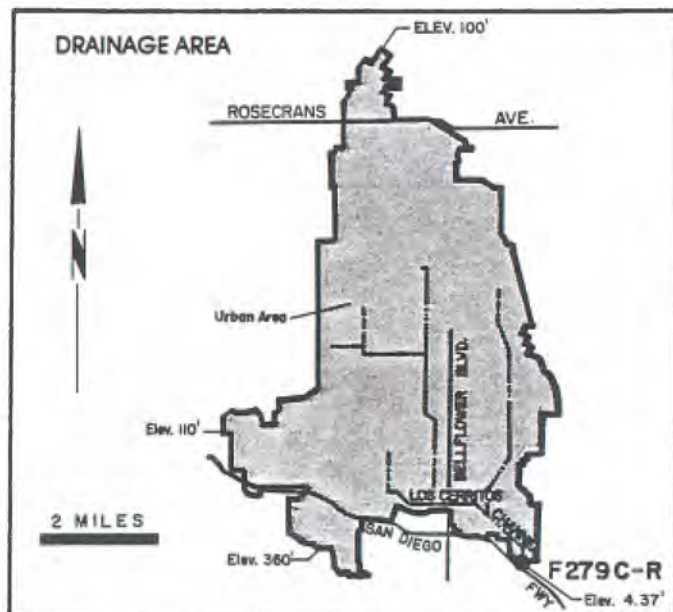
(DISCHARGE IN SEC-FT)

STATION NO. : F274B-R

DRAINAGE AREA : 35.95 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	21.3	90.8	29.3	19.2	44.8	102.0	36.5	152.0	69.2	2.5	3.8	4.0
	MAX.	418.0	214.0	311.0	421.0	128.0	207.0	263.0	273.0	184.0	9.1	16.3	10.4
	MIN.	1.0	1.9	1.6	2.7	2.3	0.10	0.40	0.40	1.3	0.10	1.9	1.6
TOTAL AF		1310.0	5400.0	1800.0	1180.0	2580.0	6290.0	2170.0	9320.0	4120.0	154.0	236.0	238.0

LOS CERRITOS CHANNEL at Stearns Street STATION NO. F279C-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from bridge.

DRAINAGE AREA- 25.6 square miles.

LOCATION- upstream of Stearns Street, Long Beach.

REGULATION- none.

CHANNEL- concrete, trapezoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F279-R November 23, 1942 to January 1, 1949. at Station F279B-R January 1, 1949 to May 26, 1955. at Station F279C-R October 26, 1955 to date.

REMARKS- station not in service May 26, 1955 to October 26, 1955 due to channel construction.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

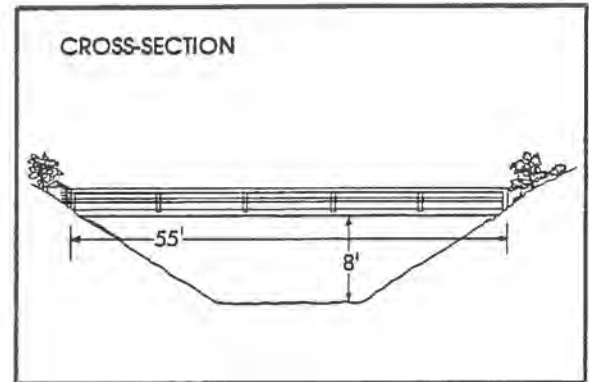
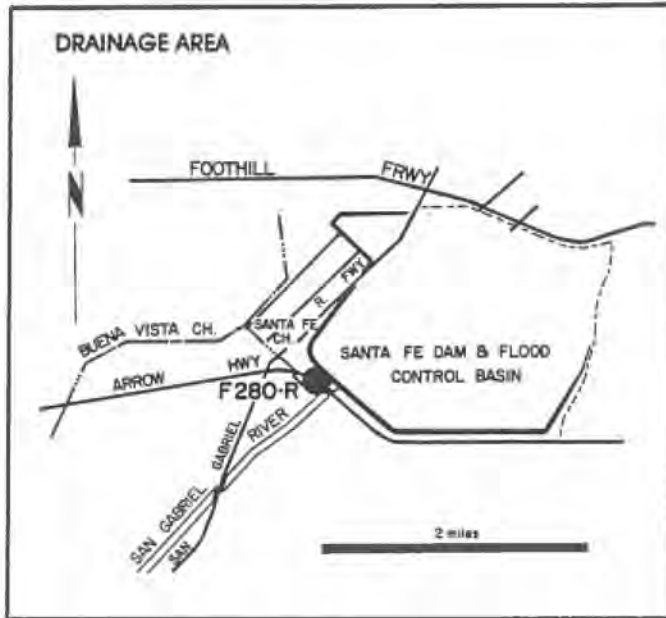
STATION NO. : F279C-R

DRAINAGE AREA : 25.60 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	15.4	6.0	13.1	16.1	8.8	2.2	11.6	1.0	1.2	1.3	2.4	2.1
	MAX.	267.0	50.3	168.0	412.0	167.0	10.6	153.0	1.5	1.7	1.5	7.6	4.4
	MIN.	1.0	0.60	0.10	0.20	0.40	0.60	0.80	0.40	0.80	1.1	1.5	1.3
TOTAL AF		946.0	357.0	805.0	989.0	508.0	135.0	688.0	64.0	72.0	79.0	146.0	122.0

SANTA FE CHANNEL

below Santa Fe Dam
STATION NO. F280-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from footbridge.

DRAINAGE AREA- controlled.

LOCATION- 400.0 feet downstream of Santa Fe Dam outlet and 1.5 miles north of Baldwin Park.

REGULATION- flow regulated by five gates of stilling basin outlet of Santa Fe Dam.

CHANNEL- sand and gravel, natural section.

CONTROL- concrete stabilizer.

LENGTH OF RECORD- at Station F280-S October 1, 1942 to May 12, 1944. at Station F280-R May 12, 1944 to date.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

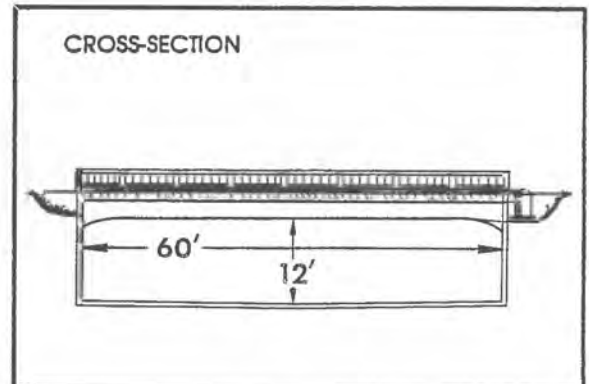
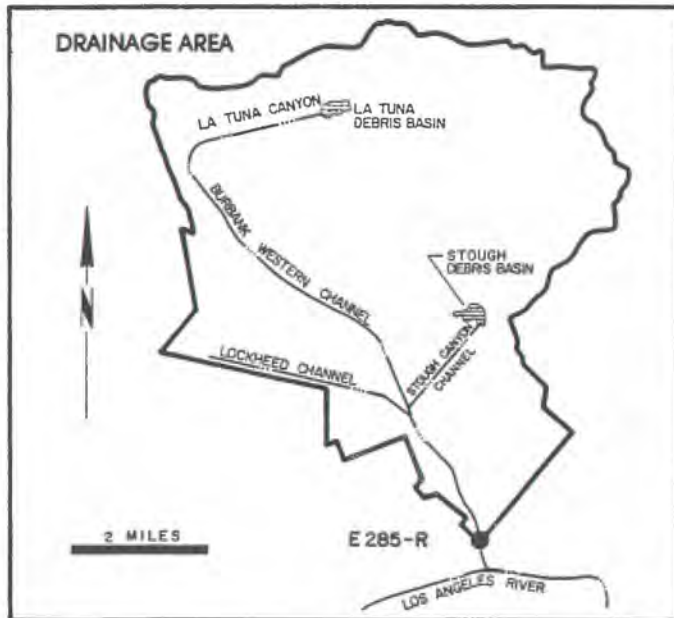
STATION NO. : F280-R

DRAINAGE AREA : CONTROLLED

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.0	0.0	0.0	0.003	0.0	0.0	0.0	0.0	145.0	0.0	0.0	0.01
	MAX.	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	424.0	0.0	0.0	0.10
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		0.0	0.0	0.0	0.20	0.0	0.0	0.0	0.0	8360.0	0.0	0.0	0.60

BURBANK-WESTERN ST. DR.

at Riverside Drive
STATION NO. E 285-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading and from bridge.
 DRAINAGE AREA- 25.0 square miles.
 LOCATION- 20.0 feet upstream from Riverside Drive bridge, Glendale.
 REGULATION- Several debris basins on tributaries.
 CHANNEL- concrete, rectangular section.
 CONTROL- channel forms control.
 LENGTH OF RECORD- October 1, 1949 to date.
 REMARKS- operated in cooperation with the USCE.

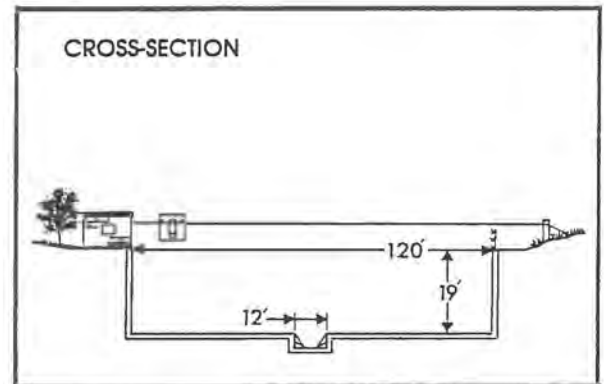
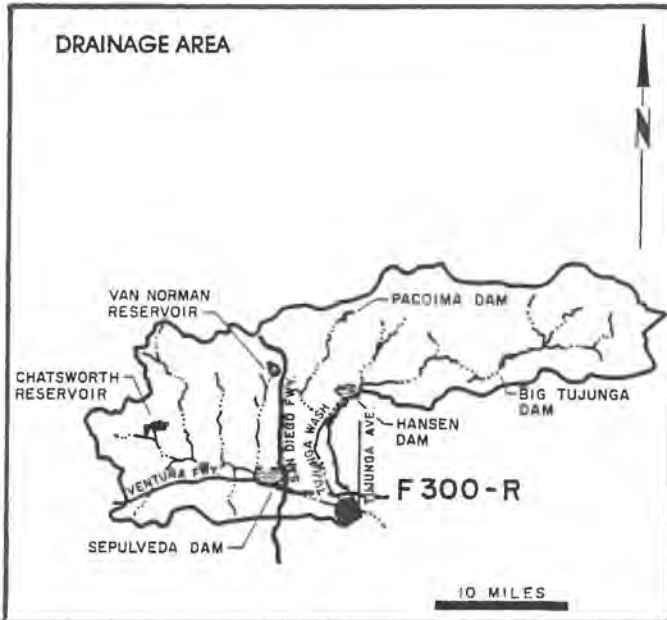
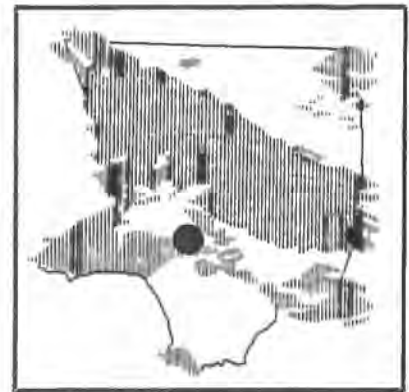
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : E285-R

DRAINAGE AREA : 25.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	44.1	22.4	19.2	24.4	27.1	12.4	25.5	10.7	9.3	12.4	11.7	13.5
	MAX.	601.0	166.0	179.0	363.0	228.0	18.5	146.0	11.9	10.6	13.1	13.1	21.2
	MIN.	10.6	7.9	7.9	10.6	10.6	9.1	10.6	9.1	9.1	10.6	9.1	10.6
TOTAL AF		2710.0	1330.0	1180.0	1500.0	1560.0	765.0	1520.0	655.0	553.0	761.0	716.0	804.0

LOS ANGELES RIVER at Tujunga Avenue STATION NO. F300-R



RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from cable car.
DRAINAGE AREA- 401.0 square miles.
LOCATION- 200.0 feet above Tujunga Avenue bridge, Studio City.
REGULATION- flow regulated by Sepulveda, Big Tujunga, Hansen, and Pacoima Dams, Lopez Debris Dam, and Project No. 85 Diversion.
CHANNEL- concrete, rectangular section, 120 feet wide by 19 feet deep.
CONTROL- channel forms control.
LENGTH OF RECORD- May 8, 1950, to date.
REMARKS- subject to diversions at mouth of Big Tujunga and Pacoima Canyons for irrigation, at Big Tujunga, Brantford, Hansen, and Pacoima Spreading Grounds.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. :

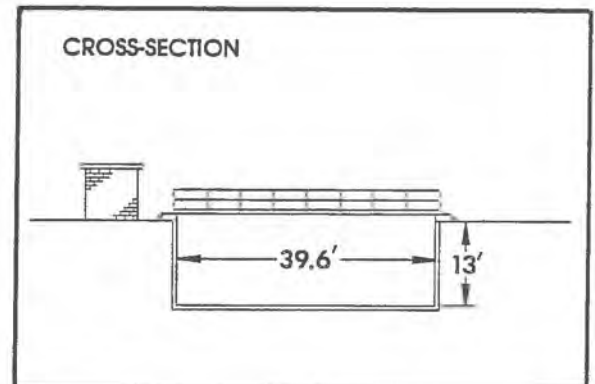
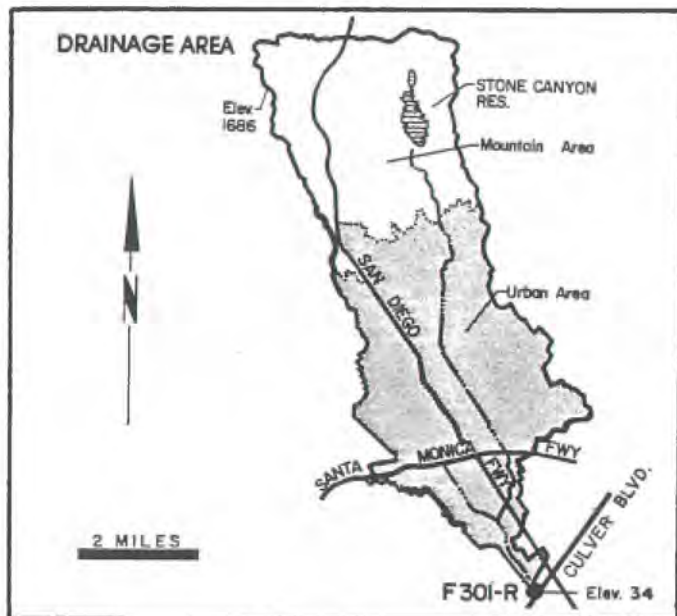
DRAINAGE AREA :

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	NO DATA AVAILABLE AT TIME OF PRINTING											
	MAX.												
	MIN.												
TOTAL AF													

SAWTELLE-WESTWOOD CHANNEL

above Culver Boulevard

STATION NO. F301-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from footbridge at station.

DRAINAGE AREA- 22.96 square miles.

LOCATION- on the south channel wall, 141 feet above Culver Boulevard bridge about one and one half miles southwest of Culver City.

REGULATION- Stone Canyon Reservoir, Southern California Water Company spills flow up to 5.0 second-feet into Sawtelle-Westwood Channel above Chamock Road for short periods nearly every day.

CHANNEL- rectangular concrete channel 40 feet wide and 13 feet deep.

CONTROL- channel forms control.

LENGTH OF RECORD- see station summary.

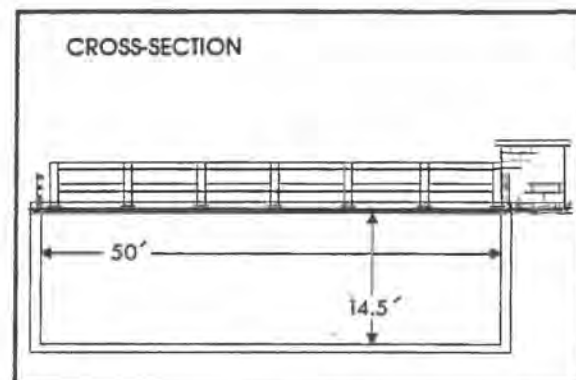
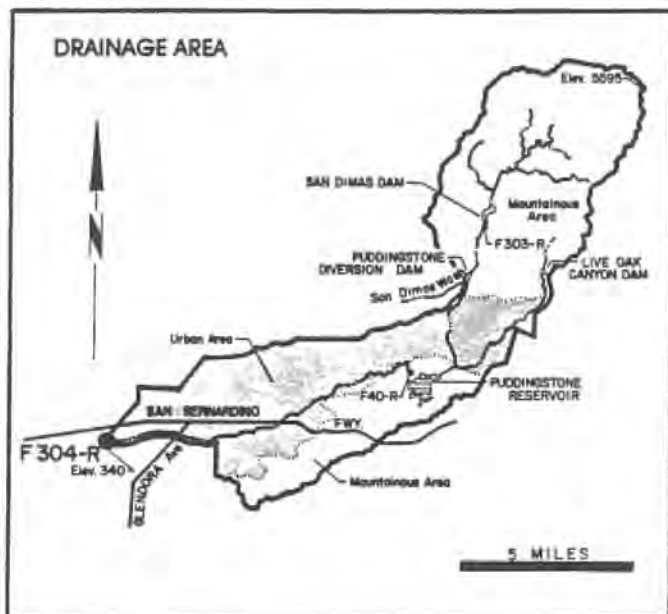
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F301-R

DRAINAGE AREA : 22.96 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER	MEAN	NO DATA AVAILABLE AT TIME OF PRINTING											
YEAR	MAX.												
87-88	MIN.												
TOTAL AF													

WALNUT CREEK above Puente Avenue STATION NO. F304-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from footbridge.

DRAINAGE AREA- 57.6 square miles.

LOCATION- 845.0 feet upstream of Puente Avenue bridge, Baldwin Park.

REGULATION- partially regulated by San Dimas, Puddingstone Diversion, Puddingstone, and Live Oak Dams.

CHANNEL- concrete, rectangular in section.

CONTROL- channel forms control.

LENGTH OF RECORD- October 14, 1952 to April 11, 1961, January 3, 1962 to date.

REMARKS- no record during April 11, 1961 to January 3, 1962 due to channel construction.

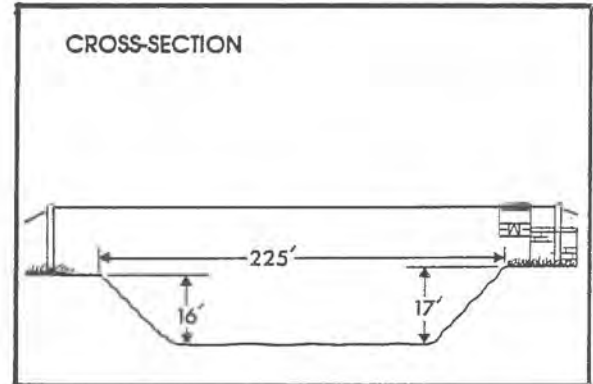
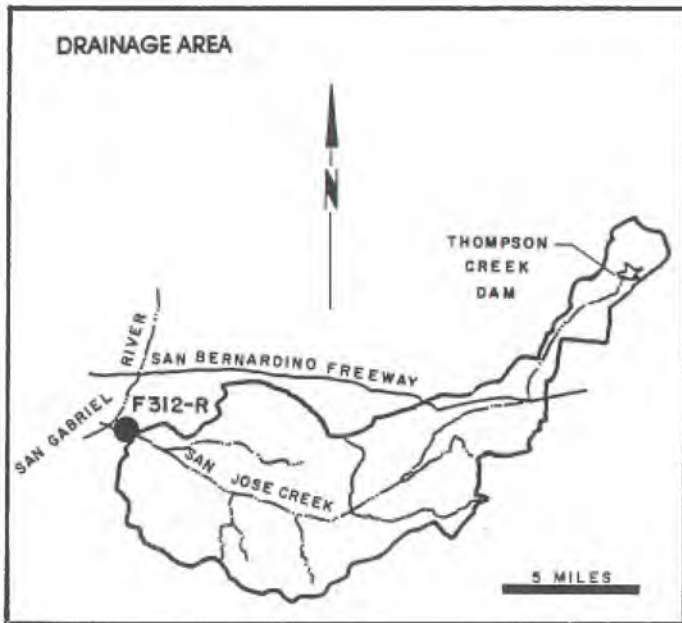
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F304-R

DRAINAGE AREA : 57.60 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	15.3	12.6	11.0	24.4	6.5	1.4	17.2	0.16	0.0	0.0	0.0	0.0
	MAX.	340.0	127.0	211.0	454.0	81.5	20.0	264.0	1.6	0.0	0.0	0.0	0.0
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		938.0	747.0	676.0	1500.0	372.0	85.0	1020.0	9.9	0.0	0.0	0.0	0.0

SAN JOSE CHANNEL above Workman Mill Road STATION NO. F312-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 83.4 square miles.
 LOCATION- 1,650 feet above Workman Mill Road, 3.0 miles southeast of El Monte.
 REGULATION- partially regulated by Thompson Creek Dam and Pomona Sewage Treatment Plant.
 CHANNEL- grouted rip-rap side slopes with natural bottom, trapezoidal section.
 CONTROL- rock stabilizer.
 LENGTH OF RECORD- September 13, 1955 to date.

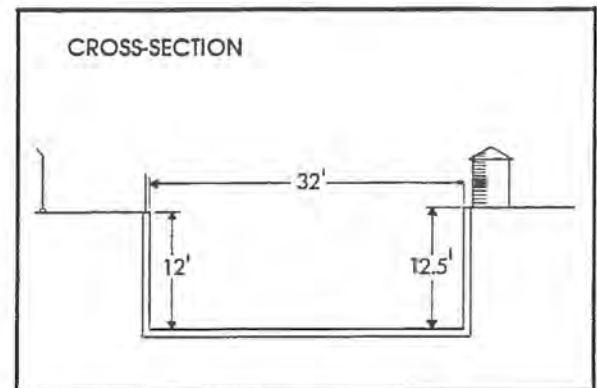
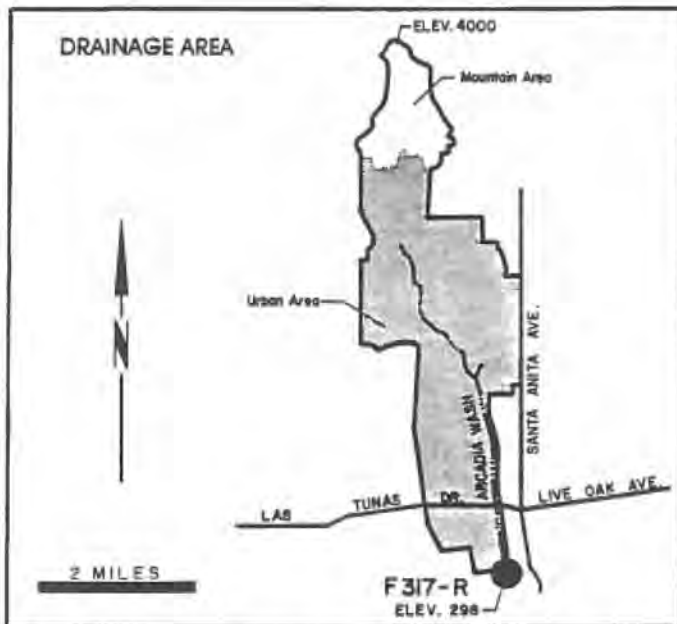
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F312-R

DRAINAGE AREA : 83.40 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	104.0	30.6	52.4	71.8	26.9	14.8	63.0	9.6	9.0	9.1	21.3	9.5
	MAX.	804.0	377.0	609.0	1700.0	275.0	134.0	780.0	12.6	10.2	10.2	86.0	18.6
	MIN.	15.0	11.8	10.2	9.4	6.3	7.8	8.6	7.8	7.0	7.8	7.0	7.8
TOTAL AF		6410.0	1820.0	3220.0	4410.0	1550.0	909.0	3750.0	591.0	537.0	562.0	1310.0	565.0

ARCADIA WASH below Grand Avenue STATION NO. F 317-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from upstream side of Grand Avenue bridge.

DRAINAGE AREA- 8.5 square miles.

LOCATION- on the west wall of Arcadia Wash about 75 feet downstream from centerline of Grand Avenue.

REGULATION- several debris basins located upstream.

CHANNEL- rectangular concrete.

LENGTH OF RECORD- December 12, 1955 to date.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F317-R

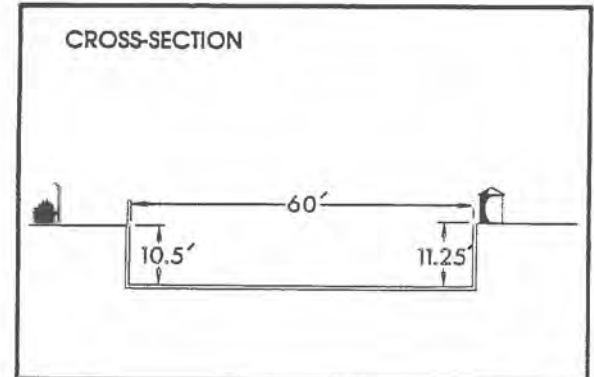
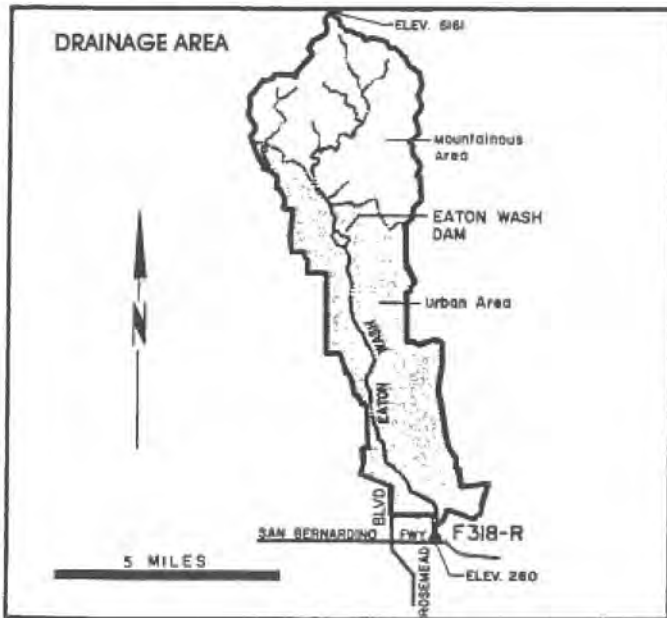
DRAINAGE AREA : 8.50 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	12.3	7.8	9.8	10.5	8.9	2.4	10.0	0.54	0.51	0.35	0.46	1.3
	MAX.	171.0	117.0	139.0	284.0	97.6	48.3	112.0	0.90	0.90	0.50	4.3	29.4
	MIN.	0.40	0.20	0.20	0.30	0.10	0.20	0.30	0.20	0.40	0.20	0.20	0.20
TOTAL AF		757.0	461.0	604.0	644.0	513.0	149.0	597.0	33.0	30.0	22.0	28.0	78.0

EATON WASH

at Loftus Drive

STATION NO. F318-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from upstream side of East Loftus Drive bridge.

DRAINAGE- 22.8 square miles.

LOCATION- on the west wall of the channel 52 feet above the centerline of East Loftus Drive bridge, 1.3 miles west of El Monte.

REGULATION- partly regulated by Eaton Dam.

DIVERSIONS- the Pasadena Water Department diverts some water just above the mouth of Eaton Canyon. The Flood Control District diverts water to spreading grounds below Eaton Dam and below Huntington Drive.

CHANNEL- rectangular concrete, 60 feet wide, 11.3 feet.

CONTROL- channel forms control.

LENGTH OF RECORD- 1956 to date.

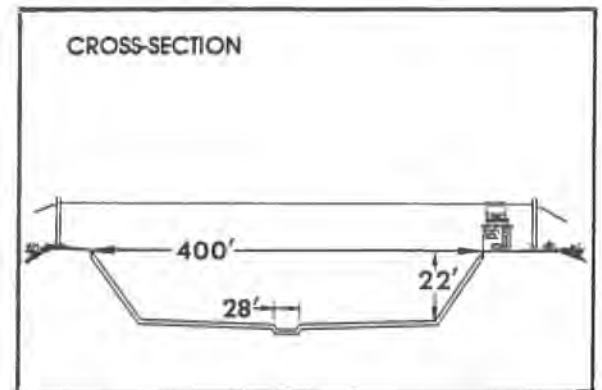
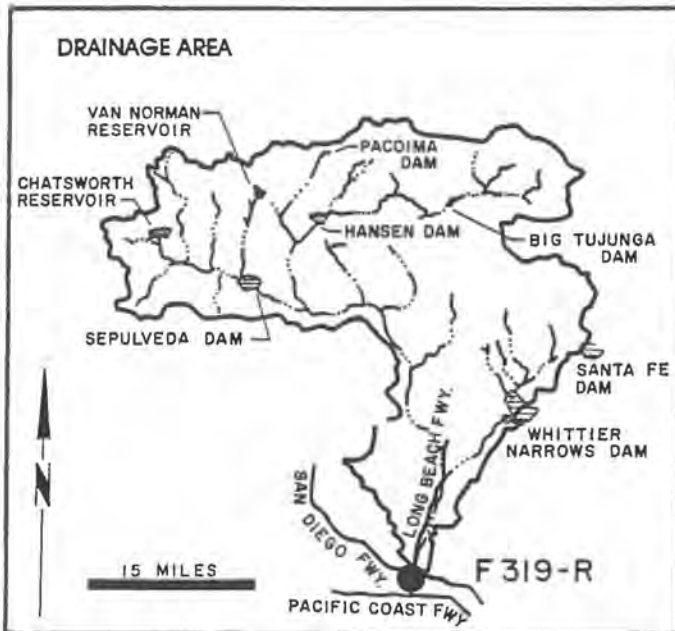
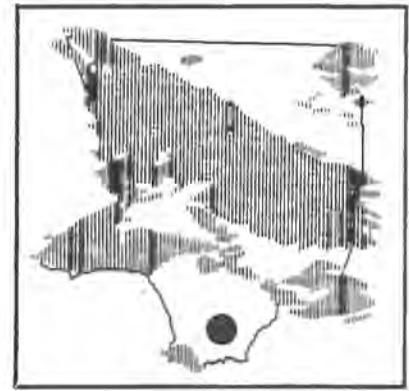
WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F318-R

DRAINAGE AREA : 22.80 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	11.3	5.7	8.0	10.5	4.7	1.3	7.2	0.13	0.12	0.21	0.16	1.1
	MAX.	229.0	108.0	155.0	317.0	64.0	26.1	79.6	0.20	0.20	0.50	0.20	25.8
	MIN.	0.10	0.10	0.0	0.0	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
TOTAL AF		695.0	336.0	490.0	648.0	272.0	77.0	431.0	8.1	7.1	13.0	9.9	62.0

LOS ANGELES RIVER below Wardlow Road STATION NO. F319-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from cable car.
 DRAINAGE AREA- 815.0 square miles (excludes area above Santa Fe Dam).
 LOCATION- 900.0 feet below Wardlow Road, Long Beach.
 REGULATION- flow is subject to the same regulation as Stations F34D-R and P45B-R.
 DIVERSIONS- flows diverted to Dominguez Gap Spreading Grounds.
 CHANNEL- trapezoidal, concrete, 302.0 feet wide at bottom with 2.25:1 side slopes. Low flow channel 28.0 feet wide by 1.0 foot deep in center of channel.
 CONTROL- channel forms control.
 LENGTH OF RECORD- at Station F180-R October 31, 1931 to January 13, 1956. at Station F319-R January 13, 1956 to date.
 REMARKS- prior to 1931, see Station F36-R.

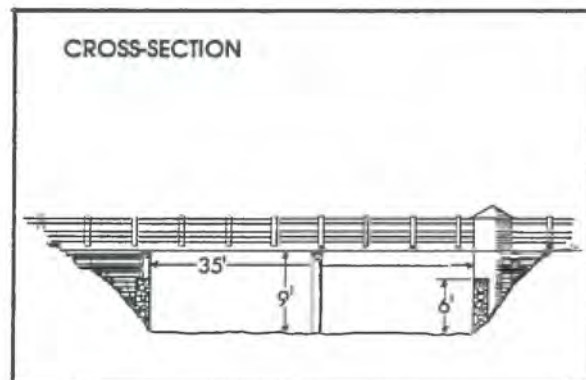
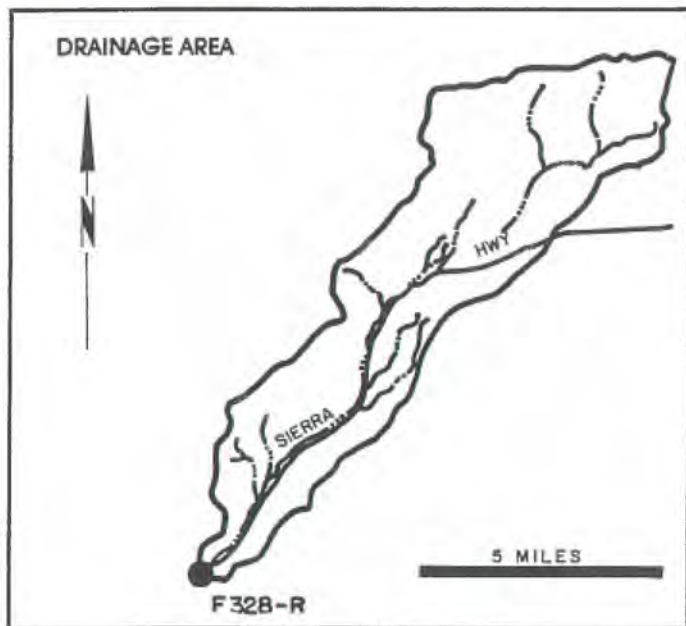
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F319-R

DRAINAGE AREA : 815.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	NO DATA AVAILABLE AT TIME OF PRINTING											
	MAX.												
	MIN.												
TOTAL AF													

MINT CANYON CREEK at Finch Avenue STATION NO. F328-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from bridge.
 DRAINAGE AREA- 26.9 square miles.
 LOCATION- 8.5 miles northeast of Saugus on west end of Finch Avenue bridge.
 REGULATION- none.
 CHANNEL- natural, sand and gravel.
 CONTROL- concrete control at downstream end of bridge.
 LENGTH OF RECORD- October 26, 1956 to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F328-R

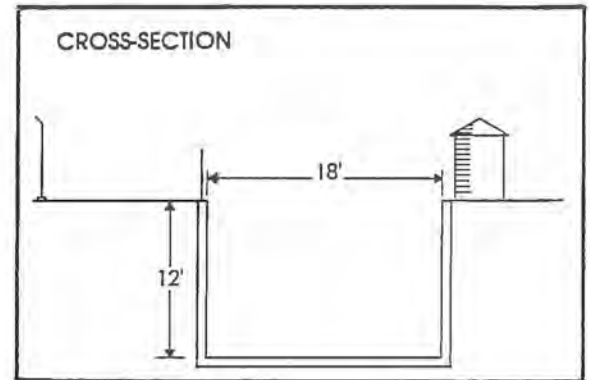
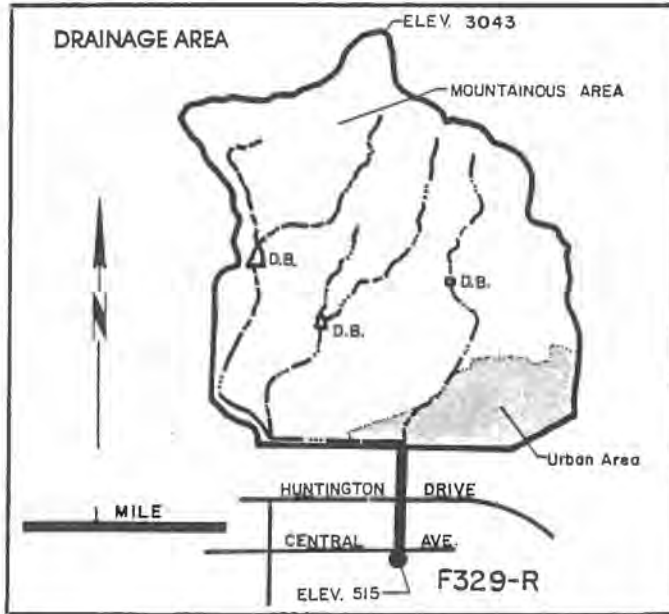
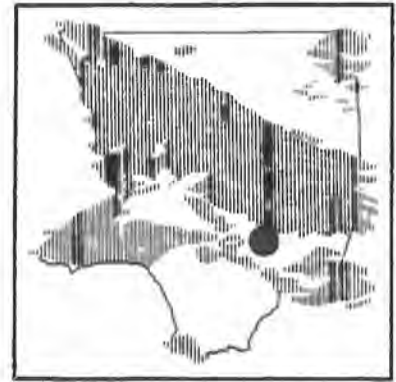
DRAINAGE AREA : 26.90 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.0	0.0	0.01	0.29	0.29	0.06	0.72	0.0	0.0	0.0	0.0	0.0
	MAX.	0.0	0.0	0.30	8.8	4.4	1.2	2.5	0.0	0.0	0.0	0.0	0.0
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF		0.0	0.0	0.60	18.0	17.0	3.6	43.0	0.0	0.0	0.0	0.0	0.0

BRADBURY CHANNEL

below Central Avenue

STATION NO. F329-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENT- low flows measured by wading. High flows measured from footbridge four feet downstream from recorder.

DRAINAGE AREA- 3.3 square miles.

LOCATION- on the east wall of Bradbury Channel, 200 feet downstream from the centerline of Central Avenue, one mile east of Duarte.

REGULATION- two debris basins located upstream.

CHANNEL- rectangular concrete, 18 feet wide, 12 feet deep.

CONTROL- channel forms control.

LENGTH OF RECORD- June 14, 1957 to present.

WATER YEAR : 1987-88

(DISCHARGE IN SEC-FT)

STATION NO. : F329-R

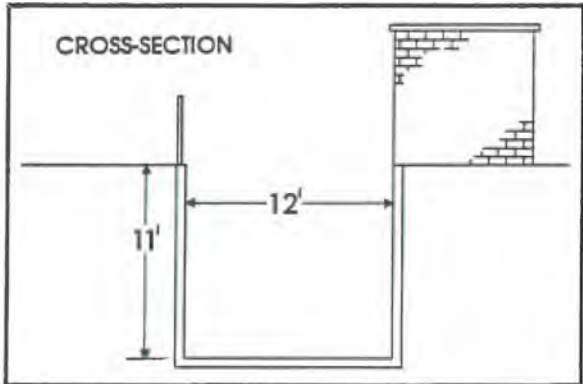
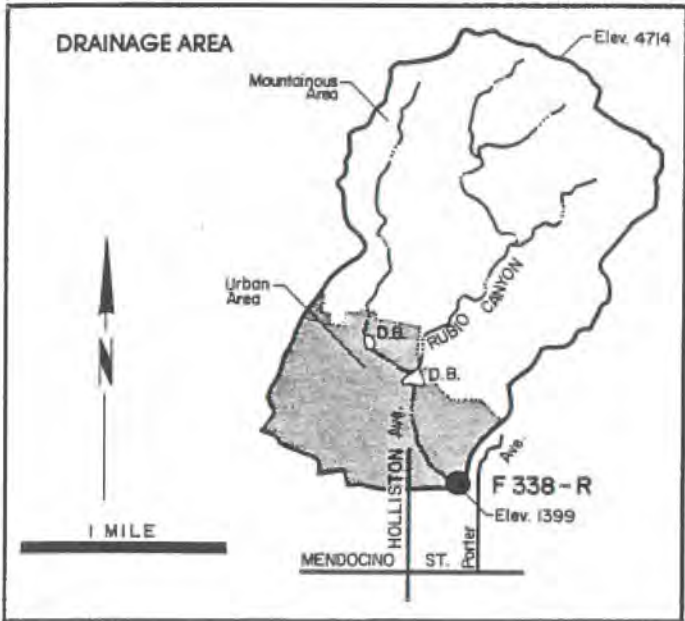
DRAINAGE AREA : 3.30 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	1.5	0.54	24.5	1.2	0.31	0.19	1.4	0.64	1.7	0.54	0.19	0.16
	MAX.	20.0	7.9	166.0	35.3	3.1	2.4	11.5	1.6	2.8	1.5	0.3	1.2
	MIN.	0.0	0.0	0.0	0.0	0.1	0.10	0.10	0.10	0.60	0.10	0.0	0.0
TOTAL AF		94.0	32.0	1510.0	75.0	18.0	12.0	82.0	39.0	99.0	33.0	12.0	9.3

RUBIO DIVERSION CHANNEL

below Goosebury Inlet

STATION NO. F338-R



RECORDER- 15 minute punched tape.
 METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from steel footbridge 27 feet above station.
 DRAINAGE AREA- 2.1 square miles.
 LOCATION- on the north bank, 375 feet upstream of Crest Drive, three and one-half miles northeast of Pasadena.
 REGULATION- flow partially regulated by Rubio and Gooseberry Debris Basins.
 DIVERSIONS- Rubio Canyon Land and Water Association diverts low flows in Rubio Canyon.
 CHANNEL- rectangular concrete, 12 feet wide and 11 feet deep.
 CONTROL- channel forms control.
 LENGTH OF RECORD- December 16, 1959 to date.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

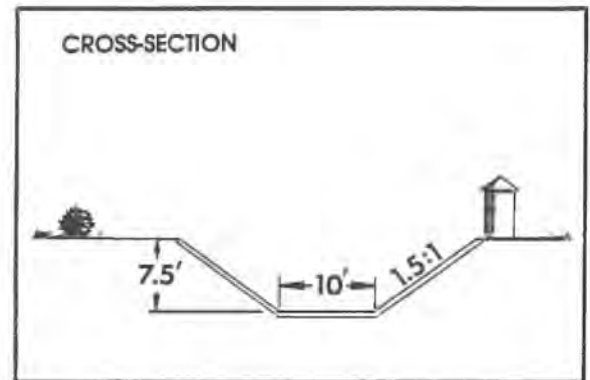
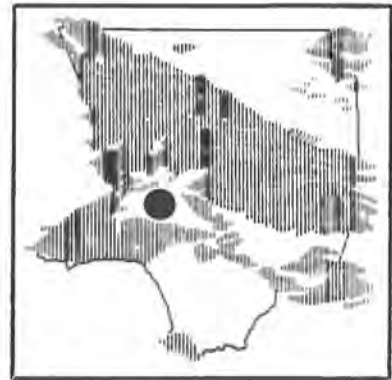
STATION NO. : F338-R

DRAINAGE AREA : 2.10 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.38	0.91	1.1	0.61	0.86	0.59	1.2	1.5	0.61	0.38	0.21	0.26
	MAX.	3.1	5.4	7.5	9.0	7.5	5.1	5.6	3.6	1.0	0.80	0.60	1.5
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.20	0.0	0.20	0.20
TOTAL AF		23.0	54.0	70.0	38.0	49.0	36.0	74.0	93.0	36.0	23.0	13.0	15.0

BRANFORD STREET CHANNEL

below Sharp Avenue
STATION NO. F342-R



RECORDER- 15 minute punched tape.
 METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured by floats.
 DRAINAGE AREA- 5.01 square miles.
 LOCATION- on the south bank of channel, 125 feet downstream from Sharp Avenue, about 3.6 miles south of San Fernando.
 REGULATION- flow from Lopez Creek is diverted to Hansen Dam at the mouth of Lopez Canyon.
 CHANNEL- trapezoidal, 10 feet wide at bottom and 7.5 feet deep with 1.5 to 1 side slopes.
 CONTROL- channel forms control.
 LENGTH OF RECORD- January 12, 1962 to date.

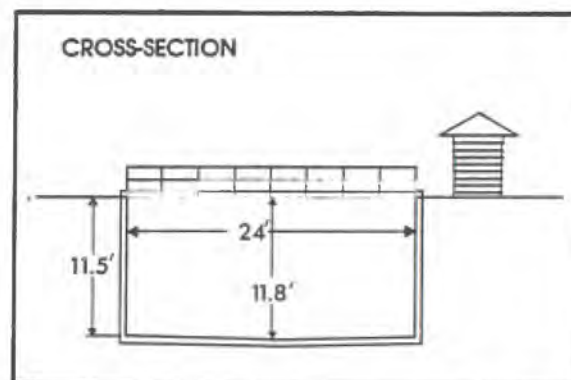
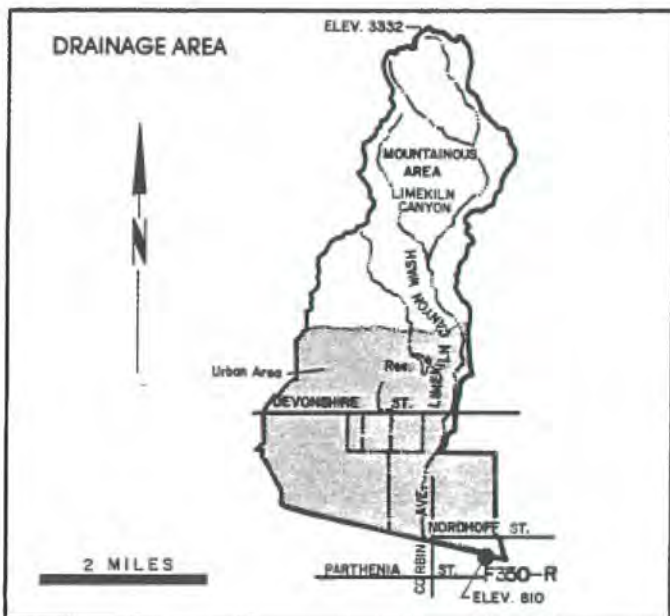
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F342-R

DRAINAGE AREA : 5.01 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	6.3	1.1	1.6	1.5	3.8	1.3	1.9	0.0	0.0	0.0	0.0	0.0
	MAX.	123.0	12.1	30.2	34.6	55.1	3.2	18.9	0.0	0.0	0.0	0.0	0.0
	MIN.	0.0	0.30	0.30	0.30	0.30	0.90	0.10	0.0	0.0	0.0	0.0	0.0
TOTAL AF		387.0	66.0	101.0	91.0	219.0	79.0	114.0	0.0	0.0	0.0	0.0	0.0

LIMEKILN CREEK above Aliso Creek STATION NO. F350-R



RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from a steel footbridge 10 feet above the gage.

DRAINAGE AREA- 10.3 square miles.

LOCATION- on the south bank, 1,600 feet above Aliso Creek and one mile west of Northridge.

REGULATION- flow partly regulated by Limekiln Debris Basin.

CHANNEL- rectangular concrete.

LENGTH OF RECORD- see station summary.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

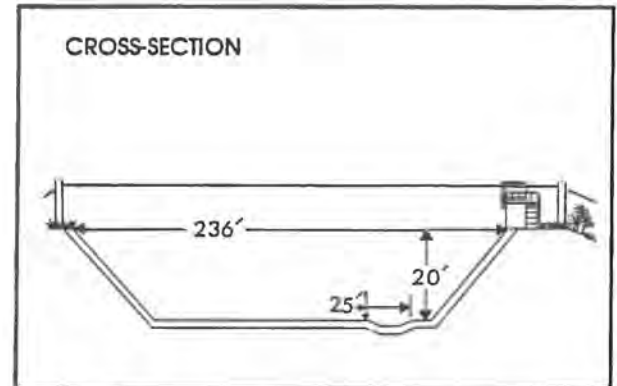
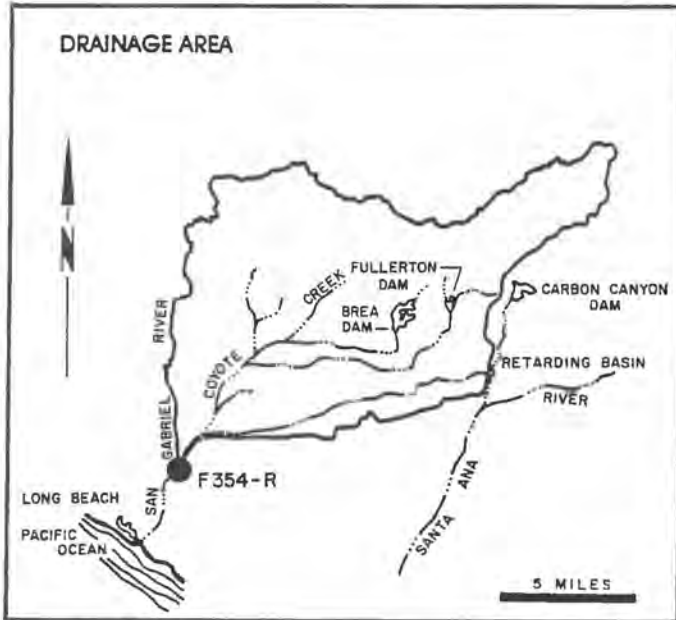
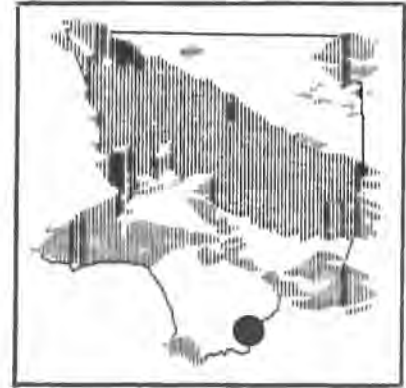
STATION NO. : F350-R

DRAINAGE AREA : 10.30 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	12.3	9.5	5.5	5.3	4.0	0.4	5.8	0.5	0.2	0.2	0.3	0.4
	MAX.	193.0	210.0	85.8	143.0	45.5	1.7	45.9	0.6	0.5	0.5	0.6	5.6
	MIN.	0.2	0.1	+	+	+	+	0.3	0.4	0.1	0.1	0.2	0.1
TOTAL AF		757.0	567.0	340.0	325.0	228.0	26.8	343.0	30.3	14.9	13.9	16.5	24.0

COYOTE CREEK

below Spring Street
STATION NO. F354-R



RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 185.0 square miles.

LOCATION- 241.0 feet below Spring Street, 7.5 miles northeast of Long Beach.

REGULATION- partially regulated by Fullerton Dam, Brea Dam, and Carbon Canyon Dam.

CHANNEL- concrete, trapezoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD - December 17, 1963 to date.

REMARKS- previous gaging stations for record corelation: Station F41 - S December 1, 1928 to January 14, 1930. Station F41 - R January 14, 1930 to October 30, 1936. Station F41B - R October 30, 1936 to February 17, 1937. Station F41C - R February 18, 1937 to February 8, 1956. Station F320 - R February 9, 1956 to July 2, 1965.

WATER YEAR : 1987-88
(DISCHARGE IN SEC-FT)

STATION NO. : F354-R

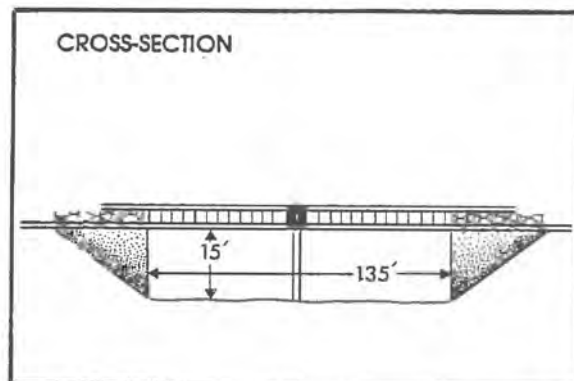
DRAINAGE AREA : 185.00 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	80.7	26.9	72.8	156.0	46.1	14.5	102.0	10.0	9.6	11.3	9.0	21.3
	MAX.	1180.0	259.0	756.0	2940.0	644.0	123.0	945.0	10.0	13.3	16.0	33.8	73.0
	MIN.	6.8	5.2	5.5	6.1	6.1	5.5	3.1	10.0	6.1	9.4	3.7	6.1
TOTAL AF		4960.0	1600.0	4470.0	9610.0	2650.0	891.0	6050.0	615.0	572.0	697.0	552.0	1270.0

BOUQUET CANYON CREEK

at Urbandale Avenue

STATION NO. F377-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS- wading or from bridge.
 DRAINAGE AREA- 51.9 square miles.
 LOCATION- Bouquet Canyon Creek at Urbandale Avenue, 3.5 miles northeast of Saugus.
 REGULATION- Bouquet Reservoir.
 CHANNEL- concrete sides with natural bottom, trapezoidal in section.
 CONTROL- concrete stabilizer.
 LENGTH OF RECORD- October 11, 1967 to date.

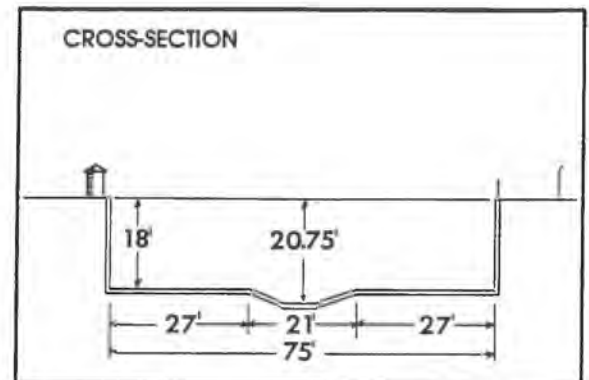
WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F377-R

DRAINAGE AREA : 51.9 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	0.78	0.14	1.3	0.05	0.02	0.0	4.7	0.0	0.09	0.10	0.10	0.09
	MAX.	14.8	1.5	27.8	1.6	0.50	0.0	52.6	0.0	1.0	0.10	0.20	0.10
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.10	0.0
TOTAL AF		48.0	8.1	77.0	3.2	1.4	0.0	279.0	0.0	5.4	6.1	6.3	5.2

DOMINGUEZ CHANNEL at Vermont Avenue STATION NO. F378-R



RECORDER- continuous water stage.
 METHOD OF MEASUREMENTS-low flows measured by wading. High flows measured from Vermont Avenue bridge.
 DRAINAGE AREA- 37.1 square miles.
 LOCATION- on the south bank, 93 feet above Vermont Avenue, about one mile south of Gardena.
 REGULATION- none
 CHANNEL- rectangular concrete with trapezoidal low flow channel at center.
 LENGTH OF RECORD- November 23, 1966 to date .
 REMARKS- gage is affected by tides greater than 4.0 feet above mean lower low water.

WATER YEAR : 1987-88
 (DISCHARGE IN SEC-FT)

STATION NO. : F378-R

DRAINAGE AREA : 22.60 SQ. MI.

		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
WATER YEAR 87-88	MEAN	16.7	7.4	15.3	18.2	14.7	2.9	13.3	0.53	.76	1.1	3.9	1.6
	MAX.	276.0	64.6	192.0	443.0	167.0	28.9	134.0	0.70	1.2	1.6	79.0	10.1
	MIN.	0.60	0.70	0.40	0.40	0.40	0.30	0.40	0.40	0.60	0.90	0.70	0.30
TOTAL AF		1030.0	439.0	940.0	1120.0	846.0	180.0	790.0	33.0	45.0	69.0	237.0	97.0

RESERVOIRS



R E S E R V O I R S

Following the damaging flood of 1914 and creation of the Los Angeles County Flood Control District in 1915, it initiated a program of flood control and water conservation including the construction of 14 dams. These dams were operated by the Department during the period covered by this report. In addition, five Corps of Engineers' dams and Morris Dam owned by The Metropolitan Water District were utilized to achieve flood control and water conservation. The Corps of Engineers' dams are: Hansen Dam on Tujunga Wash, Sepulveda Dam on the Los Angeles River, Santa Fe Dam on the San Gabriel River, Whittier Narrows Dam serving both the Rio Hondo and San Gabriel River, and San Antonio Dam on San Antonio Creek.

OPERATION

The reservoirs are operated to control flood waters during storm periods. Post storm releases are made, when feasible, in amounts which can be conserved in downstream spreading grounds and by channel percolation.

SAN GABRIEL DAM HYDROELECTRIC PLANT

In December 1987, construction of two hydroelectric generator units at San Gabriel Dam was completed by San Gabriel Hydroelectric Partnership, a joint venture between private investors and the County of Los Angeles. The generator units are operated by Department personnel and the power generated is purchased by Southern California Edison Company. During December 1987 to July 1988, over two million kilowatt-hours of energy have been generated resulting in revenues of over \$150,000.00. Recently an optimization computer was installed on Unit 1 to schedule power production during hours of peak energy demand.

RECORDS

The storage and flow records at the 14 Department reservoirs are summarized on the Dam Operation Record Sheets. The sheets show:

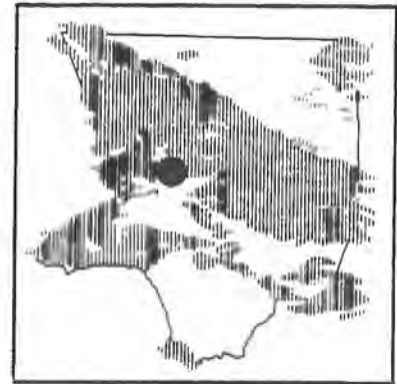
1. Reservoir water surface elevations based on the spillway datum. Elevations are obtained from water stage recorder graphs or interpolation from staff gage readings and recorded as of midnight of each day. Only maximum and minimum water surface elevations for each year are shown.
2. Storage in acre-feet based on the most recent topographic surveys. Annual storage volumes are shown.
3. Inflow in cubic feet per second. This is usually calculated from storage change and known outflow. When outflow is not known, the inflow may be determined from gaging station records or interpolated between measurements. Only the maximum and minimum of the daily flow rates for the year and the instantaneous peak flow rate are shown.
4. Outflow in cubic feet per second. These values are determined from gaging station records, known valve openings and rating curves, or from storage change and known inflow. Only the maximum and minimum of the daily outflow rates for the year and the instantaneous peak outflow rate are shown.

5. Discrepancies between outflow and storage losses at certain dams are attributable to percolation and/or evaporation losses. Total monthly evaporation losses are determined from the measurements made on floating or land evaporation pans. In those cases where no allowances were made for evaporation, the amounts are necessarily included in the flow values. Accuracy of the flow records computed from storage records is dependent on the frequency with which storage data are revised to keep in step with the physical change in reservoirs.

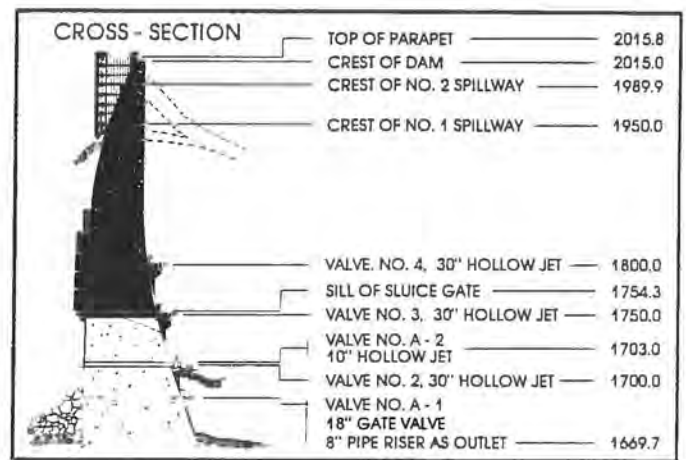


LOCATION OF DISTRICT RESERVOIRS			
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PACOIMA DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started March 1925. Completed February 1929.
LOCATION - Pacoima Canyon, 4.0 miles northeast of San Fernando.
DRAINAGE AREA - 28.2 square miles.
CAPACITY - 3,929 acre - feet.
SPILLWAY ELEVATION - 1,950.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	: 92.49 CFS from 0400 on 10-23-87 to 0500 on 10-23-87
MAX. PEAK OUTFLOW	: 66.50 CFS from 0300 on 01-20-88 to 0400 on 01-20-88
MAX. W.S. ELEVATION	: 1915.16 feet on 12-30-87 STORAGE 2131.20 ACRE-FEET
MIN. W.S. ELEVATION	: 1881.35 feet on 01-27-88 STORAGE 1122.40 ACRE-FEET

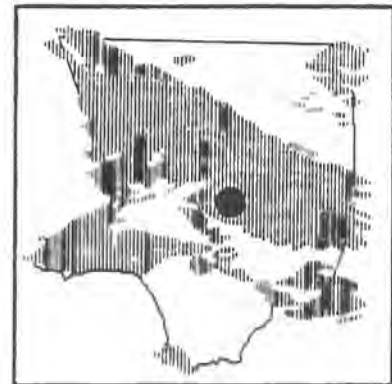
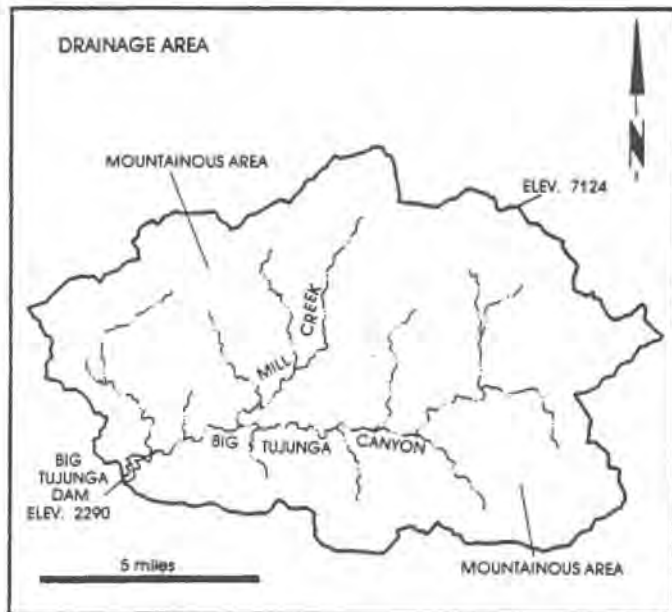
PACOIMA DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	252.50	287.10	237.30	582.80
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	119.40	1415.00
MAX. MEAN DAILY INFLOW (CFS)	49.70	26.80	12.90	37.10
TOTAL MONTHLY LOSSES (AF)	17.80	16.10	13.90	13.70
MIN. MEAN DAILY INFLOW (CFS)	0.10	1.50	1.40	1.40
MONTHLY STORAGE CHANGE (AF)	234.70	271.00	104.40	-845.90

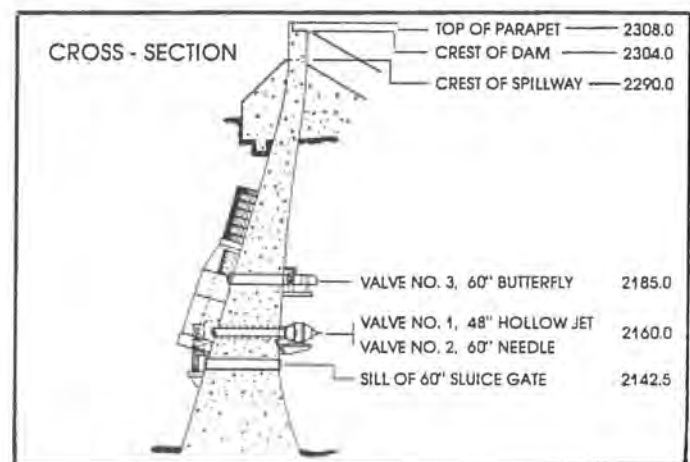
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	371.90	704.50	631.30	294.80
TOTAL MONTHLY OUTFLOW (AF)	0.00	1094.10	0.00	808.30
MAX. MEAN DAILY INFLOW (CFS)	47.70	52.10	48.60	9.90
TOTAL MONTHLY LOSSES (AF)	17.40	22.10	13.40	18.60
MIN. MEAN DAILY INFLOW (CFS)	2.10	1.10	1.90	2.30
MONTHLY STORAGE CHANGE (AF)	354.50	-411.70	617.90	-532.00

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	73.60	37.90	27.20	20.80
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.40	3.40
MAX. MEAN DAILY INFLOW (CFS)	2.30	0.90	0.80	0.70
TOTAL MONTHLY LOSSES (AF)	14.40	17.80	16.60	17.20
MIN. MEAN DAILY INFLOW (CFS)	0.70	0.30	0.30	0.20
MONTHLY STORAGE CHANGE (AF)	59.20	20.10	10.20	0.20

BIG TUJUNGA DAM AND RESERVOIR



PURPOSE - Flood Control Conservation.
DATE CONSTRUCTED - Started January 1930. Completed July 1931.
LOCATION - Big Tujunga Canyon, 10.0 miles northeast of Sunland.
DRAINAGE AREA - 82.3 square miles.
CAPACITY - 6,027 acre - feet.
SPILLWAY ELEVATION - 2,290.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	: 684.70 CFS from 2100 on 02-29-88 to 2200 on 02-29-88
MAX. PEAK OUTFLOW	: 290.00 CFS from 1100 on 03-01-88 to 1115 on 03-01-88
MAX. W.S. ELEVATION	: 2219.45 feet on 03-01-88 STORAGE 1479.20 ACRE-FEET
MIN. W.S. ELEVATION	: 2204.65 feet on 11-10-87 STORAGE 1043.90 ACRE-FEET

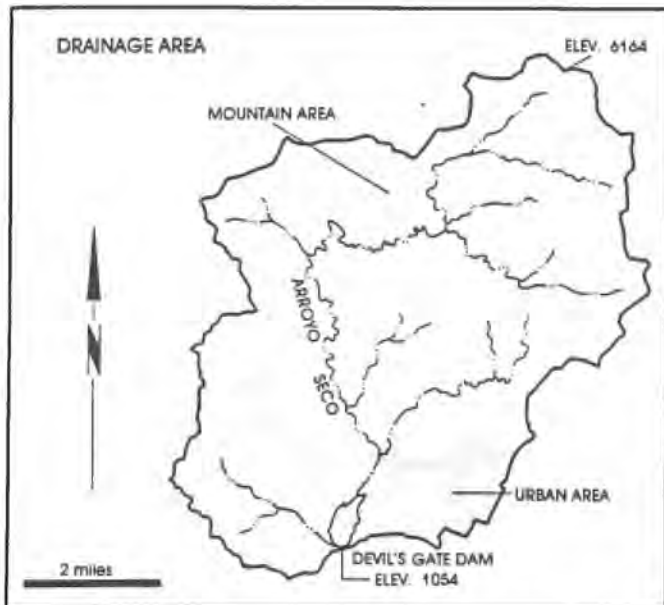
BIG TUJUNGA DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	362.00	658.70	438.80	1166.90
TOTAL MONTHLY OUTFLOW (AF)	169.00	656.50	623.70	1158.10
MAX. MEAN DAILY INFLOW (CFS)	55.00	66.20	32.70	142.50
TOTAL MONTHLY LOSSES (AF)	12.90	7.20	7.20	7.90
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.50	0.30	5.40
MONTHLY STORAGE CHANGE (AF)	180.20	-5.00	-192.10	0.80

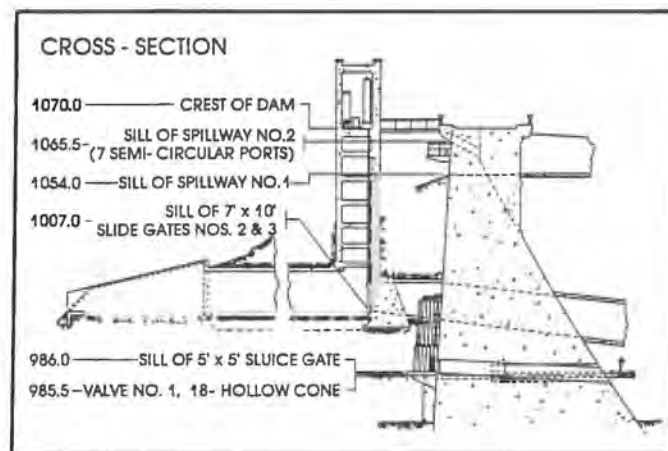
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	888.70	1426.90	1389.30	505.20
TOTAL MONTHLY OUTFLOW (AF)	617.30	1665.50	1217.70	614.10
MAX. MEAN DAILY INFLOW (CFS)	153.50	189.50	153.50	12.20
TOTAL MONTHLY LOSSES (AF)	10.20	11.70	10.80	16.00
MIN. MEAN DAILY INFLOW (CFS)	4.30	5.20	6.30	4.40
MONTHLY STORAGE CHANGE (AF)	261.20	-250.40	160.80	-124.80

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	170.90	42.10	31.80	39.40
TOTAL MONTHLY OUTFLOW (AF)	29.40	30.70	19.80	100.20
MAX. MEAN DAILY INFLOW (CFS)	5.50	1.60	1.30	1.70
TOTAL MONTHLY LOSSES (AF)	17.00	22.20	18.30	20.00
MIN. MEAN DAILY INFLOW (CFS)	0.30	0.10	0.00	0.10
MONTHLY STORAGE CHANGE (AF)	124.50	-10.80	-6.30	-80.70

DEVIL'S GATE DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
 DATE CONSTRUCTED - Started May 1919. Completed June 1920.
 LOCATION - On Arroyo Seco, northwest of Pasadena.
 DRAINAGE AREA - 31.9 square miles.
 CAPACITY - 1,928 acre - feet.
 SPILLWAY ELEVATION - 1,054.0 feet.



DAM OPERATION RECORD SUMMARY *

MAX. PEAK INFLOW	:	225.60	CFS	from	1300	on	10-31-87	to	1315	on	10-31-87
MAX. PEAK OUTFLOW	:	671.00	CFS	from	0745	on	11-06-87	to	0800	on	11-06-87
MAX. W.S. ELEVATION	:	1016.85	feet	on	11-05-87	STORAGE	94.50	ACRE-FEET			
MIN. W.S. ELEVATION	:	992.00	feet	on	VARIES	STORAGE	0.00	ACRE-FEET			

DEVIL'S GATE DAM OPERATION RECORD SUMMARY *

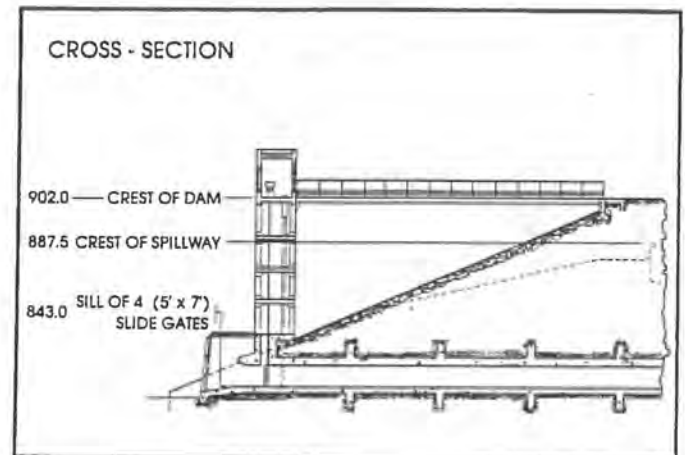
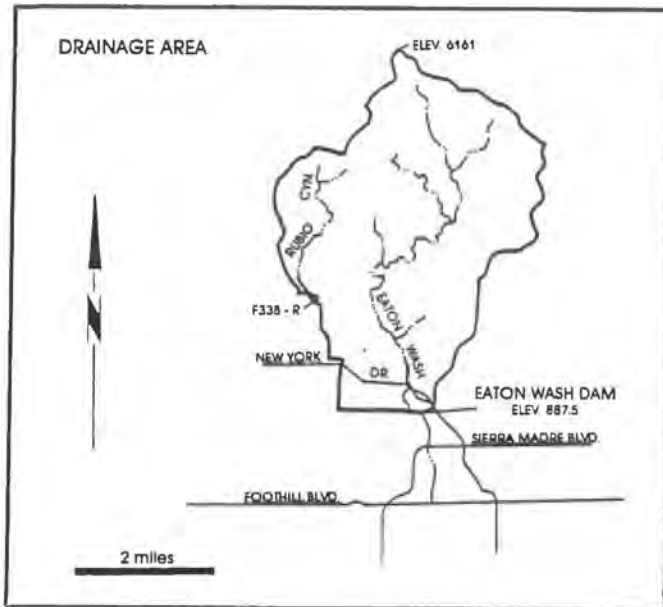
WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	184.50	482.20	393.50	221.20
TOTAL MONTHLY OUTFLOW (AF)	181.10	485.60	393.50	221.20
MAX. MEAN DAILY INFLOW (CFS)	16.70	96.30	91.30	23.20
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	1.20	1.60	1.60	0.90
MONTHLY STORAGE CHANGE (AF)	3.40	-3.40	0.00	0.00

WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	316.00	239.80	509.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	316.00	239.80	509.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	80.90	30.30	88.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	1.70	1.70	1.70	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

* = VALUES ESTIMATED DUE TO INCOMPLETE RECORDS

EATON WASH DAM AND RESERVOIR



PURPOSE - Debris Storage and Conservation.
DATE CONSTRUCTED - Started January 1936 Completed February 1937.
LOCATION - Eaton Wash, northeast of Pasadena.
DRAINAGE AREA - 12.4 square miles.
CAPACITY - 879 acre - feet.
SPILLWAY ELEVATION - 887.5 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	: 227.50 CFS	from 1700	on 02-29-88	to 1800	on 02-29-88
MAX. PEAK OUTFLOW	: 28.80 CFS	from 1400	on 04-25-88	to 1415	on 04-25-88
MAX. W.S. ELEVATION	: 869.10 feet	on 04-25-88	STORAGE 204.20	ACRE-FEET	
MIN. W.S. ELEVATION	: 845.00 feet	on VARIES	STORAGE 0.00	ACRE-FEET	

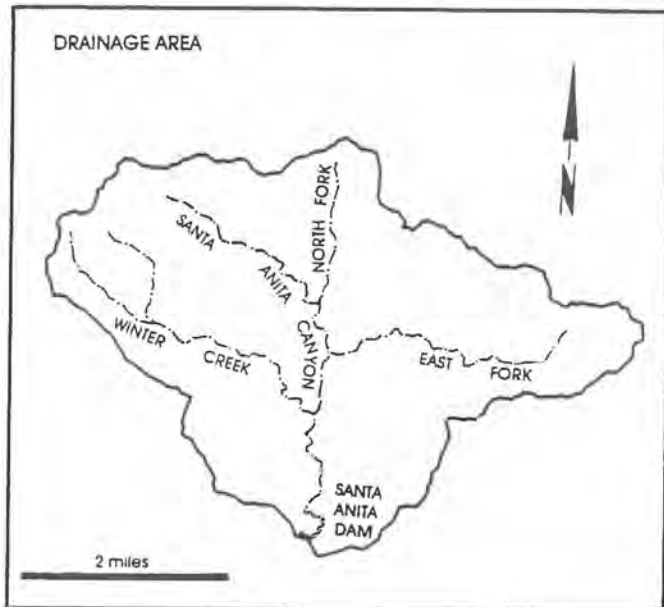
EATON WASH DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	101.60	53.40	67.10	128.80
TOTAL MONTHLY OUTFLOW (AF)	0.00	128.50	41.10	97.60
MAX. MEAN DAILY INFLOW (CFS)	19.90	10.90	3.90	22.00
TOTAL MONTHLY LOSSES (AF)	5.40	2.00	13.10	13.50
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	96.30	-77.10	13.00	17.70

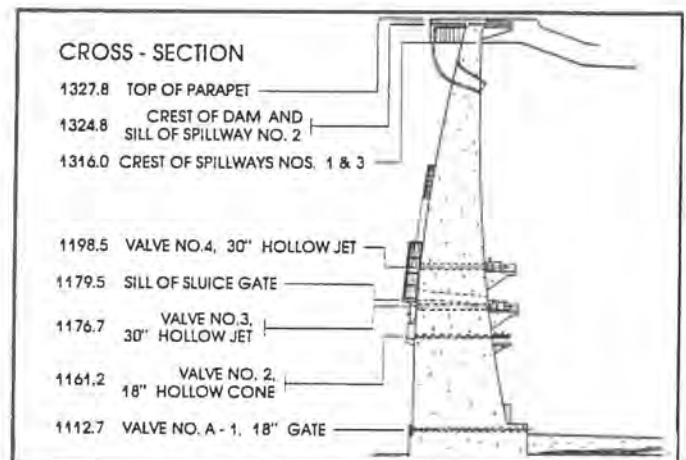
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	148.60	124.00	214.20	8.90
TOTAL MONTHLY OUTFLOW (AF)	22.00	199.50	152.70	6.10
MAX. MEAN DAILY INFLOW (CFS)	55.00	16.90	31.40	1.70
TOTAL MONTHLY LOSSES (AF)	23.80	35.80	23.20	54.40
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	102.80	-111.30	38.30	-51.60

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	1.20	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	1.20	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.20	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

SANTA ANITA DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
 DATE CONSTRUCTED - Started October 1924. Completed March 1927.
 LOCATION - 2.5 miles north of Arcadia
 DRAINAGE AREA - 10.8 square miles.
 CAPACITY - 836 acre-feet.
 SPILLWAY ELEVATION - 1,316.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	87.20 CFS	from	1900	on	01-17-88	to	2000	on	01-17-88
MAX. PEAK OUTFLOW	37.50 CFS	from	0900	on	03-02-88	to	1000	on	03-02-88
MAX. W.S. ELEVATION	1272.23 feet	on	01-19-88	STORAGE	373.30	ACRE-FEET			
MIN. W.S. ELEVATION	1236.00 feet	on	12-10-87	STORAGE	144.30	ACRE-FEET			

SANTA ANITA DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	123.20	253.10	191.10	397.00
TOTAL MONTHLY OUTFLOW (AF)	85.90	222.20	158.70	497.10
MAX. MEAN DAILY INFLOW (CFS)	18.10	15.70	10.90	37.00
TOTAL MONTHLY LOSSES (AF)	1.70	2.60	1.00	1.20
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.30	0.30	0.80
MONTHLY STORAGE CHANGE (AF)	35.60	28.30	31.40	-101.30

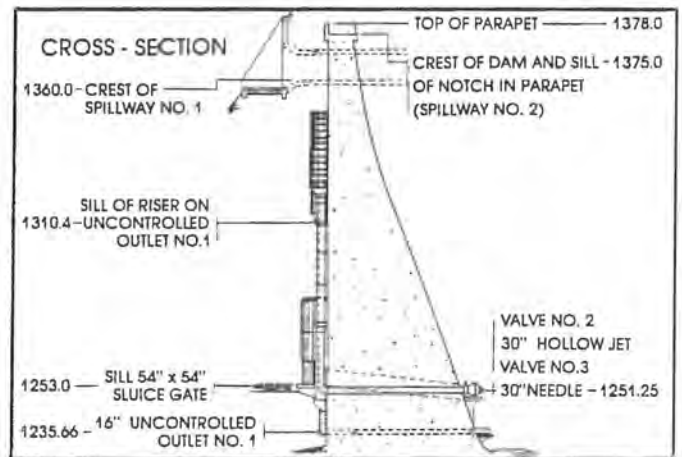
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	251.20	429.50	381.50	223.70
TOTAL MONTHLY OUTFLOW (AF)	129.90	453.40	434.00	171.40
MAX. MEAN DAILY INFLOW (CFS)	34.40	34.80	23.50	7.00
TOTAL MONTHLY LOSSES (AF)	1.80	2.10	1.70	2.30
MIN. MEAN DAILY INFLOW (CFS)	2.20	2.80	2.00	1.70
MONTHLY STORAGE CHANGE (AF)	119.50	-26.00	-54.20	50.10

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	113.30	56.30	34.00	35.80
TOTAL MONTHLY OUTFLOW (AF)	168.60	78.70	0.00	87.90
MAX. MEAN DAILY INFLOW (CFS)	3.80	1.80	0.70	1.90
TOTAL MONTHLY LOSSES (AF)	2.30	2.40	2.40	2.60
MIN. MEAN DAILY INFLOW (CFS)	0.70	0.10	0.40	0.20
MONTHLY STORAGE CHANGE (AF)	-57.60	-24.80	31.60	-54.70

SAWPIT DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
 DATE CONSTRUCTED - Started March 1926. Completed June 1927.
 LOCATION - 2.0 miles north of Monrovia.
 DRAINAGE AREA - 3.2 square miles.
 CAPACITY - 391 acre - feet.
 SPILLWAY ELEVATION - 1,360.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	5.00 CFS	from	2100	on	03-01-88	to	2200	on	03-01-88
MAX. PEAK OUTFLOW	17.00 CFS	from	1845	on	10-22-87	to	2000	on	10-22-87
MAX. W.S. ELEVATION	1310.63 feet	on	04-20-88	STORAGE	97.10	ACRE-FEET			
MIN. W.S. ELEVATION	1310.11 feet	on	09-14-88	STORAGE	95.20	ACRE-FEET			

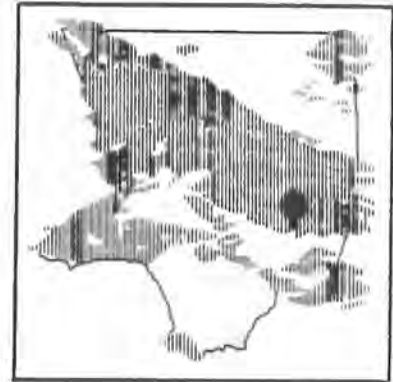
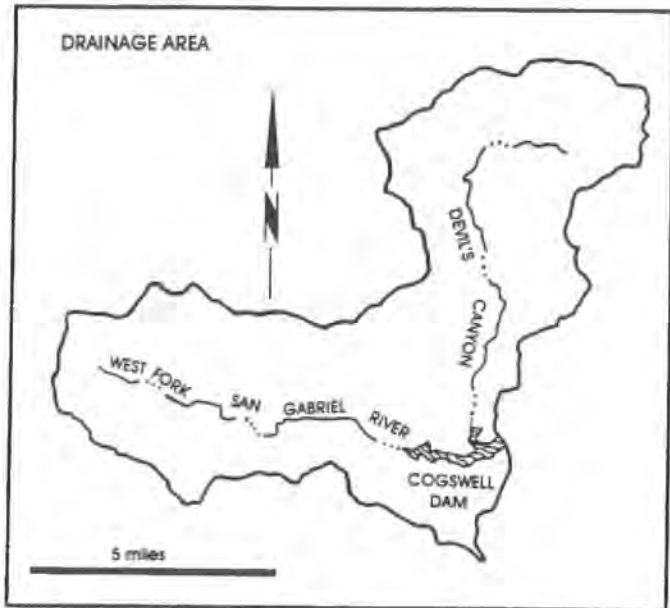
SAWPIT DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	57.20	113.60	103.30	148.79
TOTAL MONTHLY OUTFLOW (AF)	56.90	113.90	103.30	148.80
MAX. MEAN DAILY INFLOW (CFS)	5.00	4.90	2.40	7.30
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.30	1.00	0.90	1.00
MONTHLY STORAGE CHANGE (AF)	0.20	-0.20	0.00	0.00

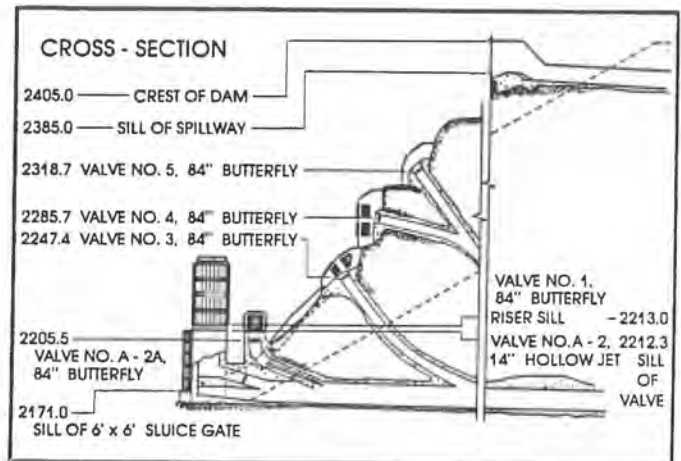
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	114.40	115.40	120.20	24.80
TOTAL MONTHLY OUTFLOW (AF)	114.40	115.40	120.20	24.80
MAX. MEAN DAILY INFLOW (CFS)	3.00	3.90	7.20	1.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.90	0.80	0.90	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	46.80	46.00	46.00	38.90
TOTAL MONTHLY OUTFLOW (AF)	46.80	46.00	46.00	38.90
MAX. MEAN DAILY INFLOW (CFS)	0.80	0.80	0.80	0.80
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.50	0.00	0.10	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

COGSWELL DAM AND RESERVOIR



PURPOSE - Flood Control, Conservation, and Recreation.
 DATE CONSTRUCTED - Started March 1932. Completed April 1934.
 LOCATION - 22.0 miles north of Azusa.
 DRAINAGE AREA - 39.2 square miles.
 CAPACITY - 9,339 acre - feet.
 SPILLWAY ELEVATION - 2,385.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	527.90 CFS	from	0600	on	03-01-88	to	0700	on	03-01-88
MAX. PEAK OUTFLOW	756.00 CFS	from	1100	on	01-27-88	to	1115	on	01-27-88
MAX. W.S. ELEVATION	2329.39 feet	on	06-03-88	STORAGE	3012.30	ACRE-FEET			
MIN. W.S. ELEVATION	2261.02 feet	on	10-22-87	STORAGE	442.70	ACRE-FEET			

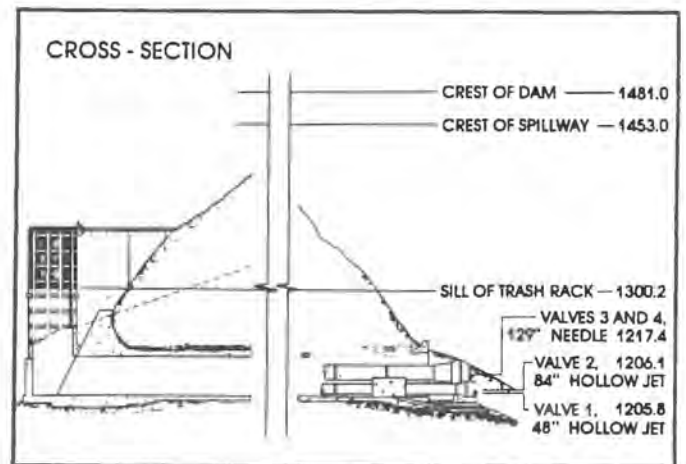
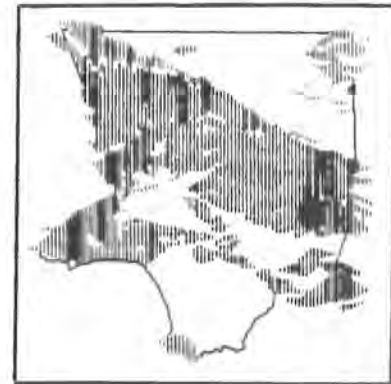
COGSWELL DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	344.50	1008.90	1096.60	1957.60
TOTAL MONTHLY OUTFLOW (AF)	168.60	306.20	1692.90	1987.60
MAX. MEAN DAILY INFLOW (CFS)	107.00	102.40	39.00	198.60
TOTAL MONTHLY LOSSES (AF)	5.90	4.60	2.50	3.20
MIN. MEAN DAILY INFLOW (CFS)	0.40	4.60	7.50	10.50
MONTHLY STORAGE CHANGE (AF)	170.00	698.00	-598.70	-33.30

WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	1433.40	2605.50	1779.30	844.00
TOTAL MONTHLY OUTFLOW (AF)	817.40	3020.20	248.90	287.40
MAX. MEAN DAILY INFLOW (CFS)	203.80	282.20	159.20	24.20
TOTAL MONTHLY LOSSES (AF)	4.10	7.30	9.90	33.50
MIN. MEAN DAILY INFLOW (CFS)	9.70	11.50	7.20	7.40
MONTHLY STORAGE CHANGE (AF)	611.90	-421.90	1520.50	523.10

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	332.60	105.20	56.50	56.80
TOTAL MONTHLY OUTFLOW (AF)	575.00	608.90	613.90	591.70
MAX. MEAN DAILY INFLOW (CFS)	8.60	3.90	4.20	2.20
TOTAL MONTHLY LOSSES (AF)	39.80	44.50	34.70	25.30
MIN. MEAN DAILY INFLOW (CFS)	1.30	0.10	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	-282.20	-548.20	-592.10	-560.20

SAN GABRIEL DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started December 1932. Completed July 1939.
LOCATION - San Gabriel Canyon, 7.5 miles north of Azusa.
DRAINAGE AREA - 163.5 square miles (uncontrolled)
 39.2 square miles (controlled)
 Total 202.7 square miles
 (Includes Cogswell drainage)
CAPACITY - 41,549 acre - feet.
SPILLWAY ELEVATION - 1,453 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	814.00 CFS	from	2200	on	02-29-88	to	2300	on	02-29-88
MAX. PEAK OUTFLOW	476.00 CFS	from	0000	on	01-19-88	to	0015	on	01-19-88
MAX. W.S. ELEVATION	1404.13 feet	on	06-21-88	STORAGE	22543.00	ACRE-FEET			
MIN. W.S. ELEVATION	1329.93 feet	on	10-01-87	STORAGE	2979.90	ACRE-FEET			

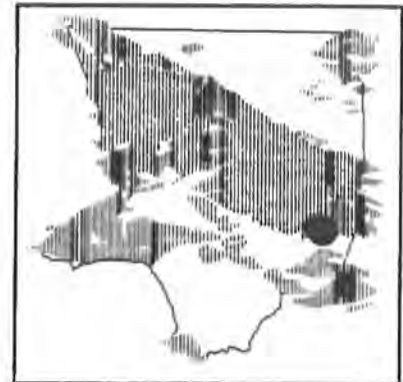
SAN GABRIEL DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	2631.00	6330.20	6268.80	8870.70
TOTAL MONTHLY OUTFLOW (AF)	473.70	7346.80	6150.70	9234.40
MAX. MEAN DAILY INFLOW (CFS)	265.40	359.50	184.60	473.80
TOTAL MONTHLY LOSSES (AF)	61.70	57.70	37.70	34.10
MIN. MEAN DAILY INFLOW (CFS)	3.80	65.10	46.20	49.10
MONTHLY STORAGE CHANGE (AF)	2095.70	-1074.30	80.30	-397.90

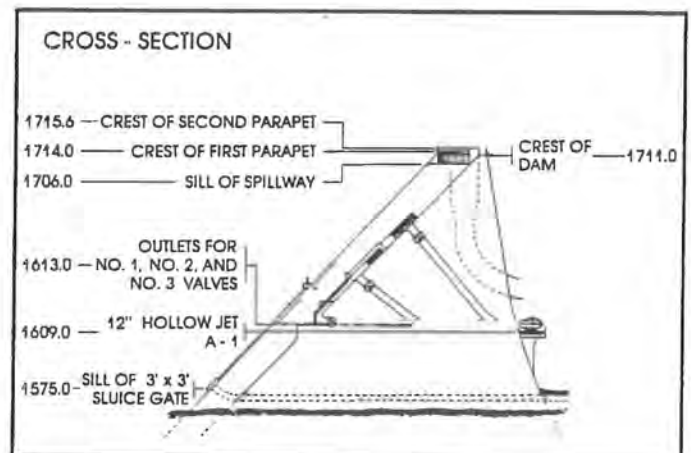
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	5480.80	10231.10	9118.60	7318.30
TOTAL MONTHLY OUTFLOW (AF)	3449.90	3052.00	1683.40	4629.80
MAX. MEAN DAILY INFLOW (CFS)	376.10	574.00	504.70	190.70
TOTAL MONTHLY LOSSES (AF)	60.90	124.70	122.50	210.60
MIN. MEAN DAILY INFLOW (CFS)	59.00	63.40	57.70	73.10
MONTHLY STORAGE CHANGE (AF)	1970.10	7054.40	7312.70	2477.90

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	4096.90	2285.10	1869.70	1599.90
TOTAL MONTHLY OUTFLOW (AF)	4150.60	3091.40	3086.70	2987.10
MAX. MEAN DAILY INFLOW (CFS)	90.20	46.60	49.20	39.70
TOTAL MONTHLY LOSSES (AF)	223.40	257.80	236.10	209.80
MIN. MEAN DAILY INFLOW (CFS)	56.80	29.40	23.70	20.10
MONTHLY STORAGE CHANGE (AF)	-277.20	-1064.10	-1453.10	-1597.00

BIG DALTON DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started December 1927, Completed August 1929.
LOCATION - Big Dalton Canyon, 4.0 miles northeast of Glendora.
DRAINAGE AREA - 4.5 square miles.
CAPACITY - 963 acre - feet.
SPILLWAY ELEVATION - 1,706.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	17.40 CFS	from	1000	on	01-17-88	to	1100	on	01-17-88
MAX. PEAK OUTFLOW	8.80 CFS	from	1015	on	09-12-88	to	1030	on	09-12-88
MAX. W.S. ELEVATION	1640.90 feet	on	04-25-88	STORAGE	89.10	ACRE-FEET			
MIN. W.S. ELEVATION	1630.20 feet	on	04-29-88	STORAGE	53.20	ACRE-FEET			

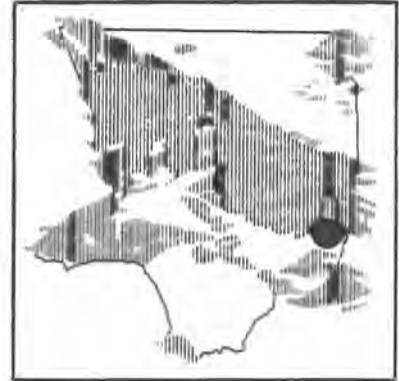
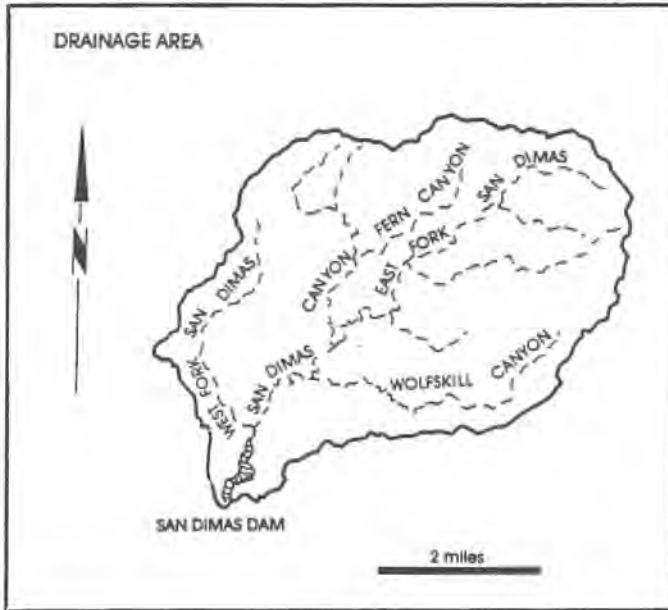
BIG DALTON DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	5.40	9.90	25.40	63.60
TOTAL MONTHLY OUTFLOW (AF)	1.00	0.00	27.80	57.90
MAX. MEAN DAILY INFLOW (CFS)	0.90	0.40	0.80	6.90
TOTAL MONTHLY LOSSES (AF)	1.20	0.80	0.80	0.50
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.30
MONTHLY STORAGE CHANGE (AF)	3.20	9.10	-3.20	5.20

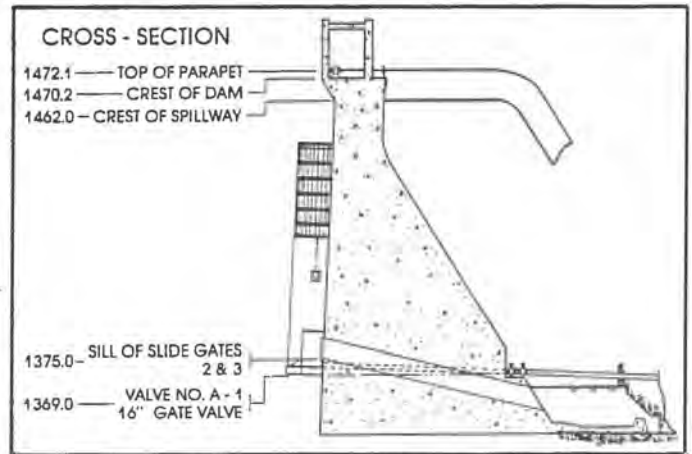
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	41.90	62.40	59.40	36.50
TOTAL MONTHLY OUTFLOW (AF)	39.50	59.70	83.70	30.90
MAX. MEAN DAILY INFLOW (CFS)	2.60	3.20	3.10	1.30
TOTAL MONTHLY LOSSES (AF)	0.80	1.10	2.20	2.60
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.30	0.10	0.00
MONTHLY STORAGE CHANGE (AF)	1.70	1.60	-26.50	2.90

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	14.60	9.50	9.20	4.50
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	15.90	7.10
MAX. MEAN DAILY INFLOW (CFS)	0.30	0.30	0.40	0.20
TOTAL MONTHLY LOSSES (AF)	2.30	2.20	3.80	1.40
MIN. MEAN DAILY INFLOW (CFS)	0.10	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	12.30	7.20	-10.50	-4.00

SAN DIMAS DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
 DATE CONSTRUCTED - Started November 1920. Completed September 1922.
 LOCATION - 3.0 miles northeast of San Dimas.
 DRAINAGE AREA - 16.2 square miles.
 CAPACITY - 1,515 acre - feet.
 SPILLWAY ELEVATION - 1,462.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	: 156.80 CFS	from	1200	on	01-17-88	to	1300	on	01-17-88
MAX. PEAK OUTFLOW	: 309.00 CFS	from	1315	on	06-28-88	to	1330	on	06-28-88
MAX. W.S. ELEVATION	: 1450.36 feet	on	05-03-88	STORAGE	1160.60	ACRE-FEET			
MIN. W.S. ELEVATION	: 1397.80 feet	on	VARIES	STORAGE	54.40	ACRE-FEET			

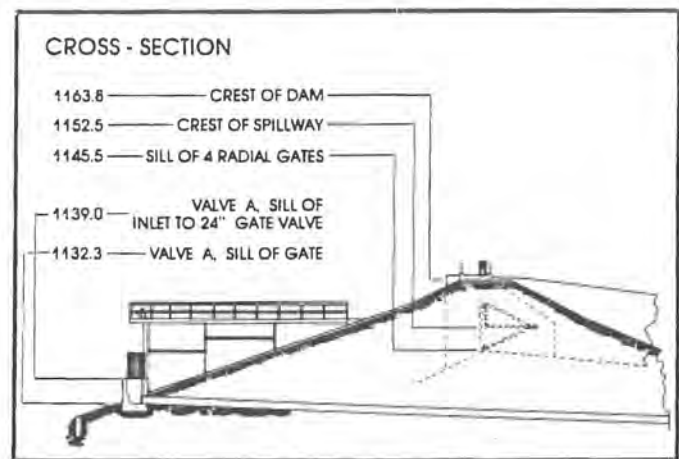
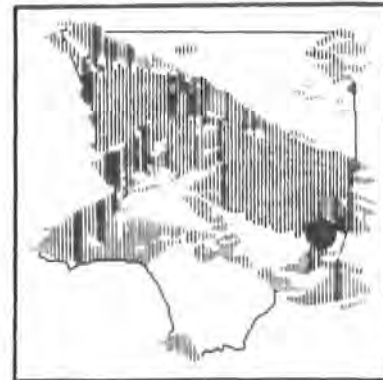
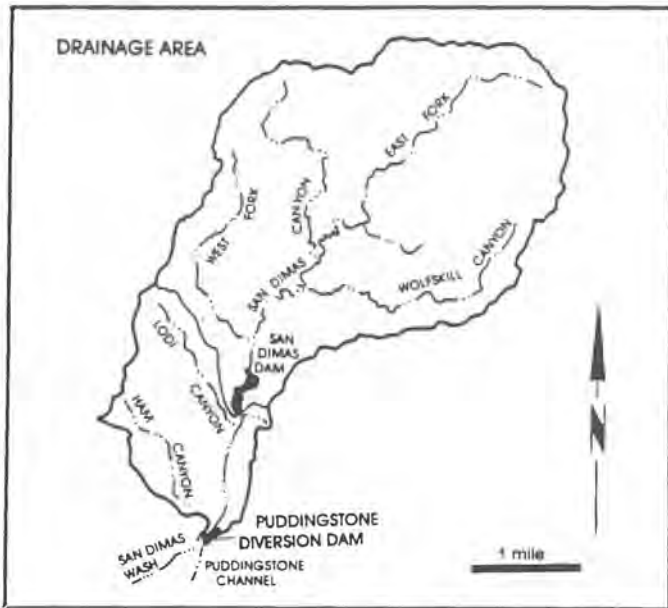
SAN DIMAS DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	92.50	166.80	205.30	359.40
TOTAL MONTHLY OUTFLOW (AF)	24.80	24.00	36.30	31.10
MAX. MEAN DAILY INFLOW (CFS)	12.70	10.00	11.50	54.10
TOTAL MONTHLY LOSSES (AF)	2.50	2.70	3.30	2.70
MIN. MEAN DAILY INFLOW (CFS)	0.10	1.20	1.40	0.20
MONTHLY STORAGE CHANGE (AF)	65.30	140.00	165.70	325.60

WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	179.00	270.20	236.80	193.40
TOTAL MONTHLY OUTFLOW (AF)	47.40	153.10	40.10	487.10
MAX. MEAN DAILY INFLOW (CFS)	10.30	19.00	25.80	9.60
TOTAL MONTHLY LOSSES (AF)	5.50	7.90	9.40	14.30
MIN. MEAN DAILY INFLOW (CFS)	1.10	0.50	0.30	0.50
MONTHLY STORAGE CHANGE (AF)	126.10	109.10	187.30	-308.10

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	46.20	41.60	15.60	14.50
TOTAL MONTHLY OUTFLOW (AF)	159.50	99.00	49.60	64.30
MAX. MEAN DAILY INFLOW (CFS)	1.20	1.70	1.40	0.70
TOTAL MONTHLY LOSSES (AF)	14.70	15.60	25.50	13.90
MIN. MEAN DAILY INFLOW (CFS)	0.10	0.00	0.00	0.10
MONTHLY STORAGE CHANGE (AF)	-128.00	-73.00	-59.50	-63.70

PUDDINGSTONE DIVERSION DAM AND RESERVOIR



PURPOSE - Flood Control and Diversion of flow and Conservation.
DATE CONSTRUCTED - Started September 1927. Completed July 1928.
LOCATION - 2.0 miles northeast of San Dimas.
DRAINAGE AREA - 3.7 square miles (uncontrolled)
 16.2 square miles (controlled)
 Total - 19.9 square miles
CAPACITY - 148 acre feet.
SPILLWAY ELEVATION - 1,152.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	: 214.20 CFS from 0900 on 01-17-88 to 1000 on 01-17-88
MAX. PEAK OUTFLOW	: 16.00 CFS from 0645 on 07-05-88 to 0700 on 07-05-88
MAX. W.S. ELEVATION	: 1148.92 feet on 07-01-88 STORAGE 139.50 ACRE-FEET
MIN. W.S. ELEVATION	: 1133.00 feet on VARIES STORAGE 0.00 ACRE-FEET

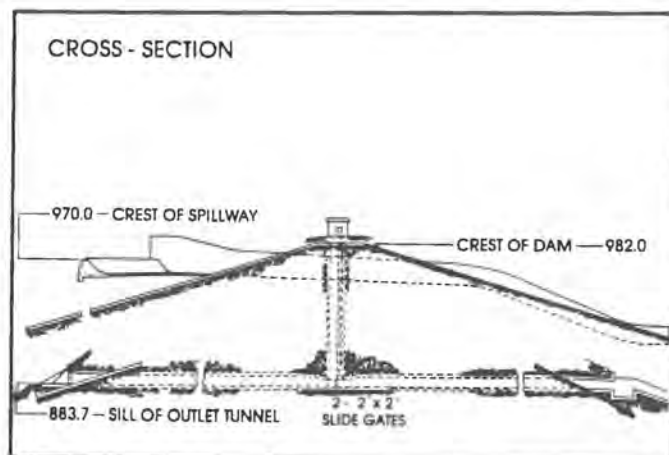
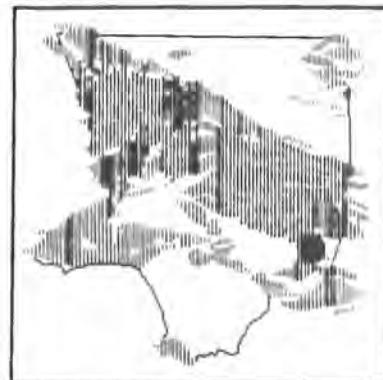
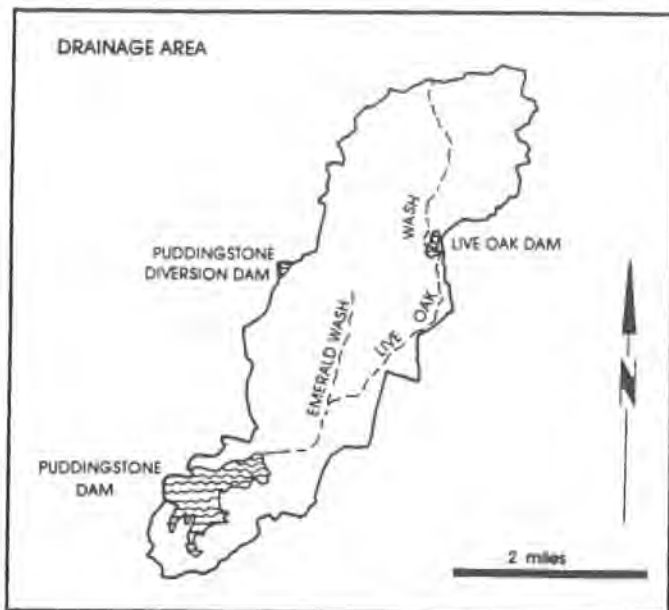
PUDDINGSTONE DIVERSION DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	40.00	44.50	64.90	70.80
TOTAL MONTHLY OUTFLOW (AF)	15.30	56.70	55.90	51.80
MAX. MEAN DAILY INFLOW (CFS)	7.80	5.00	9.00	27.60
TOTAL MONTHLY LOSSES (AF)	0.00	0.80	0.00	4.80
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	24.80	-13.00	8.90	14.30

WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	23.90	124.90	41.10	364.60
TOTAL MONTHLY OUTFLOW (AF)	5.80	109.90	31.50	388.00
MAX. MEAN DAILY INFLOW (CFS)	5.70	6.80	3.90	9.20
TOTAL MONTHLY LOSSES (AF)	5.90	3.00	7.90	1.80
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	12.30	12.00	1.70	-25.10

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	122.30	13.30	0.00	16.70
TOTAL MONTHLY OUTFLOW (AF)	10.90	96.80	0.00	0.60
MAX. MEAN DAILY INFLOW (CFS)	37.60	6.60	0.00	3.90
TOTAL MONTHLY LOSSES (AF)	22.80	33.50	0.00	3.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	88.60	-117.00	0.00	13.10

PUDDINGSTONE DAM AND RESERVOIR



PURPOSE - Flood Control and Recreation.
 DATE CONSTRUCTED - Started February 1925. Completed January 1928.
 LOCATION - 1.0 mile south of San Dimas.
 DRAINAGE AREA - 11.0 square miles (uncontrolled)
 22.1 square miles (controlled)
 Total 33.1 square miles
 CAPACITY - 16,856 acre - feet.
 SPILLWAY ELEVATION - 970.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	421.60 CFS	from	1400	on	01-17-88	to	1500	on	01-17-88
MAX. PEAK OUTFLOW	107.00 CFS	from	1700	on	11-06-87	to	1715	on	11-06-87
MAX. W.S. ELEVATION	942.16 feet	on	01-25-88	STORAGE	6608.20	ACRE-FEET			
MIN. W.S. ELEVATION	938.00 feet	on	10-15-87	STORAGE	5583.00	ACRE-FEET			

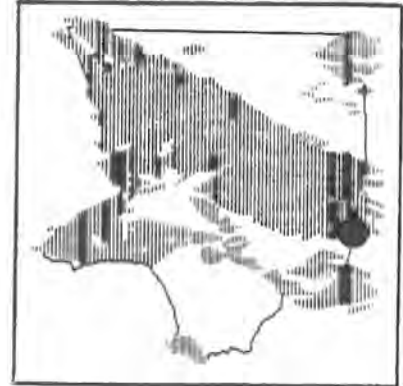
PUDDINGSTONE DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	507.80	428.80	429.50	802.00
TOTAL MONTHLY OUTFLOW (AF)	15.30	749.60	15.30	1068.30
MAX. MEAN DAILY INFLOW (CFS)	76.10	63.50	19.90	143.00
TOTAL MONTHLY LOSSES (AF)	97.50	65.60	49.70	42.60
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.20
MONTHLY STORAGE CHANGE (AF)	395.00	-386.40	364.60	-308.90

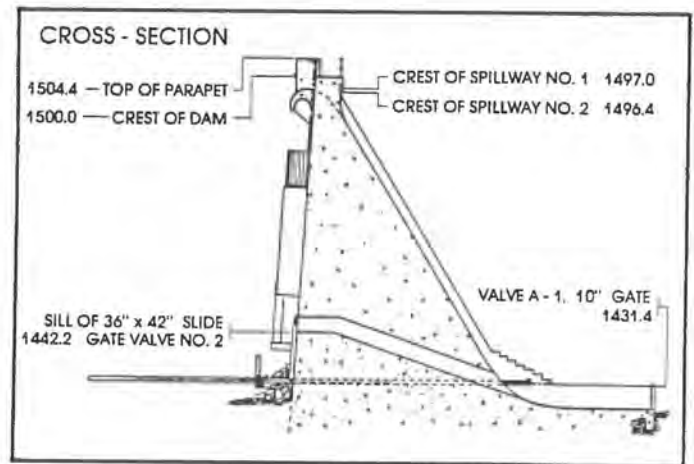
WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	332.80	324.30	585.40	411.70
TOTAL MONTHLY OUTFLOW (AF)	141.60	110.70	107.10	69.40
MAX. MEAN DAILY INFLOW (CFS)	47.30	52.50	44.60	119.90
TOTAL MONTHLY LOSSES (AF)	75.40	104.20	106.20	162.30
MIN. MEAN DAILY INFLOW (CFS)	1.60	0.60	1.20	0.00
MONTHLY STORAGE CHANGE (AF)	115.80	109.40	372.20	180.00

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	1.30	74.50	73.10	38.40
TOTAL MONTHLY OUTFLOW (AF)	37.30	21.70	17.30	18.90
MAX. MEAN DAILY INFLOW (CFS)	0.00	2.60	3.10	3.90
TOTAL MONTHLY LOSSES (AF)	175.00	179.30	175.90	158.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.10	0.00
MONTHLY STORAGE CHANGE (AF)	-211.50	-126.50	-120.10	-138.60

LIVE OAK DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
 DATE CONSTRUCTED - Started August 1921. Completed November 1922.
 LOCATION - 2.5 miles northeast of La Verne.
 DRAINAGE AREA - 2.3 square miles.
 CAPACITY - 240 acre-feet.
 SPILLWAY ELEVATION - 1,496.0 feet.



DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	3.90 CFS	from	1600	on	01-17-88	to	1700	on	01-17-88
MAX. PEAK OUTFLOW	2.60 CFS	from	0930	on	05-17-88	to	0945	on	05-17-88
MAX. W.S. ELEVATION	1456.74 feet	on	05-16-88	STORAGE	9.80	ACRE-FEET			
MIN. W.S. ELEVATION	1440.00 feet	on	VARIES	STORAGE	0.00	ACRE-FEET			

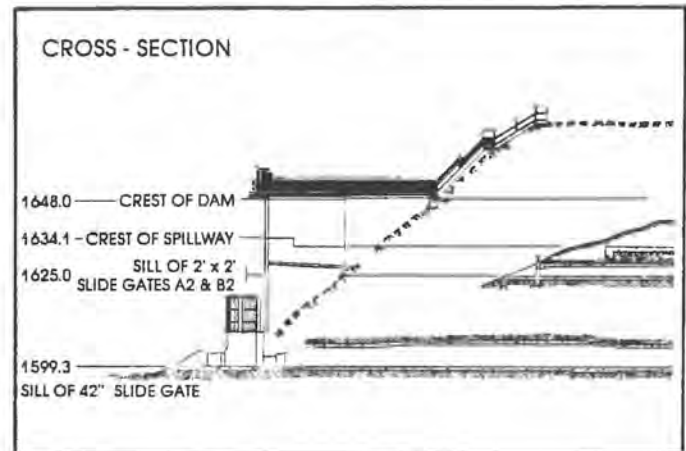
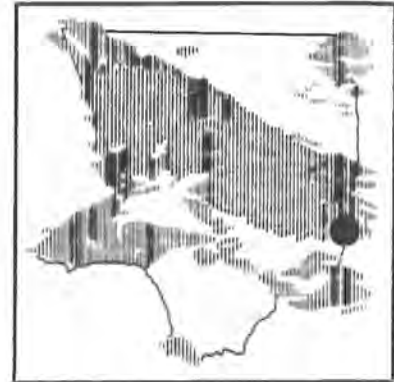
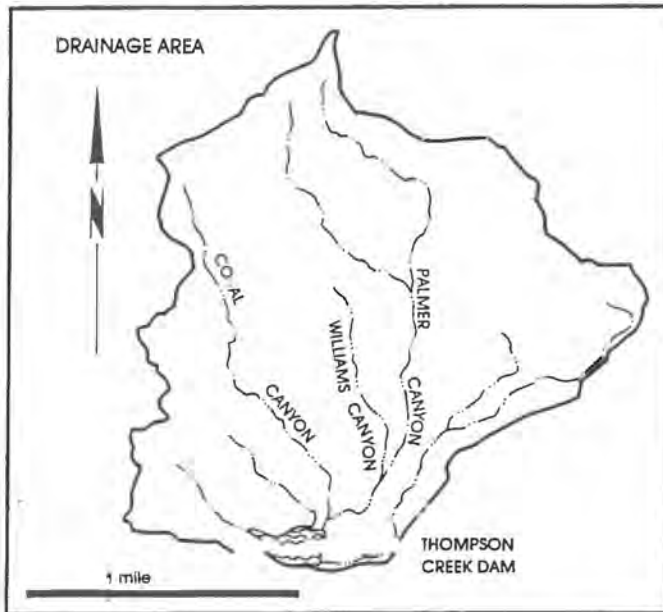
LIVE OAK DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	2.40	8.30	20.20
TOTAL MONTHLY OUTFLOW (AF)	0.00	2.40	8.10	20.40
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.90	0.90	2.70
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.10
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.20	-0.20

WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	5.20	9.10	14.60	7.70
TOTAL MONTHLY OUTFLOW (AF)	5.20	8.90	6.50	15.50
MAX. MEAN DAILY INFLOW (CFS)	0.40	1.40	0.70	0.20
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.10	0.10
MONTHLY STORAGE CHANGE (AF)	0.00	0.20	8.00	-7.70

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	2.40	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	2.40	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.10	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

THOMPSON CREEK DAM AND RESERVOIR



PURPOSE - Flood Control and Conservation.
 DATE CONSTRUCTED - Started September 1925. Completed March 1928.
 LOCATION - 3.0 miles north of Claremont.
 DRAINAGE AREA - 3.5 square miles.
 CAPACITY - 447.5 acre - feet.
 SPILLWAY ELEVATION - 1,634 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	0.90 CFS	from	0800	on	01-17-88	to	0900	on	01-17-88
MAX. PEAK OUTFLOW	1.30 CFS	from	0830	on	01-17-88	to	0845	on	01-17-88
MAX. W.S. ELEVATION	1600.04 feet	on	01-17-88	STORAGE	0.00	ACRE-FEET			
MIN. W.S. ELEVATION	1600.00 feet	on	VARIES	STORAGE	0.00	ACRE-FEET			

THOMPSON CREEK DAM OPERATION RECORD SUMMARY

WATER YEAR 1987-88	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.80	1.20
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.80	1.20
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.30	0.30
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

WATER YEAR 1987-88	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

WATER YEAR 1987-88	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

EROSION CONTROL



EROSION CONTROL

Each year eroded material in various forms (trees, rock, sand, etc.) flows out of the mountain watersheds of Los Angeles County. In an effort to control this potentially disruptive force, the Department maintains a series of debris basins in canyon mouths and upstream stabilization structures in selected watersheds.

PURPOSE

The purpose of a debris basin is to entrap the debris flows emanating from the canyon and let the relatively desilted water pass into flood control channels.

From 1987 to 1988, the number of debris basins increased from 129 to 131 yielding a total maximum capacity of 7,648,700 cubic yards.

Records of sediment inflow at individual debris basins and amounts excavated and removed are available in the Hydraulic/Water Conservation Division.

STABILIZATION STRUCTURES

Stabilization structures are constructed to control erosion in natural canyons. They serve to prevent downcutting by stabilizing alluvium deposits. In addition, they store debris generated by the watershed and serve to stabilize side banks, reducing side slope sloughing and bank erosion.

The Department maintains 225 stabilization structures in 47 major watersheds. No structures have been constructed since the 1973-74 water year.

EMERGENCY STRUCTURES

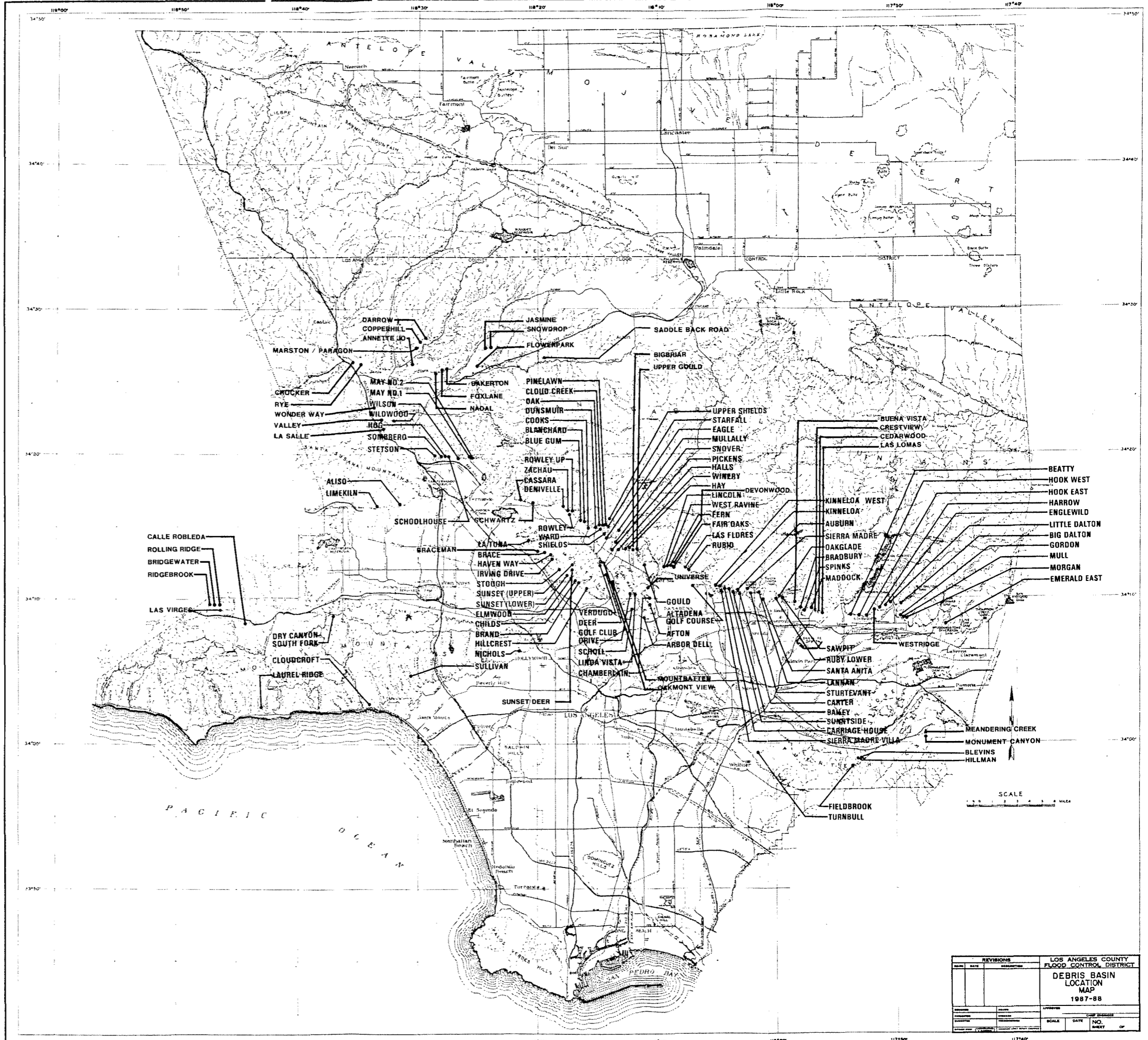
Emergency structures (rail and timber, and crib type) have been constructed to entrap the debris inflow from burned watersheds. They serve to protect the existing structures (road, channel, residence, etc.) located immediately downstream of the watersheds. Currently, 38 emergency structures exist with a total maximum capacity of 341,600 cubic yards.

SEDIMENT REMOVAL FROM RESERVOIRS

Sediment deposition in reservoirs reduces the storage capacities and adversely affects flood control and water conservation efforts. Sediment removal is periodically necessary and is generally an expensive effort due to large quantities, the need to deal with water inflows, and in several cases, remote locations and limited accessibility for equipment.

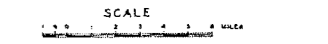
Where practical, the Department encourages sediment removal by permittees at no cost to the Department such as at Eaton Wash and Devil's Gate Dams.

The Department presently is studying the feasibility of various methods for the removal and long-term management of sediment in the three reservoirs in San Gabriel Canyon. These three currently contain about 36 million cubic yards - about three-quarters of the cumulative volume of sediment currently behind all dams under the Department's control.



- BEATTY
- HOOK WEST
- HOOK EAST
- HARROW
- ENGLEWILD
- LITTLE DALTON
- BIG DALTON
- GORDON
- MULL
- MORGAN
- EMERALD EAST

- MEANDERING CREEK
- MONUMENT CANYON
- BLEVINS
- HILLMAN



REVISIONS		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
NO.	DATE	DESCRIPTION	BY

DEBRIS BASIN LOCATION MAP 1987-88			
SCALE	DATE	NO.	OF SHEETS

DEBRIS BASIN - DESIGN DATA

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section
Date: October 1, 1988

DATA SHEET A

DEBRIS BASIN	BOTTOM	ELEV	ELEV.	WIDTH	ELEV.	MAX. DEB.	ESTIMATED DEBRIS CAPACITY	
	ELEV. AT	PORT			SPILLWAY		CREST OF DAM	BEGINNING SEASON
	MAX CAP.	INVERT	SPILLWAY	SPILLWAY	OF DAM	CAP.	CU. YD.	PER CENT
	FT.	FT. (1)	CREST	FT.	FT.	CU. YDS.		
Elmwood	912.0	911.5	938.0	22.0	952.0	61,900	59,431	96
Emerald-East	1185.1	1181.1	1192.0	30.0	1204.0	13,200	11,400	86
Englewild	1274.7	1544.0	1292.0	50.0	1300.0	50,400	49,879	99
Fair Oaks	1542.8	1275.0	1561.9	(6)	1566.5	25,200	26,263	104
Fern	1438.7	1462.4	1470.2	25.0	1480.5	30,600	28,660	94
Fleldbrook	712.7	713.0	718.0	28.0	722.3	2,800	2,293	82
Flowerpark	1694.5	1694.4	1700.9	16.0	1703.0	1,300	1,535	118
Foxlane	1518.8	1518.8	1525.5	(10)	1526.0	13,900	13,900	100
Golf Club Drive	880.7	880.7	902.0	36.7	915.0	14,700	14,377	98
Gordon	1075.7	1075.0	1088.0	22.0	1096.0	16,800	16,981	101
Gould	1528.0	1528.2	1548.0	55.0	1548.0	49,600	47,328	95
Gould (Upper)	1864.0	1863.9	1897.7	32.0	1901.0	52,000	48,023	92
Halls	1641.6	1641.8	1654.3	131.0	1664.0	89,400	88,227	99
Harrow	1254.8	1255.0	1269.0	40.0	1277.8	68,000	72,791	107
Hart, W. S.	1284.0	1280.0	1290.0	19.0	1293.0	2,800	2,102	75
Hay	1875.4	1901.0	1905.0	36.0	1915.0	34,400	33,662	98
Hillcrest	863.6	863.5	885.0	18.0	901.0	54,400	51,785	95
Hog	1520.3	1520.0	1535.0	32.0	1547.0	39,600	39,544	100
Hook East	1197.5	1198.0	1210.9	37.0	1215.0	30,700	30,732	100
Hook West	1144.8	1145.0	1158.9	40.0	1167.0	39,600	35,488	90
Inverness	1252.7	1252.9	1257.0	20.0	1261.0	3,200	2,935	92
Irving Drive	905.8	905.0	915.3	12.0	920.0	2,100	2,145	102
Jasmine	1915.8	1916.2	1920.0	20.0	1924.0	5,500	5,354	97
Kinneoia	1370.0	1370.0	1388.0	40.0	1395.0	17,200	17,736	103
Kinneoia-west	1384.9	1385.0	1400.0	22.0	1408.5	23,600	22,974	97
Lannan	1016.0	1015.0	1035.8	14.0	1043.0	44,600	51,299	115
La Salle	1371.0	1370.0	1380.0	32.0	1386.5	14,900	13,446	90
La Tuna	1109.0	1110.0	1140.0	75.0	1157.0	482,300	492,745	102
Las Flores	1685.1	(9)	1715.6	50.0	1726.4	57,600	56,927	99
Las Lomas	895.4	896.0	906.6	24.0	911.0	9,300	9,265	100
Las Virgenes	(10)	(10)	(10)	(10)	(10)	4,000	(10)	(10)
Laurel Ridge	411.3	411.3	417.0	15.0	420.0	1,700	1,597	94
Limekiln	990.2	992.0	1003.0	77.0	1019.0	171,300	162,355	95
Lincoln	1275.8	1276.0	1304.0	56.0	1322.5	38,400	37,377	97
Linda Vista	979.5	979.5	989.8	40.0	995.7	3,200	3,178	99
Little Dalton	1140.0	1139.5	1186.0	84.0	1200.2	656,500	643,606	98
Maddock	888.8	891.8	901.0	36.0	904.0	45,900	43,690	95
May No. 1	1665.9	1666.0	1684.0	60.0	1692.5	64,000	64,505	101
May No. 2	1663.5	1663.5 (2)	1669.5	20.0	1674.0	10,000	9,997	100

DEBRIS BASIN - DESIGN DATA

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section
Date: October 1, 1988

DATA SHEET A

DEBRIS BASIN	BOTTOM	ELEV	ELEV.	WIDTH	ELEV.	MAX. DEB. CAP. CU. YDS.	ESTIMATED DEBRIS CAPACITY BEGINNING SEASON	
	ELEV. AT MAX CAP. FT.	PORT INVERT FT. (1)	SPILLWAY CREST	SPILLWAY FT.	OF DAM FT.		CU. YD.	PER CENT
Meandering Creek	973.5	973.8	978.3	20.0	980.0	2,500	2,532	101
Monument Canyon	942.3	942.3	950.0	12.0	954.0	6,700	6,662	99
Morgan	1135.0	1135.0	1158.0	45.0	1167.0	51,100	50,021	98
Mountbatten	1136.2	1135.5	1140.9	20.0	1141.0	1,400	1,427	102
Mull	1146.9	1147.0	1154.0	20.0	1165.0	16,000	15,938	100
Mullally	2420.0	2420.0	2435.4	42.0	2439.6	12,000	11,516	96
Nadal	1387.0	1387.0	1391.3	9.0	1394.0	1,100	1,105	100
Nichols	481.0	481.0	485.1	50.0	495.0	13,100	11,080	85
Oak	2145.7	2145.7	2151.8	50.0	2156.2	8,700	7,961	92
Oakglade	1274.6	1280.0	1290.0	20.0	1296.0	12,300	11,751	96
Oakmont	1315.5	1315.5	1327.5	20.0	1327.5	3,400	3,400	100
Pickens	1546.0	1587.3	1600.0	123.0	1613.0	131,400	127,413	97
Pinelawn	2431.0	2430.5	2443.0	(7)	2448.5	5,800	5,475	94
Ridgebrook	1086.8	1083.3	(10)	(10)	1099.0	530.0	530.0	100
Rolling Ridge	1087.0	(10)	(10)	(10)	1095.0	280.0	280.0	100
Rowley	1701.6	1703.6	1714.0	60.0	1722.0	37,700	39,240	104
Rowley (Upper)	1926.0	1926.0	1946.0	42.0	1951.3	28,800	28,416	99
Rubio	1582.1	1582.1	1608.3	59.0	1625.5	127,200	125,041	98
Ruby (Lower)	810.8	809.6	828.0	45.0	833.0	28,600	23,852	83
Rye	1073.9	1073.8	1077.7	58.2	1081.5	19,100	19,078	100
Santa Anita	748.5	748.5 (3)	774.7	160.0	796.0	393,900	393,648	100
Sawpit	928.5	933.4	981.8	110.0	1000.0	644,500	644,098	100
Schoil	950.0	950.0 (2)	956.0	76.0	966.0	11,100	10,432	94
Schoolhouse	1459.6	1460.0	1478.5	20.0	1491.0	66,700	63,405	95
Schwartz	1296.0	1294.7	1313.2	35.0	1319.0	45,400	38,040	84
Shields	2030.0	2050.0	2058.1	30.0	2070.2	34,800	33,083	95
Sierra Madre	1119.6	1119.5	1172.5	62.5	1175.0	133,600	134,778	101
Sierra Madre Villa	1069.2	1069.2	1088.9	48.0	1102.5	402,700	441,373	110
Snover	1858.0	1874.4	1879.0	40.0	1893.7	23,400	22,439	96
Snow Drop	1891.6	1892.2	1896.0	20.0	1900.0	4,100	4,205	103
Sombrero	1539.6	1540.0	1564.8	45.0	1580.0	87,900	87,732	100
Spinks	749.2	750.0	761.5	40.0	765.9	62,900	61,327	97
Starfall	2428.0	2428.0	2441.5	30.0	2446.5	18,400	19,218	104
Stetson	1556.0	1555.0	1570.0	32.0	1570.0	39,000	39,000	100
Stough	1006.0	1005.8	1031.5 (4)	100.0	1043.5	181,200	171,512	95
Sturtevant	975.0	971.0	983.6	8.0	990.0	2,300	2,194	95
Sullivan	569.9	569.9	587.0	50.0	599.3	51,000	51,000	100
Sunnyside	1290.0	1290.0	1299.5	15.0	1303.8	4,300	4,325	101
Sunset Canyon-Deer	1382.4	1380.5	1401.8	24.0	1409.1	6,400	6,360	99

DEBRIS BASIN - DESIGN DATA

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section
Date: October 1, 1988

DATA SHEET A

DEBRIS BASIN	BOTTOM	ELEV	ELEV.	WIDTH	ELEV.	MAX. DEB. CAP. CU. YDS.	ESTIMATED DEBRIS CAPACITY	
	ELEV. AT MAX CAP. FT.	PORT INVERT FT. (1)	SPILLWAY CREST FT.	SPILLWAY FT.	CREST. OF DAM FT.		BEGINNING SEASON	
							CU. YD.	PER CENT
Afton	1032.2	1030.0	1041.4	20.0	1046.6	7,200	7,314	102
Allso	1108.0	1108.4	1120.0	70.0	1134.0	41,700 (8)	38,756	93
Annette Jo	1353.6	1353.6	1356.8	12.0	1358.8	200	225	113
Arbor Dell	899.3	898.4	913.0	22.9	919.6	12,800	11,963	93
Auburn	1263.9	1263.0	1275.0	30.0	1283.0	33,700	33,687	100
Bailey	1122.5	1123.1	1155.0	30.0	1166.0	135,000	127,537	94
Bakerton	1519.9	1518.8	1524.8	20.0	1530.0	2,700	2,617	97
Beatty	800.0	800.0	807.0	32.0	815.5	43,000	39,764	92
Bigbriar	1898.3	1896.0	1910.0	14.0	1910.8	3,100	2,656	86
Big Dalton	1102.0	1101.9 (3)	1131.5	116.0	1148.7	534,400	512,622	96
Blanchard	2026.0	2026.0	2053.5	40.0	2065.0	75,300	74,374	99
Blue Gum	2020.0	2020.0	2042.0	25.0	2053.0	39,600	38,188	96
Brace	1189.7	1189.7	1194.5	20.0	1203.3	27,500	27,680	101
Bracemare	1140.0	1140.0	1145.5	8.0	1148.0	660 (11)	888	135 (11)
Bradbury	912.5	913.1	920.0	58.0	928.0	90,500	88,534	98
Brand	859.0	860.0	890.0	60.0	903.0	170,700	149,060	87
Bridgewater	1078.4	(10)	(10)	(10)	1086.0	270	270	100
Buena Vista	978.7	978.7	992.0	39.0	997.7	25,500	25,462	100
Calle Robleda	931.8	931.8	944.0	7.5	947.0	7,100	7,135	100
Carriage House	1350.0	1350.0	1362.9	15.0	1366.8	10,400	10,741	103
Carter	1222.0	1223.2	1238.2	30.0	1245.0	18,700	18,487	99
Cassara	1271.5	1275.8	1291.7	66.0	1295.4	35,100	33,616	96
Cedarwood	866.8	867.5	872.3	10.0	876.0	900	857	95
Chamberlain	1084.6	1084.0	1097.5	20.0	1101.3	6,600	6,705	102
Childs	1030.0	1022.0	1058.0	23.0	1071.0	49,500	46,200	93
Cloud Creek	2347.3	2350.5	2360.0	(5)	2362.0	14,800	14,150	96
Cloudcroft	313.9	315.0	329.5	36.0	329.5	31,800	33,073	104
Cooks	2060.0	2058.0	2082.9	48.0	2092.0	46,900	48,898	104
Copper Hill	1417.0	1418.2	1423.0	35.0	1428.0	7,900	6,725	85
Crestview	864.4	864.0	886.2	20.0	891.7	5,900	5,945	101
Crocker	1059.9	1064.2	1069.8	36.0	1077.0	39,200	39,196	100
Darrow	1415.0	1414.3	1418.0	35.0	1422.0	9,200	8,923	97
Deer	1185.4	1185.0	1201.0	56.0	1209.6	56,600	49,727	88
Deniville	1471.0	1471.0	1479.3	46.0	1483.3	8,200	7,641	93
Devonwood	1899.0	1899.0	1915.8	22.0	1921.5	6,400	6,696	105
Dry Canyon-South Fork	1062.8	1062.5	1074.8	32.0	1079.3	7,900	7,789	99
Dunsmuir	2228.0	2227.7	2257.2	60.0	2272.2	110,900	108,224	98
Eagle	1853.7	1870.2	1880.2	60.0	1895.2	55,800	49,727	89
El Selinda	(10)	(10)	(10)	(10)	(10)	1,500	(10)	(10)

DEBRIS BASIN - DESIGN DATA

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section
Date: October 1, 1988

DATA SHEET A

DEBRIS BASIN	BOTTOM	ELEV	ELEV.	WIDTH	ELEV.	MAX. DEB.	ESTIMATED DEBRIS CAPACITY	
	ELEV. AT	PORT			SPILLWAY		CREST.	BEGINNING SEASON
	MAX CAP.	INVERT	SPILLWAY	SPILLWAY	OF DAM	CAP.	CU. YD.	PER CENT
	FT.	FT. (1)	CREST	FT.	FT.	CU. YDS.		
Sunset (Lower)	1003.8	994.5	1040.0	40.0	1056.0	160,600	144,075	90
Sunset (Upper)	1574.2	1574.0	1603.7	75.0	1610.1	15,900	17,044	107
Turnbull	480.0	476.0	492.0	40.0	503.0	20,300	19,905	98
Upper Shields	2502.0	2502.0	2518.9	29.5	2524.0	5,700	5,758	101
Valley	1351.0	(10)	(10)	31.0	1365.0	4,000	(10)	(10)
Verdugo	1109.5	1110.0 (2)	1119.7	145.0	1131.0	131,000	123,848	95
Ward	2021.1	2022.0	2033.0	58.0	2035.3	12,400	12,170	98
West Ravine	1468.8	1496.6	1501.9	20.0	1505.5	46,800	37,288	80
Westridge	894.0	894.0	901.0	10.7	906.0	1,400	1,200	86
Wildwood	1340.3	(9)	1354.0	50.0	1360.0	22,500	21,108	94
Wilson	1517.3	1493.0	1526.0	60.0	1543.0	316,900	295,329	93
Winery	1920.0	1920.0	1935.0	20.0	1945.0	29,200	27,265	93
Wonderway	1272.9	1272.0	1276.6	10.0	1281.4	1,700	1,665	98
Zachau	1803.1	1803.1	1817.0	44.0	1823.0	38,600	38,552	100

131 DEBRIS BASINS 7,650,040 7,473,678

- (1) LOWEST CLEAR WATER OUTLET, NOT SPILLWAY.
- (2) ELEVATION OF SPILLWAY NOTCH.
- (3) FLOW LINE OF SLUICWAY.
- (4) ELEVATION OF SPILLWAY INTO OUTLET CHANNEL. ELEVATION OF OVERFLOW SPILLWAY 1036.9 FEET.
- (5) ONE 30-INCH REINFORCED CONCRETE PIPE.
- (6) FOUR 36-INCH CORRUGATED METAL PIPES.
- (7) ONE 36-INCH REINFORCED CONCRETE PIPE.
- (8) DEBRIS CAPACITY AVAILABLE WITHIN RIGHT OF WAY LIMITS.
- (9) PIT-TYPE BASIN.
- (10) INFORMATION UNAVAILABLE.
- (11) MAXIMUM CAPACITY MAY BE LESS THAN SHOWN AND IS BEING REVIEWED. FIELD INSPECTION SUGGESTS BASIN IS NEAR ITS FULLEST POSSIBLE CAPACITY.

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section

DATA SHEET B

Date: October 1, 1988

File: DPH1.WK1

DEBRIS BASIN	FIRST DEBRIS SEASON	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED CU. YDS. (1)	UNCONTROLLED DRAINAGE AREA ABOVE BASIN SQ. MI.	MAX.DEB. CAP. CU. YDS.	MAXIMUM SEASONAL DEBRIS PRODUCTION		SEASON
						CU. YDS.	CU. YDS. PER SQ. MI.	
Afton	1974 - 75	14	1,030	0.06	7,200	800	13,800	1974-75
Allso	1970 - 71	18	131,723	2.77	41,700 (5)	30,700	11,100	1982-83
Annette Jo	1977 - 78	11	255	0.09	200	100	1,600	1977-78
Arbor Dell	1971 - 72	17	1,397	0.11	12,800	800	7,600	1979-80
Auburn	1954 - 55	34	87,386	0.19	33,700	20,100	105,900	1961-62
Balley	1945 - 46	43	238,794	0.60	135,000	91,000	151,700	1979-80
Bakerton	1970 - 71	18	759	0.25	2,700	700	2,700	1979-80
Beatty	1970 - 71	18	13,297	0.27	43,000	7,600	28,300	1979-80
Bigbriar	1971 - 72	17	2,004	0.02	3,100	623	36,100	1987-88
Big Dalton	1959 - 60	29	833,003	2.62	534,400	296,700	113,200	1968-69
Blanchard	1968 - 69	20	68,196	0.50	75,300	36,600	73,200	1977-78
Blue Gum	1968 - 69	20	37,572	0.19	39,600	19,100	100,600	1977-78
Brace	1971 - 72	17	35,621	0.29	27,500	12,000	41,300	1977-78
Bracemare	1971 - 72	17	680 (7)	0.01	700	(6)	(6)	(6)
Bradbury	1954 - 55	34	267,430	0.68	90,500	70,200	103,300	1968-69
Brand	1935 - 36	53	248,895	1.04	170,700	53,100	51,600	1977-78
Bridgewater	(8)	(8)	(8)	0.04	(8)	(6)	(6)	(6)
Buena Vista	1985 - 86	3	38	0.10	25,500	38	(6)	1987-88
Calle Robleda	1982 - 83	6	2,082	0.11	7,100	2,000	18,400	1982-83
Carriage House	1970 - 71	18	4,742	0.03	10,400	3,400	114,700	1979-80
Carter	1954 - 55	34	36,890	0.12	18,700	12,600	104,700	1979-80
Cassara	1976 - 77	12	25,583	0.21	35,100	16,800	80,000	1977-78
Cedarwood	1983 - 84	5	0	0.0075	900	(6)	(6)	(6)
Chamberlain	1974 - 75	14	556	0.04	6,600	300	7,900	1974-75
Childs	1963 - 64	25	45,220	0.31	49,500	10,700	34,500	1980-81
Cloud Creek	1972 - 73	16	3,262	0.02	14,800	1,800	91,600	1977-78
Cloudcroft	1973 - 74	15	12,290	0.21	31,800	6,100	28,900	1973-74
Cooks	1951 - 52	37	166,539 (3)	0.01	46,900	61,200	105,600	1977-78
Copper Hill	1979 - 80	9	1,148	0.27	7,900	1,100	4,300	1981-82
Crestview	1983 - 84	5	0	0.03	5,900	(6)	(6)	(6)
Crocker	1983 - 84	5	0	0.67	39,200	(6)	(6)	(6)
Darrow	1979 - 80	9	412	0.13	9,200	400	3,200	1982-83
Deer	1954 - 55	34	156,948	0.59	56,600	44,200	74,900	1968-69
Deniville	1976 - 77	12	8,660	0.18	8,200	5,500	30,400	1977-78
Devonwood	1981 - 82	7	132	0.05	6,400	100	2,600	1982-83
Dry Canyon-South Fork	1978 - 79	10	6,003	1.05	7,900	5,300	5,100	1979-80
Dunsmuir	1935 - 36	53	349,183	0.84	110,900	86,200	102,600	1977-78
Eagle	1936 - 37	52	199,315	0.48	55,800	41,700	68,300	1937-38

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section

DATA SHEET B

Date: October 1, 1988

File: DPH1.WK1

DEBRIS BASIN	FIRST DEBRIS SEASON	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED CU. YDS. (1)	UNCONTROLLED DRAINAGE AREA ABOVE BASIN SQ. MI.	MAX. DEB. CAP. CU. YDS.	MAXIMUM SEASONAL DEBRIS PRODUCTION		
						CU. YDS.	SQ. MI.	SEASON
El Sellinda	(8)	(8)	(8)	0.03	1,500	(8)	(8)	(8)
Elmwood	1964 - 65	24	52,781	0.31	61,900	16,100	51,900	1980-81
Emerald-East	1964 - 65	24	8,959	0.16	13,200	1,800	11,300	1985-86
Englewild	1961 - 62	27	85,119 (2)	0.40	50,400	60,200	150,500 (2)	1968-69
Fair Oaks	1935 - 36	53	109,020	0.21	25,200	15,700	74,800	1935-36
Fern	1935 - 36	53	159,554	0.31	30,600	23,900	79,600	1968-69
Fieldbrook	1974 - 75	14	1,354	0.35	2,800	500	1,400	1977-78
Flowerpark	1972 - 73	16	1,305	0.08	1,300	900	10,800	1982-83
Foxlane	1979 - 80	9	719	0.19	13,900	700	3,800	1979-80
Golf Club Drive	1970 - 71	18	30,157	0.32	14,700	11,600	36,300	1979-80
Gordon	1973 - 74	15	4,485	0.18	16,800	3,800	21,200	1977-78
Gould	1947 - 48	41	115,091	0.29	49,600	18,000	38,300	1965-66
Gould (Upper)	1976 - 77	12	21,628	0.18	52,000	10,100	55,900	1977-78
Halls	1935 - 36	53	569,156	0.86	89,400	102,100	96,300	1937-38
Harrow	1958 - 59	30	78,297 (2)	0.43	68,000	63,400	147,400 (2)	1968-69
Hart, W. S.	1983 - 84	5	1,329	0.09	2,800	1,000	11,200	1983-84
Hay	1936 - 37	52	67,952	0.20	34,400	18,200	63,000	1937-38
Hillcrest	1962 - 63	26	48,589	0.35	54,400	11,700	33,300	1964-65
Hog	1969 - 70	19	6,500	0.30	39,600	3,900	13,000	1977-78
Hook East	1968 - 69	20	45,709 (2)	0.18	30,700	40,200	223,100 (2)	1968-69
Hook West	1970 - 71	18	6,537	0.17	39,600	3,600	21,200	1979-80
Inverness	1982 - 83	6	265	0.03	3,200	300	10,000	1982-83
Irving Drive	1974 - 75	14	1,244	0.03	2,100	600	18,500	1980-81
Jasmine	1976 - 77	12	2,641	0.10	5,500	1,100	10,700	1982-83
Kinneloa	1964 - 65	24	48,929 (2)	0.20	17,200	17,600	88,100 (2)	1968-69
Kinneloa-west	1966 - 67	22	59,055 (2)	0.16	23,600	22,200	138,500 (2)	1968-69
Lannan	1954 - 55	34	84,067	0.25	44,600	18,200	73,000	1969-70
La Salle	1979 - 80	9	1,454	0.22	14,900	1,200	5,500	1982-83
La Tuna	1955 - 56	33	595,914	5.34	482,300	172,100	32,200	1977-78
Las Flores	1935 - 36	53	214,754	0.45	57,600	36,000	80,000	1937-38
Las Lomas	1983 - 84	5	35	0.07	9,300	(6)	(6)	(6)
Las Virgenes	(8)	(8)	(8)	0.14	4,000	(8)	(8)	(8)
Laurel Ridge	1977 - 78	11	997	0.03	1,700	400	14,800	1985-86
Limekiln	1963 - 64	25	270,549	3.69	171,300	42,300	11,500	1965-66
Lincoln	1935 - 36	53	126,104	0.50	38,400	28,400	56,800	1968-69
Linda Vista	1970 - 71	18	11,051	0.37	3,200	3,400	9,200	1977-78
Little Dalton	1959 - 60	29	905,170	3.31	656,500	337,800	102,100	1968-69
Maddock	1954 - 55	34	56,454	0.25	45,900	16,200	64,700	1980-81

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section

DATA SHEET B

Date: October 1, 1988

File: DPH1.WK1

DEBRIS BASIN	FIRST DEBRIS SEASON	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED CU. YDS. (1)	UNCONTROLLED DRAINAGE AREA ABOVE BASIN SQ. MI.	MAX. DEB. CAP. CU. YDS.	MAXIMUM SEASONAL DEBRIS PRODUCTION		SEASON
						CU. YDS.	SQ. MI.	
May No. 1	1953 - 54	35	203,322	0.70	64,000	45,800	65,400	1968-69
May No. 2	1953 - 54	35	27,314	0.09	10,000	6,200	68,600	1966-67
Meandering Creek	1973 - 74	15	1,654	0.09	2,500	900	9,800	1973-74
Monument Canyon	1981 - 82	7	2,855	0.11	6,700	2,600	24,000	1981-82
Morgan	1964 - 65	24	30,292	0.60	51,100	12,900	21,500	1968-69
Mountbatten	1983 - 84	5	0	0.01	1,400	(6)	(6)	(6)
Mull	1973 - 74	15	1,970	0.15	16,000	1,100	7,000	1979-80
Mullally	1974 - 75	14	51,721 (4)	0.34	12,000	24,400	71,900 (4)	1977-78
Nadal	1969 - 70	19	476	0.08	1,100	400	5,600	1979-80
Nichols	1937 - 38	51	126,652	0.35	13,100	21,800	62,300	1951-52
Oak	1975 - 76	13	13,258	0.05	8,700	6,900	138,200	1977-78
Oakglade	1974 - 75	14	1,455	0.06	12,300	1,200	20,700	1977-78
Oakmount	1984 - 85	4	0	0.02	3,400	(6)	(6)	(6)
Pickens	1935 - 36	53	716,116	1.50	131,400	140,600	93,700	1977-78
Pinelawn	1973 - 74	15	5,113	0.02	5,800	1,200	60,000	1976-77
Ridgebrook	(8)	(8)	(8)	0.06	(8)	(6)	(6)	(6)
Rolling Ridge	(8)	(8)	(8)	0.04	(8)	(6)	(6)	(6)
Rowley	1953 - 54	35	76,207 (4)	0.27	37,700	16,700	61,700 (4)	1977-78
Rowley (Upper)	1976 - 77	12	49,019 (4)	0.31	28,800	31,900	102,800 (4)	1977-78
Rubio	1943 - 44	45	271,322	1.26	127,200	133,000	105,600	1979-80
Ruby (Lower)	1955 - 56	33	20,448	0.28	28,600	8,300	29,700	1968-69
Rye	1981 - 82	7	10,419	1.11	19,100	10,000	9,100	1981-82
Santa Anita	1959 - 60	29	689,384 (2,3)	1.70	393,900	132,000	77,600 (2,3)	1961-62
Sawplt	1954 - 55	34	678,599 (2,3)	2.78	644,500	233,800	82,300 (2,3)	1968-69
Scholl	1945 - 46	43	16,794	0.66	11,100	3,500	5,200	1968-69
Schoolhouse	1962 - 63	26	33,550	0.28	66,700	21,600	77,200	1962-63
Schwartz	1976 - 77	12	45,183	0.27	45,400	23,400	86,500	1977-78
Shields	1937 - 38	51	173,202 (3)	0.03	34,800	35,100	130,200	1937-38
Sierra Madre	1927 - 28	61	363,695 (2)	2.39	133,600	95,200	39,800 (2)	1968-69
Sierra Madre Villa	1957 - 58	31	508,701	1.46	402,700	118,600	81,200	1961-62
Snover	1936 - 37	52	104,397	0.23	23,400	21,100	91,700	1938-39
Snow Drop	1976 - 77	12	1,700	0.14	4,100	1,000	7,400	1979-80
Sombrero	1969 - 70	19	6,030	1.06	87,900	3,300	3,100	1977-78
Spinks	1958 - 59	30	67,086	0.44	62,900	16,400	37,200	1968-69
Starfall	1973 - 74	15	27,128	0.13	18,400	14,200	109,200	1977-78
Statson	1969 - 70	19	5,035	0.29	39,000	1,500	5,300	1977-78
Stough	1940 - 41	48	161,148	1.65	181,200	44,100	26,700	1964-65
Sturtevant	1967 - 68	21	1,296	0.03	2,300	500	16,900	1977-78

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1987-1988 Season

Compiled by: Hydraulic and Water Conservation
Division - Sedimentation Section

DATA SHEET B

Date: October 1, 1988

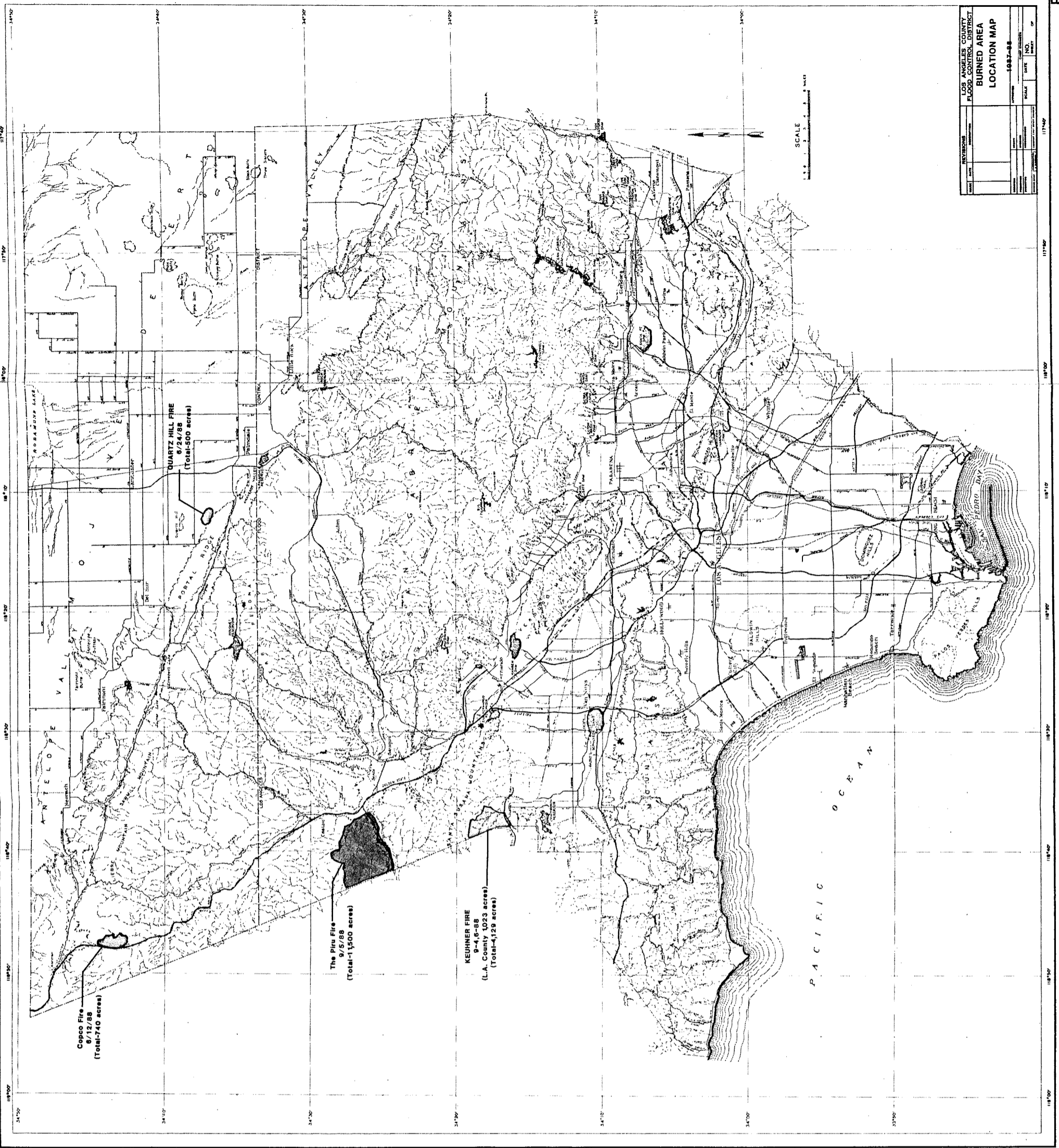
File: DPH1.WK1

DEBRIS BASIN	FIRST DEBRIS SEASON	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED CU. YDS. (1)	UNCONTROLLED DRAINAGE AREA ABOVE BASIN SQ. MI.	MAX.DEB. CAP. CU. YDS.	MAXIMUM SEASONAL DEBRIS PRODUCTION		DEBRIS SEASON
						CU. YDS.	SQ. MI.	
Sullivan	1970 - 71	18	89,957	2.38	51,000	35,300	14,800	1979-80
Sunnyside	1970 - 71	18	1,749	0.02	4,300	800	41,000	1978-79
Sunset Canyon-Deer	1982 - 83	6	3,678	0.20	6,400	3,200	16,000	1982-83
Sunset (Lower)	1963 - 64	25	142,169	0.65	160,600	29,200	44,900	1980-81
Sunset (Upper)	1928 - 29	60	142,392	0.44	15,900	27,000	61,400	1964-65
Turnbull	1952 - 53	36	50,390 (2)	0.99	20,300	15,900	16,000 (2)	1968-69
Upper Shields	1976 - 77	12	50,514 (4)	0.20	5,700	16,900	84,500	1977-78
Valley	1986 - 87	(8)	(8)	0.22	4,000	(6)	(6)	(6)
Verdugo	1935 - 36	53	806,212	3.09	131,000	105,400	11,200	1937-38
Ward	1956 - 57	32	51,668	0.12	12,400	17,800	148,100	1977-78
West Ravine	1935 - 36	53	148,333	0.25	46,800	29,900	119,500	1937-38
Westridge	1974 - 75	14	200	0.02	1,400	(6)	(6)	(6)
Wildwood	1967 - 68	21	67,450	0.65	22,500	16,700	25,700	1977-78
Wilson	1962 - 63	26	217,968	2.58	316,900	55,500	21,500	1968-69
Winery	1968 - 69	20	23,137	0.18	29,200	9,400	52,200	1968-69
Wonder Way	1975 - 76	13	35	0.07	1,700	NEGL.	300	1975-76
Zachau	1956 - 57	32	106,174 (4)	0.35	38,600	48,100	137,300 (4)	1977-78

131 DEBRIS BASINS ----- 69.37 ----- 7,649,000

AVE. SEDIMENT INFLOW = 3,288 CUBIC YARDS PER YEAR
(119 Debris Basins)

- (1) VOLUME OF DEBRIS DEPOSITED IN BASINS DOES NOT INCLUDE DEBRIS SLUICED THROUGH OPEN PORTS OR NOTCH.
- (2) VOLUME OF DEBRIS DEPOSITED DOES NOT INCLUDE DEBRIS WHICH PASSED OVER SPILLWAY DURING THE STORMS IN 1968-69 SEASON.
- (3) INCLUDING DEBRIS FROM UPSTREAM BASIN OR DAM.
- (4) VOLUME OF DEBRIS DEPOSITED DOES NOT INCLUDE DEBRIS WHICH PASSED OVER SPILLWAY DURING THE STORMS IN 1977-78 SEASON.
- (5) DEBRIS CAPACITY AVAILABLE WITHIN RIGHT OF WAY LIMITS.
- (6) NO SIGNIFICANT MAXIMUM DEBRIS INFLOWS RECORDED.
- (7) NO RECORDS OF DEBRIS DEPOSITION EXIST FOR THE FIRST 9 SEASONS.
- (8) INFORMATION UNAVAILABLE.



LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
BURNED AREA LOCATION MAP	
NO.	DATE
1	1987-88
2	
3	
4	
5	
6	
7	
8	
9	
10	

WATER QUALITY



WATER QUALITY

Since its conception, the Flood Control District (now Department of Public Works) has actively engaged in operations which have proven indispensable in preserving the integrity of our water resources, both quantity and quality, and has aided in the establishment of regulations or controlling criteria by those agencies so empowered.

Prior to March 1986, monitoring activities in the field of water quality control were conducted by the Water Quality Section of Hydraulic/Water Conservation Division. In March 1986, the responsibilities of conducting such activities were transferred to Waste Management Division as a result of the consolidation. These activities include, among others, the collection of water quality samples, their analyses, and the interpretation and reporting of the resulting data.

Areas of involvement include the monitoring of all groundwater basins through the sampling of numerous wells, the monitoring of storm and low water flows at various strategic locations on the major streams or channels, and an assumed or obligated responsibility to monitor the quality effects and subsurface travel of recharge areas, specifically the Whittier Narrows Spreading Grounds area.

The Water Quality Section, together with personnel of other Departmental divisions, also conducts investigations into pollutional problems relative to our facilities, particularly those from industrial discharges, vehicle accidents, ruptured pipelines, or the indiscriminate dumping of various waste products.

The principal objectives of these investigations are to determine the degree and apparent source or origin of the pollution and to take the necessary action that will immediately abate the existing problem and possibly provide a means to prevent or limit recurrence.

SURFACE WATER QUALITY

The Surface Water Quality Monitoring Program involves the sampling of dry weather flows of a number of the principal water conveyance systems within the County prior to July 1984, samples were collected at 31 stations located on the Los Angeles River, San Gabriel River, Santa Clara River, Rio Hondo Channel, Coyote Creek, Dominguez Channel, Ballona Creek, Centinela Creek, San Jose Creek, Topanga Canyon Channel, Malibu Creek, and Kenter Avenue Drain. Samples were collected monthly at each station and analyzed by the Department's Water Quality Laboratory for major minerals, total dissolved solids (TDS), total hardness, specific conductance, pH, dissolved oxygen demand, coliform, fecal coliform, and enterococci. In addition to these constituents, residual chlorine, total organic carbon (TOC), and chlorinated pesticides were also determined at selective locations as well as an annual analysis for trace metals such as barium, copper, chromium, lead, mercury, nickel, selenium, silver, zinc, iron, and manganese.

In July 1984, the monitoring program was reduced in terms of sampling location and monitoring frequency as well as number of constituents analyzed. The modified program involves collection of monthly/quarterly samples from

21 monitoring stations for ph, total dissolved solids, specific conductance, and dissolved oxygen analyses. In addition, an annual sample is collected from each of the 21 stations for more extensive analyses. Since July 1984, this Department closed its laboratory and has utilized a contract laboratory to perform all the above analyses.

A selective list of total dissolved solids is shown for some of the sampling locations on the streams and channels monitored under the Surface Water Quality Program. For a conception of the analysis performed on surface flows, a yearly compilation of constituent determination is shown for one (Los Angeles River at Wardlow) of the sampling stations in the program.

This program has been expanded, effective January 1, 1988, to approximate the pre-1984 monthly program with the addition of various organic constituents. Implementation of the modified program started May 1, 1988.

STORM WATER QUALITY

The annual Storm Water Quality Program is a comprehensive sampling of major storm flows at many locations throughout the County. The samples are analyzed for major minerals, specific conductance, suspended solids, pH, dissolved oxygen, biochemical oxygen demand, total coliform, fecal coliform, enterococci, total organic carbon, and nutrients level.

In 1984, the number of sampling stations for this program was reduced to 15 including San Gabriel River and Rio Hondo Spreading Grounds where samples were collected up to four times annually for extensive analyses including purgeable and non-purgeable organics.

In addition, storm samples are taken at various gaging stations and spreading grounds. The flow data is recorded at the time each sample is taken and these samples are analyzed for specific conductance.

GROUNDWATER QUALITY

The annual sampling of water wells, under a selected scheduling, in five major basins in Los Angeles County comprise the Groundwater Quality Program. The program, initiated in 1970, is coordinated with the State of California Department of Water Resources and the City of Los Angeles Department of Water and Power.

These agencies participate in the obtainment and analysis of samples. All the water wells samples are active production wells used either for municipal supply irrigation, or for industrial purposes and are selected to represent a general portrayal of basin water quality conditions. The samples taken under this program are analyzed for major mineral, total dissolved solids, electrical conductivity, ph and, in specific cases, phosphate, iron, manganese, fluoride, or boron.

WATER QUALITY DATA ACCESSIBILITY

Data acquired from the various programs are on file in the Water Quality Section. In addition, all data is accessible to any user through STORET, an

Environmental Protection Agency computer system that stores, retrieves, and manipulates data using agency code 21CALAFD.

Surface Water Quality Monitoring Selected Surface Station

Table 1 Total Dissolved Solids - mg/l
1987-88 Season (Dry Weather Flow)

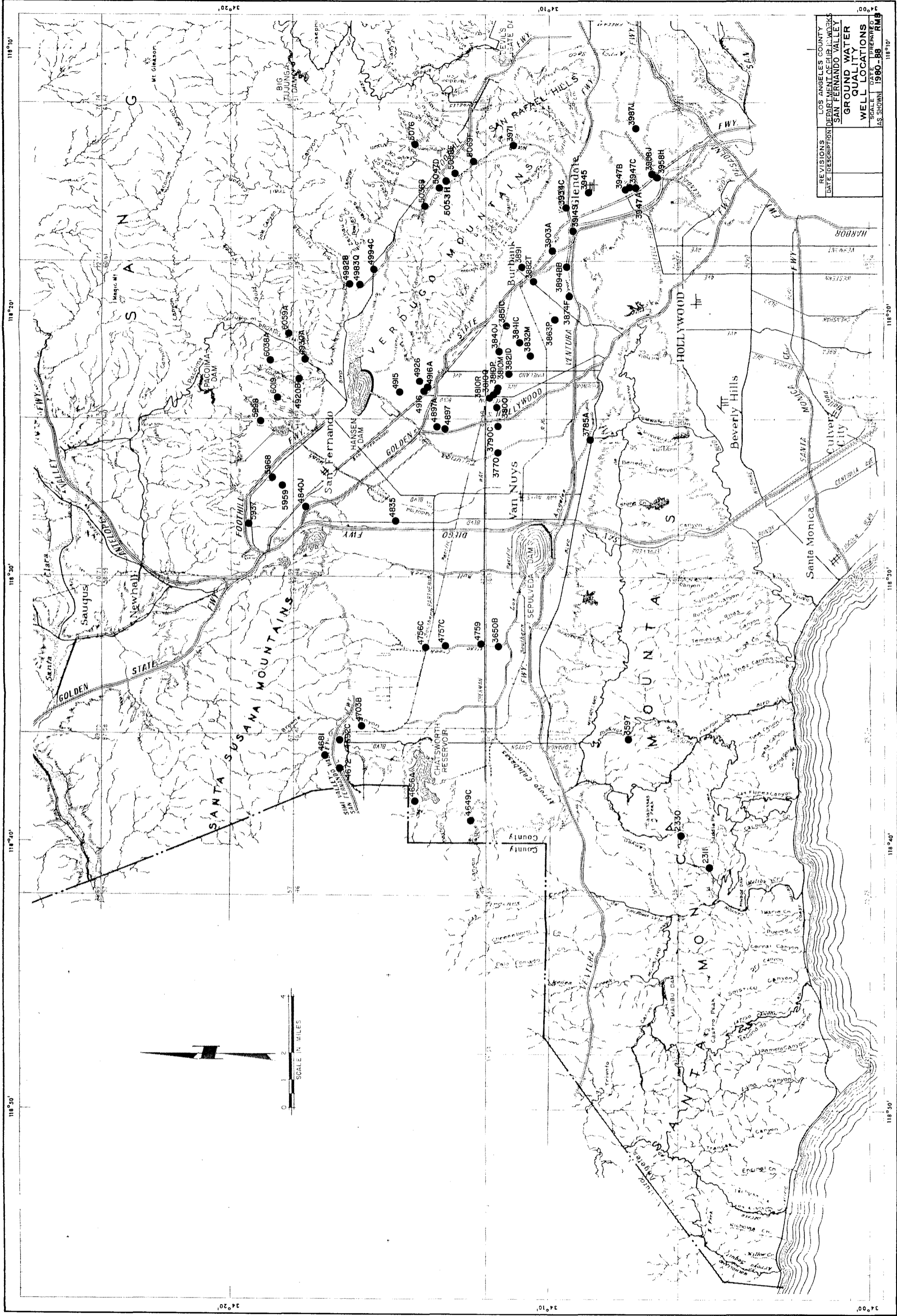
Sampling Location	Oct. '87	Nov. '87	Dec. '87	Jan. '88	Feb. '88	Mar. '88	Apr. '88	May '88	Jun. '88	Jul. '88	Aug. '88	Sep. '88	Average Value
Ballona Creek at Sawtelle Boulevard	-	-	-	-	-	-	-	802	810	812	727	860	802
Coyote Creek at Orangethorpe Ave. Willow Street	-	-	1000	-	-	-	-	886	941	799	882	983	915
	-	-	-	-	-	-	-	1390	1110	686	648	786	924
Dominquez Channel Above Vermont Ave.	-	-	-	-	-	-	-	801	778	610	628	613	686
L.A. River at Warlow Road Firestone Boulevard	640	670	620	-	-	-	-	766	814	708	980	745	794
	-	-	650	-	-	-	-	424	554	-	539	573	516
Los Cerritos Ch. at Stearns Street	670	730	700	-	-	-	-	651	656	664	622	666	670
Rio Hondo River at Southern Ave. Spreading Grounds	-	-	750	-	-	-	-	766	814	708	980	745	794
	650	280	590	-	-	-	-	424	554	-	539	573	516
Santa Monica Cyn. Ch. at Short St.	820	850	840	-	-	-	-	1072	562	959	972	903	872
San Gabriel River at Spreading Grounds Willow Street	-	430	620	-	-	-	-	698	545	-	534	-	565
	-	-	-	-	-	-	-	858	765	658	710	725	743
San Jose Creek at Workman Mill Road	-	800	-	-	-	-	-	1013	923	909	591	950	864

Water Quality Analysis

Monthly Monitoring 1986-87 Season (Dry Weather)

Los Angeles River @ Wardlow Road

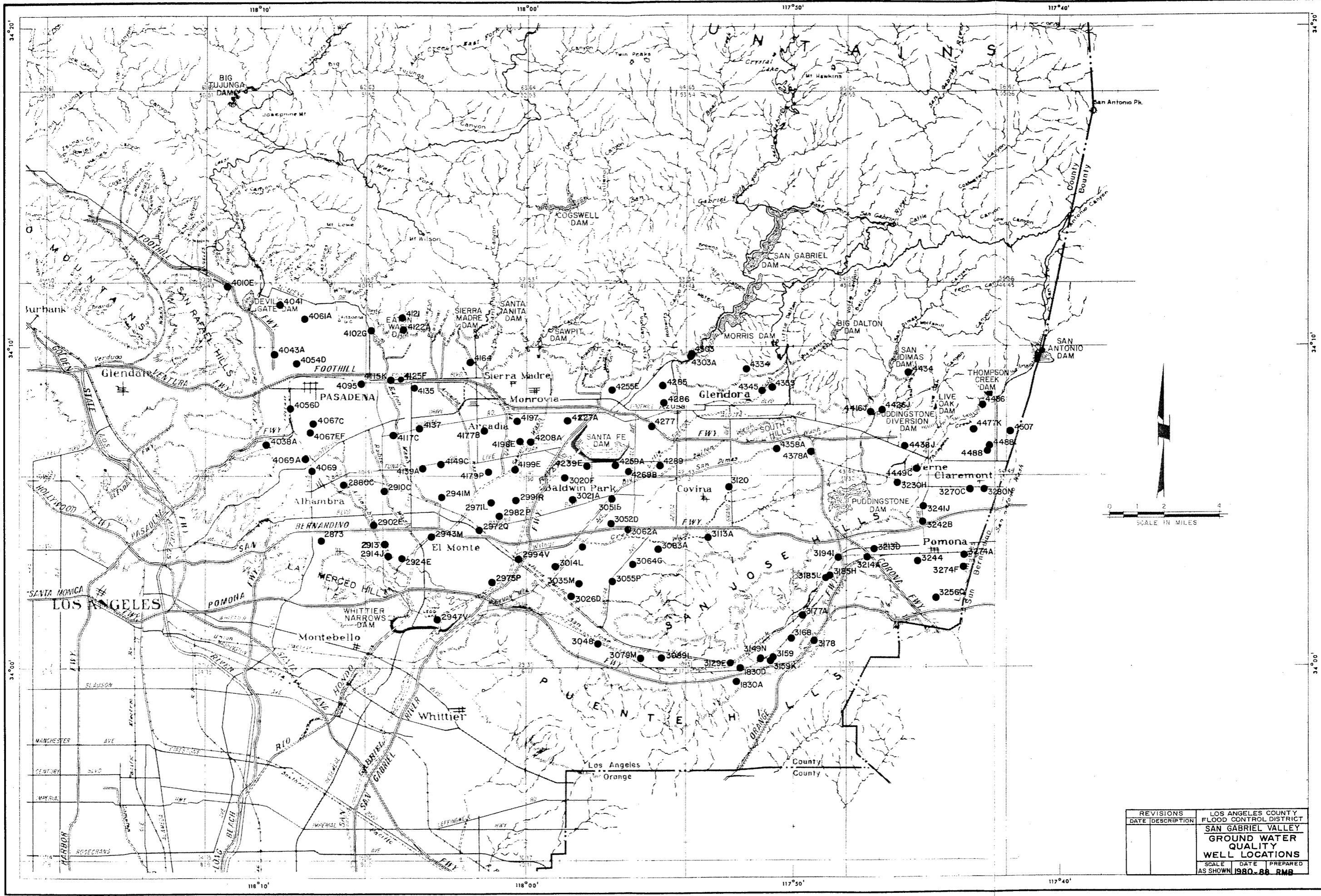
Constituent mg/l	Oct. '87	Nov. '87	Dec. '87	Jan. '88	Feb. '88	Mar. '88	Apr. '88	May '88	Jun. '88	Jul. '88	Aug. '88	Sep. '88	Average
Hardness	-	-	-	-	-	-	-	295	324	265	257	311	290
Calcium	-	-	-	-	-	-	-	72	80.5	65.4	62.0	69.3	69.8
Magnesium	-	-	-	-	-	-	-	28	29.8	24.6	24.7	33.6	28.1
Sodium	-	-	-	-	-	-	-	110	115	104	96	122	109
Potassium	-	-	-	-	-	-	-	13.2	17.3	14.6	16.8	13.2	15.0
Ammonium-N	-	-	-	-	-	-	-	1.4	1.6	0.8	3.8	2.2	2.0
Alkalinity	-	-	-	-	-	-	-	182	163	164	196	182	177
Sulfate	-	-	-	-	-	-	-	171	200	154	149	179	171
Chloride	-	-	-	-	-	-	-	113	121	115	103	134	117
Nitrate-N	-	-	-	-	-	-	-	1.74	6.03	1.59	1.40	2.28	2.61
Phosphate-P	-	-	-	-	-	-	-	3.6	6.3	0.8	9.8	0.4	4.2
Total Dissolved Solids	640	670	620	-	-	-	-	684	691	590	616	732	655
DO	10.4	8.2	11.2	-	-	-	-	-	-	-	-	-	9.9
BOD	-	-	-	-	-	-	-	<1	<1	3.1	60.5	46.5	22.0
Total Organic Carbon	-	-	-	-	-	-	-	5.16	<1.0	3.00	4.00	4.00	3.2
Per 100ml													
Fecal Coliform	-	-	-	-	-	-	-	11K	-	2.7K	400	3.4K	7,040
Total Coliform	-	-	-	-	-	-	-	620K	-	170K	250K	630K	1,078
Fecal Streptococcus	-	-	-	-	-	-	-	9.8K	-	4.4K	900K	2.7K	80
pH	9.4	8.8	9.5	-	-	-	-	9.0	8.7	8.5	8.6	8.6	8.9
Temperature (F)	78	74	66	-	-	-	-	69	69	84	73	68	73



REVISIONS		LOS ANGELES COUNTY	
DATE	DESCRIPTION	DEPARTMENT	CEPIR J. WOODS
		SAN FERNANDO VALLEY	
		GROUND WATER QUALITY	
		WELL LOCATIONS	
		SCALE	DATE PREPARED
		AS SHOWN	1980-88
			RMG

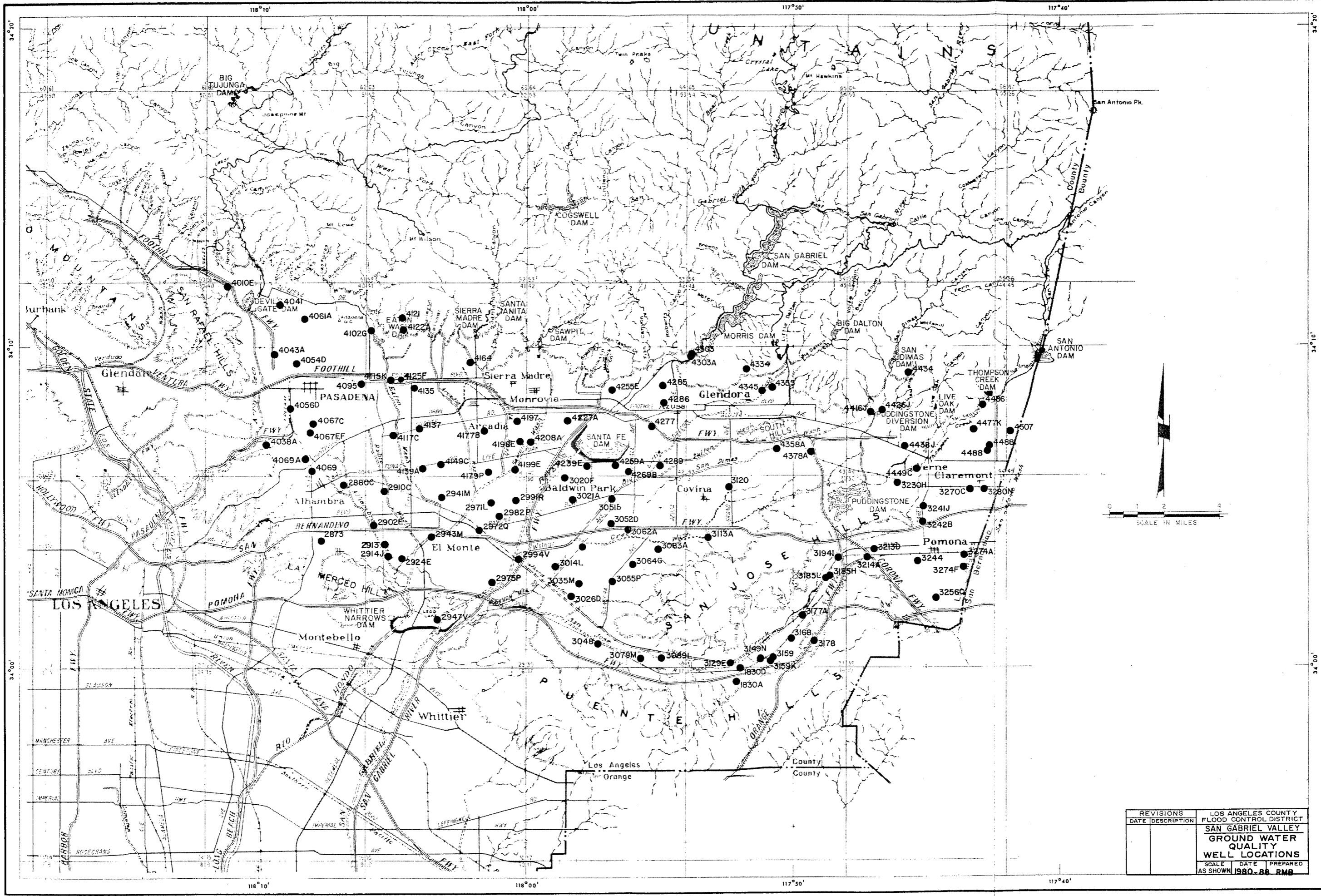
118°50' 118°40' 118°30' 118°20' 118°10'

34°00' 34°10' 34°20'



REVISIONS	DATE	DESCRIPTION

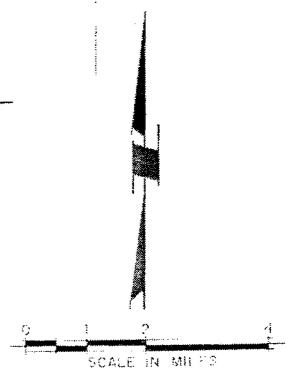
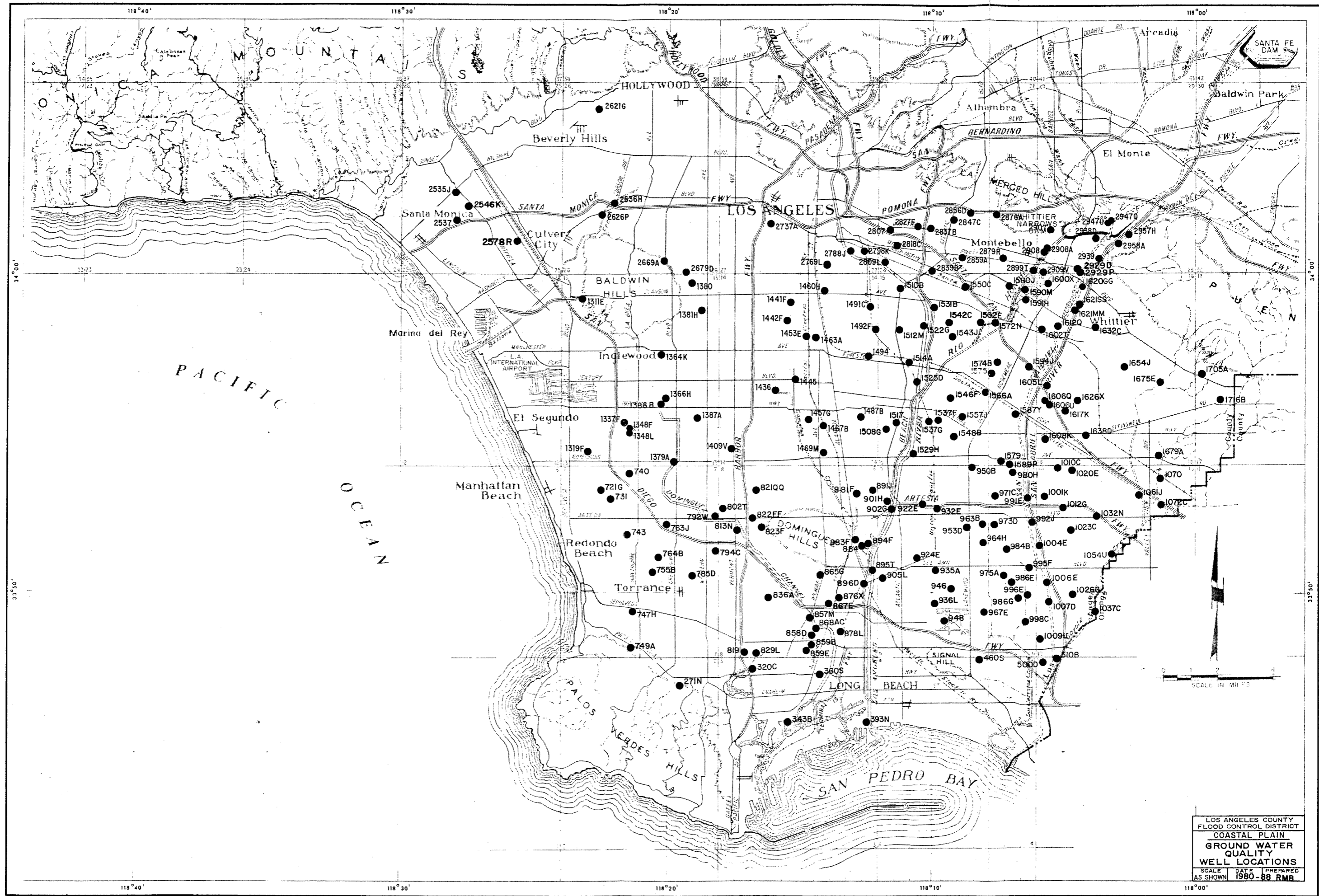
LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT
SAN GABRIEL VALLEY
GROUND WATER
QUALITY
WELL LOCATIONS
SCALE DATE PREPARED
AS SHOWN 1980-88 RMB



REVISIONS	DATE	DESCRIPTION

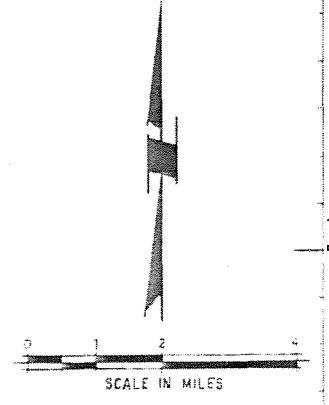
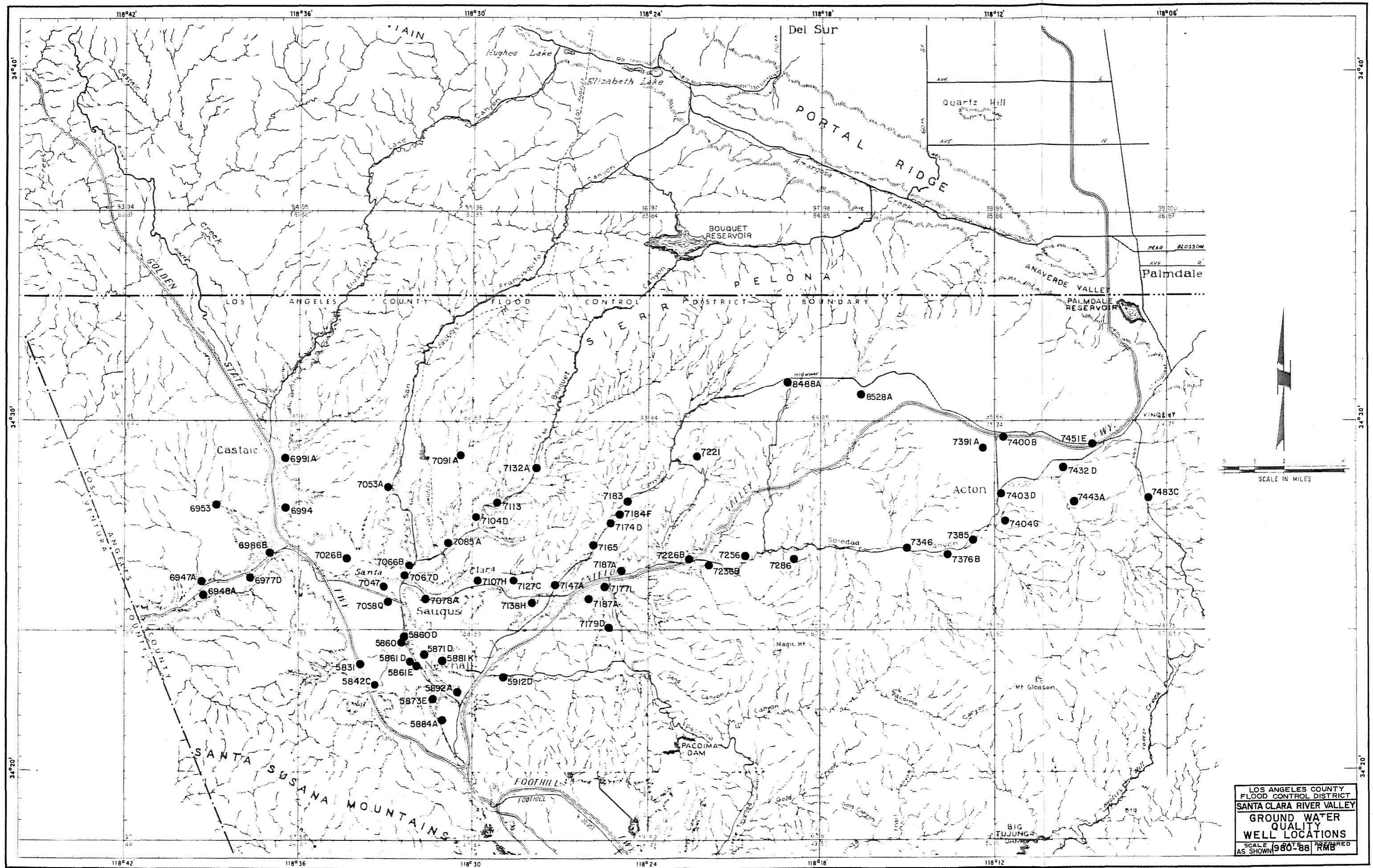
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT		
SAN GABRIEL VALLEY		
GROUND WATER QUALITY		
WELL LOCATIONS		
SCALE	DATE PREPARED	AS SHOWN 1980-88 RMB

B-1 B-7

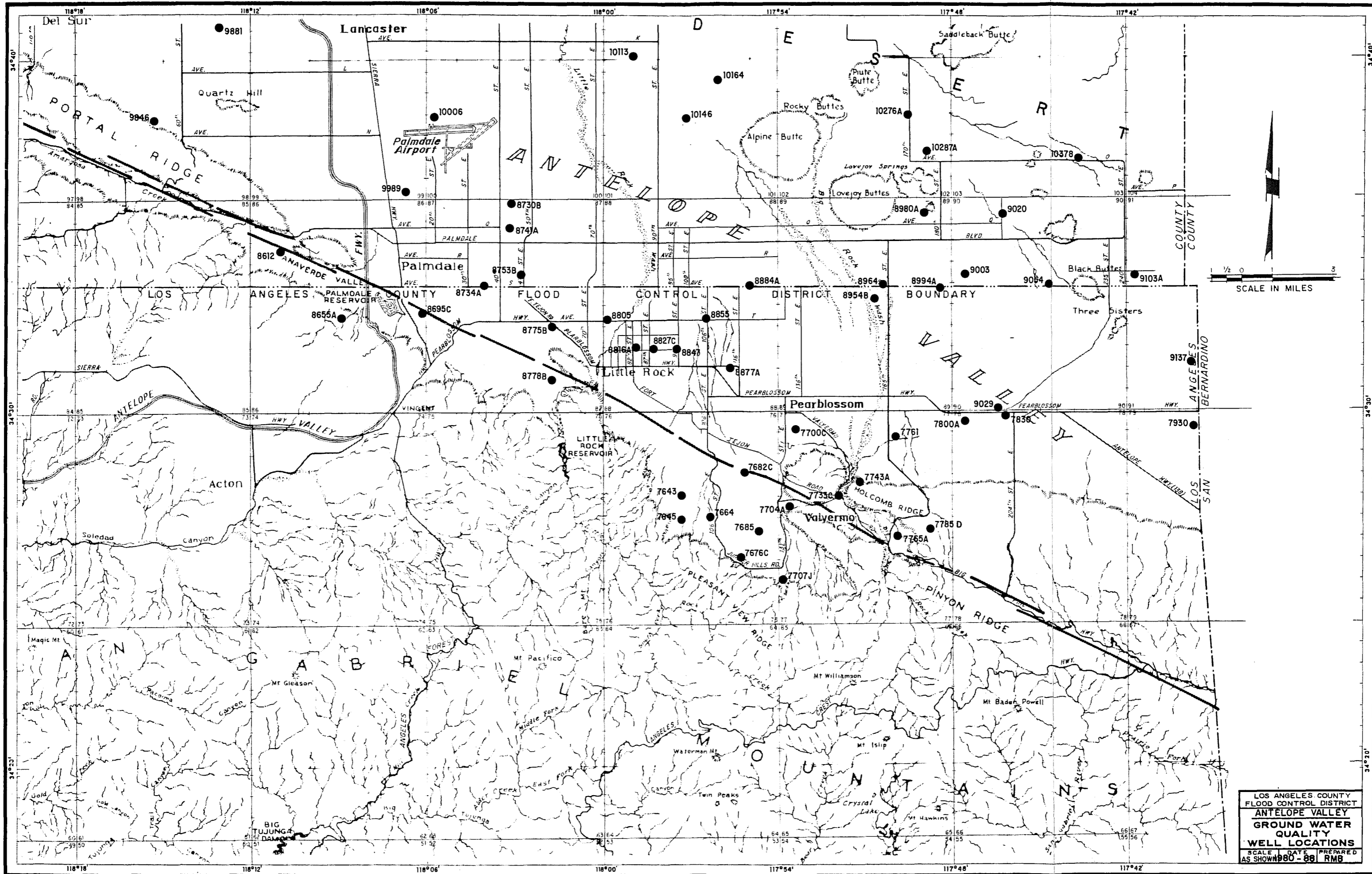


LOS ANGELES COUNTY
 FLOOD CONTROL DISTRICT
 COASTAL PLAIN
 GROUND WATER
 QUALITY
 WELL LOCATIONS

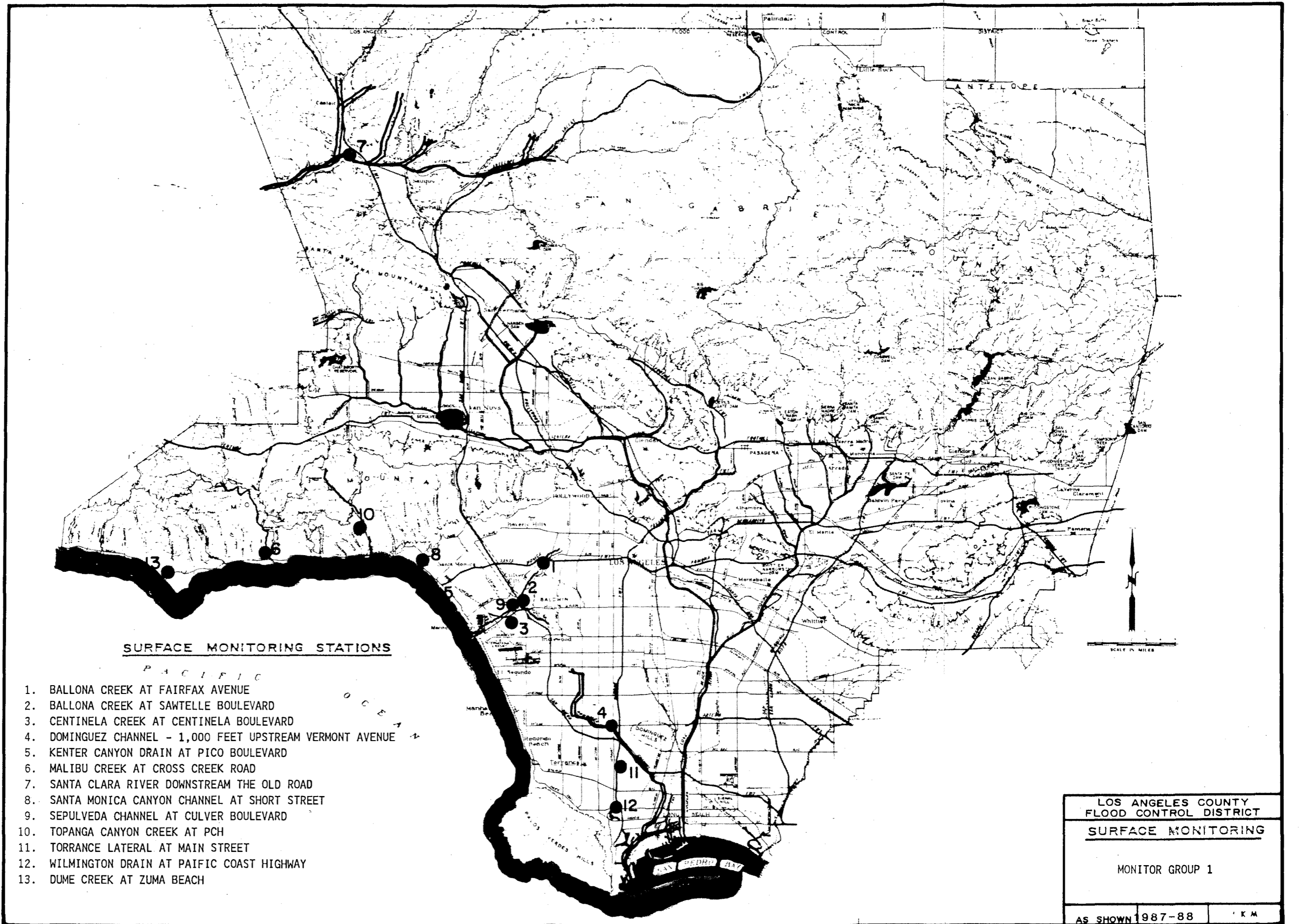
SCALE	DATE	PREPARED
AS SHOWN	1980-88	RMB



LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT
SANTA CLARA RIVER VALLEY
GROUND WATER
QUALITY
WELL LOCATIONS
SCALE AS SHOWN 1:50,000
DATE 1980-88
RMB



LOS ANGELES COUNTY
 FLOOD CONTROL DISTRICT
 ANTELOPE VALLEY
 GROUND WATER
 QUALITY
 WELL LOCATIONS
 SCALE DATE PREPARED
 AS SHOWN 1980 - 89 RMB

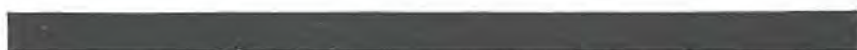


SURFACE MONITORING STATIONS

1. BALLONA CREEK AT FAIRFAX AVENUE
2. BALLONA CREEK AT SAWTELLE BOULEVARD
3. CENTINELA CREEK AT CENTINELA BOULEVARD
4. DOMINGUEZ CHANNEL - 1,000 FEET UPSTREAM VERMONT AVENUE
5. KENTER CANYON DRAIN AT PICO BOULEVARD
6. MALIBU CREEK AT CROSS CREEK ROAD
7. SANTA CLARA RIVER DOWNSTREAM THE OLD ROAD
8. SANTA MONICA CANYON CHANNEL AT SHORT STREET
9. SEPULVEDA CHANNEL AT CULVER BOULEVARD
10. TOPANGA CANYON CREEK AT PCH
11. TORRANCE LATERAL AT MAIN STREET
12. WILMINGTON DRAIN AT PAIFIC COAST HIGHWAY
13. DUME CREEK AT ZUMA BEACH

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
<u>SURFACE MONITORING</u>	
MONITOR GROUP 1	
AS SHOWN	1987-88
K M	

WATER CONSERVATION



WATER CONSERVATION

Information presented in this section includes amounts of local, imported, and reclaimed water conserved in spreading areas, and information on the seawater barrier projects which prevent salt water intrusion to groundwater zones in the coastal areas. Pertinent data are presented regarding the locations and descriptions of Department conservation facilities, as well as facilities owned by others. Also included are groundwater maps delineating elevations recorded during the report period and hydrographs of selected key wells.

CONSERVING THE WATERS

In addition to its flood control program, the Department has the equally important task of conserving as much of the storm and other waste waters as practicable. The use of water spreading facilities adjacent to river channels and in soft-bottom channels permits water to percolate into underground reservoirs for later pumping. These water spreading facilities are located in areas where the underlying soils are composed of sand and gravel formations and some are deep basins which were once gravel pits.

The various types of water conserved, local, imported, and reclaimed, are construed to have the following meanings in this section: Local water is primarily runoff due to rainfall on the mountain and valley watersheds within the County. Imported water is water originating outside the County which is transported to and delivered within the County. Reclaimed water is the effluent produced by the Whittier Narrows Water Reclamation Plant, the San Jose Creek Water Renovation Plant, and the Pomona Reclamation Plant, all operated by the Los Angeles County Sanitation Districts.

The importance of this activity is apparent when it is realized that about 35 to 40 percent of the water used in the County is pumped from ground supplies. The growth of the County combined with periodic droughts seriously depleted these supplies on numerous occasions down through the years.

The Department's policy is to conserve the maximum amount of storm water possible consistent with considering runoff quantity and quality, capacities of the spreading facilities, and groundwater conditions.

SPREADING GROUNDS

The total gross area of spreading areas owned and operated by the Department during this report amounted to 2,369 acres. The Department also assisted in the operation and maintenance of 679 acres of spreading grounds owned by others. An additional 246 acres of spreading grounds are controlled, maintained, and operated by other agencies. The total gross acreage of spreading grounds in the County is 3,294 acres.

IMPORTED WATER

During this period, imported Colorado River water and State Project water for spreading was obtained from The Metropolitan Water District. Also imported State Project Water for spreading was obtained from the San Gabriel Valley Municipal Water District.

Imported water for groundwater recharge in the Coastal Plain was spread in the Department's facilities in the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds and San Gabriel River systems south of Whittier Narrows Dam on behalf of the Central and West Basin Water Replenishment District.

Imported water for groundwater recharge in the San Gabriel Valley was spread in Santa Fe Spreading Grounds, in the San Gabriel River between Morris Dam and the spreading grounds, in Irwindale Spreading Basin and in Forbes Spreading Grounds on behalf of MWD, the Main San Gabriel Basin Watermaster, and the San Gabriel Valley Municipal Water District.

RECLAIMED WATER

The County Sanitation Districts' Whittier Narrows Water Reclamation Plant effluent, purchased by the Central and West Basin Water Replenishment District, was transported to the Rio Hondo and San Gabriel Spreading Grounds and San Gabriel River System for groundwater replenishment.

The County Sanitation Districts' San Jose Creek Water Reclamation Plant, activated in May 1972, made its first delivery of effluent in November 1972. The portion of the effluent that is spread is also purchased by the Central and West Basin Water Replenishment District.

The maximum amount of reclaimed water allowed includes Pomona Plant Water for spreading annually in the Montebello Forebay was increased from 32,700 acre-feet to 37,700 acre-feet in the 1986-87 water year, and to 42,700 acre-feet effective July 1988.

SEAWATER BARRIER PROJECTS

The Department operates three barrier projects to protect the groundwater in the West Coast and Central Basins against seawater intrusion by creating freshwater pressure ridges along the coastline. The pressure ridges are created by injecting fresh water through a series of injection wells. During the report period, 24,300 acre-feet of water were injected at the West Coast Basin Barrier Project, 7,050 acre-feet at the Dominguez Gap Barrier Project, and 4,000 acre-feet at the Los Angeles part of the Alamitos Barrier Project. On behalf of the Orange County Water District, 2,170 acre-feet of water were injected at the Orange County portion of the Alamitos Barrier Project.

SEASONAL DATA AND MAPS

During this report period, monthly and semiannual measurements of groundwater levels in observation wells located throughout the groundwater basins in Los Angeles County were made and processed.

Hydrographs of selected key wells are included in this report.

GROUNDWATER BASINS AND GROUNDWATER RECHARGE

Groundwater in Los Angeles County is stored in basins underlying five major geographic areas. These groundwater basins are separated by geologic features which impede groundwater movement or sometimes by arbitrary political boundaries. Following is a background and summary of the Department's groundwater recharge activities within each of these areas.

The Department operates 2,369 acres of spreading grounds and basins and soft-bottom channel spreading areas for replenishment of local aquifers to increase water supplies. During the report period, the Department conserved more than 124,000 acre-feet of storm runoff.

The conservation of local runoff is supplemented by spreading imported water and reclaimed water purchased by water agencies. During the period, 72,150 acre-feet of imported water and 40,200 acre-feet of reclaimed water were spread.

SAN GABRIEL VALLEY

The Department operates 20 spreading grounds in the San Gabriel Valley to receive direct valley runoff and flows from the San Gabriel Mountains, some can also receive imported water. During the report period, the Department added approximately 47,900 acre-feet of local water and 47,200 acre-feet of imported water to the groundwater stored in the basins underlying the San Gabriel Valley.

Main San Gabriel Basin

This is the largest basin underlying the San Gabriel Valley with an estimated storage capacity of 9.5 million acre-feet. It reacts quickly to artificial spreading in Santa Fe Reservoir Spreading Grounds and to percolation in the San Gabriel River downstream of Santa Fe Dam. Citrus Spreading Grounds which was dormant for 17 years, was reactivated in early 1985. The basins were reconfigured by permittee and contract work to increase the surface storage capacity from 25 acre-feet to 85 acre-feet and a 35-50 cfs intake from Big Dalton Wash was constructed. During this period, construction of a new intake structure with a capacity of 200 cfs was started.

During the report period, the Department replenished the Main San Gabriel Basin with 18,700 acre-feet of local water and 23,400 acre-feet of imported water.

Upper San Gabriel Canyon Basin

Approximately 16,500 acre-feet of local water and approximately 22,800 acre-feet of imported water were recharged by the Department through its San Gabriel Canyon Spreading Grounds and by percolation in the adjacent San Gabriel River. Also, 6,000 acre-feet of water were routed to Fish Canyon Spreading Grounds which is operated by the Committee of Nine. A contract for an intake system with a capacity of 200 cfs for San Gabriel Canyon Spreading Grounds was under way during the report period.

Lower Canyon Basin

The basin is located south of the Upper San Gabriel Canyon Basin and is separated from it by the underground Lohmon Dike. Groundwater cascades over the Lohmon Dike from the Upper San Gabriel Canyon Basin and recharges the Lower San Gabriel Canyon Basin. The Department spread 610 acre-feet of local water in Sawpit Spreading Grounds which is within the Lower Canyon Basin.

Wayhill Basin

A contract was awarded to improve the storage capacity and construct a new intake at Forbes Spreading Grounds.

The Department spread 370 acre-feet of local water and 1,000 acre-feet of imported water in the Wayhill basin.

Foothill Basin

The Department spread 770 acre-feet of local water at its San Dimas Canyon Spreading Grounds facility in the Foothill Basin.

Glendora Basin

The Department spread 470 acre-feet of local water in its Dalton facilities within the Glendora Basin.

Claremont Heights Basin

Ten acre-feet of local water were diverted to the Pomona Valley Protective Association's Thompson Creek Spreading Grounds which benefits the groundwater in the Claremont Heights Basin.

Live Oak Basin

The Department has no spreading facilities in the Live Oak basin.

Chino Basin

The basin is located in the most eastern part of the County. No Department recharge facilities are located within the Chino Basin.

San Dimas Basin

The basin is north of the San Jose Hills, east of the Main Basin, and south of the Wayhill Basin. The Department spread 70 acre-feet of local water in its Live Oak Spreading Grounds to recharge the basin.

Pomona Basin

The basin is located south of Claremont, Live Oak, and San Dimas Basins, and north of the Chino Basin and northeast of the San Jose Hills. The Department has no water spreading facilities within this basin.

Puente, Spadra, and Walnut Basins

No spreading occurs in this area.

Raymond Basin

The basin covering approximately 40 square miles is located in the northwest corner of the San Gabriel Valley and is separated from the Main San Gabriel Basin by the Raymond Fault. The Raymond Basin contains the Monk Hill Basin and the Pasadena and Santa Anita subareas. The Department recharged 2,810 acre-feet of local water by its spreading facilities in the Raymond Basin and diverted 1,590 acre-feet to the City of Sierra Madre's spreading facility during the report period.

COASTAL PLAIN

The groundwater basins underlying the Coastal Plain are divided by geological features into the Central (includes the Montebello and Los Angeles Forebays), West Coast, Santa Monica, and Hollywood Basins. During the period October 1, 1987 to September 30, 1988, the Department recharged 50,100 acre-feet of local water, 25,000 acre-feet of imported water, and 40,200 acre-feet of reclaimed water to the basins underlying the Coastal Plain. Most of the water was spread in the Montebello Forebay.

The Department is continuing with improvements in the Montebello Forebay to maximize water conserved and to simplify the spreading operations.

Central Basin

The Central Basin has the most storage capacity of the basins in the Coastal Plain. In addition to the waters recharged in the Department's spreading facilities, water injected in the Alamitos Barrier Project also contributes to the replenishment of the groundwater stored in the Central Basin. The Montebello Forebay is the groundwater recharge intake for the pressure aquifers underlying the Central Basin.

Rio Hondo Coastal Basin Spreading Grounds

On the east side of the Rio Hondo Spreading Grounds, 31 basins have been deepened and combined into 10 basins, increasing conservation storage capacity from 1,600 acre-feet to 4,500 acre-feet. Also, a 1,000 cfs gravity-flow-type intake structure has been constructed to provide a larger inflow to the new basins. A Phase I contract for construction of interbasin structures to handle higher flows for that part of the Rio Hondo Spreading Grounds east side spreading facilities below Washington Boulevard has been completed. A Phase II contract for construction of interbasin structures in the Rio Hondo Spreading Grounds east side upstream of Washington Boulevard started on June 18, 1988.

San Gabriel River

Air-inflatable rubber dams have been installed on stabilizers in the soft-bottom river at Washington Boulevard and upstream of Telegraph Road to provide additional surface storage for water conservation and to eliminate the need to use sand levees which wash out with high river flows.

A contract was begun on June 6, 1988 for the installation of three additional rubber dams in the San Gabriel River: upstream of Slauson Avenue, upstream of Florence Avenue, and upstream of Firestone Boulevard.

West Coast Basin

The West Coast Basin is the second largest basin underlying the Coastal Plain and is separated from the Central Basin by the Newport-Inglewood Fault zone. Groundwater is primarily recharged by Central Basin subsurface flows and by water injected by the Department in the West Coast Basin and Dominguez Gap Barrier Projects. Groundwater elevations in the West Coast Basin are below sea level except in the area of the West Coast Basin Barrier injection mound.

SAN FERNANDO VALLEY

The San Fernando Valley is also called the Upper Los Angeles River Area (ULARA). Most of the runoff from the surrounding mountains flows to the Valley.

San Fernando Main Basin

The basin is the largest basin underlying the San Fernando Valley. During the report period, 23,200 acre-feet of local water spread by the Department recharged this basin. Pacoima Spreading Grounds were improved beginning in 1985 and continuing into this period by combining and excavating 36 basins into 12 basins and replacing the flashboard structures with spillway type structures. Improvements to the intake were also made.

Sylmar Basin

A much smaller basin underlying the San Fernando Valley is the Sylmar Basin; the Department has no spreading facility within this basin.

Verdugo and Eagle Rock Basins

The small Verdugo and Eagle Rock Basins comprise the remaining basins underlying the San Fernando Valley. The Department has no spreading facilities within either basin.

SANTA CLARITA VALLEY

The Department has no spreading facilities in the area. Most of the Valley area is farmland, permitting substantial natural percolation.

The Upper Santa Clarita subunit comprises five basins. The groundwater in storage in this subunit increased considerably after the heavy rains in 1969.

ANTELOPE VALLEY

There are several groundwater basins underlying the Antelope Valley, five of them are located within Los Angeles County.

During this report period, the Department recharged over 2,900 acre-feet of local water in its spreading facility in the Big Rock area to groundwater in the Pearland Basin.

The groundwater level in the Lancaster Basin, has declined steadily since 1925 and reached a new historic low during the report period.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
OWNED AND OPERATED BY THE DISTRICT
UPDATED THROUGH SEPTEMBER 1988

SPREADING FACILITY	TYPE	ERASION FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	NETTED	CHANNEL**	INTAKE	STORAGE	PERCOLATION*			
ARROYO SECO	SHALLOW BASINS	1948-49	24	12	-	15	30	18	EASTERLY SIDE OF ARROYO SECO, LOWER END 0.5 MILES ABOVE DEVEL'S GATE DAM.	UNCONTROLLED FLOW FROM ARROYO SECO AND THE ALTADENA STORM DRAIN. CONTROLLED FLOW FROM CITY OF PASADENA.	SPREADING GROUNDS ARE HELD UNDER BASEMENT FROM THE CITY OF PASADENA.
BUN LORNO	SHALLOW BASINS	1958-59	24	17	-	25	25	18	BOTH NORTH AND SOUTH SIDES OF SAN DINAS WASH CHANNEL AT SOUTHWESTERLY CORNER OF INTERSECTION OF ARROYO HIGHWAY AND BARRANCA AVENUE.	CONTROLLED RELEASES FROM COVINA IRRIGATING COMPANY PIPELINE.	SPREADING GROUNDS UTILIZED TO CONSERVE EXCESS SURFACE SAN GABRIEL CANYON WATER RELEASES TO THE COVINA IRRIGATING COMPANY PIPELINE.
BIG DALTON	SHALLOW BASINS	1930-31	24	13	-	45	25	15	WESTERLY SIDE OF BIG DALTON WASH. INTAKE ONE HALF MILE ABOVE SIERRA MADRE AVENUE.	CONTROLLED FLOWS FROM BIG DALTON DAM AND BIG DALTON DEBRIS BASIN.	
BRANFORD	DEEP BASIN	1956-57	12	8	1,540	1,540	179	1	SOUTHWESTERLY OF ARLETA AVENUE ABOVE CONFLUENCE OF TUJUNGA WASH AND PACOIMA DIVERSION CHANNEL.	UNCONTROLLED FLOWS FROM BRANFORD STREET DRAIN.	OUTLET CAPACITY 1,540 CFS TO PACOIMA DIVERSION CHANNEL.
BURNA VISTA	DEEP BASIN	1954-55	10	6	2,300	2,300	194	8	1.0 MILE EASTERLY OF SAWPT WASH. 0.5 MILE NORTHERLY OF AERON HIGHWAY, BETWEEN MERIDIAN STREET AND BURNA VISTA CHANNEL.	CONTROLLED FLOW FROM SANTA FE DAM AND UNCONTROLLED FLOW FROM BURNA VISTA CHANNEL.	NO OUTFLOW EXPECTED EXCEPT UNDERWAY TO HEAVY STORM. A SMALL OUTLET STRUCTURE OF 150 CFS PROVIDED. INLET CAPACITY FROM SANTA FE DIVERSION 120 CFS (ALSO USED TO OUTLET INTO SANTA FE DIVERSION).
CITRUS	SHALLOW BASINS	1960-61	19	15	-	40	65	28	SOUTH SIDE OF BIG DALTON WASH BETWEEN CITRUS AND CERRITOS AVENUES.	CONTROLLED FLOW FROM BIG DALTON WASH AT 40 CFS INTAKE CAPACITY.	RESUMED SPREADING OPERATIONS IN JUNE 1985.
DOMINGUEZ GAP	DEEP BASINS	1957-58	54	21	-	28	254	3	SOUTH OF DEL ANO BOULEVARD, AND BORDERS THE EASTERN AND WESTERN SIDES OF THE LOS ANGELES RIVER.	CONTROLLED FLOW FROM LOS ANGELES RIVER LOW FLOW CHANNEL AND UNCONTROLLED FLOWS FROM STORM DRAINS.	EAST SIDE BASIN USED FOR FLOOD REGULATION WITH SOME CONSERVATION STORAGE. INTAKE CAPACITY IS 20 CFS FOR LOW FLOW DIVERSION FROM THE LOS ANGELES RIVER. THE WEST SIDE BASIN IS FED BY A 42-INCH CONCRETE PIPE FROM THE EAST SIDE BASIN.
RATON BASIN	DEEP BASIN	1956-57	16	11	8,600	400	280	10	EAST SIDE OF RATON WASH, NORTH OF DOAKS ROAD, 0.6 MILE SOUTH OF HUNTINGTON DRIVE.	CONTROLLED FLOW FROM RATON WASH DAM AND UNCONTROLLED FLOWS BETWEEN DAM AND SPREADING BASIN.	
RATON WASH	DEEP & SHALLOW BASINS	1947-48	28	24	6,800	100	525	21	EASTERLY SIDE OF RATON WASH FROM BELOW RATON DAM TO FOOTHILL BOULEVARD.	CONTROLLED FLOW FROM RATON WASH DAM.	THREE DEEP BASINS COMPRISE 15 ACRES. THE SHALLOW STRIP BASINS TOTAL 13 ACRES.
POBRES	SHALLOW BASINS	1964-65	21	10	-	50	45	10	SOUTH SIDE OF SAN DINAS WASH BETWEEN LONE HILL AVENUE AND VALLEY CENTER AVENUE.	CONTROLLED RELEASES FROM PUDDINGSTONE DIVERSION DAM, LOCAL STORM RUNOFF FROM SAN DINAS WASH AND IMPORTED WATER.	
HANSEN	SHALLOW BASINS	1944-45	186	110	22,000	400	310	150	NORTHWESTERLY SIDE OF TUJUNGA WASH FROM ABOVE OLIVEHOLMS BOULEVARD SOUTHWESTERLY TO SAN FERNANDO ROAD.	FLOWS FROM HANSEN DAM AND BIG TUJUNGA DAM.	
IRVINGDALE	DEEP BASIN	1959-59	17	14	20,000	450	441	20	NORTHWESTERLY OF INTERSECTION OF BIG DALTON CHANNEL AND IRVINGDALE AVENUE; CONTIGUOUS 1,300 FEET EAST OF IRVINGDALE AVENUE.	BIG DALTON CHANNEL CONTROLLED FLOWS FROM BIG AND LITTLE DALTON DEBRIS DAMS AND PUDDINGSTONE DIVERSION DAM; UNCONTROLLED FLOWS AND IMPORTED WATER.	
LITTLE DALTON	SHALLOW BASINS	1931-32	14	8	-	20	8	16	WESTERLY OF GLENDORA ST. ROAD, FROM LITTLE DALTON DEBRIS BASIN SOUTH TO EAST PALM DRIVE.	CONTROLLED FLOW FROM LITTLE DALTON DEBRIS BASIN.	
LIVE OAK	SHALLOW BASINS	1961-62	5	2	-	15	8	13	WESTERLY SIDE OF LIVE OAK WASH. NORTH OF BASE LINE ROAD (PROJECTED).	CONTROLLED FLOW FROM LIVE OAK DAM AND LIVE OAK DEBRIS BASIN.	
LOPEZ	SHALLOW BASIN	1956-57	19	12	-	25	35	16	SOUTHEASTERLY SIDE OF PACOIMA WASH, NORTHEASTERLY OF FOOTHILL BOULEVARD.	CONTROLLED FLOW FROM PACOIMA DAM AND LOPEZ FLOOD CONTROL BASIN.	THE FLOW IS DIVERTED FROM LOPEZ FLOOD CONTROL BASIN VIA CANAL TO THE SPREADING GROUNDS.

* THE CAPACITIES LISTED ARE BASED ON INFILTRATION RATES WHICH MAY BE EXPECTED TO PERSIST FOR AT LEAST FIVE DAYS BUT ARE NOT VALID FOR SUSTAINED SPREADING OPERATIONS.

** DESIGN CAPACITY OF RAIN CONCRETE CHANNEL.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
OWNED AND OPERATED BY THE DISTRICT
UPDATED THROUGH SEPTEMBER 1968

SPREADING FACILITY	TYPE	SEASON FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	NETTED	CHANNEL**	INTAKE	STORAGE	PERCOLATION*			
PACOINA	SHALLOW BASINS	1912-32	169	111	17,000	400	307	125	BOTH SIDES OF OLD PACOINA WASH CHANNEL FROM ARLEYA AVENUE SOUTHWESTERLY TO WOODMAN AVENUE.	CONTROLLED FLOW FROM PACOINA DAM. PARTIALLY CONTROLLED FLOW FROM LOPEZ FLOOD CONTROL BASIN, UNCONTROLLED FLOW FROM EAST CANTON AND PACOINA WASH.	IN JULY 1960 LOS ANGELES CITY BEGAN BELIEVERING OWENS VALLEY WATER THROUGH OLDER STREET OUTLET ON STATSON CANTON CHANNEL.
PRICE ROAD	DEEP BASIN	1919-60	157	85	10,100	30,100	3,247	25	CONFERENCE OF SANPIET AND SANTA ANITA WASHES.	ALL FLOWS IN SANPIET AND SANTA ANITA WASHES.	
RIO RONDO COASTAL	SHALLOW BASINS	1937-38	570	455	40,000	1000	3,000	150	EASTERLY SIDE OF RIO RONDO SOUTHERLY FROM W.P.R.R. (SOUTH OF WHITTIER BLVD.) TO CLAUSON AVENUE; WEST SIDE OF RIO RONDO CHANNEL FROM 0.2 MILE ABOVE WHITTIER BOULEVARD SOUTH TO FOSTER BRIDGE BOULEVARD.	CONTROLLED RELEASES FROM SAN GABRIEL CANTON DAMS AND SANTA FE DAM, AND RELEASES OUT OF WHITTIER NARROWS DAM FROM VALLEY RUNOFF VIA RIO RONDO; ALSO IMPORTED AND RECLAIMED WATER.	IN COOPERATION WITH THE CORPS OF ENGINEERS, THE DISTRICT OPERATES 2,500 ACRES-POOD POOL AT WHITTIER NARROWS DAM FOR RETENTION OF STORED WATER.
SAN DINAS CANTON	SHALLOW BASINS	1965-66	22	11	-	25	22	12	SOUTHEAST SIDE OF SAN DINAS WASH BETWEEN PUDDINGSTONE DIVERSION DAM, RIVERSTON AND SAN DINAS CANTON ROAD.	CONTROLLED RELEASES FROM PUDDINGSTONE DIVERSION DAM; UNCONTROLLED FLOW FROM SAN DINAS WASH.	
SAN GABRIEL CANTON	DEEP BASINS	1917	165	-	-	50	-	35	EASTERLY SIDE OF SAN GABRIEL RIVER. BELOW MOUTH OF SAN GABRIEL CANTON. NORTH OF THE CITY OF ALHAMBRA.	'COMMITTEE OF NINE' FACILITIES, CONTROLLED RELEASES FROM HORRIS DAM, AND IMPORTED WATER.	THE DISTRICT TOOK OVER OPERATION OF THIS FACILITY IN NOVEMBER 1963. RECEIVES SURPLUS WATER FROM THE COMMITTEE OF NINE. TWO DEEP BASINS ARE CURRENTLY BEING EXCAVATED REPLACING DITCHES AND CHECK LEVENS.
SAN GABRIEL COASTAL	SHALLOW BASINS	1938-39	128	91	-	300	550	80	WESTERLY SIDE OF SAN GABRIEL RIVER, SOUTHERLY FROM WHITTIER BOULEVARD TO WASHINGTON BOULEVARD.	CONTROLLED FLOW FROM DAMS IN SAN GABRIEL CANTON AND SANTA FE DAM, CONTROLLED RELEASES FROM WHITTIER NARROWS DAM, UNCONTROLLED VALLEY RUNOFF BELOW WHITTIER NARROWS DAM VIA SAN GABRIEL RIVER; ALSO IMPORTED AND RECLAIMED WATER.	
SAN GABRIEL RIVER LOWER	TEMPORARY CHECK LEVENS	1951-55	133	133	-	-	700	100	SAN GABRIEL RIVER FROM WHITTIER NARROWS DAM TO PLOMBER AVENUE.	SEE SAN GABRIEL COASTAL REMARKS	
SAN GABRIEL RIVER UPPER	TEMPORARY CHECK LEVENS	1955-66	196	196	-	-	-	100	SAN GABRIEL RIVER FROM SANTA FE DAM TO RISING WAYNE.	FLOW FROM DAMS IN SAN GABRIEL CANTON, SANTA FE DAM AND UNCONTROLLED VALLEY RUNOFF BELOW SANTA FE DAM; ALSO IMPORTED WATER.	CHECK LEVENS DEVELOPED IF RIVER TO SPREAD WATER.
SANTA ANITA	SHALLOW BASINS	1944-46	20	8	-	20	25	10	WESTERLY SIDE OF SANTA ANITA WASH 1.25 MILES ABOVE FOOTBALL BOULEVARD.	CONTROLLED FLOW FROM SANTA ANITA DAM AND SANTA ANITA DENNIS BASIN.	THE HEADWORKS LOCATED UPSTREAM OF THE DENNIS BASIN DIVERTS WATER TO SANTA ANITA SPREADING GROUNDS AND CITY OF SIERRA MADRE SPREADING GROUNDS.
SANTA FE	SHALLOW BASINS	1953-54	330	300	-	500	525	600	VITHEIN SANTA FE DAM RESERVOIR AND SPILLWAY AREAS.	FLOWS FROM SAN GABRIEL CANTON, UNCONTROLLED FLOWS FROM BRADLEY CHANNEL AND SAN GABRIEL RIVER BELOW HORRIS RESERVOIR AND IMPORTED WATER.	RIGHT OF WAY, HELD UNDER LICENSE FROM THE FEDERAL GOVERNMENT INCLUDES 10 ACRES IN SAN GABRIEL RIVER BED FOR EARLY DIVERSION LEVER. CONSTRUCTION OF THE 605 FERRYWAY REDUCED THE SPREADING AREA IN THE RESERVOIR AND A SUBSTITUTE AREA WAS PROVIDED DOWNSTREAM OF THE SPILLWAY FLOCCULANT FACILITY ADDED IN 1976.
SANPIET	SHALLOW BASINS	1946-47	12	6	-	30	13	12	WESTERLY SIDE OF SANPIET WASH BELOW MOUTH OF CANTON AT HEAD OF MORGENTHAU DRIVE, MORGENTHAU.	CONTROLLED FLOWS FROM SANPIET DAM AND SANPIET DENNIS BASIN.	
VALMUT	DEEP BASIN	1922-52	16	8	2,000	50	100	5	EAST SIDE OF VALMUT WASH, NORTH OF SAN BERNARDINO FERRYWAY.	CONTROLLED FLOW FROM PUDDINGSTONE DAM AND UNCONTROLLED FLOW FROM VALMUT WASH CHANNEL; EXCESS WATER FROM COVINA IRRIGATING COMPANY.	
TOTAL:			2,369 AC.	1,702 AC.	-	-	11,091 A.F.	1,879 CPD			

* THE CAPACITIES LISTED ARE BASED ON INFILTRATION RATES WHICH MAY BE EXPECTED TO PERSIST FOR AT LEAST FIVE DAYS BUT ARE NOT VALID FOR SUSTAINED SPREADING OPERATIONS.

** DESIGN CAPACITY OF MAIN CONCRETE CHANNEL.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
NOW OWNED BY THE DISTRICT
UPDATED THROUGH SEPTEMBER 1961

GROUPS	TYPE	SEASON FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	NETTED	CHANNEL**	INTAKE	STORAGE	PERCOLATION			
					CFS	CFS	A.F.	CFS			
GROUPS IN WHICH DISTRICT DOES CONSTRUCTION MAINTENANCE AND SOME OPERATIONS:											
SERRA MADRE	SHALLOW BASINS	ABOUT 1932	22	9	-	35	47	18	CITY OF SIERRA MADRE, SOUTH SIDE OF GRANDVIEW AVENUE, ONE HALF MILE WEST OF SANTA ANITA AVENUE.	LITTER SANTA ANITA CREEK AND STREET RUNOFF ONLY PRIOR TO 1951-52. STARTING IN 1951-52 ALSO CONTROLLED FLOWS FROM SANTA ANITA DAM.	NO RECORDS OF WATER SPREAD PRIOR TO 1951-52. GROUNDS REBUILT IN 1951. ULTIMATE CAPACITY ESTIMATED 25 CFS. THREE BASINS ADDED IN SUMMER OF 1959.
FISH CREEK	SHALLOW BASINS	ABOUT 1917	6	4	-	-	-	7	WESTERNLY SIDE OF SAN GABRIEL RIVER BELOW SOUTH OF FISH CANTON AND NORTH OF THE CITY OF AZUSA.	THE 'COMMITTEE OF NINE' DIVERTS WATER TO CAL-AMERICAN PIPELINE. WHO INTERM DIVERTS FLOW TO FISH CREEK S.G.	OWNED AND OPERATED BY CAL-AMERICAN WATER COMPANY.
THOMPSON CREEK	DITCHES CREEKS AND DEEP BASIN	ABOUT 1928	53	27	-	70	-	37	SOUTHWEST FROM, AND ADJACENT TO THOMPSON CREEK DAM, EAST SIDE OF CREEK.	COBAL, WILLIAMS, PALMER, AND PADUA CREEKS. ALSO THOMPSON CREEK. WHEN RESERVOIR ABOVE ELEVATION 1,625.	OPERATED BY PONDWA VALLEY PROTECTIVE ASSOCIATION. IN ADDITION TO THE 53 ACRES, SOME AREA WITHIN THOMPSON CREEK RESERVOIR IS USED TO SPREAD STORM FLOWS. WATER SPREAD IN AREA SINCE ABOUT 1918.
SAN ANTONIO	DITCHES CREEKS AND SHALLOW BASINS	1921-22	598	300	8,000	900	-	300	BOTH SIDES OF SAN ANTONIO CREEK FROM TWO AND ONE HALF MILES ABOVE BASE LINE SOUTH-WESTWENTLY TO BASE LINE.	CONTROLLED RELEASES FROM THE SAN ANTONIO FLOOD CONTROL DAM.	OPERATED BY PONDWA VALLEY PROTECTIVE ASSOCIATION. WEST SIDE OF CHANNEL 500 ACRES. EAST SIDE OF CHANNEL 38 ACRES. IN ADDITION THERE ARE 207 ACRES EAST OF CHANNEL IN SAN BERNARDINO COUNTY. WATER SPREAD IN VICINITY ON AND OFF AS EARLY AS ABOUT 1896.
TOTALS:			679	-	-	-	-	262			
GROUPS CONTROLLED BY OTHERS. THE DISTRICT COOPERATING:											
HEADWORKS (CITY OF LOS ANGELES)	SHALLOW BASINS	1938-39	48	28	37,000	-	60	40	SAN FERNANDO VALLEY, SOUTH OF LOS ANGELES RIVER, ABOVE HARIPOSA STREET.	LOS ANGELES RIVER, PARTIALLY CONTROLLED BY VARIOUS DAMS. RELEASE OF OWENS VALLEY WATER FROM CHATSWORTH RESERVOIR. GROUNDWATER FROM WELLS IN THE WEST END OF SAN FERNANDO VALLEY.	
L.A. CITY DEPT. OF WATER AND POWER TUJUNGA	SHALLOW BASINS	1931-32	188	130	22,000	800	-	390	SAN FERNANDO VALLEY, EAST SIDE OF TUJUNGA WASH AT ROSCOR BOULEVARD.	LOS ANGELES CITY'S OWENS VALLEY AQUEDUCT AND CONTROLLED RELEASES FROM BARKEN DAM.	PRIOR TO 1938 FLOOD, USED 80 ACRES NET. TUJUNGA CHANNEL ON WESTERNLY SIDE OF GROUNDS PAVED IN 1950.
CITY OF PONDWA	DITCHES CREEKS AND SHALLOW BASINS	(SEE REMARKS)	10	8	-	-	-	-	NORTH OF CLAREMONT, ONE HALF MILE NORTH OF FOOTBALL BOULEVARD AND ONE-EIGHTH MILE WEST OF HILLS AVENUE.	SAN ANTONIO CREEK WATER DELIVERED THROUGH LOOP RESERVE CANTON WATER COMPANY'S PIPE LINE, ALSO SOME LOCAL RUNOFF.	WATER SPREAD IN VICINITY ON AND OFF SINCE ABOUT 1897. GROUND ACQUIRED BY CITY OF PONDWA, OCTOBER 1926. NO RECORD OF WATER SPREAD PRIOR TO 1949-50. DEEP BASIN COMPLETED IN 1957.
TOTALS:			346	166	-	-	-	-			

* THE CAPACITIES LISTED ARE BASED ON INFILTRATION RATES WHICH MAY BE EXPECTED TO PERSIST FOR AT LEAST FIVE DAYS BUT ARE NOT VALID FOR SUSTAINED SPREADING OPERATIONS.

** DESIGN CAPACITY OF MAIN CONCRETE CHANNEL.

WATER CONSERVED IN ALL DEPARTMENT FACILITIES
WATER YEAR : 1987-1988
(in acre-feet)

SPREADING FACILITY		MONTHS:												ACCUMULATIVE TOTALS	
		OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER		
SAM FERNANDO VALLEY	BRANFORD	118.0	0.0	91.3	25.0	36.0	67.0	19.6	0.0	0.0	0.0	0.0	0.0	0.0	331.9
	HANSEN	527.0	1,614.0	1,407.0	2,512.0	1,742.0	3,363.0	2,737.0	1,561.0	768.0	661.0	87.9	272.0	17,251.9	
	LOPEZ	1.0	0.0	1.2	273.0	0.8	428.0	15.1	318.0	0.0	0.0	0.0	0.0	1,037.1	
	PACDINA	406.0	362.0	306.0	1,310.0	531.0	566.0	523.0	316.0	0.0	0.0	0.0	0.0	4,520.0	
	SUBTOTAL	1,252.0	1,976.0	1,805.5	4,120.0	2,309.8	4,424.0	3,289.7	2,195.0	768.0	661.0	87.9	272.0	23,160.9	
SAM GABRIEL VALLEY	ARROYO SECO	102.0	242.0	172.0	330.0	70.0	279.0	306.0	2.4	69.4	2.2	0.0	0.0	1,573.0	
	BEN LOMOND	8.7	73.0	204.0	276.0	311.0	160.0	268.0	919.0	643.0	260.0	330.0	58.7	3,531.4	
	BIG DALTON	0.0	2.8	35.1	49.4	26.2	66.4	81.5	44.4	0.0	0.0	2.8	0.6	309.2	
	BUENA VISTA	147.0	243.8	128.0	161.3	121.7	134.2	195.2	118.5	33.6	62.4	90.8	82.8	1,539.2	
	CITRUS	46.6	79.3	45.0	63.1	53.2	39.7	116.0	21.4	15.7	0.0	0.0	7.7	485.7	
	EATON BASIN	273.0	148.0	103.0	217.0	139.0	37.5	207.0	17.9	23.0	17.5	29.0	39.9	1,233.8	
	EATON GROUNDS	0.0	134.0	68.2	96.2	23.0	198.0	159.0	25.8	0.0	0.0	0.0	0.0	706.2	
	FORBES	12.9	77.8	42.6	20.2	44.0	87.1	161.0	438.0	66.8	400.0	26.2	7.3	1,363.9	
	IRVINGDALE	382.0	33.5	292.0	869.0	241.0	3.0	397.0	409.0	104.0	539.0	122.0	285.0	3,698.3	
	LITTLE DALTON	1.2	40.7	16.5	22.0	11.7	29.0	28.2	5.6	0.0	0.0	0.0	0.0	154.9	
	LIVE OAK	0.0	1.4	12.3	24.6	10.5	18.8	1.6	4.2	0.0	0.0	0.0	0.0	73.4	
	MORRIS TO STA. F190	1,800.0	4,100.0	2,200.0	2,700.0	5,066.0	250.0	1,300.0	1,400.0	5,421.0	75.0	530.0	1,100.0	25,962.0	
	STA. F190 TO SANTA FE S.B.	111.0	77.0	107.0	228.0	102.0	0.0	0.0	0.0	100.0	0.0	0.0	405.0	1,130.0	
	PECK ROAD	512.8	303.7	282.9	425.2	350.4	153.2	349.0	31.7	3,678.8	37.4	24.4	40.0	6,213.3	
	SAN DIMAS CANYON	15.3	41.5	24.4	50.0	5.6	110.0	31.9	388.0	10.9	95.2	0.0	0.0	772.8	
	SAM GABRIEL CANYON	95.0	1,205.0	710.0	1,984.0	1,295.0	376.0	1,970.0	1,673.0	1,541.0	1,165.0	344.0	960.0	13,318.0	
	SANTA ANITA	8.3	39.3	148.0	95.0	0.0	165.0	44.8	23.2	0.0	0.0	0.0	0.0	523.6	
	SANTA FE	186.0	2,463.0	3,033.0	6,622.0	6,698.0	19.0	3.4	0.0	93.4	0.0	0.0	0.0	19,119.8	
	SANTA FE RESERVOIR	110.0	77.0	107.0	560.0	0.0	0.0	0.0	0.0	328.0	0.0	324.0	338.4	1,844.4	
	SANTA FE TO STA. F241	0.0	0.0	0.0	137.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	444.0	581.1	
SANTA FE DIVERSION	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1,000.0	0.0	0.0	0.6	1,000.8		
SANPIY	79.7	79.5	96.6	139.0	65.3	130.0	2.6	0.0	0.0	0.0	0.0	19.2	612.1		
WALNUT	193.0	143.0	144.0	162.0	108.0	98.2	144.0	126.0	133.0	178.0	118.0	126.0	1,491.2		
SUBTOTAL	4,088.3	9,629.3	7,971.6	13,233.2	14,741.8	2,356.1	5,784.2	5,648.1	13,281.7	2,829.7	1,981.2	3,915.2	87,460.3		
COASTAL PLAIN	DORINGUEZ GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	RTO HONDO	5,440.0	3,286.0	2,856.0	1,148.0	1,093.0	1,706.0	4,993.0	3,933.0	4,777.0	646.0	0.0	0.0	29,858.0	
	EAST FLUME	804.0	1,995.0	738.0	933.0	1,206.0	1,373.0	801.0	0.0	342.0	857.0	158.0	306.0	9,509.0	
	WEST FLUME	627.0	600.0	528.0	707.0	481.0	393.0	1,240.0	0.0	204.0	244.0	0.2	0.0	5,024.2	
	R/M FLUME	63.1	0.0	0.0	0.0	0.0	0.0	336.0	3,451.0	958.0	512.0	753.0	507.0	6,782.1	
	102° INTAKE	2,638.0	3,546.0	3,364.0	3,588.0	2,980.0	3,718.0	2,246.0	2,764.0	1,417.0	0.0	1,172.0	2,301.0	29,734.0	
	SAM GABRIEL INTAKE	631.0	73.0	31.4	0.0	130.0	370.0	879.0	2,582.0	1,203.0	271.0	514.0	430.0	7,134.4	
RIVER	3,615.0	3,291.0	1,504.0	1,031.0	2,666.0	2,071.0	1,457.0	3,090.0	3,665.0	1,532.0	1,816.0	1,458.0	27,176.0		
SUBTOTAL	13,818.1	12,771.0	9,041.4	7,407.0	8,536.0	9,633.0	12,152.0	15,820.9	12,566.0	4,042.0	4,415.2	4,996.0	115,217.7		
ANTELOPE VALLEY	BIG ROCK	0.0	23.2	132.0	146.0	325.0	580.0	391.0	687.0	312.0	152.0	61.9	109.0	2,927.1	
GRAND TOTAL	19,159.6	24,399.3	18,950.3	26,906.2	25,932.6	17,001.1	21,616.9	24,350.1	26,927.7	7,684.7	6,546.2	9,292.2	228,766.2		

LOCAL WATER DIVERTED TO OTHER THAN DEPARTMENT FACILITIES
 WATER YEAR : 1987-1988
 (in acre-feet)

	MONTHS:												ACCUMULATIVE TOTALS
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	
SPREADING FACILITY													
OTHER FACILITIES													
SIERRA MADRE	75.0	132.0	0.0	253.0	118.0	243.0	272.0	170.0	166.0	75.8	0.0	80.1	1,584.3
THOMPSON CREEK	0.0	0.4	0.8	7.1	0.6	1.0	0.2	0.0	0.0	0.0	0.0	0.0	10.1
FISH CANYON	127.0	252.0	464.0	528.0	619.0	459.0	604.0	752.0	622.0	520.0	533.0	518.0	5,998.0
GRAND TOTAL	202.0	384.4	464.8	788.1	737.6	703.0	876.2	922.0	788.0	595.8	533.0	598.1	7,593.0

WATER DELIVERED IN ACRE-FEET
WATER YEAR : 1987-1988
(in acre-feet)

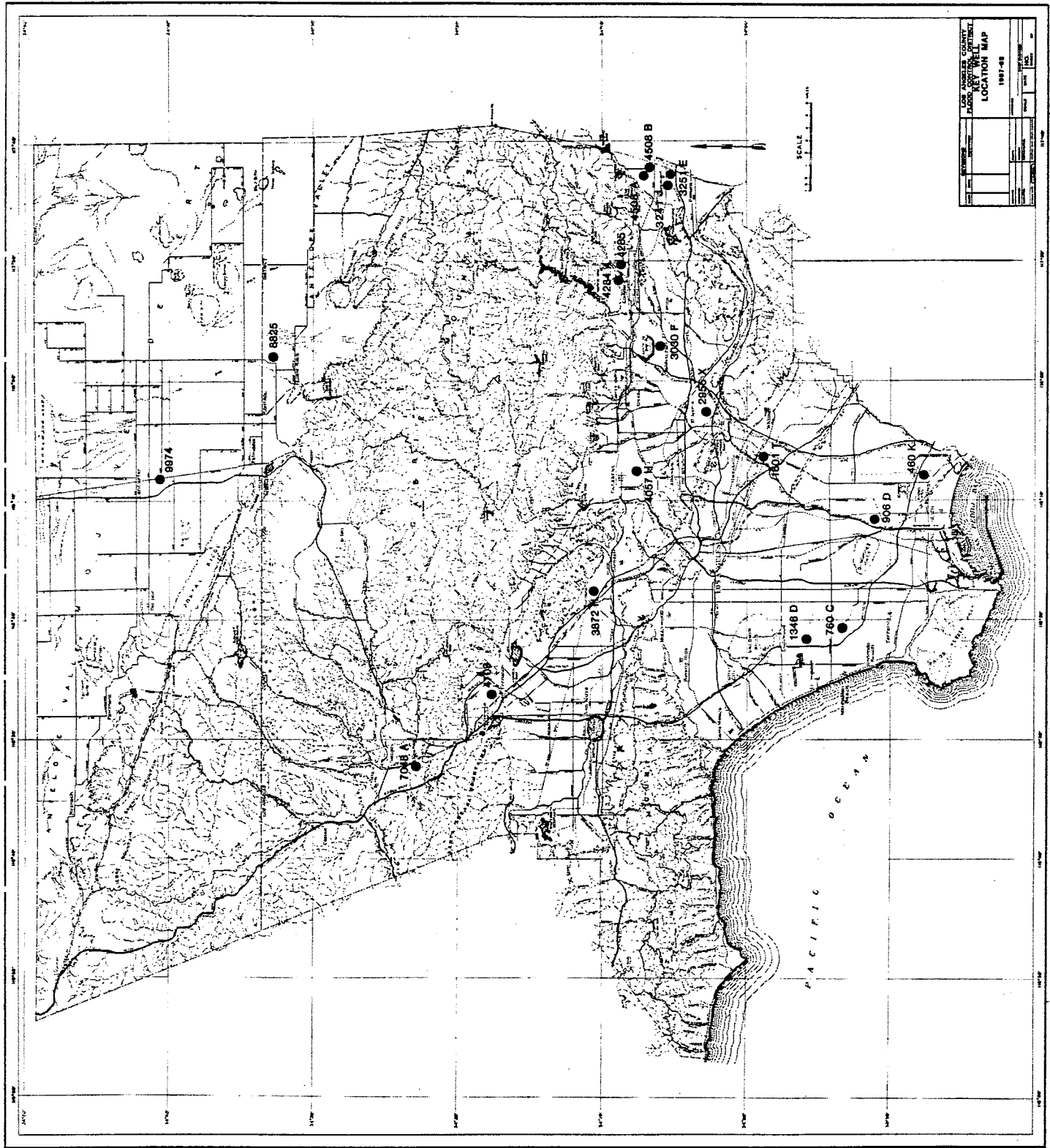
MONTH	IMPORTED WATER OUTLETS										RECLAIMED WATER SPREAD AND WASTED										
	SAN DINAS	THOMPSON CREEK	SAN GABR. RIVER	ALHAMBRA OLDEN ST.	USG 3 U.A. 699	BEATTY CANTON	SAN DINAS WB	IMPORTED MONTHLY A.F.	WATER YR YEAR A.F.	WRITTIER NARROWS PLANT SPREAD	WASTED AF	MONTHLY TOTAL	SAN JOSE PLANT			PONOMA PLANT	RECLAIMED WATER SPREAD				
	CB-48	CB-28	CB-37	CB-36	L.A. 699	USGNYD	SGVNYD	SGVNYD	R.BONDO				S.GABRIEL	RELEASE	R.BONDO		S.GABRIEL	MONTHLY TOTAL	MONTHLY A.F.	YEAR AF	
OCTOBER	0.0	2,860.6	0.0	0.0	0.0	2,002.5	0.0	4,863.1	4,863.1	1,219.2	136.9	7.4	1,340.7	2,109.5	134.1	1,968.5	2,102.7	125.0	3,576.4	3,576.4	
NOVEMBER	4,135.9	0.0	0.0	0.0	0.0	6,602.8	580.5	0.0	11,319.2	15,182.3	1,324.6	0.0	0.0	1,324.6	1,951.7	385.7	1,565.0	1,950.7	216.0	3,491.3	7,067.7
DECEMBER	715.9	0.0	0.0	0.0	0.0	5,521.9	0.0	0.0	6,237.8	22,420.1	759.9	592.2	5.6	1,356.5	1,881.9	307.0	1,573.6	1,880.6	244.0	3,481.1	10,540.8
JANUARY	0.0	0.0	0.0	0.0	0.0	11,960.7	0.0	0.0	11,960.7	34,380.8	203.6	877.4	17.6	1,063.4	1,648.4	0.0	1,647.4	1,647.4	179.0	2,889.8	13,438.6
FEBRUARY	2,401.7	0.0	0.0	0.0	0.0	10,076.9	0.0	0.0	12,478.6	46,859.4	98.8	1,010.8	0.0	1,109.6	495.2	0.0	495.2	495.2	4.0	1,608.8	15,047.4
MARCH	5,902.2	0.0	2.6	0.0	0.0	0.0	0.0	0.0	5,904.8	52,764.2	0.0	1,258.2	0.0	1,258.2	874.8	481.4	357.3	838.7	36.0	2,132.9	17,180.3
APRIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,560.2	1,560.2	54,324.4	1,260.7	5.6	9.7	1,356.6	2,700.7	1,990.7	643.8	2,634.5	81.0	3,972.1	21,152.4
MAY	8,128.2	0.0	0.0	0.0	0.0	0.0	0.0	1,049.6	9,177.8	63,502.2	845.7	340.8	0.0	1,186.5	5,022.7	162.0	4,859.3	5,021.3	40.0	6,247.8	27,400.2
JUNE	3,765.8	0.0	0.0	0.0	0.0	0.0	1,238.3	158.0	5,162.1	68,564.3	325.0	813.0	0.0	1,138.0	1,783.1	1,233.5	549.6	1,783.1	8.0	2,929.1	30,329.3
JULY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	961.1	961.1	69,625.4	853.4	189.8	0.0	1,043.0	2,164.2	2,163.2	0.0	2,163.2	0.0	3,206.2	33,535.5
AUGUST	0.0	1,028.1	0.0	0.0	0.0	0.0	673.2	210.4	1,981.7	71,607.0	499.4	811.7	0.0	1,311.1	1,433.3	116.0	1,317.0	1,433.0	0.0	2,744.1	36,279.6
SEPTEMBER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	538.0	538.0	72,145.0	1,181.2	0.0	2.1	1,179.1	2,720.3	0.0	2,730.6	2,730.6	0.0	3,909.7	40,189.3
TOTALS	25,049.7	3,888.7	2.6	0.0	0.0	34,162.3	4,494.5	4,547.3	72,145.0	1,111,111.1	8,581.5	6,036.2	42.4	14,575.3	24,785.8	6,973.6	17,707.4	24,681.0	933.0	40,189.3	1,111,111.1

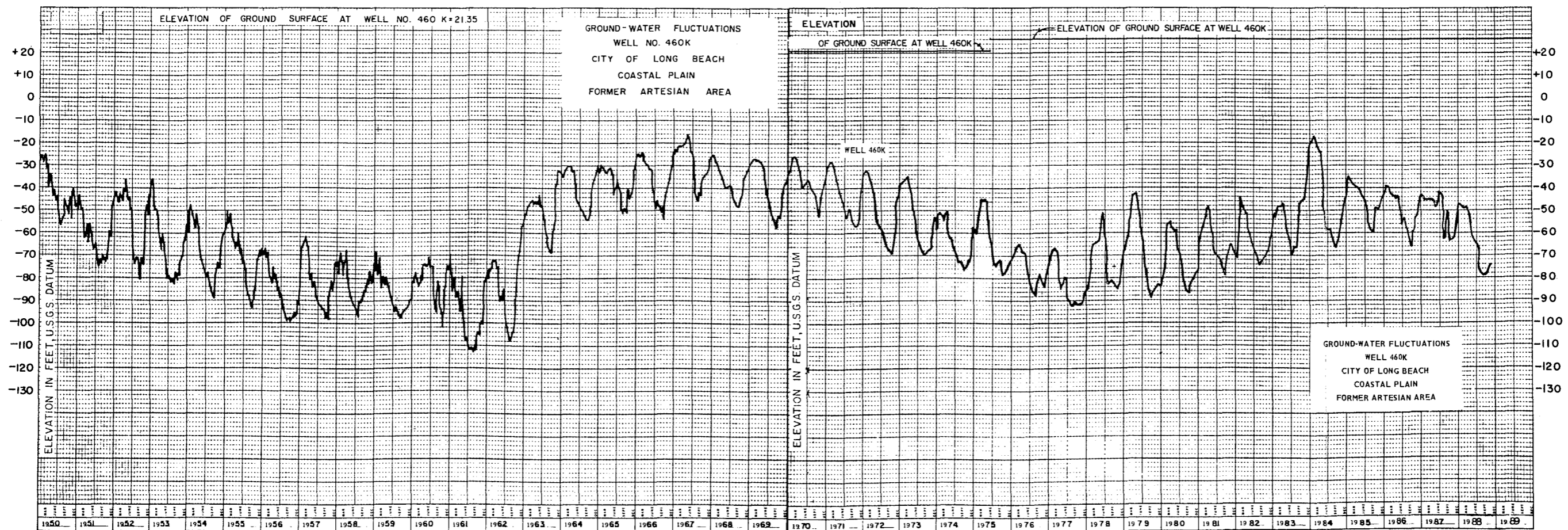
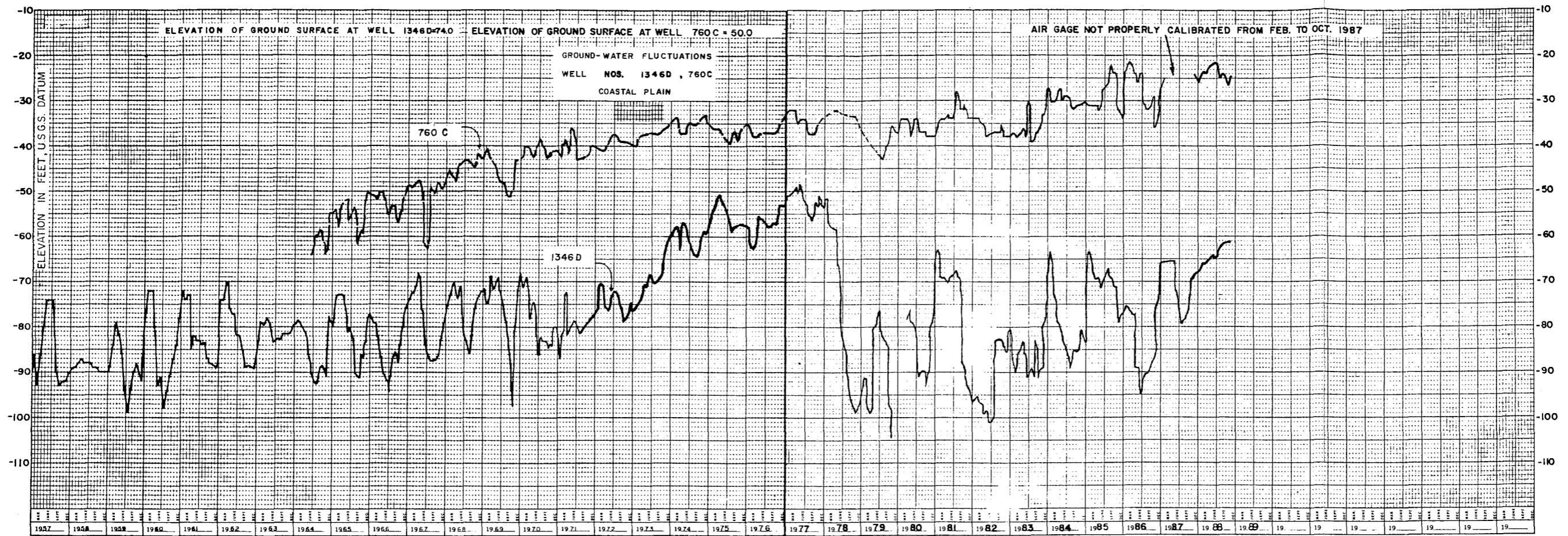
G13

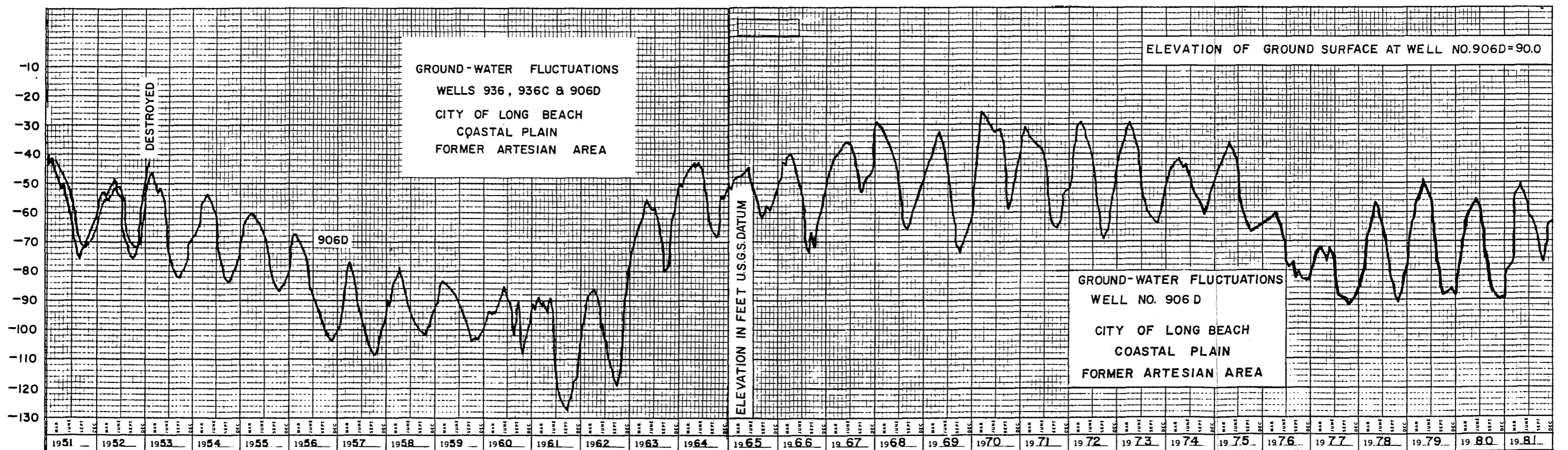
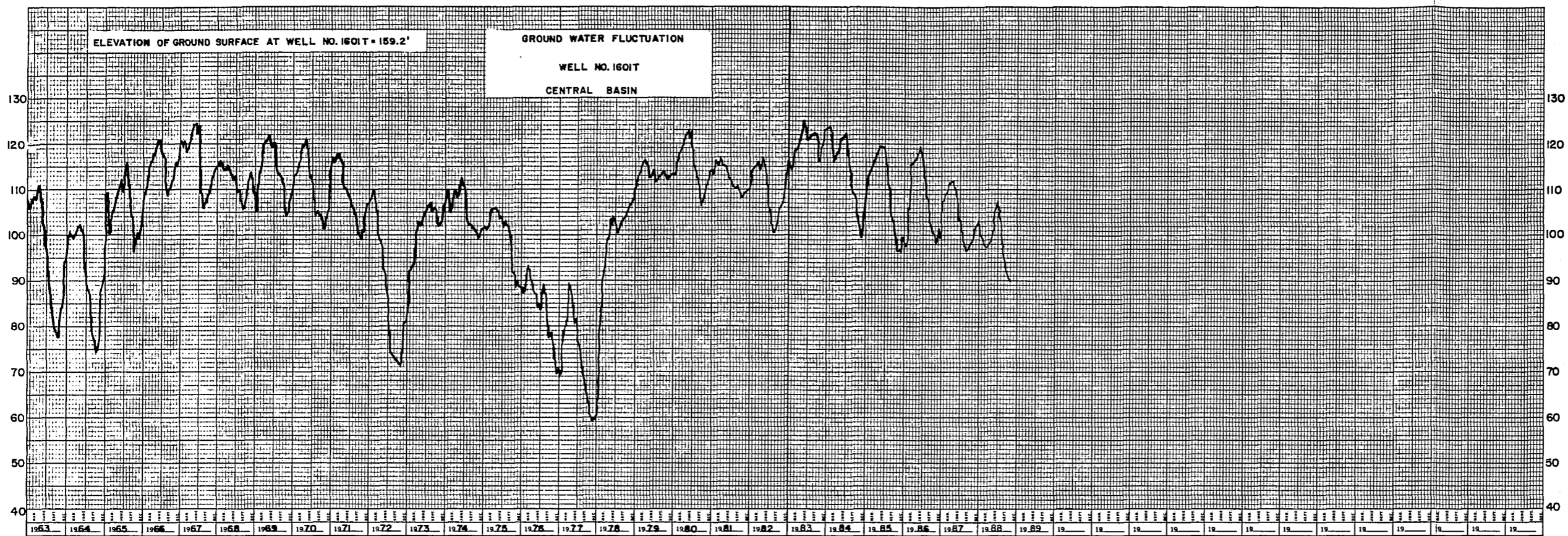
NOTES: - 11960.7 A.F. OF USG-3 DURING JANUARY INCLUDES 4875.6 A.F. FOR N.W.D. CYCLIC STORAGE.
- 1174.0 A.F. OF SGVNYD SAN DINAS OUTLET SPREAD IN MONTEBELLO FOREBAY DURING APRIL 1988.

WELL HYDROGRAPHS INCLUDED IN THIS REPORT

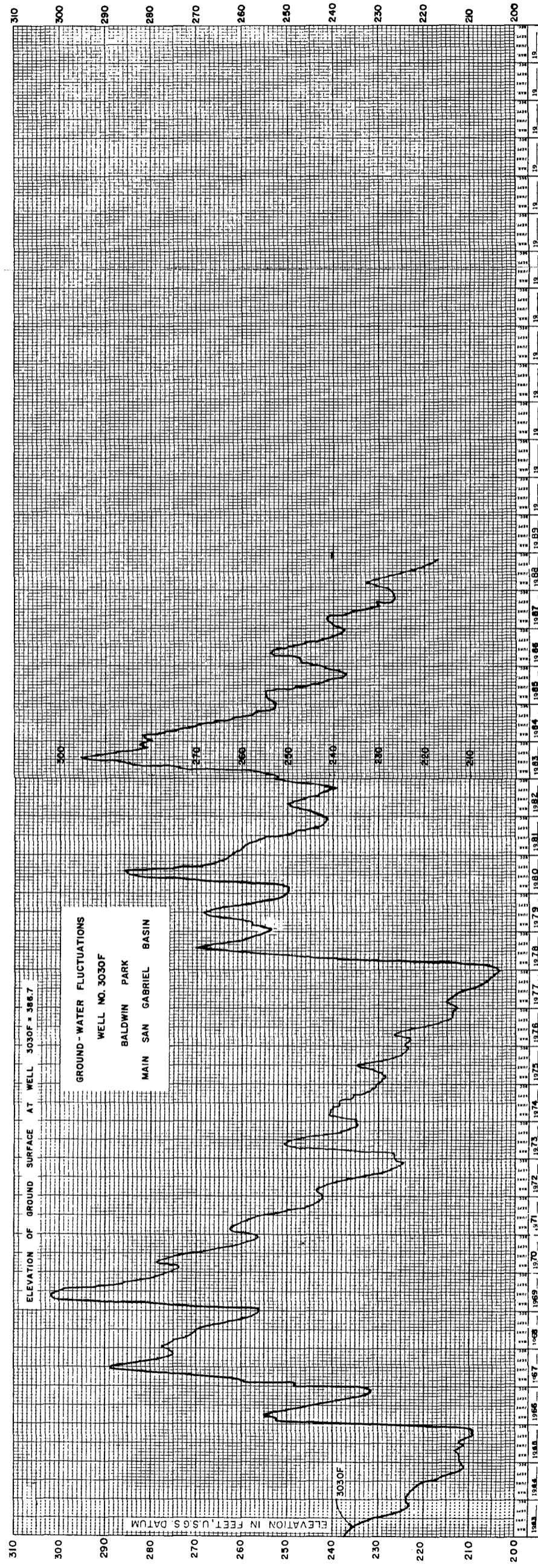
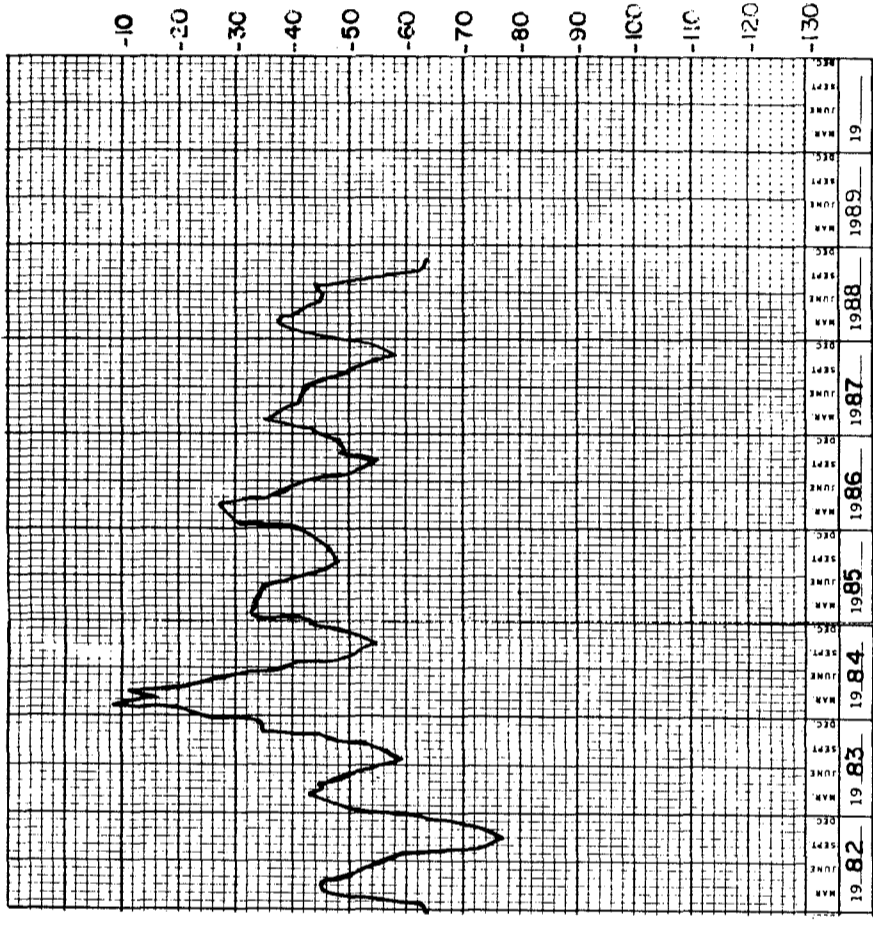
GROUNDWATER BASIN	WELL NO.	APPROXIMATE LOCATION	PAGE NO.
WEST COAST	1346D 760C	11305 TRURO AVE., 250 FT. N. OF IMPERIAL HWY., COMPTON 99 FT. S.W. OF INTERSECTION OF COMPTON BLVD. & DOTY AVE., LAWDALE	G16
CENTRAL BASIN	460K	2,600 FT. N.E. OF THE INTERSECTION OF LAKEWOOD BLVD. & PACIFIC COAST HWY., LONG BEACH	G16
	1601T	1,000 FT. S. OF THE INTERSECTION OF WASHINGTON BLVD. & ROSEMEAD BLVD., MONTEBELLO	G17
	906D	1,300 FT. N.W. OF THE INTERSECTION OF LONG BEACH & SAN ANTONIO DR., LONG BEACH	G17
MAIN SAN GABRIEL	3030F	600 FT. N.W. OF THE INTERSECTION OF LOS ANGELES ST. & MAINE AVE., BALDWIN PARK	G18
	2955X	TYLER AVE. & CENTRAL AVE., S. EL MONTE	G19
SAN GABRIEL CANYON	4284A	5,600 FT. N.W. OF THE INTERSECTION OF SIERRA MADRE AVE & SAN GABRIEL CYN. RD., AZUSA	G19
	4285	2,700 FT. N.W. OF SAN GABRIEL CANYON RD. & SIERRA MADRE AVE.	
POMONA	3251E	2,200 FT. N. OF THE INTERSECTION OF SAN BERNARDINO FWY. & TOWNE AVE., POMONA	G20
	3241J	725 FT. S.W. OF LA VERNE AVE., 400 FT. S.E. OF N. GAREY AVE.	
CLAREMONT HEIGHTS	4508B	800 FT. S.E. OF THE INTERSECTION OF BASELINE RD. & PADUA AVE., CLAREMONT	G20
	4508A	270 FT. N.W. OF WELL 4508B	
RAYMOND	4057H	LOS ROBLES & GLENARM STREETS, PASADENA	G21
SANTA CLARA	7048A	S.E. OF THE INTERSECTION OF NEWHALL AVE. & MAGIC MOUNTAIN PKWY, SAUGUS	G21
ANTELOPE VALLEY	9974	8,976 FT. S. OF AVE K & 200 FT. W. OF SIERRA HWY., LANCASTER	G22
	8825	25 FT. N. OF AVE T & 45 FT. E. OF 90TH ST., LITTLE ROCK	
MAIN SAN FERNANDO	3872H 4709	CLARK AVE & GRIFFITH PARK DR., BURBANK SHERMAN WAY & DEERING AVE., CANOGA PARK	G23 G23

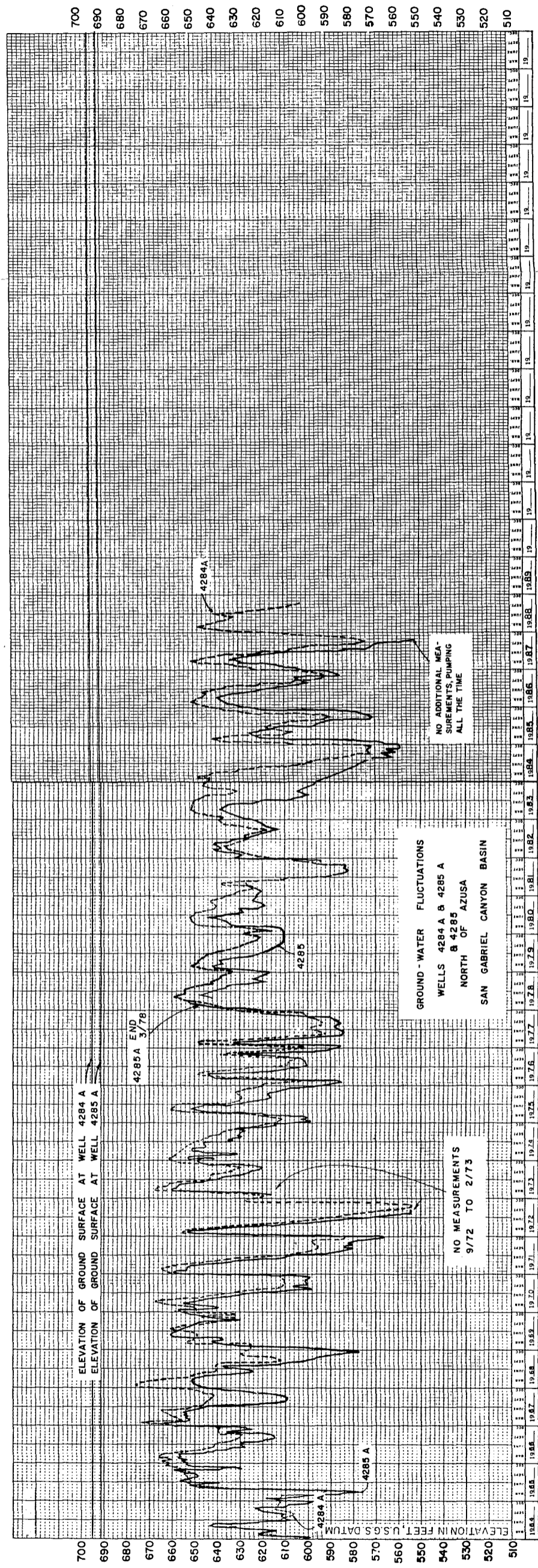
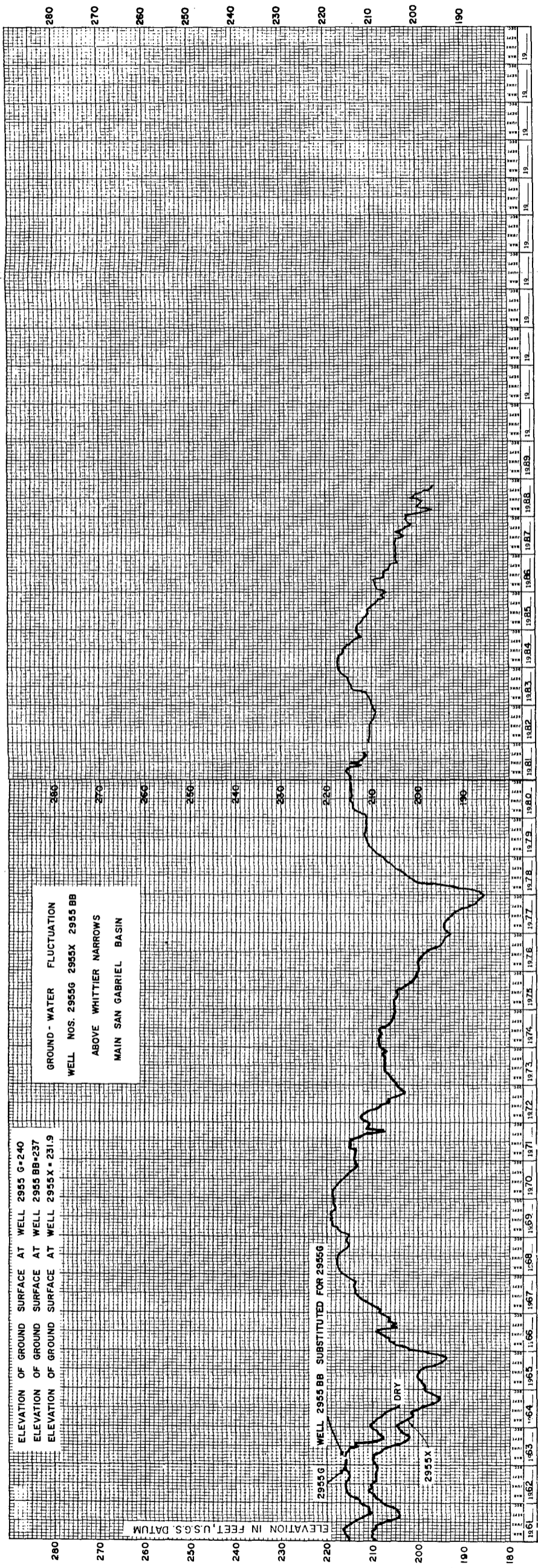


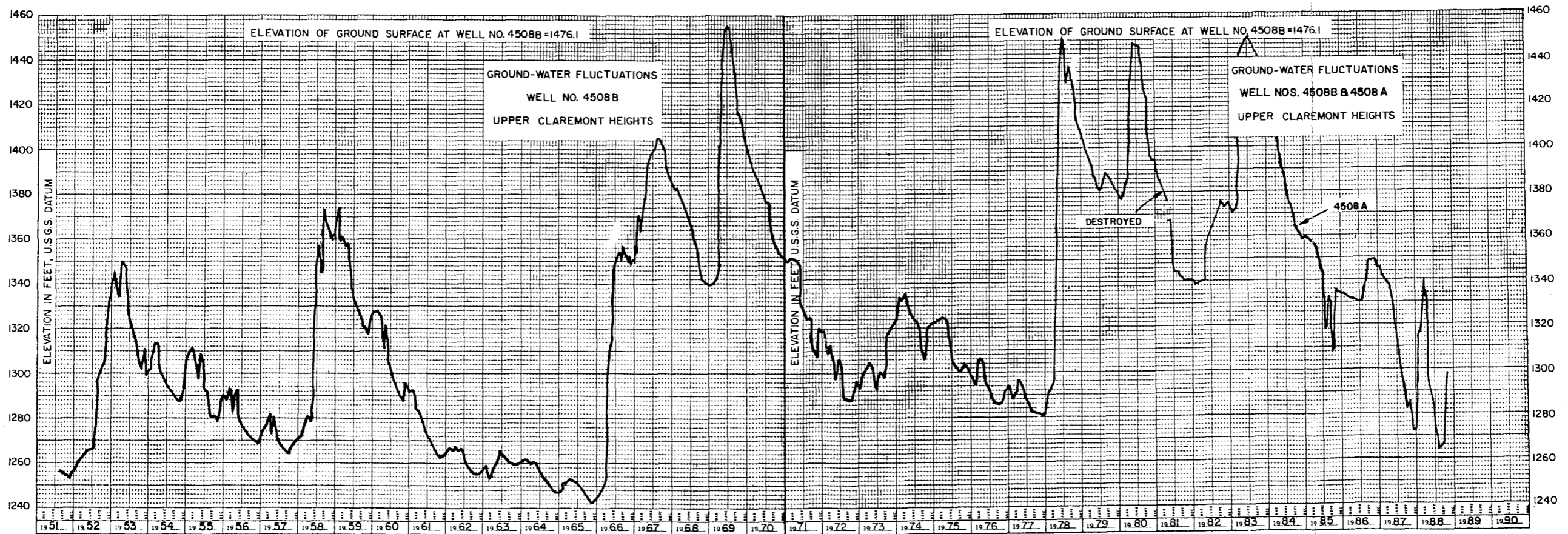
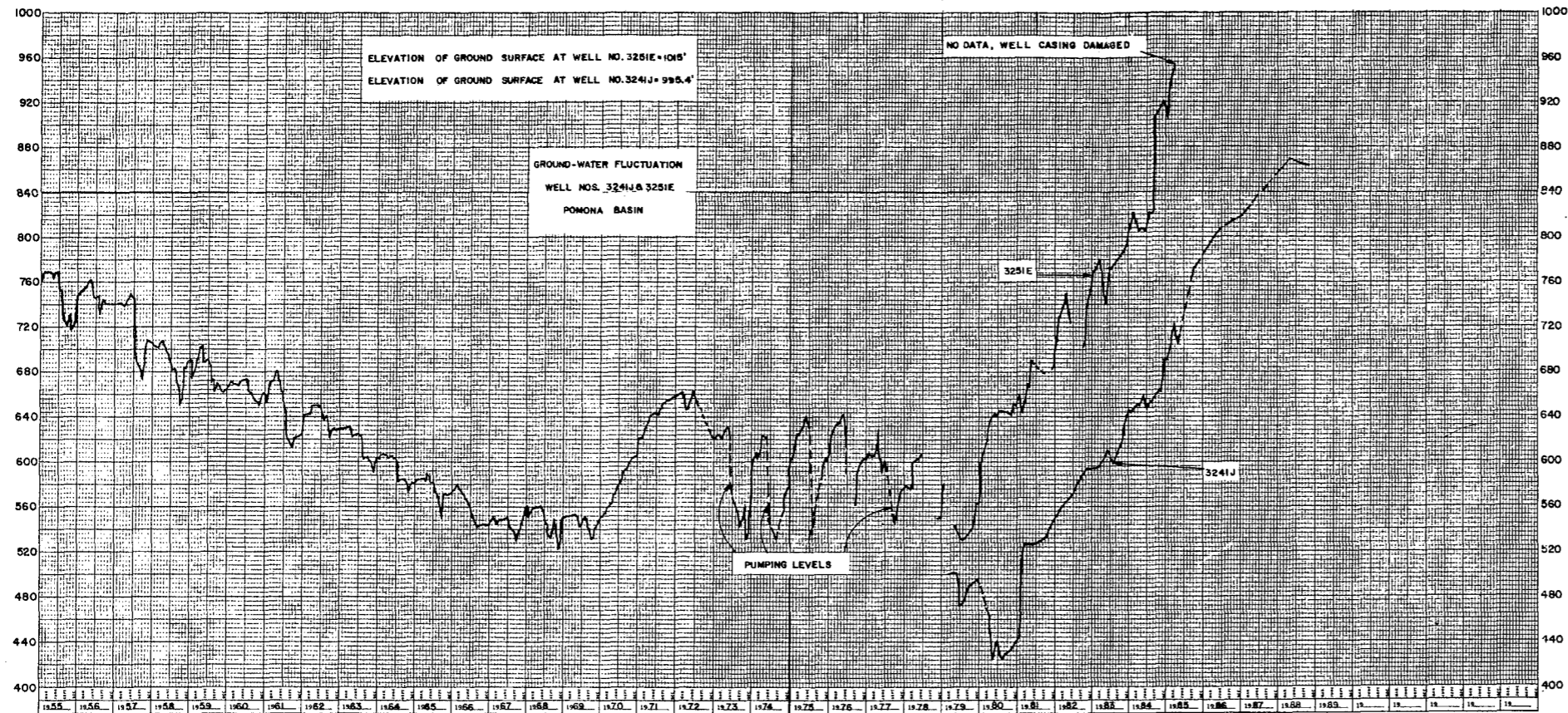


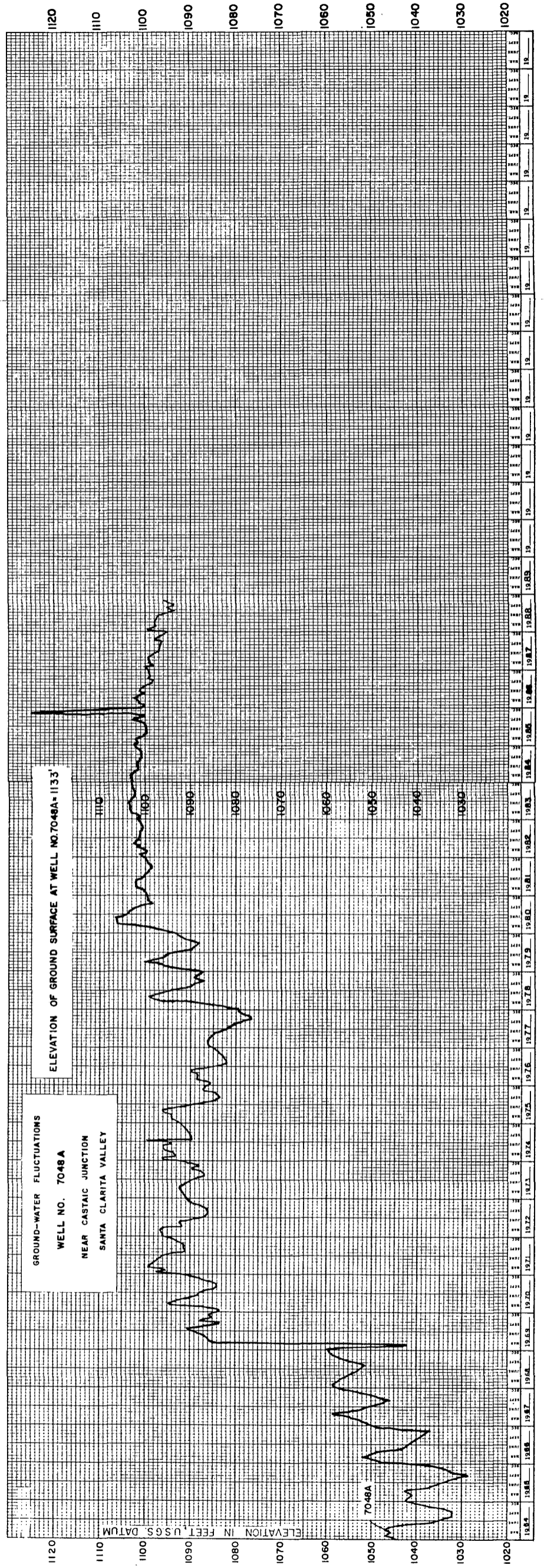
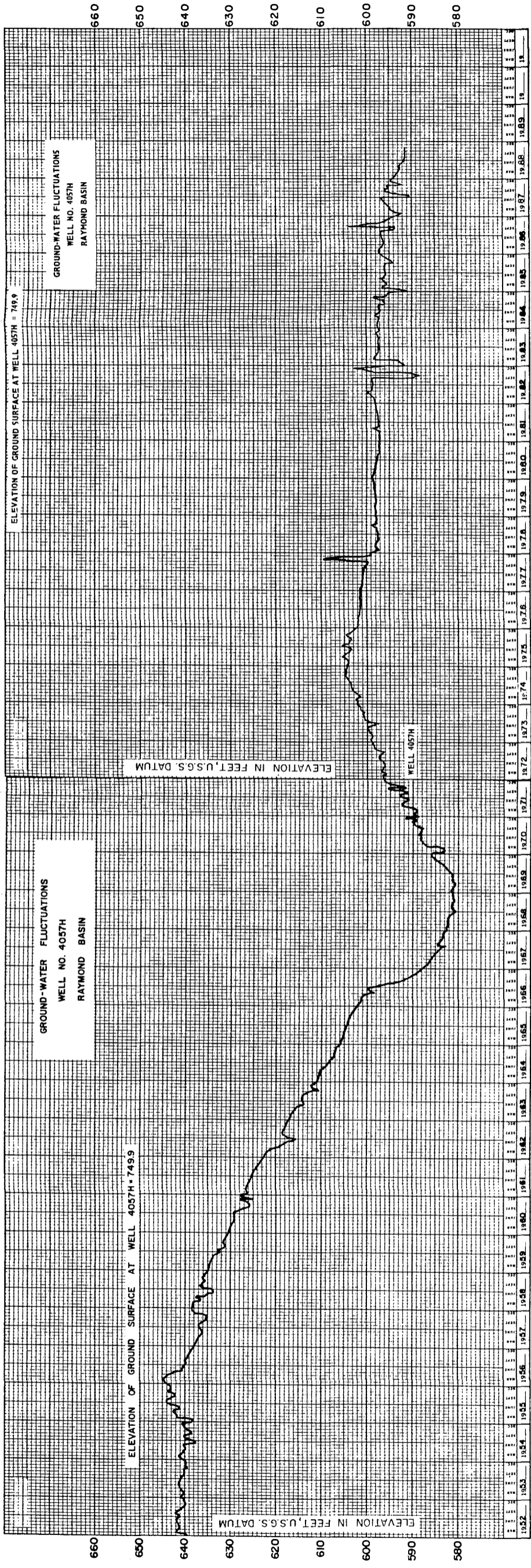


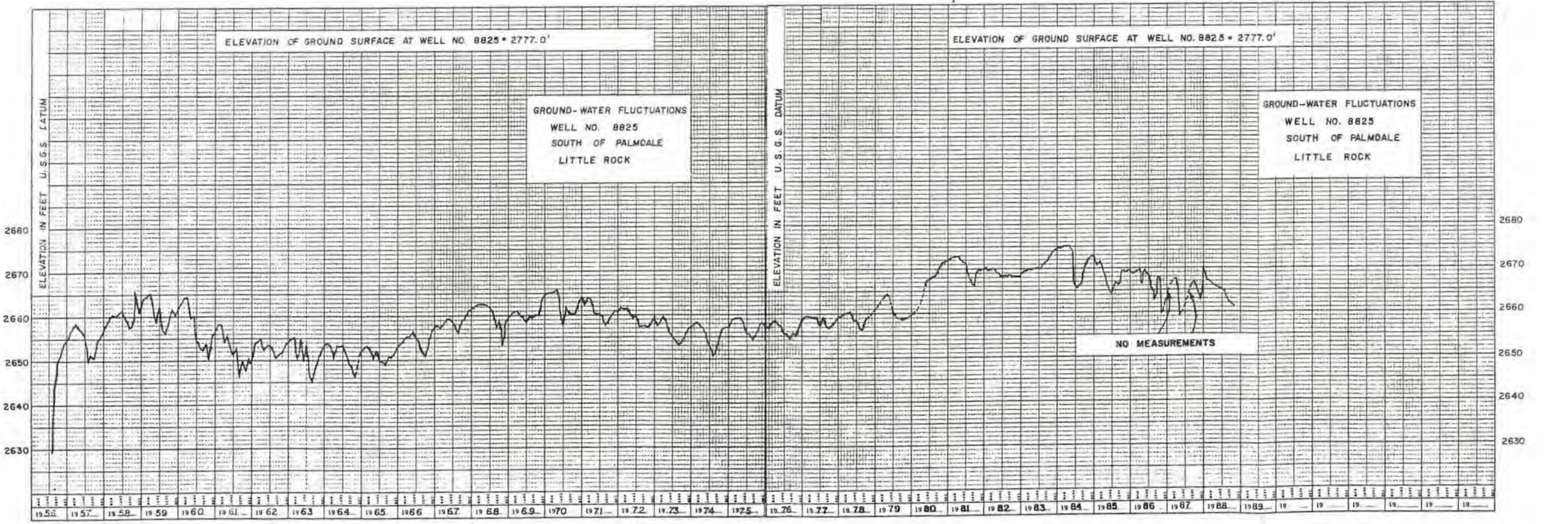
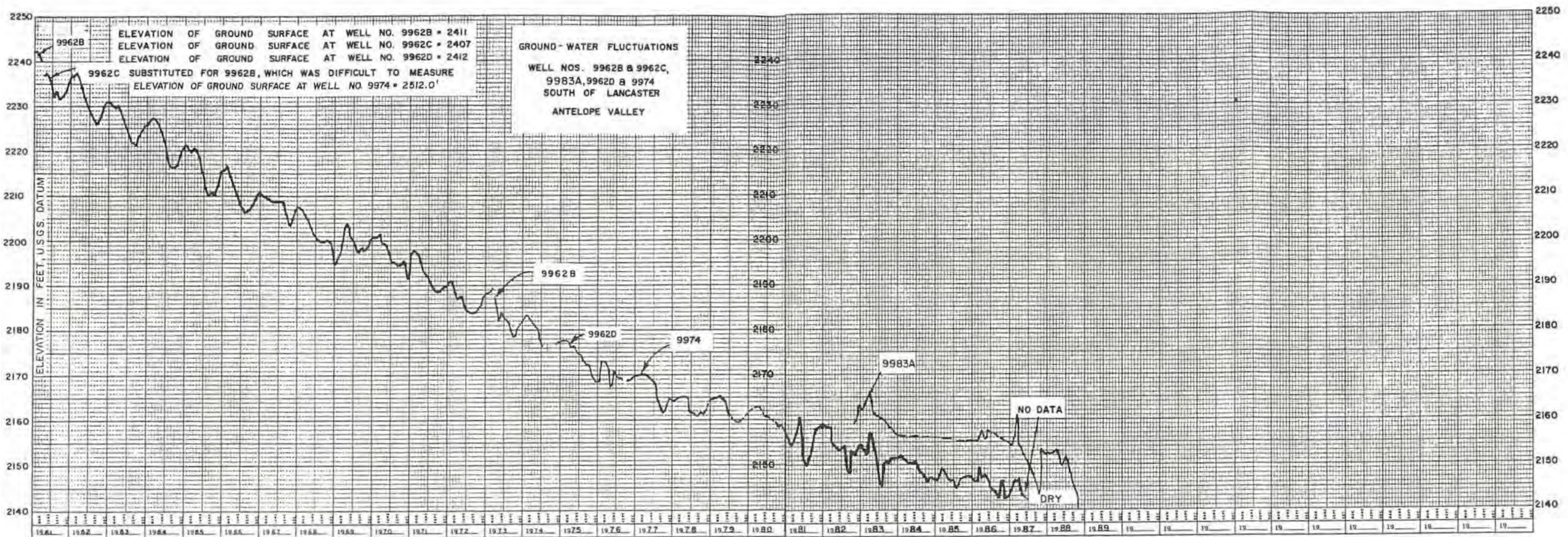
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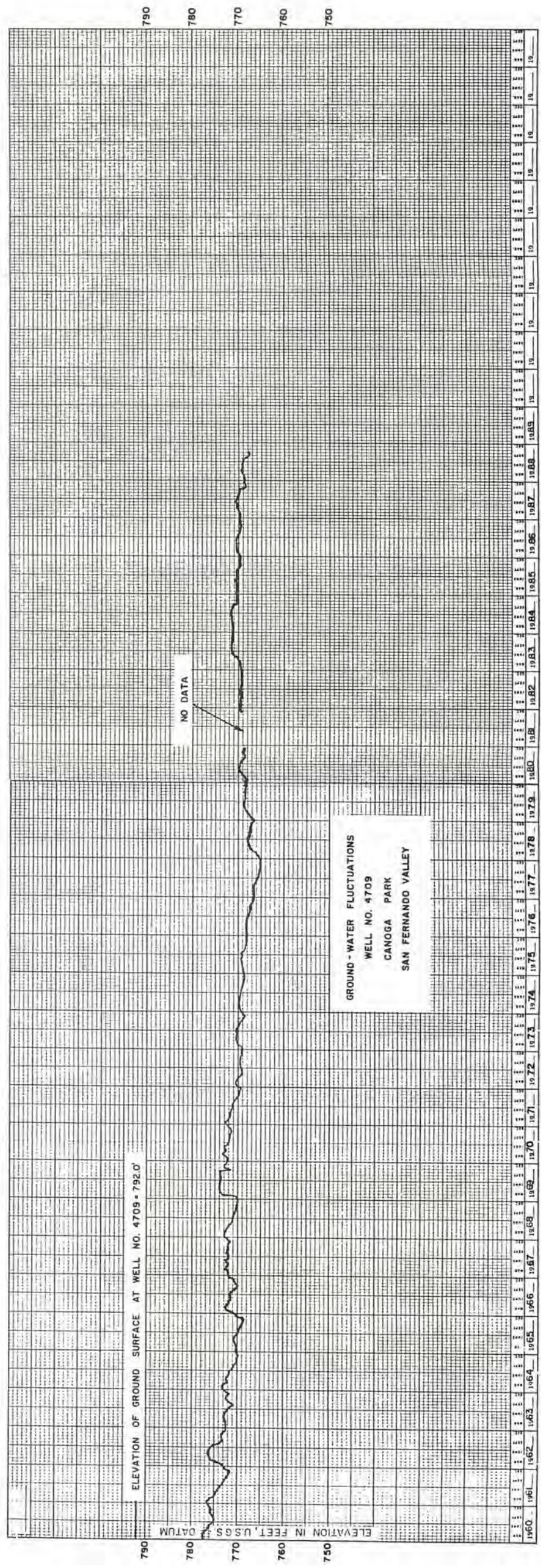
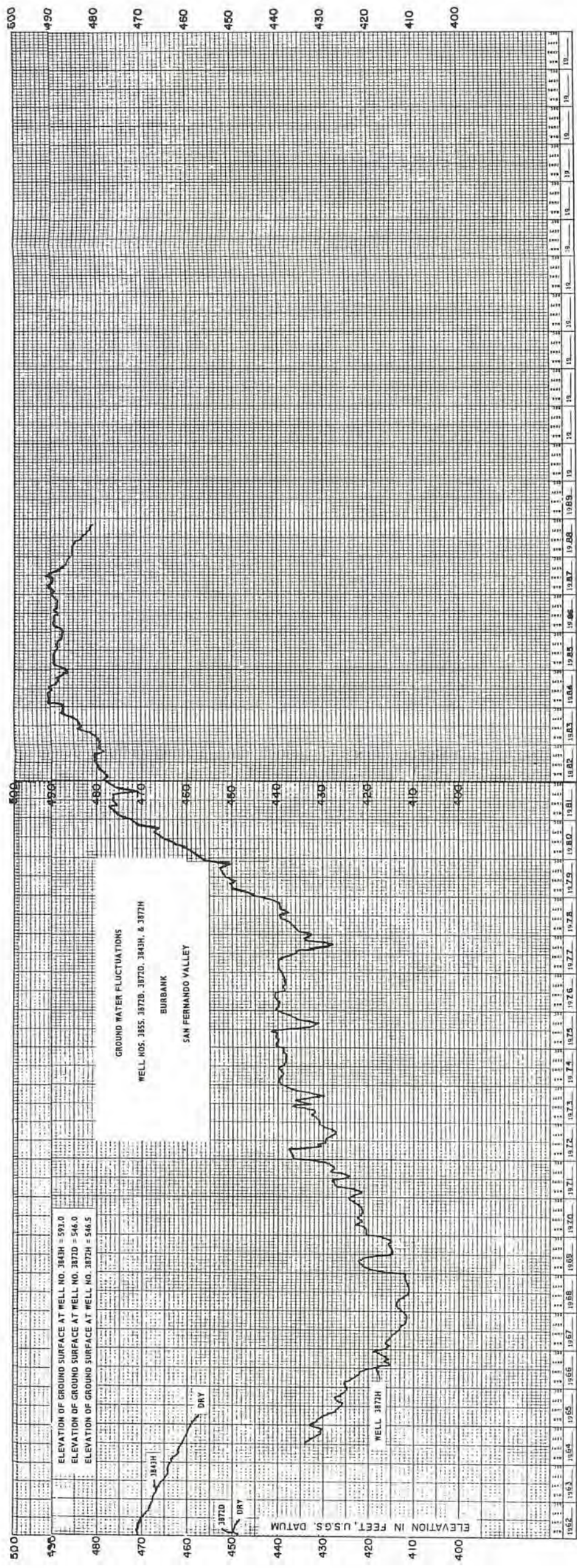




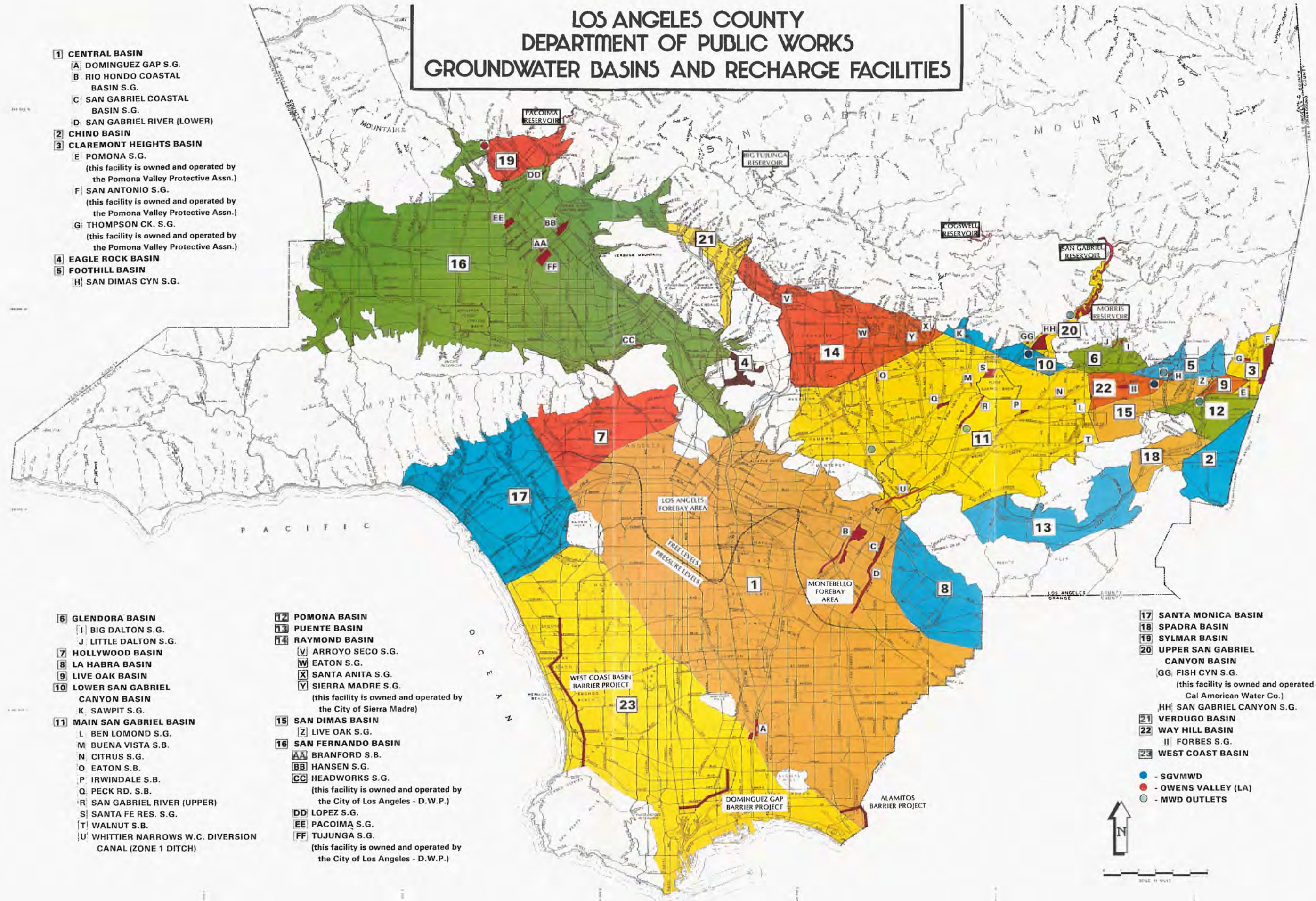








LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS GROUNDWATER BASINS AND RECHARGE FACILITIES

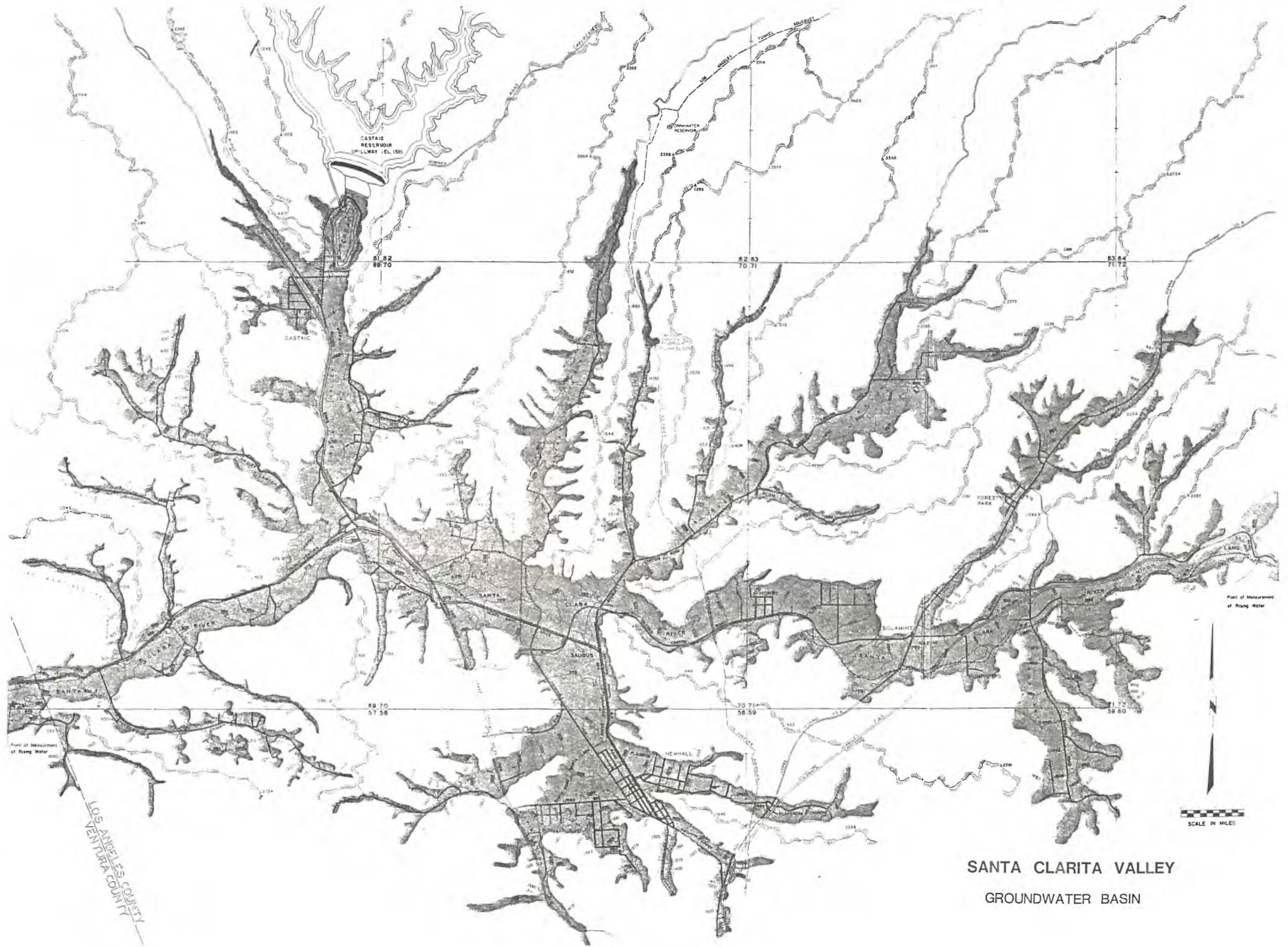


- 1 CENTRAL BASIN**
 - A DOMINGUEZ GAP S.G.
 - B RIO HONDO COASTAL BASIN S.G.
 - C SAN GABRIEL COASTAL BASIN S.G.
 - D SAN GABRIEL RIVER (LOWER)
- 2 CHINO BASIN**
- 3 CLAREMONT HEIGHTS BASIN**
 - E POMONA S.G.
(this facility is owned and operated by the Pomona Valley Protective Assn.)
 - F SAN ANTONIO S.G.
(this facility is owned and operated by the Pomona Valley Protective Assn.)
 - G THOMPSON CK. S.G.
(this facility is owned and operated by the Pomona Valley Protective Assn.)
- 4 EAGLE ROCK BASIN**
- 5 FOOTHILL BASIN**
 - H SAN DIMAS CYN S.G.

- 6 GLENDORA BASIN**
 - I BIG DALTON S.G.
 - J LITTLE DALTON S.G.
- 7 HOLLYWOOD BASIN**
- 8 LA HABRA BASIN**
- 9 LIVE OAK BASIN**
- 10 LOWER SAN GABRIEL CANYON BASIN**
 - K SAWPIT S.G.
- 11 MAIN SAN GABRIEL BASIN**
 - L BEN LOMOND S.G.
 - M BUENA VISTA S.B.
 - N CITRUS S.G.
 - O EATON S.B.
 - P IRWINDALE S.B.
 - Q PECK RD. S.B.
 - R SAN GABRIEL RIVER (UPPER)
 - S SANTA FE RES. S.G.
 - T WALNUT S.B.
 - U WHITTIER NARROWS W.C. DIVERSION CANAL (ZONE 1 DITCH)

- 12 POMONA BASIN**
- 13 PUENTE BASIN**
- 14 RAYMOND BASIN**
 - V ARROYO SECO S.G.
 - W EATON S.G.
 - X SANTA ANITA S.G.
 - Y SIERRA MADRE S.G.
(this facility is owned and operated by the City of Sierra Madre)
- 15 SAN DIMAS BASIN**
 - Z LIVE OAK S.G.
- 16 SAN FERNANDO BASIN**
 - AA BRANFORD S.B.
 - BB HANSEN S.G.
 - CC HEADWORKS S.G.
(this facility is owned and operated by the City of Los Angeles - D.W.P.)
 - DD LOPEZ S.G.
 - EE PACOIMA S.G.
 - FF TUJUNGA S.G.
(this facility is owned and operated by the City of Los Angeles - D.W.P.)

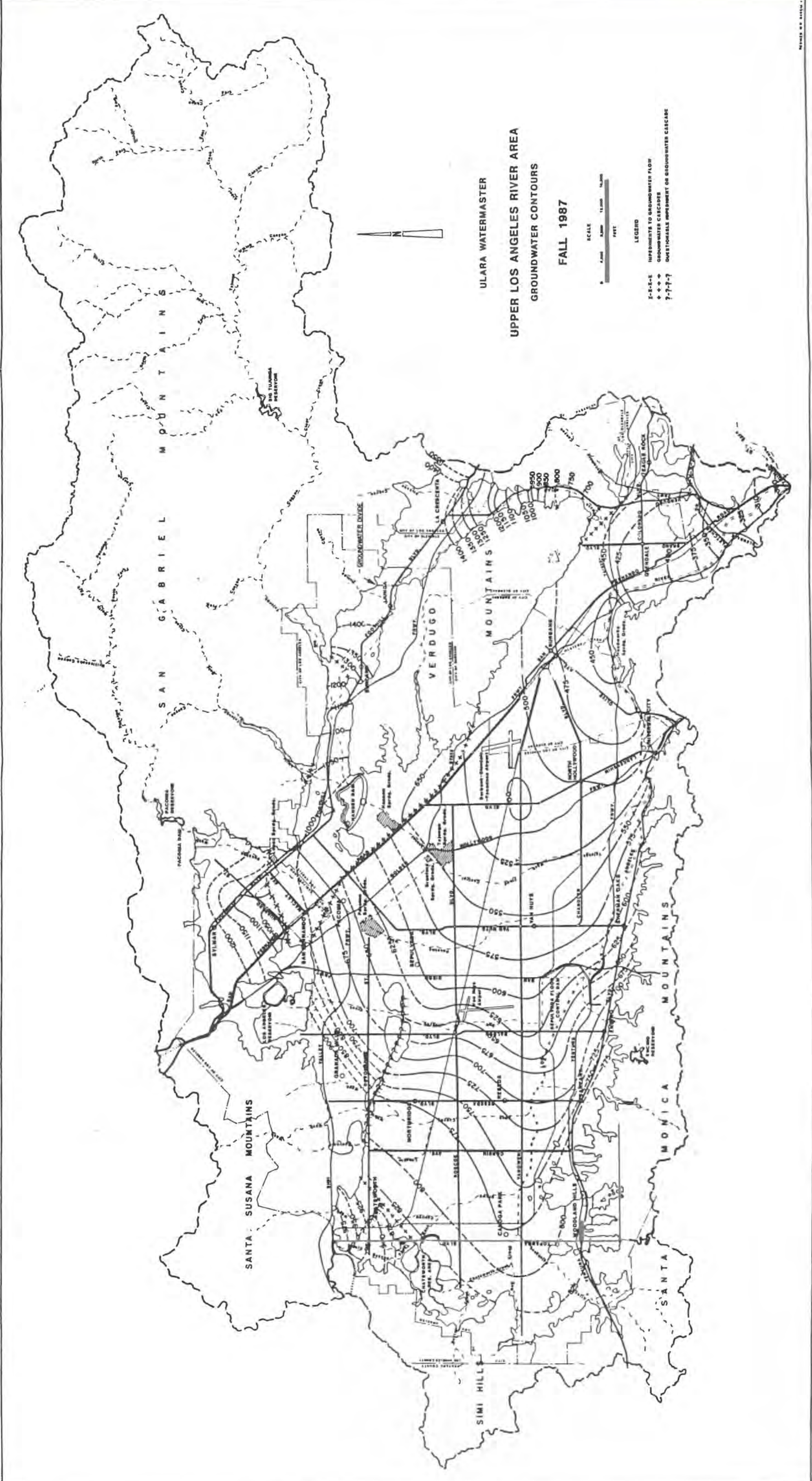
- 17 SANTA MONICA BASIN**
 - 18 SPADRA BASIN**
 - 19 SYLMAR BASIN**
 - 20 UPPER SAN GABRIEL CANYON BASIN**
 - GG FISH CYN S.G.
(this facility is owned and operated by Cal American Water Co.)
 - HH SAN GABRIEL CANYON S.G.
 - 21 VERDUGO BASIN**
 - 22 WAY HILL BASIN**
 - II FORBES S.G.
 - 23 WEST COAST BASIN**
- - SGVMWD
● - OWENS VALLEY (LA)
● - MWD OUTLETS



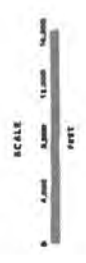
SANTA CLARITA VALLEY
GROUNDWATER BASIN



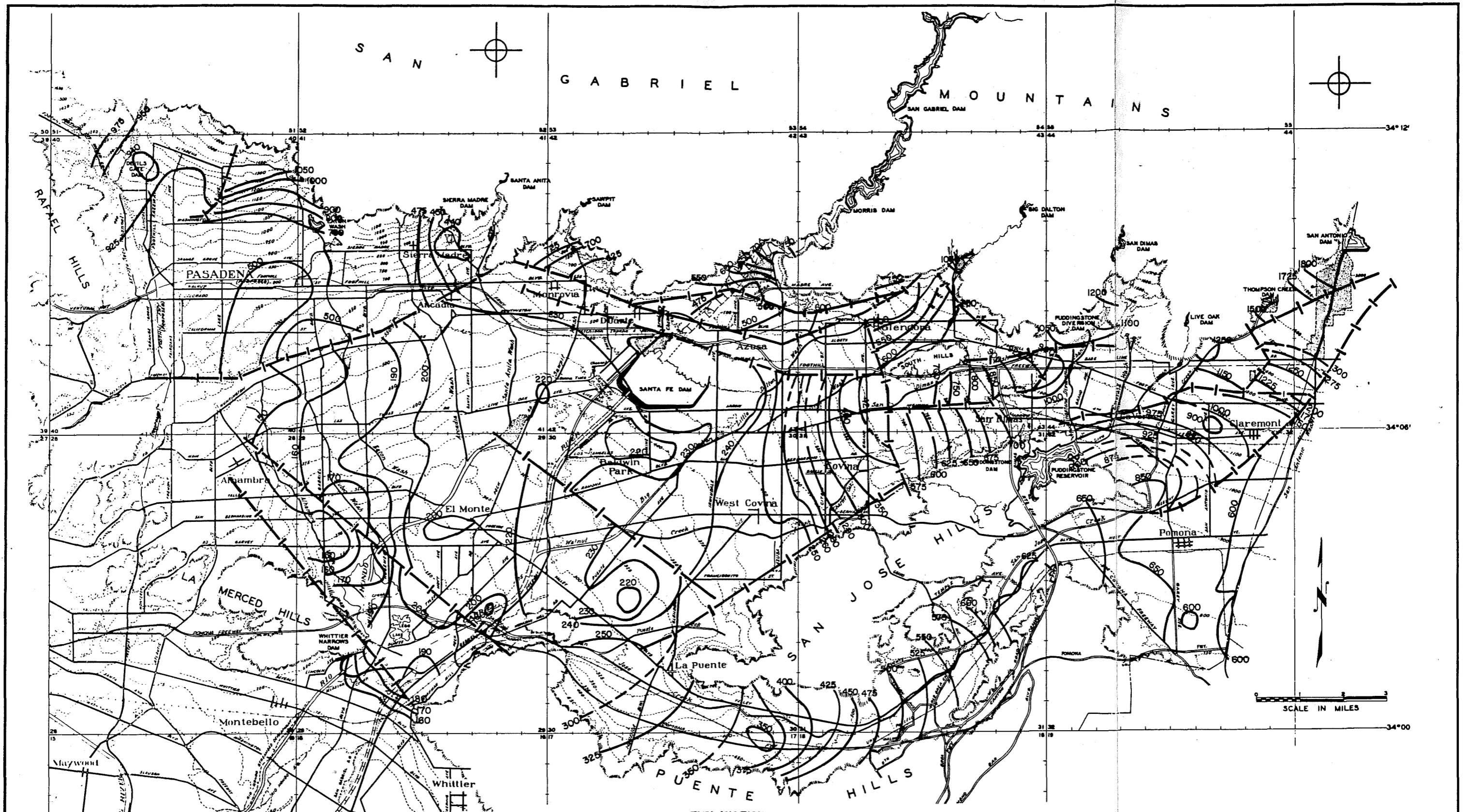
LOS ANGELES COUNTY
VENTURA COUNTY



ULARA WATERMASTER
 UPPER LOS ANGELES RIVER AREA
 GROUNDWATER CONTOURS
 FALL 1987



- LEGEND
- IMPEDIMENTS TO GROUNDWATER FLOW
 - GROUNDWATER CASCADES
 - QUESTIONABLE MEASUREMENT OF GROUNDWATER CASCADE

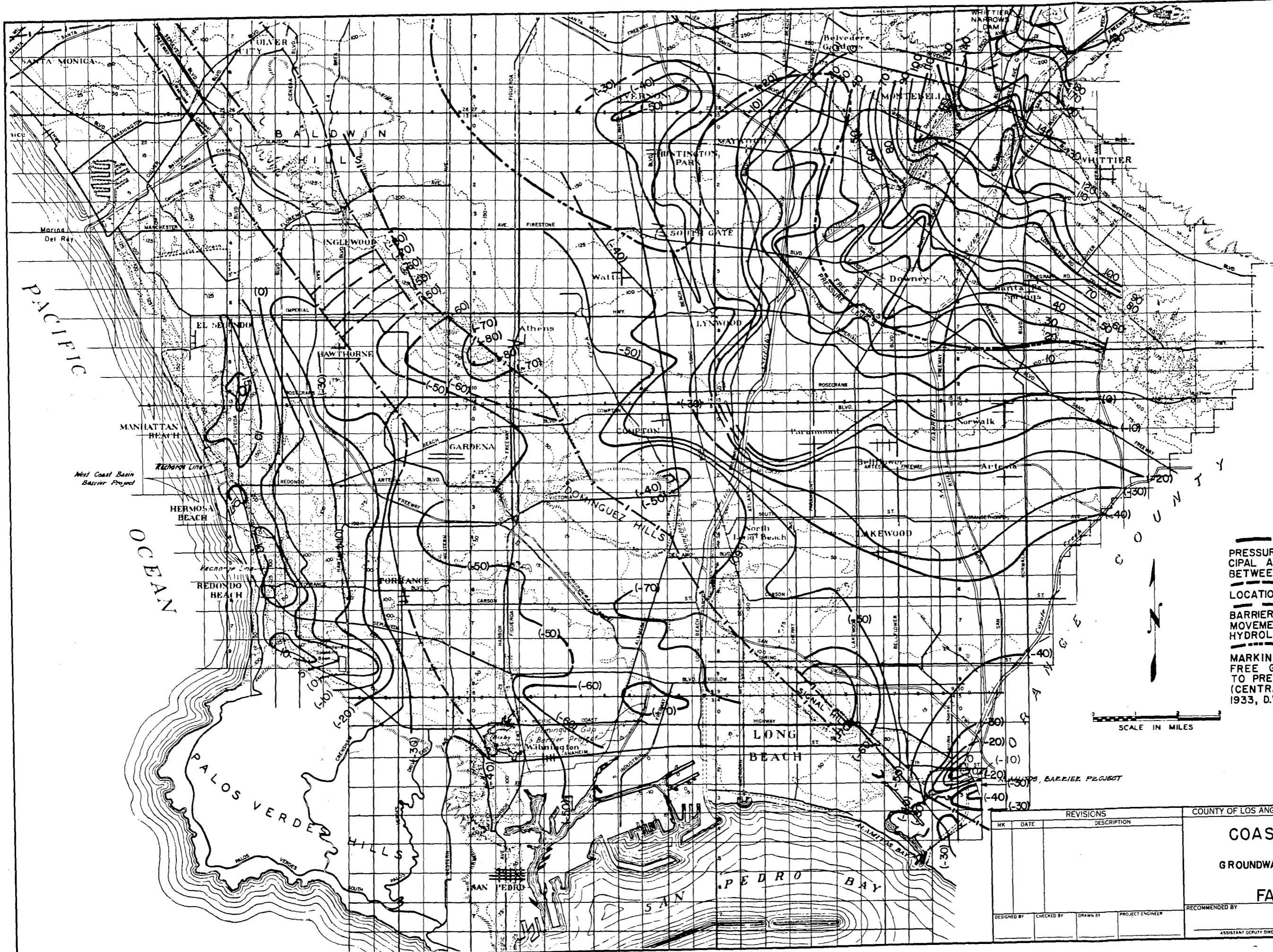


S A N G A B R I E L M O U N T A I N S

EXPLANATION

- LINES OF EQUAL GROUNDWATER LEVELS, (INTERPOLATED BETWEEN WELLS.)
- SAME AS ABOVE, (LOCATION APPROXIMATE.)
- RESTRICTIONS AND/OR BARRIERS TO GROUNDWATER MOVEMENT, GEOLOGIC AND HYDROLOGIC.
- GROUND SURFACE CONTOURS.
- SPREADING GROUNDS.

REVISIONS				COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
MK	DATE	DESCRIPTION			
				<p>SAN GABRIEL VALLEY GROUNDWATER CONTOURS FOR FALL 1987</p>	
DESIGNED BY				RECOMMENDED BY	
CHECKED BY				DATE	
DRAWN BY				SCALE	
PROJECT ENGINEER				NO.	
				SHEET OF	



EXPLANATION

- LINES OF EQUAL PRESSURE ELEVATIONS - PRINCIPAL AQUIFER (INTERPOLATED BETWEEN WELLS)
- - - SAME AS ABOVE, LOCATION APPROXIMATE.
- RESTRICTIONS OR BARRIERS TO GROUNDWATER MOVEMENT, (GEOLOGIC AND/OR HYDROLOGIC)
- - - LINE APPROXIMATELY MARKING TRANSITION FROM FREE GROUNDWATER LEVELS TO PRESSURE LEVELS. (CENTRAL COASTAL PLAIN 1933, D.W.R. BULL. NO. 45.)

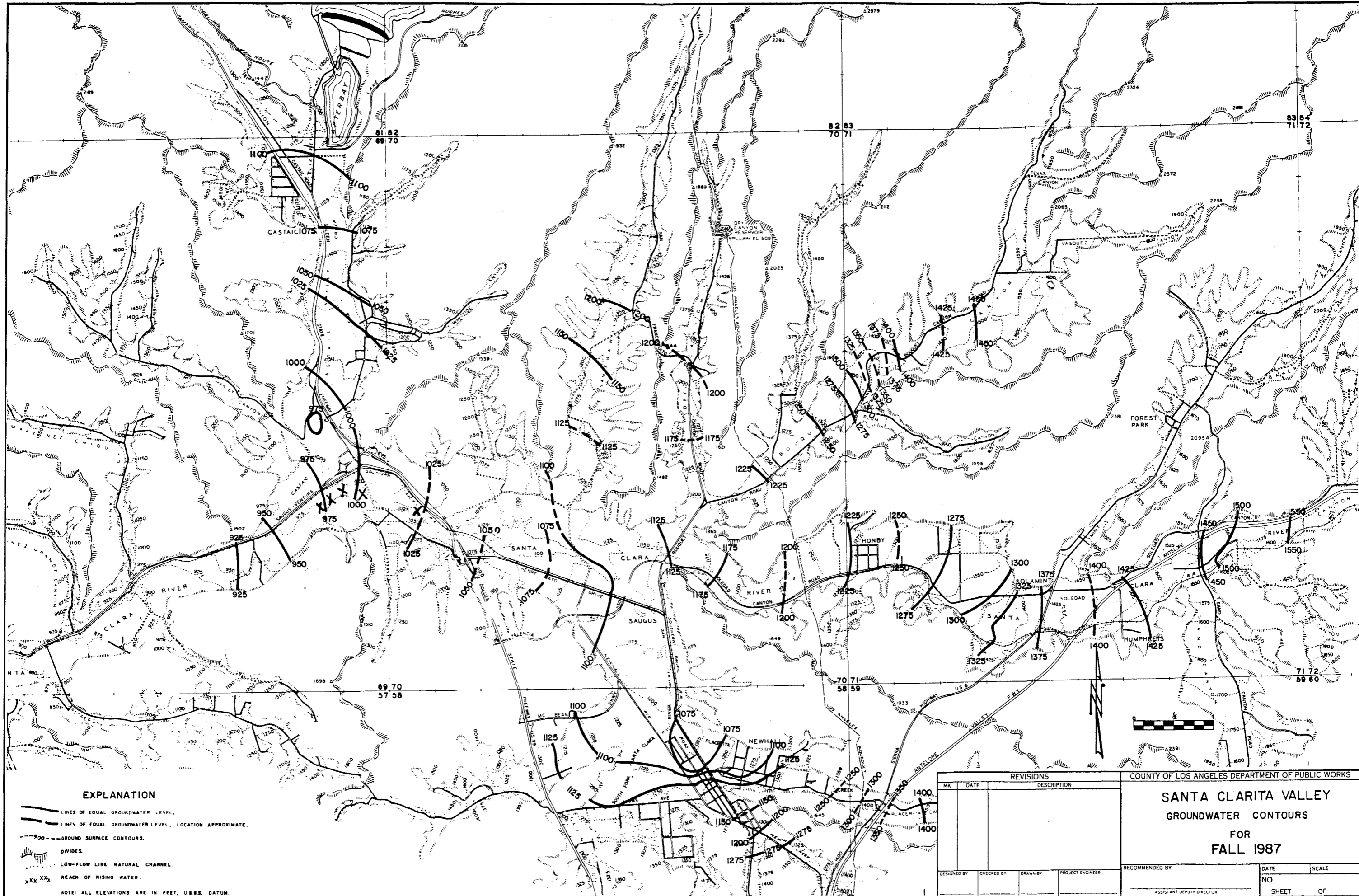


REVISIONS			
NO.	DATE	DESCRIPTION	

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**COASTAL PLAIN
DEEP AQUIFER
GROUNDWATER CONTOUR MAP
FOR
FALL 1987**

DESIGNED BY	CHECKED BY	DRAWN BY	PROJECT ENGINEER	RECOMMENDED BY	DATE	SCALE
ASSISTANT DEPUTY DIRECTOR				NO.	SHEET OF	



EXPLANATION

- LINES OF EQUAL GROUNDWATER LEVEL.
- - - LINES OF EQUAL GROUNDWATER LEVEL, LOCATION APPROXIMATE.
- GROUND SURFACE CONTOURS.
- DIVIDES.
- LOW-FLOW LINE NATURAL CHANNEL.
- XX XX REACH OF RISING WATER.

NOTE: ALL ELEVATIONS ARE IN FEET, U.S.S. DATUM.

REVISIONS				COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS	
MK	DATE	DESCRIPTION		DESIGNED BY	PROJECT ENGINEER

SANTA CLARITA VALLEY GROUNDWATER CONTOURS FOR FALL 1987		
RECOMMENDED BY	DATE	SCALE