SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

UNITED STATES OF AMERICA
V.
FALLBROOK PUBLIC UTILITY DISTRICT, ET AL

CIVIL NO. 1247 - SD-T

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SECTION 1 - SUMMARY

Section 1 - A summary of the Santa Margarita River Watershed Annual Watermaster Report for the 2003-04 Water Year.

Section 2 - This Annual Watermaster Report is prepared pursuant to Section II of the U. S. District Court Order dated March 13, 1989. The Court has retained jurisdiction over all surface flows of the Santa Margarita River Watershed and all underground waters determined by the Court to be subsurface flow of streams or creeks or which is determined by the Court to add to, support or contribute to the Santa Margarita River stream system. Local vagrant groundwaters that do not support the Santa Margarita River stream system are outside Court jurisdiction.

Section 3 - Surface water flows were well below normal in 2003-04. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula, and the Santa Margarita River at Ysidora were 36%, 47% and 46% respectively of their long-term averages. Direct surface diversions to use totaled 429 acre feet compared with 1,005 acre feet in 2002-03. The total quantity of water in storage in the Watershed on September 30, 2004, was 577,603 acre feet, of which 16,733 acre feet was Santa Margarita River water and 560,870 acre feet was imported water.

Section 4 - Groundwater extractions were 41,698 acre feet compared to 41,587 acre feet in 2002-03. Water purveyors pumped 35,648 acre feet and 6,050 acre feet were pumped by other substantial users. Total annual local production including surface diversions for use for the period 1995-2004 is shown on Figure 1.1.

Section 5 - During 2003-04, 94,528 acre feet of water were imported and distributed in the Santa Margarita River Watershed. This compares with 78,200 acre feet in 2002-03 and represents a 20.88 percent increase. Net exports, including wastewater, were 13,518 acre feet, compared to 11,914 acre feet in 2003. Annual imports for the period 1995-2004 are shown on Figure 1.2.

Section 6 - Water rights during the 1950's and 1960's consisted primarily of riparian and overlying rights. Other rights included appropriative rights and federal reserved rights. More recently, water purveyors in the Watershed have begun exercising groundwater appropriative rights. Except for appropriative rights, water rights generally have not been quantified in the watershed. Perfected appropriative surface water rights on file with the State Water Resources Control Board (SWRCB) amount to 906,892 gallons per day which corresponds to 1.4 cfs or 2.78 acre feet per day of direct diversion rights and 44,315.5 acre feet of active storage rights.

Figure 1.1

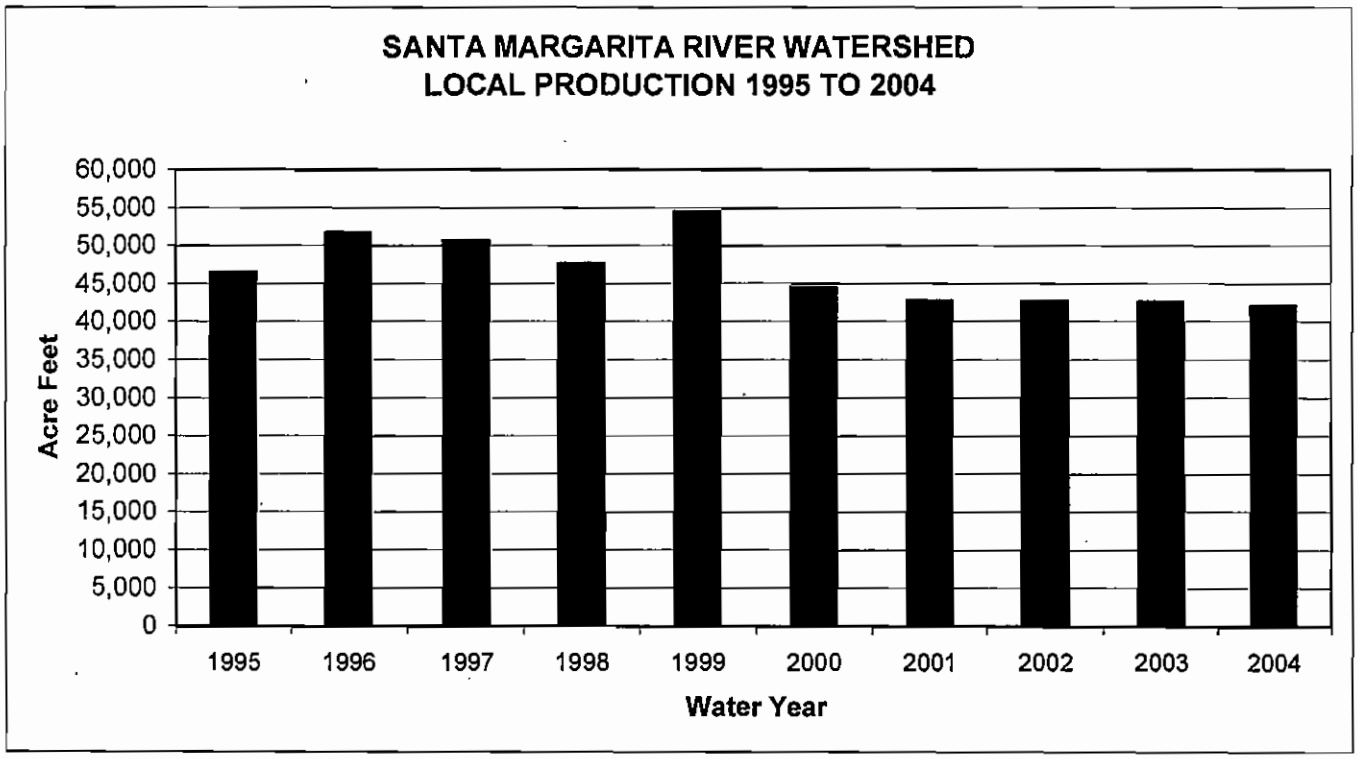
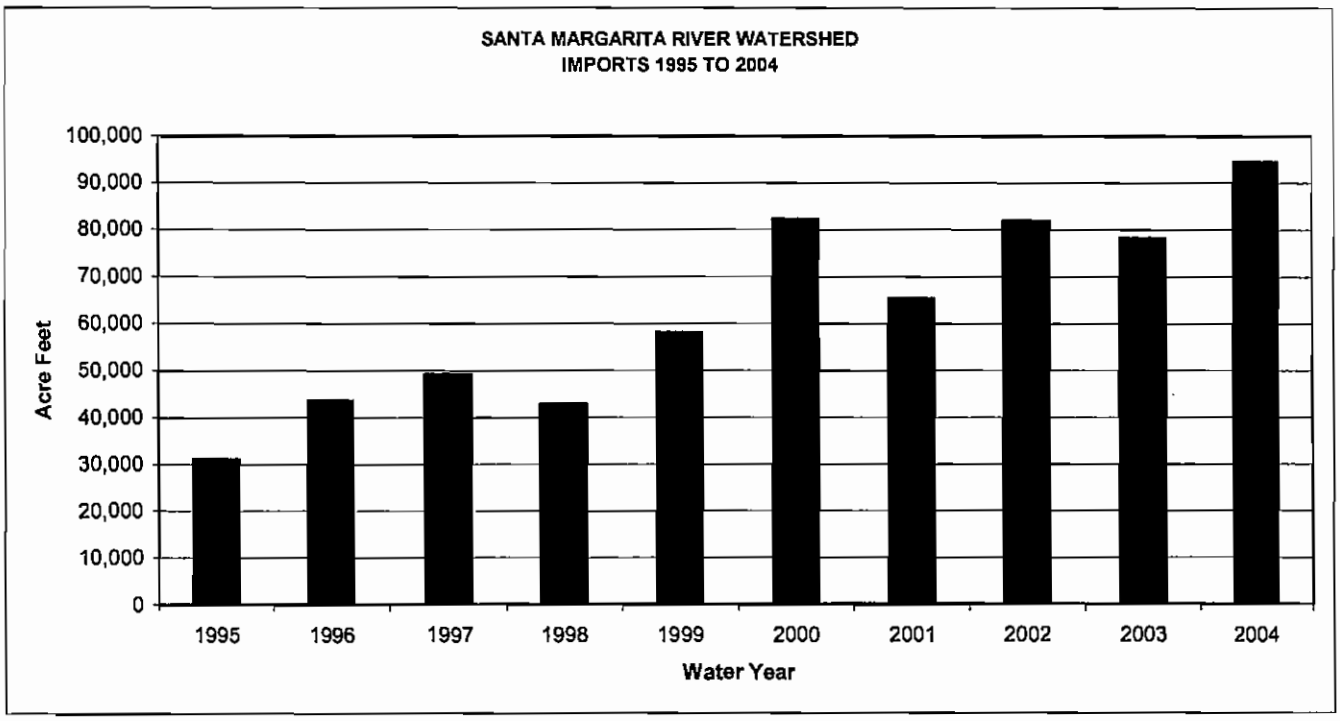


Figure 1.2



Section 7 - Total imported supplies plus local production totaled 136,655 acre feet compared to 120,792 reported in 2002-03. Of that quantity, 55,857 acre feet were used for agriculture; 10,110 acre feet were used for commercial purposes; and 51,167 acre feet were used for domestic purposes; 51 acre feet were discharged to Murrieta Creek; 4 acre feet were discharged to Temecula Creek; 3,146 acre feet were discharged to the Santa Margarita River from MWD WR-34 by Rancho California WD; 3,890 acre feet of fresh water were exported by Camp Pendleton; and 5,094 acre feet were recharged by Rancho California WD to storage. The overall system loss was 7,336 acre feet. System gain or loss is the result of many factors including errors in measurement, differences between periods of use and periods of production, leakage and unmeasured uses.

Total annual production for the period 1995-2004 is shown on Figure 1.3

Section 8 – Use of water from small storage ponds may be unauthorized.

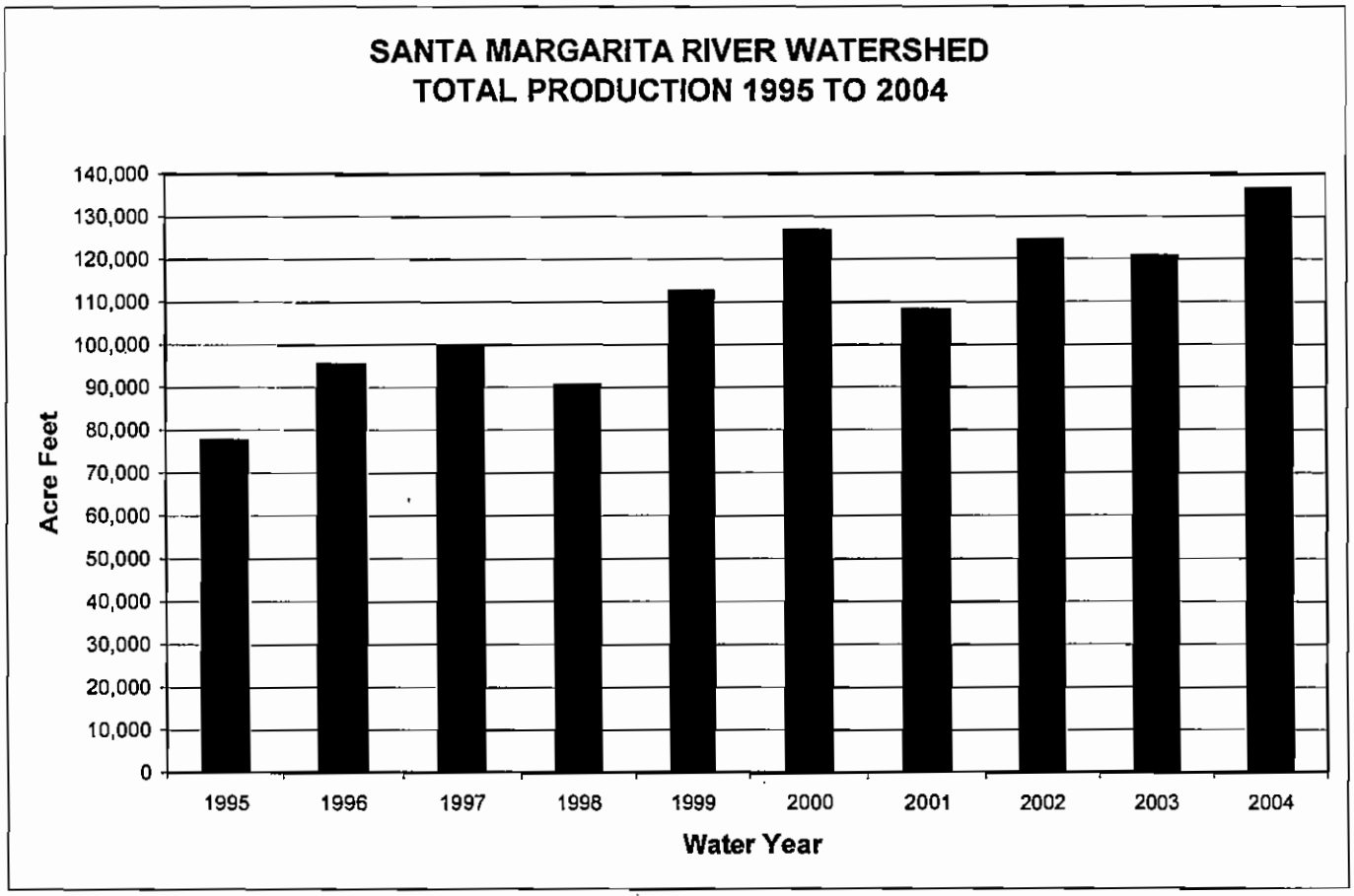
Section 9 - Threats to water supply include high nitrate levels in Rainbow Creek and Anza Valley in past years, potential overdraft conditions in the Murrieta-Temecula and Anza groundwater basins, and salt balance issues in the upper Watershed.

Section 10 – The U. S. Geological Survey (U.S.G.S.) monitored surface water quality at the Temecula gaging station on the Santa Margarita River. Total dissolved solids concentrations ranged from about 300 mg/l to about 900 mg/l.

Groundwater from wells was sampled by Camp Pendleton, Murrieta County Water District, Rancho California WD, and the U.S.G.S. on Indian Reservations during 2003-04, with no nitrate concentrations exceeding the drinking water standard of 45 mg/l as nitrate (or 10 mg/l as N). The Basin Plan objective for total dissolved solids of 750 mg/l was exceeded in eight of twelve wells at Camp Pendleton; and in one of six wells at Murrieta County WD. No water from wells on the Pechanga Indian Reservation or in Rancho California WD exceeded the Basin Plan Objective for total dissolved solids.

Section 11 - The Cooperative Water Resource Management Agreement between Camp Pendleton and Rancho California Water District was approved by the District Court on August 20, 2002. During the 2004 calendar year, Rancho California WD discharged 2,525.0 acre feet to the Santa Margarita River. Contributions to Camp Pendleton's groundwater account totaled 360.0 acre feet

Figure 1.3



Section 12 - Projected Watermaster tasks for the next five years are listed.

Section 13 - A total Watermaster budget of $339,475 is proposed for the 2005-06 Water Year. This budget includes $181,300 for the Watermaster Office and $158,175 for operation of gaging stations by the U.S.G.S.

SECTION 2 - INTRODUCTION

2.1 Background

On January 25, 1951, the United States of America filed Complaint No. 1247 in the United States District Court for the Southern District of California to seek a judicial determination of all respective water rights within the Santa Margarita River Watershed. The Final Judgment and Decree was entered on May 8, 1963, and appealed to the U. S. Court of Appeals. A Modified Final Judgment and Decree was entered on April 6, 1966. Among other things, the Decree provided that the Court:

> . . . retains continuing jurisdiction of this cause as to the use of all surface waters within the watershed of the Santa Margarita River and all underground or sub-surface waters within the watershed of the Santa Margarita River, which are determined in any of the constituent parts of this Modified Final Judgment to be a part of the sub-surface flow of any specific river or creek, or which are determined in any of the constituent parts of this Modified Final Judgment to add to, contribute to, or support the Santa Margarita River stream system.

In March 1989, the Court appointed James S. Jenks as Watermaster to administer and enforce the provisions of the Modified Final Judgment and Decree and subsequent orders of the Court. The appointing Order described the Watermaster's powers and duties as well as procedures for funding and operating the Watermaster's office. Also in 1989, the Court appointed a Steering Committee that at the conclusion of 2003-04 was comprised of representatives from the United States, Eastern Municipal Water District, Fallbrook Public Utility District, Metropolitan Water District of Southern California, Pechanga Tribe, and Rancho California Water District. The purposes of the Steering Committee are to assist the Court, to facilitate litigation, and to assist the Watermaster.

2.2 Authority

Section II of the appointing Order requires that the Watermaster submit a written report containing his findings and conclusions to the Court promptly after the end of each water year.

2.3 Scope

The subjects addressed in this report are responsive to Section II of the appointing Order. Information and data contained in this report are based on information reported to the Watermaster by others. Therefore, the Watermaster does not guarantee the completeness and accuracy of the information presented in this report, although most of the data presented are based on measurements. Estimates by the Watermaster are so noted.

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SECTION 3 - SURFACE WATER AVAILABILITY AND USE

3.1 Surface Flow

Over the years, flows in the Santa Margarita River Watershed have been measured at the stations listed on Table 3.1. A number of these stations have been discontinued. During Water Year 2003-04 the U. S. Geological Survey (U.S.G.S.) operated 13 stations under an agreement with the Watermaster. These include three stations where Riverside County Flood Control District shares the local costs with the Watermaster. In addition to stream flows, the U.S.G.S. also measures water elevation at Vail Lake.

The U.S.G.S. also operates several stations in the watershed under contract with Camp Pendleton. These include stream gaging stations on DeLuz Creek (partial year), Fallbrook Creek and on the outlet channel and spillway for Lake O'Neill. The U.S.G.S. also operates a tidal water level recorder on the Santa Margarita River at its mouth.

Monthly flows for stations in Water Year 2003-04 are shown on Table 3.2. Those flows consist of U.S.G.S. discharge determinations available at the time this report is published. Official U.S.G.S. discharges for 2003-04 are published by the U.S.G.S. in its annual Water Resources Data report.

In considering the historical record of flow at these stations, it should be recognized that the long term averages include variations in watershed conditions such as level of development, groundwater production, return flows, impoundments and vegetative use as well as hydrologic conditions, changes in gaging station locations and other factors. Descriptions of the various historical locations of gaging stations may be found in the publication, *Water Resources Data - California*, which is published annually by the U.S.G.S. In addition, records of stream flow at the stations operated by the U.S.G.S. may be found on the Internet at *http://www.usgs.gov.*

TABLE 3.1

SANTA MARGARITA RIVER WATERSHED

STREAM GAGING STATIONS

2003-04

STATION NAME	STATION NO.	AREA SQ MI	RECORDED BY	PERIOD OF RECORD 1920	1930	1940	1950	1960	1970	1980	1990	2000
Temecula Creek Near Aguanga	11042400	131	USGS				8/57 ••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••
Wilson Creek Above Vail Lake	11042490	122	USGS							10/89	10/94 •••••	
Temecula Creek At Vail Dam	11042520	320	USGS	2/23 •••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	10/77 ••••••••			
Vail Lake at Temecula (Reservoir Storage)	11042510	320	USGS			10/48 •	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••
Pechanga Creek Near Temecula	11042631	13.6	USGS							10/87 ••	•••••••••••	•••••
Warm Springs Creek Near Murrieta	11042800	55.4	USGS							10/87 ••	•••••••••••	•••••
Santa Gertrudis Creek Near Temecula	11042900	90.1	USGS							10/87 ••	• •••••••••	•••••
Murrieta Creek At Tenaja Road	11042700	30	USGS								10/97 ••	•••••
Murrieta Creek At Temecula	11043000	222	USGS	10/25 ••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••
Santa Margarita River Near Temecula	11044000	588	USGS	2/23 •••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••
Rainbow Creek Near Fallbrook	11044250	10.3	USGS								9/89 •••••••••••	•••••
Sandia Creek Near Fallbrook	11044350	21.1	USGS								9/89 •••••••••••	•••••
Santa Margarita River At FPUD Sump *1/*	11044300	620	USGS	10/24 •••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	9/80 •	9/89 •••••••••••	•••••
Santa Margarita River Tributary Near Fallbrook	11044600	0.52	USGS					10/61 9/65 ••••				
DeLuz Creek Near DeLuz	11044800	33	USGS								10/92 •••••••	•••••
DeLuz Creek Near Fallbrook *2/*	11044900	47.5	USGS/ USMC				2/61 •••••••••	•••••••••••	77 ••••••••		9/89-9/90 •	04/02-2/03 •
Santa Margarita River Near DeLuz Station	11045000	705	USGS	10/24 - 9/26 ••								
Fallbrook Creek *3/* Near Fallbrook	11045300	6.97	USGS/ USMC					10/84 •••••	9/76 •••••••	12/88 •	•••••••••••	•••••
Santa Margarita River At Ysidora *4/*	11046000	723	USGS	3/23 •••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••••••••	•••••
			WATER YEAR ENDING	1920	1930	1940	1950	1960	1970	1980	1990	2000

1/ Period of record includes measurements for Santa Margarita near Fallbrook (#11044500) for period October 1924 to September 1980

2/ Recorded by USMC, Camp Pendleton October 1966 to 1977

3/ Recorded by USMC, Camp Pendleton prior to October 1993

4/ Station temporarily operated as SMR at USMC Diversion Dam near Ysidora #11045050 from Feb

TABLE 3.2

SANTA MARGARITA RIVER WATERSHED

MEASURED SURFACE WATER FLOW

2003-04

Quantities in Acre Feet

GAGING STATION	DRAINAGE AREA SQ MI	MONTH OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR TOTAL	ANNUAL AVERAGE THRU 2003	YEARS OF RECORD THRU 2003
Temecula Creek Near Aguanga	131	21	41	57	72	145	125	56	23	13	4	3	5	566	5,690	46
Pechanga Creek Near Temecula	13.8	0	0	1	0	14	0	0	0	0	0	0	0	15	596	16
Warm Springs Creek Near Murrieta	55.4	15	12	63	21	363	12	4	0	1	1	0	0	492	2,870	16
Santa Gertrudis Creek Near Temecula	90.2	0	35	39	0	281	15	13	5	0	0	0	0	388	2,660	16
Murrieta Creek At Tenaja Road	30	0	0	90	0	263	92	0	0	0	2	2	0	448	1,820	6
Murrieta Creek At Temecula	222	4	199	435	25	2,300	245	116	51	38	16	4	1	3,434	9,460	79
Santa Margarita River Near Temecula	588	495	443	755	510	2,900	601	470	267	209	188	195	182	7,215	15,321 20,390	55 (1949-2003) 26 (1923-48)
Rainbow Creek Near Fallbrook	10.3	3	8	40	24	139	44	19	34	15	2	2	2	332	2,510	14
Sandia Creek Near Fallbrook	21.1	228	340	347	401	646	499	349	251	205	161	161	147	3,735	6,870	14
Santa Margarita River At FPUD Sump	620	455	514	864	825	3,180	824	516	308	223	162	176	183	8,230	30,670	14
DeLuz Creek Near DeLuz	33	9	66	152	74	702	387	137	32	12	0	0	0	1,571	10,130	11 (1993-2003)
Santa Margarita River At Ysidora	723	501	843	1,390	1,350	5,250	1,700	1,190	308	116	94	20	0	12,762	27,973 * 31,390	55 (1949-2003) 26 (1923-48)
Fallbrook Creek Near Fallbrook	6.97	1	5	29	26	155	37	.23	8	0	0	0	0	283	1,220 1,462 **	15 (1989-2003) 12 (1965-76)

* Includes record of two years at Santa Margarita River at USMC Diversion Dam near Ysidora station

** Includes wastewater flows

Total flows at four long-term stations for Water Years 2002-03 and 2003-04 are compared with their averages in the tabulation below. Average flows for the Santa Margarita River stations near Temecula and near Ysidora are shown for two periods: before and after Vail Dam was constructed (1923 to 1948, and 1949 to 2001).

	TOTAL FLOW		AVERAGE FLOW
	2002-03 Acre Feet	2003-04 Acre Feet	Through 2003 Acre Feet
Temecula Creek Near Aguanga	1,867	566	5,690 (1957-2003)
Murrieta Creek At Temecula	14,831	3,434	9,460 (1925-2003)
Santa Margarita River Near Temecula	21,931	7,215	15,321 (1949-2003) 20,390 (1923-1948)
Santa Margarita River Near Ysidora (various locations)	38,653	12,762	27,973 (1949-2003) 31,390 (1923-1948)

The foregoing tabulation indicates that 2003-04 was a very dry year. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula and the Santa Margarita River at Ysidora were 36%, 47% and 46% respectively of their long-term averages. If the Santa Margarita River flows near Temecula and near Ysidora are adjusted for RCWD discharges, the two stations were only 27 and 34 percent of long-term averages respectively. Flows at Temecula Creek near Aguanga were 10 percent of the long-term average.

Monthly flows shown in Table 3.2 consist primarily of naturally occurring surface runoff, including return flows, except for Rancho California WD discharges into the Santa Margarita River and Murrieta Creek. Most of Rancho California WD discharges are pursuant to the Cooperative Water Resources Management Agreement between Camp Pendleton and Rancho California WD, as described in Section 11. During 2003-04 these discharges into the Santa Margarita River from Metropolitan Water District outlet WR-34 totaled 3,146 acre feet. The WR-34 outlet is located just upstream from the Santa Margarita River Gaging Station near Temecula.

During 2003-04, Rancho California WD also released 4 acre feet into Temecula Creek from wells, and 51 acre feet into Murrieta Creek from wells. There were no releases from the System River Meter.

3.2 Surface Water Diversions

Surface diversions to surface water storage and groundwater storage during 2002-03 and 2003-04 are shown in Table 3.3. In general, diversions to surface storage at Vail Lake and Lake O'Neill are computed as being equal to inflow less spill, however, diversion to surface storage at Vail Lake excludes inflow during the period from May 1 through October 31 when Permit 7032 does not allow such diversions. Inflow to Vail is calculated as the sum of evaporation, spill, releases and change of storage. Inflow into Vail Lake during the period when diversions are not permitted is released and not credited to groundwater storage.

Direct surface diversions for 2003-04 are shown in Table 3.4. The use is primarily irrigation although the diversions on the Pechanga Indian Reservation are into the domestic water system. Estimated consumptive uses, losses and returns are also shown.

TABLE 3.3

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE
2003-04
Quantities in Acre Feet

Surface Water Storage

	Vail Lake		Lake O'Neill	
	2002-03	2003-04	2002-03	2003-04
Storage end of prior year	18,130	17,981	135	830
Inflow - Total	3,057	949	2,937 [1]	1,959 [2]
Inflow to be Bypassed	658	154	0	0
Spill	0	0	1,146	0
Diversions to Surface Storage	2,399 [3]	795 [3]	1,791 [4]	1,959 [4]
Annual Evaporation	3,206	3,019	353	414
Releases - Total	0	0	0	687
Release to GW Storage	0 [5]	0 [5]	0	686
Apparent Seepage to GW	0	0	743 [6]	866 [6]
Change of Storage	(149)	(2,070)	695	(8)
Storage End of Year	17,981	15,911	830	822
Groundwater Storage				
Recharge Release from Storage Facility	0	0	0	0
Direct Recharge	0	0	11,250	5,343 [7]

1 1,225 AF diverted from the Santa Margarita River and 1,712 AF estimated inflow from Fallbrook Creek
2 1,555 diverted from the Santa Margarita River and 404 estimated inflow from Fallbrook Creek
3 Inflow less Spill less Inflow (Oct 1 to Oct 31 and May 1 to Sept 30)
4 Inflow less Spill
5 Total Release less Inflow to be bypassed
6 Includes seepage losses, leakage through flashboards and unaccounted for water
7 Includes 4,881 AF of direct recharge and 462 AF of indirect recharge

TABLE 3.4

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO USE
2003-2004
Quantities in Acre Feet

	Surface Diversions	Consumptive Use[1]	Losses[2]	Returns[3]
Blue Bird Ranch	31	21	3	7
James Carter	52	35	5	12
Chambers	5	3.5	0.5	1
Cal June, Inc.	132	89	13	30
Papac	38	25	4	9
Sage Ranch Nursery	100	68	10	22
Daily Family Trust	7	5	1	1
Pechanga Tribe	4	3	0.4	0.6
San Diego State University Foundation	60	41	6	13
TOTAL	429	290	43	96

1 Consumptive use equals 75% of Diversions less Losses
2 Losses equal 10% of Diversions
3 Returns equal 25% of Diversions less Losses

3.3 Water Storage

Major water storage facilities in the Santa Margarita River Watershed are listed on Table 3.5, together with the water in storage on September 30, 2003, and September 30, 2004. Total Santa Margarita River stream system water in storage at the end of Water Year 2003-04 totaled 16,733 acre feet, compared to 18,811 acre feet at the end of the previous year. Imported water in storage in Lake Skinner and Diamond Valley Lake, both operated by Metropolitan Water District of Southern California (MWD), is also shown on Table 3.5.

TABLE 3.5

SANTA MARGARITA RIVER WATERSHED
WATER IN STORAGE
2003-04
Quantities in Acre Feet

Santa Margarita River Storage	Total Capacity	Water in Storage 9/30/2003	Water in Storage 9/30/2004
Dunn Ranch Dam	90	0	0
Upper Chihuahua Creek Reservoir	± 47	0	0
Vail Lake	49,370	17,981	15,911
Lake O'Neill	1,200	830	822
Subtotal	**50,707**	**18,811**	**16,733**
Imported Water Storage			
Lake Skinner	44,000	36,224	39,217
Diamond Valley Lake	800,000	655,209	521,653
Subtotal	**844,000**	**691,433**	**560,870**
TOTAL STORAGE	**894,707**	**710,244**	**577,603**

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SECTION 4 - SUBSURFACE WATER AVAILABILITY

4.1 General

Much of the water from the Santa Margarita River stream system is obtained by pumping subsurface water. The Court has identified two basic types of subsurface water in its interlocutory judgments. One type is vagrant, local, percolating waters that do not add to, support or contribute to the Santa Margarita River or its tributaries. Such waters have been determined to be outside the continuing jurisdiction of the Court. These waters are typically found in the basement complex and/or residuum deposits in the Watershed. Wells tapping these deposits typically have low yields.

Other subsurface waters were found by the Court to add to, contribute to and support the Santa Margarita River and/or its tributaries. Aquifers containing such waters have been designated by the Court as younger alluvium and older alluvium. Younger alluvial deposits are commonly exposed along streams and in valleys. Older alluvium may be found underneath younger alluvium and is not limited to areas along stream channels. Older alluvium may or may not be exposed at ground surface. The use of subsurface water found in younger and older alluvium is generally under the continuing jurisdiction of the Court and is reported upon in this report.

4.2 Extractions

Production of Santa Margarita River water by substantial water users in the Watershed from all sources is listed on Table 4.1 by hydrologic area along with estimated consumptive use and return flows. Recovery of imported water that has been directly recharged is not included in Table 4.1. Substantial water users include water purveyors as well as private irrigators who irrigate eight acres or more or use an equivalent quantity of water.

In 2003-04, production by purveyors totaled 35,648 acre feet, compared to 34,780 acre feet in 2002-03. Monthly quantities are shown in Appendix A and annual production for water years between 1966 and 2004 is shown in Appendix B.

The quantities of subsurface extractions by private irrigators are based on the irrigated acreage and the crop type. These quantities are reported in Appendix C to total 6,050 acre feet in 2003-04. Of the subsurface extractions, 75 percent is estimated to have been consumptively used and 25 percent to have been return flow. Return flow is that portion of the total deliveries that is not consumed. Although return flows average about 25 percent, such flows are affected with the type of use (domestic, commercial and irrigation), the type of irrigation application (drip, micro-sprinkler, furrow), and exports from watersheds.

TABLE 4.1

SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATER PRODUCTION BY SUBSTANTIAL USERS

2003-04

HYDROLOGIC AREA	WATER PURVEYOR PRODUCTION ACRE FEET	OTHER IRRIGATED ACRES	OTHER IRRIGATION PRODUCTION ACRE FEET	TOTAL GROUNDWATER PRODUCTION ACRE FEET	SURFACE WATER DIVERSIONS ACRE FEET	TOTAL PRODUCTION ACRE FEET	ESTIMATED CONSUMPTIVE USE ACRE FEET 1/	ESTIMATED RETURN FLOW ACRE FEET
Wilson Creek	433	606 2/	2,125	2,558	0	2,558	1,919	640
Above Aguanga GWA *(Lake Riverside,* Includes Anza Valley *(Anza MWC, Cahuilla)*								
Temecula Creek	11	185	740	751	38	789	589	200
Above Aguanga GWA *(Butterfield Oaks MHP)*								
Aguanga GWA	292	322	1,137	1,429	0	1,429	1,072	357
(Outdoor Resorts) *(Jojoba Hills)*								
Upper Murrieta Creek (Warm Springs Creek above 7S/3W-14)	0	0	0	0	0	0	0	0
Lower Murrieta Creek (Santa Gertrudis/Tucalota Creek above 7S/2W-18)	0	410	38	38	100	138	96	42
Murrieta-Temecula GWA	28,147	841	1,377	29,524	56	29,580	22,181	7,399
(RCWD, MCWD, EMWD, Pechanga and Hawthorn)								
Santa Margarita River Below the Gorge								
Deluz Creek	0	243	613	613	43	656	489	167
Sandia Creek	0	65	0	0	132	132	89	43
Rainbow Creek	0	0	0	0	0	0	0	0
Santa Margarita River	6,765	20	20	6,785	60	6,845	1,555	3,115
(USMC)								
TOTAL	**35,648**	**2,692**	**6,050**	**41,698**	**429** 3/	**42,127**	**27,989**	**11,963**

1/ Estimated consumptive use is equal to 75% of groundwater production plus 75% of surface diversions less 10% except for Camp Pendleton where net export of 2,175 acre feet is excluded and return flows include measured wastewater returns

2/ Includes lands overlying deep aquifer in Anza Valley

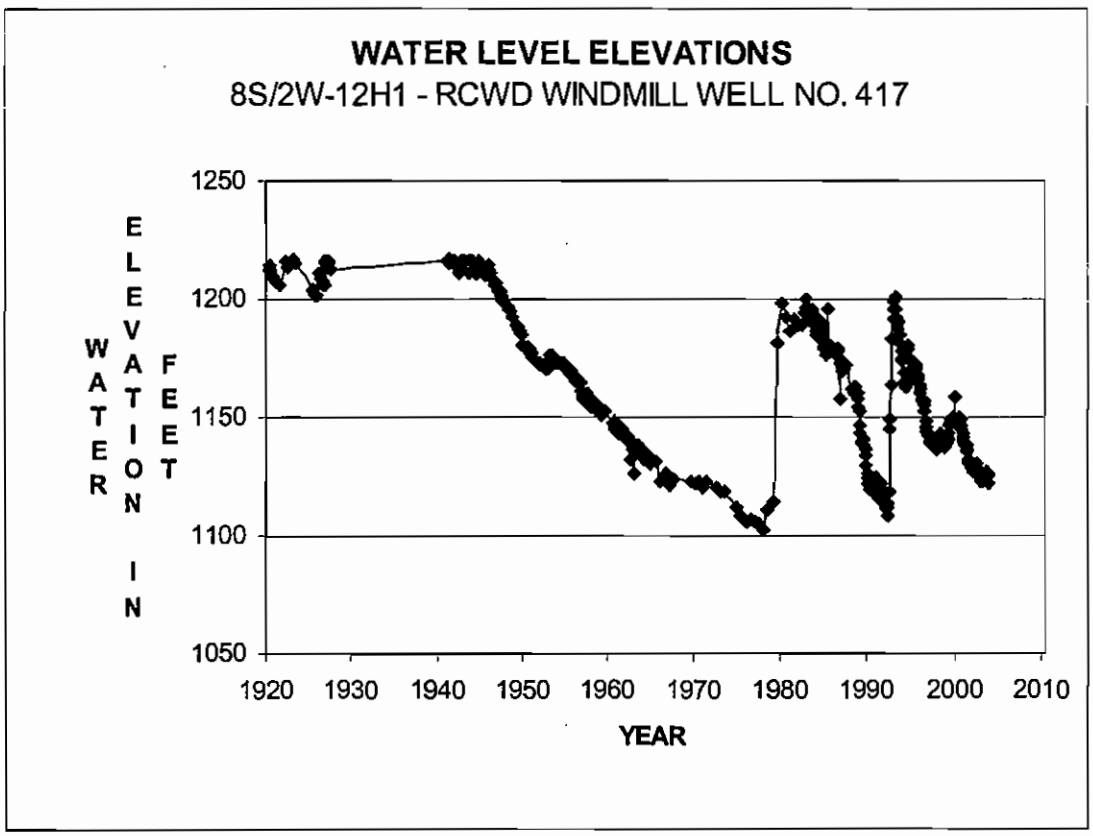
3/ Includes surface diversion for irrigation, commercial and domestic use.

Total production of Santa Margarita River water, surface diversions and groundwater production by water purveyors and private irrigators is listed on Table 4.1.

4.3 Water Levels

Water levels in selected wells in the Watershed are measured periodically by various entities. Historical water levels in five wells at various locations in the Watershed are shown in this report on Figures 4.1, 4.2, 4.3, 4.4 and 4.5. Following the recent series of dry years water levels in many wells are in the lower portion of the historical range. Figure 4.1 shows water levels in Well No. 8S/2W-12H1 (Windmill Well) located in the Rancho California WD service area downstream from Vail Lake. Note the extended drawdown from 1945 to 1978, the major recoveries during the wet years in 1980 and 1993, and the effect of relatively dry years after 1980 and after 1993. Water levels declined 1.3 feet in 2003-04. It should be noted that the Windmill Well is located in Pauba Valley about 1.5 miles downslope from the Valle de los Caballos (VDC) recharge area, where releases from Vail Lake as well as imported water are recharged. In water year 2003-04, 16,088 acre feet of imported water were recharged in the VDC of which 68 percent was recovered in the same year.

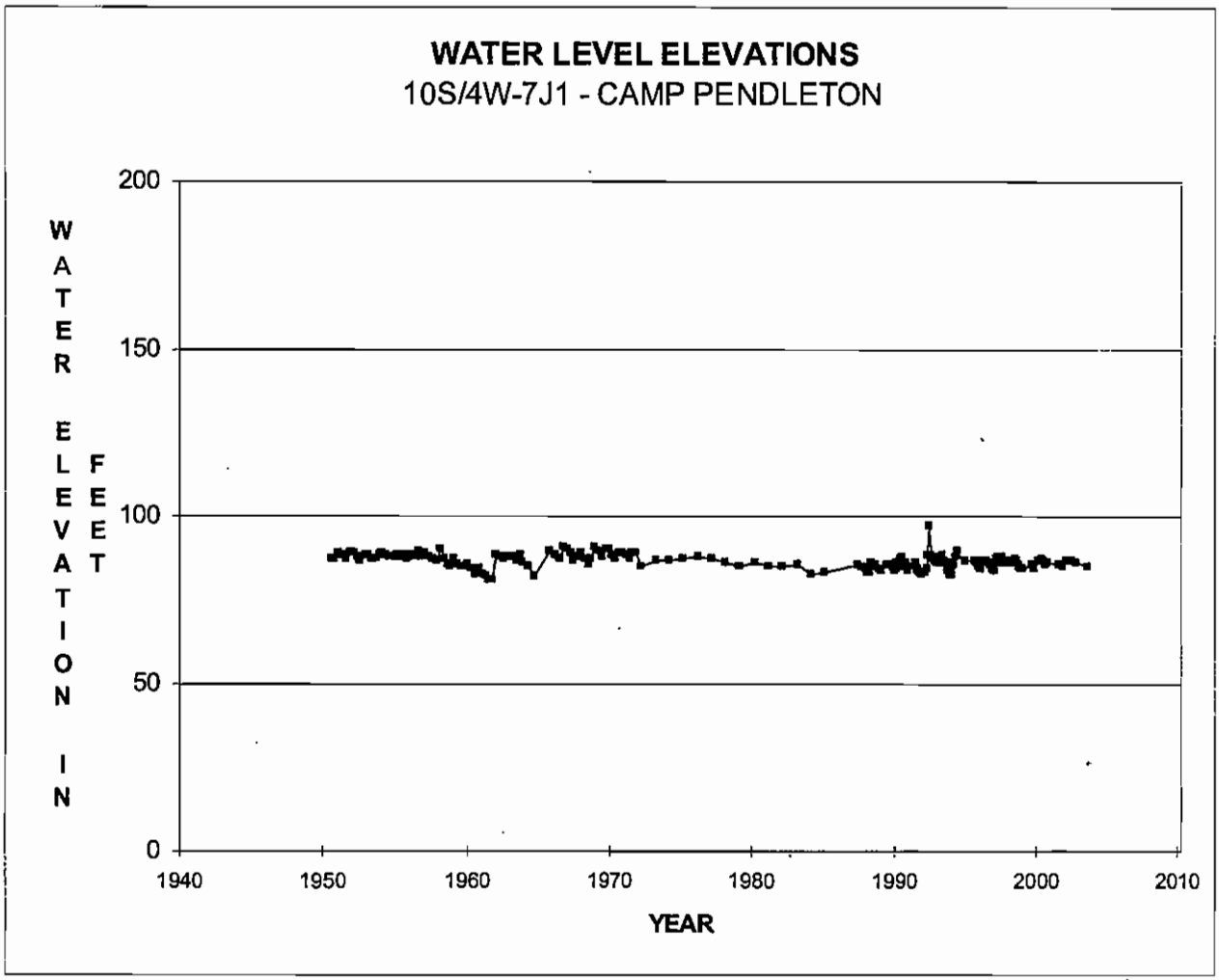
FIGURE 4.1



Collar El. 1216.7 Feet; Depth 515 Feet; Drilled in Alluvium
Ref: RCWD reports (1920-2004)

Figure 4.2 shows water levels at Camp Pendleton in Well No. 10S/4W-7J1, a monitoring well located in the Upper Sub-basin. Fluctuations in recent years illustrate recharge during the winter months and drawdown each summer, with the water levels generally between 82 and 90 feet in elevation. Water levels in Well 7J1 declined 1.4 feet between the fall of 2003 and the fall of 2004.

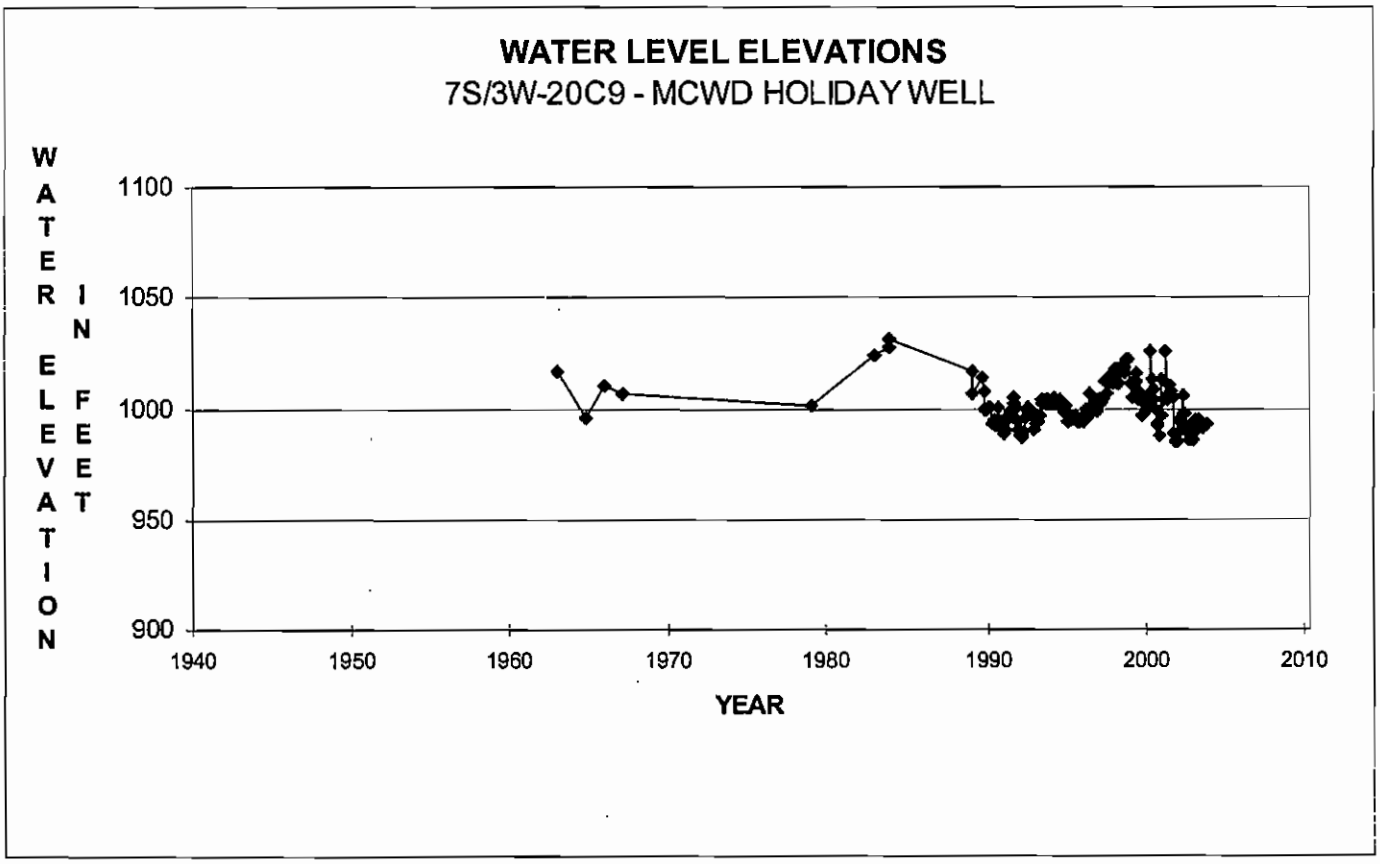
FIGURE 4.2



Ground El. 93 Feet; Depth 138.8 Feet; Perf. Unknown; Drilled in Alluvium
Camp Pendleton Records (1950-72) (1988-2004); Leeds Hill Study (1973-85) Dates Estimated

Figure 4.3 shows water levels from production Well No. 7S/3W-20C9 (Holiday Well) in the Murrieta County Water District service area. Water levels in this well remained at the same level since the fall of 2003. Water levels in the Lynch Well, 7S/3W-17R2, which serves as a monitoring well and had no production in 2003-04, also remained at the same level.

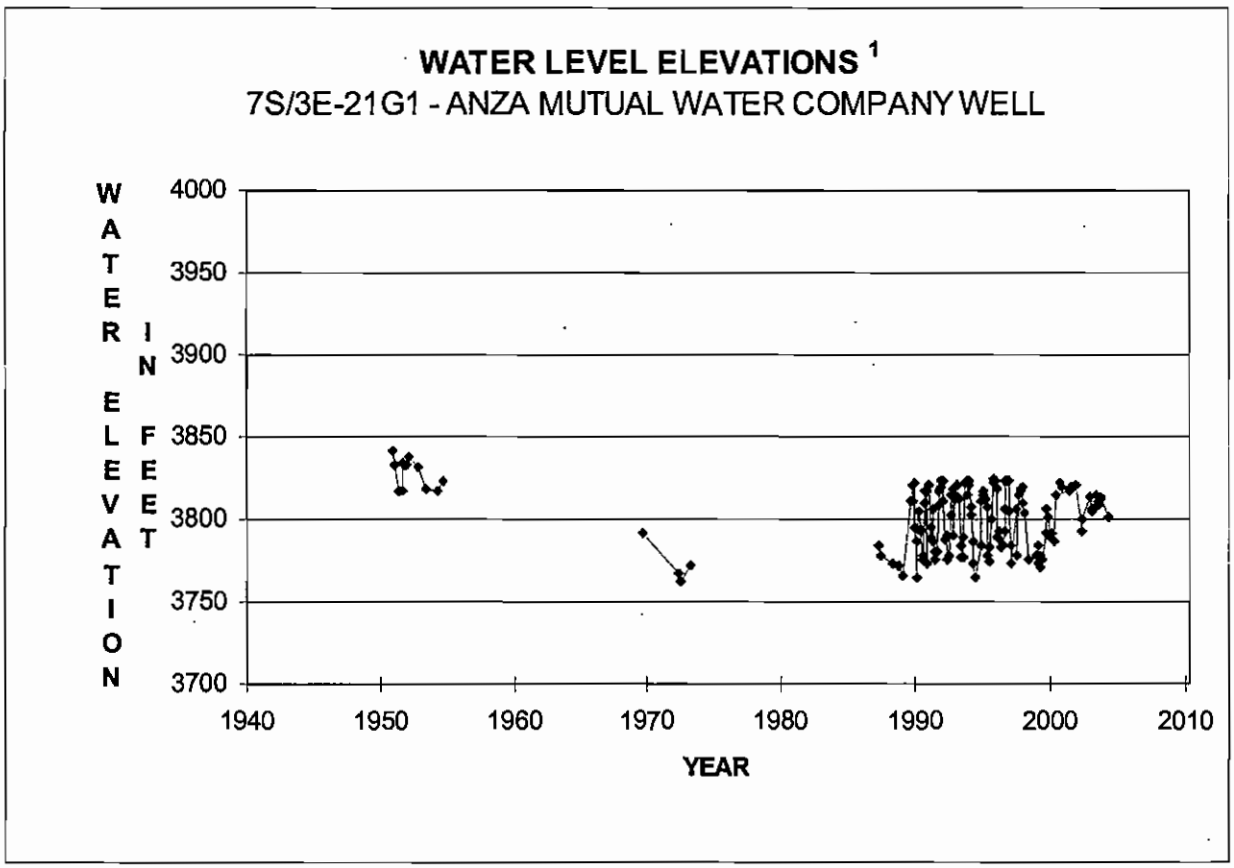
FIGURE 4.3



Ground El. 1090 Feet; Depth 307 Feet; Perf. 60 - 307 Feet
Murrieta County Water District Records

Figure 4.4 shows water levels for Well No. 7S/3E-21G1, Anza Mutual Water Company's Well No. 1, a production well located in the Anza Valley. Water levels in this well declined 13 feet this year. As may be noted from Figure 4.4, recent measurements show annual 50 foot fluctuations in groundwater levels at this well, partly in response to the operation of nearby irrigation wells. Current levels are within the historical range.

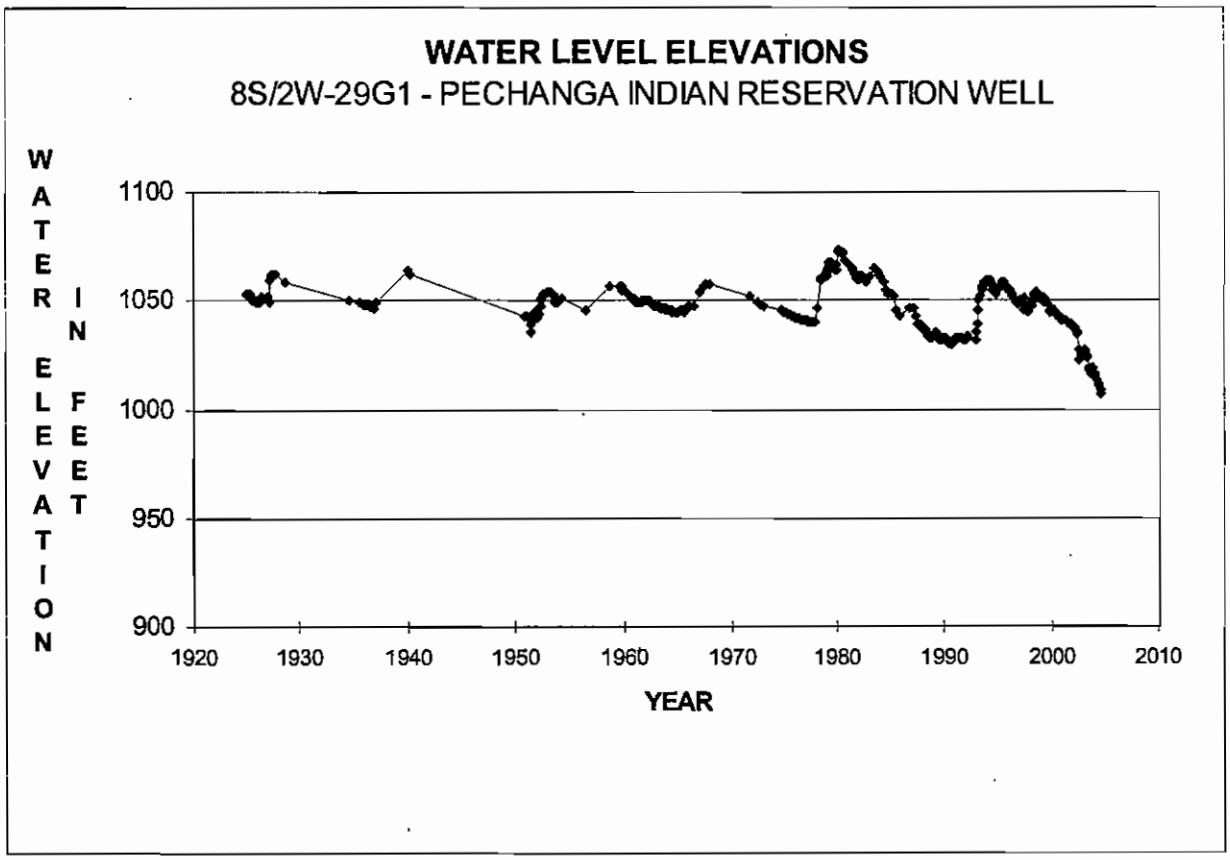
FIGURE 4.4



[1] Static water levels plotted after April 1999
Ground El. 3862.6 Feet; Depth 260 Feet; Perf. 20 - 260 Feet; Drilled in Alluvium
Anza Mutual Water Co. Well No. 1 (1987-2004); DWR Bulletin 91-22 (1950-73)

Figure 4.5 shows water levels at Well No. 8S/2W-29G1, located in Wolf Valley on the Kelsey Tract of the Pechanga Indian Reservation. The well is not used for water production and its depth as measured in 1972 was 159 feet. Water levels collected since 1925 reflect unconfined groundwater levels. As shown on Figure 4.5 the groundwater levels have fluctuated within a 44 foot range above and below elevation 1050 feet in response to wet years and dry periods until recently. In the past few dry years, levels have declined below their usual range. Water levels in this well fell 11.9 feet in 2003-04.

FIGURE 4.5



Ground El. 1091.1 Feet; Depth 159.1 Feet
U.S. Geological Survey Records

Changes in water levels in the above noted wells between the end of the previous water year and the end of the 2004 water year are shown below:

Well	Water Elevation 2003 Feet	Water Elevation 2004 Feet	Change in Water Level Feet
RCWD 8S/2W-12H1	1123.5	1122.2	Down 1.3
USMC 10S/4W-7J1	86.4	85.0	Down 1.4
MCWD 7S/3W-20C9	993.0	993.0	No Change
Anza MWC 7S/3E-21G1	3814.1	3801.1	Down 13.0
Pechanga IR 8S/2W-29G1	1018.8	1006.9	Down 11.9

4.4. Groundwater Storage

Bulletin 118 Update 2003 prepared by the State of California Department of Water Resources describes three groundwater basins in the Santa Margarita River Watershed: Santa Margarita Valley, Temecula Valley, and Coahuila Valley. These basins are also known as the Santa Margarita Groundwater Basin, the Murrieta-Temecula Groundwater Basin, and the Anza Groundwater Basin. Groundwater storage in each of these basins is described in this section.

Santa Margarita Groundwater Basin – The Santa Margarita Groundwater Basin is located along the Santa Margarita River at Camp Pendleton and includes three sub-basins: Upper, Chappo, and Ysidora. Useable groundwater storage is summarized in Table 4.2. Table 4.2 shows that the total combined storage for all the sub-basins between the depths of 5 and 100 feet is 48,100 acre feet. However, much of that storage is below sea level. Thus, the useable capacity is considered to be 28,700 AF as shown in Table 4.2. In 2002-03 useable groundwater storage in place was computed for all three sub-basins to be 27,641 acre feet. However in 2003-04, no water level measurements were made for well 11D4 so no storage can be computed for that sub-basin for 2003-04. The useable storage in place for the Upper and Chappo sub-basins amounted to 26,204 acre feet in 2003-04. The corresponding useable storage in place for the two sub-basins in the prior year was 26,555 acre feet. Thus there was a decrease in groundwater storage in place of 351 acre feet for the water year. It may be noted that classification of storage as useable is made without allowances for maintenance of riparian habitat.

TABLE 4.2

SANTA MARGARITA RIVER WATERSHED
GROUNDWATER STORAGE AT CAMP PENDLETON
2003-04
Quantities in Acre Feet

	Sub-basin			
I. Available Storage	Upper	Chappo	Ysidora	Total
A. Total Storage [1] AF	12,500	27,000	8,600	48,100
B. Useable Storage AF	12,500	15,000 [2]	1,200 [3]	28,700
II. Unused Storage				
A. Wells used for Depth	10S/4W-7J1	10S/4W-18L1	11S/5W-11D4	
B. Depth to Water - Feet	8.0	7.3	No Record	
C. Depth below 5 Feet	3.0	2.3	---	-----
D. Average Area - Acres	838	2,520	----	----
E. Unused Storage below 5 Feet	543	753	----	-----
III. Useable Storage in Place – AF [4]	11,957	14,247	----	26,204 [5]
IV. Useable Storage in Place 2002-03	12,210	14,345	1,086	27,641
V. Change in Storage 2003-04	(253)	(98)	---	-----

[1] Computed by U.S.G.S. as the storage between depths of 5 and 100 feet.
[2] Storage between 5 foot depth and sea level.
[3] Storage between 5 foot depth and 10 feet above sea level.
[4] Does not include stored water reserved for riparian habitat.
[5] Includes storage in Upper and Chappo sub-basins only.

Note: Groundwater depths measured at the end of June 2004
Water level in Well 11 D4 not reported in 2004

Murrieta-Temecula Groundwater Basin – The Murrieta-Temecula Groundwater Basin is located along Murrieta and Temecula Creeks in the Upper Santa Margarita River Watershed. Total groundwater storage at the end of water year 2001 was computed for each of 22 hydrologic subareas that make up the Groundwater Basin. These computations were based on the areal extent of each subarea, the thickness of each of three aquifers, (younger alluvium, Pauba aquifer and Temecula aquifer), a specific yield for each aquifer, and the depth to water in each aquifer at the end of the water year. Specific yields were based on unconfined conditions for all aquifers. The total groundwater storage in the uppermost 500 feet as of September 30, 2001, was estimated at 1,340,556 acre feet.

Annual changes in groundwater storage have been computed for the years since 2001 using two methodologies – a water budget method and a groundwater level method. The water budget method determines the change in storage as the difference between the major elements of inflow and outflow to the groundwater area. Table 4.3 shows the changes for water years 2002, 2003 and 2004 to be minus 7,696 acre feet, minus 4,595 acre feet and minus 7,197acre feet respectively.

The groundwater level method is based on the changes in water levels in key wells in the hydrologic sub-areas as shown on Table 4.4. Unfortunately water levels were not available in 2004 for key wells in Subareas 5, 13, 16 and 17. Well 402, the key well in sub-area 5, has not been measured in many years, thus sub-area 5 has been excluded from the computation in recent years. Apparently, roots prevented measurement of water levels in Well 414, the key well in sub-area 13. Sub-areas 16 and 17 overlie the Temecula aquifer that has a storativity of 0.0036 so water level changes in those subareas produce relatively minor storage changes compared to a similar change in the younger alluvium or Pauba aquifers. Changes in storage under the groundwater level method are shown to be minus 4,824 acre feet, minus 7,778 acre feet, and minus 2,287 acre feet for water years 2002, 2003 and 2004 respectively. It might also be noted that changes in water levels in only one well caused most of the total change in 2002 and 2003 and that no single well had a major change in 2004.

The foregoing two methods are based on independent measurements and estimates, although the resulting approximations of the change of storage are generally comparable. However it will take testing over a number of years under varying hydrologic conditions to refine these approaches. At present it may be concluded that the general order of magnitude of the annual change in storage in water years 2002, 2003, and 2004 may be in the approximate range of minus 4,000 to minus 8,000 acre feet per year.

These values will be compared with those computed with the groundwater model when the model is updated.

TABLE 4.3

SANTA MARGARITA RIVER WATERSHED
CHANGES IN GROUNDWATER STORAGE
MURRIETA-TEMECULA GROUNDWATER AREA
Water Budget Method
Quantities in Acre Feet

Elements of Inflow	Water Year Ending 2002	2003	2004
Releases from Vail [1]	-314	-658	-101
Releases from Lake Skinner [2]	146	67	153
Freshwater Releases to Stream [3]	715	4,896	3,146
Reclaimed Water Released to Stream [4]	2,180	104	0
Recharged Imported Water [5]	16,265	15,694	16,088
Return Flow from RCWD Groundwater Production [6]	9,132	8,782	8,360
Return Flow from Import Direct Use [7]	3,607	3,745	5,149
Return Flow from Applied Wastewater [8]	2,153	1,684	1,490
Underflow and Tributary Inflow [9]	4,932	24,874	5,727
Subtotal	38,816	59,188	40,012
Elements of Outflow			
Riparian Evapotranspiration and Underflow [10]	508	508	508
Total RCWD Groundwater Production [11]	39,706	38,184	36,347
Net Pumping by Others [12]	2,948	3,160	3,139
Surface Outflow [13]	3,350	21,931	7,215
Subtotal	46,512	63,783	47,209
Change in Groundwater Storage	(7,696)	(4,595)	(7,197)

1 - Table A-7, Vail Release and Recharge
2 - Section 5.4
3 - Table A-7, SMR Release
4 - Table A-7, Reclaimed Wastewater, Murrieta Creek Discharge (ceased October 18, 2002)
5 - Table A-7, Footnote 2
6 - Table 7.8, Total Production times 0.23
7 - Rancho Division Imports, Section 7.2 RCWD, Imported Return Flows, times 0.23
8 - Reclaimed Wastewater Table A-7, Reuse in SMRW plus Table A-1, Reuse in SMRW, times 0.23
9 - Murrieta Creek Flow times 1.6697 which is based on a correlation between Murrieta Creek flow and Tributary Inflow, Areal Recharge and Subsurface Inflow for the period 1977-1998 as shown in Table II-10, Vol. II, Geology and Hydrology, Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin, California, dated January 31, 2003.
10 - Table II-10, Vol. II, Geology and Hydrology, Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin, California, dated January 31, 2003.
11 - Table 7.8 Total Production
12 - The sum of Groundwater Production from Table A-5, A-1, Appendix C Murrieta-Temecula Groundwater Area, times .77
13 - Table 3.2 Santa Margarita near Temecula

TABLE 4.4

SANTA MARGARITA RIVER WATERSHED
CHANGES IN USEABLE GROUNDWATER STORAGE
MURRIETA-TEMECULA GROUNDWATER AREA
Groundwater Level Method

Sub-area	Key Aquifer	Specific Yield/ Storativity	Key Well	Aquifer Area Acres	Water Depth at End of Water Year Feet 2001	2002	2003	2004	Change in Depth Feet 2001 - 2002	2002 - 2003	2003 - 2004	Change in Storage in Water Year Acre Feet 2002	2003	2004
1	Temecula	0.0036	301	1371	141.36	131.68	182.82	128.08	9.68	(51.14)	54.74	48	(252)	270
2	Pauba	0.0398	439	479	36.12	40.97	35.92	37.98	(4.85)	5.05	(2.06)	(92)	96	(39)
3	Pauba	0.0309	146	802	29.02	33.95	28.51	31.92	(4.93)	5.44	(3.41)	(122)	135	(85)
4	Pauba	0.0350	401	694	40.61	77.35	97.21	80.03	(36.74)	(19.86)	17.18	(892)	(482)	417
5	Pauba	0.0319	402 [1]	1322	---	---	---	---	---	---	---	---	---	---
6	Pauba	0.0698	495	1562	65.47	73.07	77.00	86.60	(7.60)	(3.93)	(9.60)	(829)	(428)	(1,047)
7	Pauba	0.0012	211 [4]	719	163.98	166.12	145.89	144.38	(2.14)	20.23	1.51	(2)	17	1
8	Qyal	0.20	492	339	30.60	30.48	28.32	30.27	0.12	2.16	(1.95)	8	146	(132)
	Pauba	0.0891	492	496	30.60	30.48	28.32	30.27	0.12	2.16	(1.95)	5	95	(86)
9	Temecula	0.0036	410	2066	307.75	286.85	289.46	282.57	20.90	(2.61)	6.89	155	(19)	51
10	Qyal	0.20	426	1438	42.42	44.95	41.46	41.45	(2.53)	3.49	0.01	(728)	1,004	3
	Pauba	0.0746	426	1165	42.42	44.95	41.46	41.45	(2.53)	3.49	0.01	(220)	303	1
11	Qyal	0.20	422	1405	57.74	53.55	57.86	59.01	4.19	(4.31)	(1.15)	1,177	(1,211)	(323)
	Pauba	0.0634	422	1413	57.74	53.55	57.86	59.01	4.19	(4.31)	(1.15)	375	(386)	(103)
12	Qyal	0.20	417	1769	77.00	89.33	93.17	94.52	(12.33)	(3.84)	(1.35)	(4,362)	(1,359)	(478)
	Pauba	0.0422	417	752	77.00	89.33	93.17	94.52	(12.33)	(3.84)	(1.35)	(391)	(122)	(43)
13	Qyal	0.20	414 [2]	898	62.07	60.71	58.60	---	1.36	2.11	---	244	379	---
	Pauba	0.0198	414 [2]	398	62.07	60.71	58.60	---	1.36	2.11	---	11	17	---
14	Temecula	0.0036	462	2084	390.62	400.18	423.76	430.42	(9.56)	(23.58)	(6.66)	(72)	(177)	(50)
15	Temecula	0.0036	464	1347	313.31	314.88	315.33	317.75	(1.57)	(0.45)	(2.42)	(8)	(2)	(12)
16	Temecula	0.0036	209	1967	---	---	---	---	---	---	---	---	---	---
17	Temecula	0.0036	139 [3]	2008	451.31	451.40	---	---	(0.09)	---	---	(1)	---	---
18	Pauba	0.0967	129 [4]	1546	198.02	197.33	199.00	200.39	0.69	(1.67)	(1.39)	103	(250)	(208)
19	Temecula	0.0036	466	1562	309.75	277.24	321.37	322.61	32.51	(44.13)	(1.24)	183	(248)	(7)
20	Pauba	0.0738	493	3231	258.24	254.00	275.35	275.21	4.24	(21.35)	0.14	1,011	(5,091)	33
21	Pauba	0.1392	463	2303	55.37	56.70	56.42	57.83	(1.33)	0.28	(1.41)	(426)	90	(452)
MCWD	Pauba	0.0325	Lynch	1008	44.00	44.00	45.00	45.00	0.00	(1.00)	0.00	0	(33)	0
TOTAL												(4,824)	(7,778)	(2,287)

1 - Well 402 not measured -sub-area excluded
2 - For 2002 used reading on June 30, 2002; for 2003 used January 2003; excluded for 2004
3 - For 1999 used reading of September 1999; for 2002 used reading on April 7, 2002; sub area excluded in 2003 and 2004
4 - For 2003 used reading of July 27, 2003; for 2004 used reading on August 29, 2004

Anza Groundwater Basin – The Anza Groundwater Basin is located along Cahuilla Creek in the upper portion of the Santa Margarita River Watershed.

The most recent study that determined storage volumes was conducted by Riverside County in 1990. That study concluded that the groundwater storage of about 182,200 acre feet in 1950 had decreased to about 165,000 acre feet in 1986. The study also concluded that ". . . basin hydrogeologic features, production facilities conditions, and locations/depths of storage . . ." limited the useable portion to 40% of the groundwater storage or about 56,200 acre feet in 1986.

Shortly after the end of the 2003-04 water year a series of water level measurements were made by the U.S.G.S. in Anza Valley under contract with the Bureau of Indian Affairs. It is understood that another round of measurements will be made in 2005, followed by comparison of these recent water levels with previous measurements

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SECTION 5 - IMPORTS/EXPORTS

5.1 General

Court Orders require the Watermaster to determine the quantities of imported water used in the Watershed. Most of the water imported into the Santa Margarita River Watershed is delivered by Metropolitan Water District of Southern California (MWD) to local districts. MWD obtains its water from the State Water Project (SWP) and the Colorado River. Both the SWP and the Colorado River system have major storage reservoirs to provide long-term carryover storage. The quantities of water in storage at the end of the water year in the major reservoirs in each system are indicated on Table 5.1. Total storage in the SWP for the last ten years is shown graphically on Figure 5.1. Similarly, total storage for the Colorado River Reservoirs for the last ten years is shown on Figure 5.2. It may be seen from Table 5.1 that during Water Year 2003-04 water in storage in the SWP decreased from 3.60 million acre feet on September 30, 2003 to 2.91 million acre feet on September 30, 2004. Storage on September 30, 2004 corresponds to about 55 percent of the total SWP storage capacity.

Water in storage in the Colorado River system declined 4.3 million acre feet from the prior year to 29.4 million acre feet on September 30, 2004. On September 30, 2004 those reservoirs contained 46 percent of their total combined capacity.

The State Department of Water Resources prepares projections of water availability in the SWP for the coming year (2005) on a monthly basis from February through May. The report dated May 1, 2005, indicates that statewide precipitation October 1 through April 30 was 135 percent of average. As of May 27, the SWP allocation for 2005 will meet about 90 percent of contractors' requests.

The following entities imported water directly or indirectly from MWD into the Santa Margarita River Watershed:

Eastern Municipal Water District
Elsinore Valley Municipal Water District
Fallbrook Public Utility District
Murrieta County Water District
Rainbow Municipal Water District
Rancho California Water District
U. S. Naval Weapons Station – Fallbrook Annex
Western Municipal Water District

TABLE 5.1

SANTA MARGARITA RIVER WATERSHED
STORAGE IN STATE WATER PROJECT AND COLORADO RIVER RESERVOIRS
Thousands of Acre Feet

STATE WATER PROJECT RESERVOIRS

Reservoir	Total Capacity	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Oroville	3,540	2,897	2,736	2,140	2,832	2,427	1,920	1,488	1,400	2,284	1,753
San Luis (State Share)	1,060	1,067	740	462	900	592	388	516	394	653	514
Pyramid	171	168	158	163	161	155	164	162	165	165	161
Castaic	324	297	284	237	306	288	285	287	310	314	298
Silverwood	73	54	40	73	71	72	70	72	72	70	72
Perris	132	126	126	105	124	125	110	122	115	114	116
Total	5,300	4,609	4,084	3,180	4,394	3,659	2,937	2,647	2,456	3,600	2,914
Percent of Capacity		87%	77%	60%	83%	69%	55%	50%	46%	68%	55%

MAJOR COLORADO RIVER RESERVOIRS

Reservoir	Total Capacity	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Flaming Gorge	3,789	3,488	3,364	3,599	3,580	3,425	3,010	2,982	2,675	2,635	2,679
Blue Mesa	941	782	686	761	624	740	560	597	275	387	507
Navajo	1,709	1,556	1,203	1,543	1,380	1,558	1,357	1,409	872	729	935
Powell	27,000	22,311	21,155	22,802	22,404	22,997	20,939	19,135	14,468	12,109	9,170
Mead	28,537	20,714	21,614	23,769	25,126	24,592	22,444	19,873	17,093	15,618	13,937
Mohave	1,818	1,635	1,578	1,674	1,729	1,515	1,523	1,610	1,577	1,643	1,605
Havasu	648	588	597	580	565	584	566	567	565	562	589
Total	64,442	51,074	50,197	54,728	55,408	55,411	50,399	46,173	37,525	33,683	29,422
Percent of Capacity		79%	78%	85%	86%	86%	78%	72%	58%	52%	46%

FIGURE 5.1

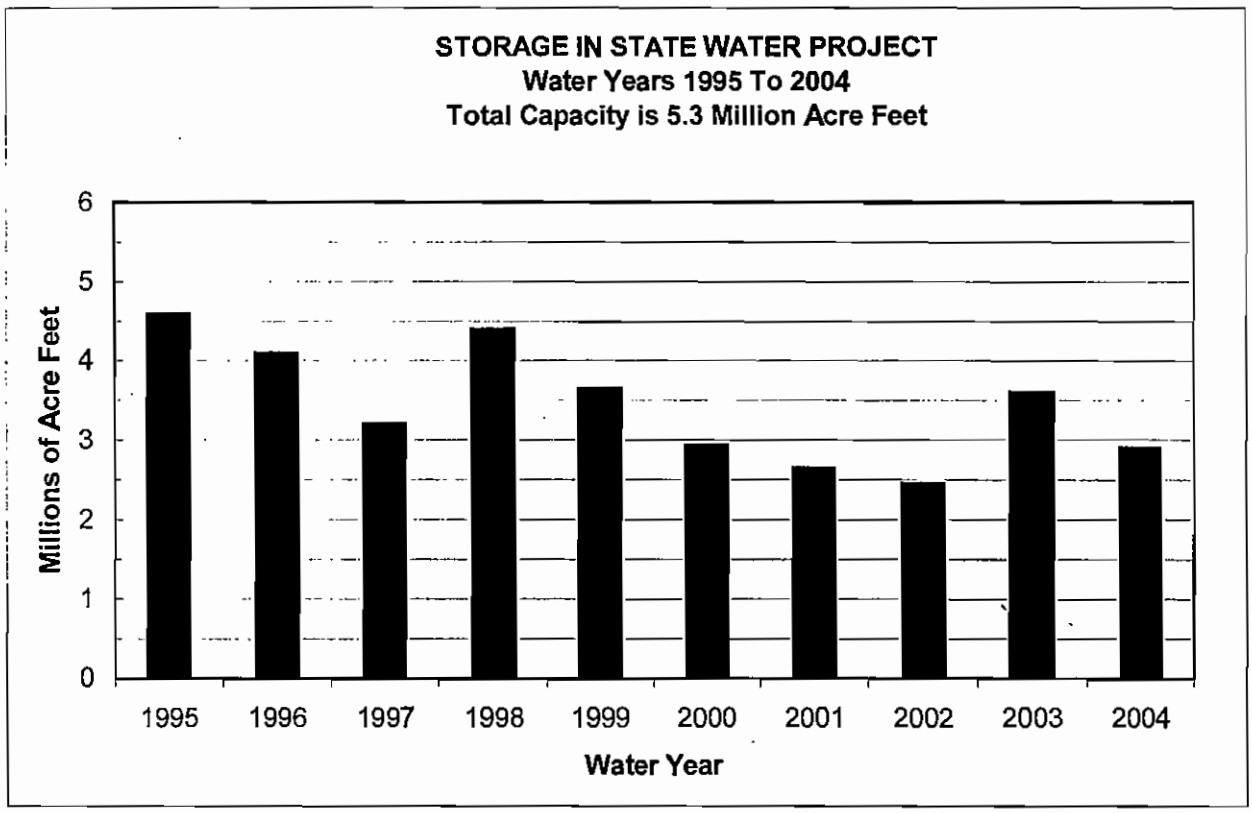
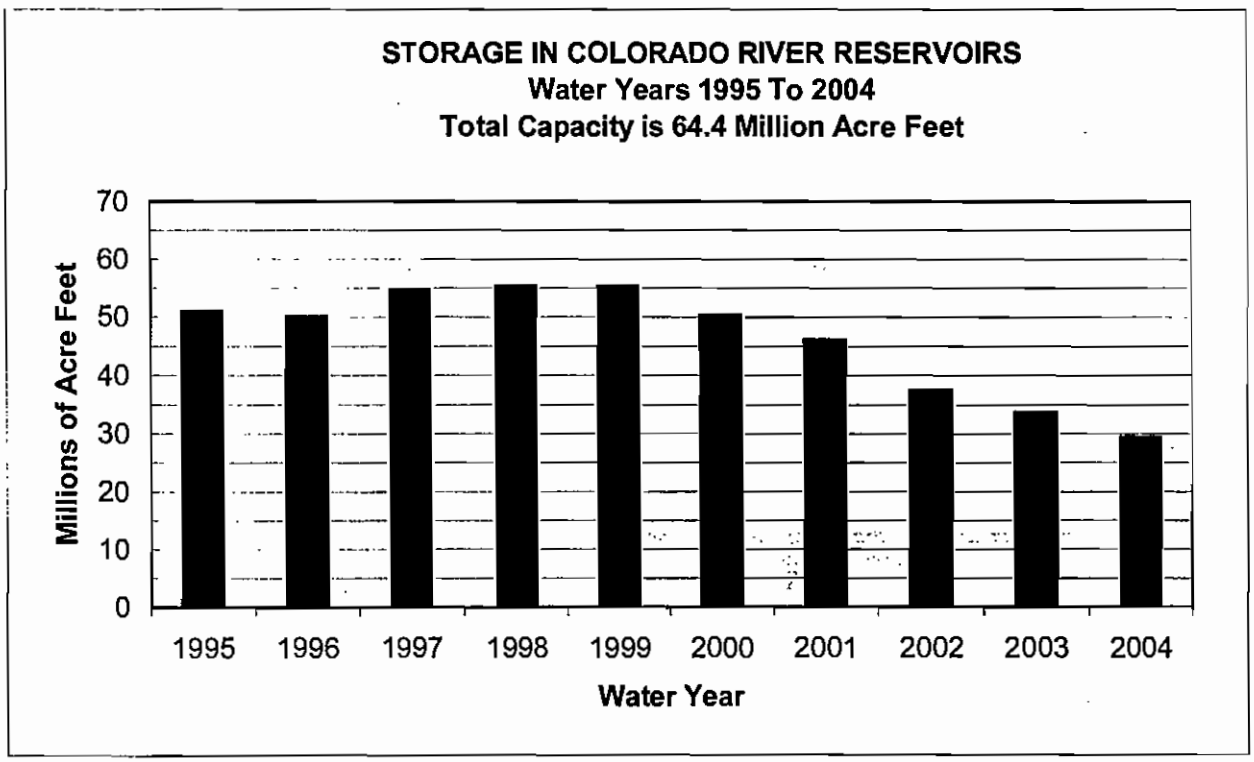


FIGURE 5.2



In addition to net deliveries through member agencies, MWD, pursuant to a Court Order, delivered 766 acre feet of water for irrigation of lands in Domenigoni Valley within the Santa Margarita Watershed during 2003-04.

Water is also imported into the Santa Margarita River Watershed from adjacent watersheds. Such importation occurs from the Santa Ana Watershed where Elsinore Valley MWD delivers water to a portion of its service area that is inside the Santa Margarita River Watershed. Elsinore Valley MWD obtains its supply from imports or from wells outside the Santa Margarita River Watershed.

At Camp Pendleton, there is a pipeline connection to wells located in the Las Flores Creek Watershed to the north of the Santa Margarita River Watershed. Water can be either imported or exported through that line, depending on relative water demands and pumping capacities.

Exportations from the Santa Margarita River Watershed include water pumped at Camp Pendleton that is used in the San Luis Rey River Watershed to the south or in the Las Flores Creek Watershed to the north. Some of the water exported at Camp Pendleton is returned to the Watershed as wastewater. Wastewater from the Fallbrook area and the Naval Weapons Station located on Camp Pendleton is exported by the Fallbrook Public Utility District and wastewater in the Elsinore Valley MWD is exported by that district. Rancho California WD exports water into the San Mateo Creek Watershed.

Eastern MWD uses a 24-inch pipeline along Winchester Road to transport wastewater from the Temecula Valley Regional Water Reclamation Facility to areas within the Watershed for reuse as well as for export of up to 10 MGD from the Watershed. A total of 9,115 acre feet of treated wastewater were exported by Eastern MWD in 2003-04.

The following paragraphs of this report describe imports and exports during Water Year 2003-04 and during the period 1966-2004. There is also discussion of MWD's Lake Skinner and Diamond Valley Lake operations.

5.2 Water Year 2003-04

During 2003-04 a total of 94,528 acre feet of water were imported and distributed in the Santa Margarita River Watershed. This compares with 78,200 acre feet in 2002-03 and represents a 20.88 percent increase. Water quantities imported into and exported from the Santa Margarita River Watershed for months during Water Year 2003-04 are listed on Table 5.2

TABLE 5.2

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

2003-04

Quantities in Acre Feet

	NET IMPORTS										EXPORTS								
											CAMP PENDLETON								
YEAR MONTH	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	MWD 1/	MURRIETA COUNTY WD	RAINBOW MWD	RANCHO CAL WD	U. S. NAVAL WS	WESTERN MWD 2/	TOTAL IMPORTS	EXPORTS	RECLAIMED WASTEWATER IMPORT RECHARGED	NET EXPORT	U.S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	TOTAL EXPORTS
2003																		
OCT	699	740	1,323	44	35	190	6,168	5	4	9,208	383	145	238	0.6	760	49	144	1,192
NOV	295	546	611	5	13	190	2,640	2	3	4,305	286	134	152	0.6	846	41	136	1,176
DEC	252	411	686	9	0	96	2,668	3	5	4,130	301	151	150	0.7	885	51	137	1,224
2004																		
JAN	478	446	624	9	0	101	4,333	2	3	5,996	246	155	91	0.7	880	35	138	1,145
FEB	206	377	420	0	0	87	2,310	2	2	3,404	203	154	49	0.8	732	43	131	956
MAR	862	436	667	39	0	52	4,118	3	4	6,181	243	119	124	0.8	1,017	52	143	1,337
APR	891	561	853	227	3	109	4,599	6	5	7,254	273	136	137	0.7	722	45	134	1,039
MAY	1,123	1,001	1,164	50	34	181	6,769	11	5	10,338	353	153	200	0.6	735	45	134	1,115
JUNE	1,063	848	1,203	85	82	217	5,787	12	4	9,301	371	162	209	0.7	699	61	129	1,099
JULY	1,495	943	1,361	130	85	193	8,270	9	6	12,492	396	136	260	0.6	642	53	135	1,091
AUG	578	1,202	1,437	99	66	245	7,301	9	5	10,942	390	138	252	0.7	567	63	133	1,016
SEPT	1,196	927	1,400	69	12	227	7,133	9	6	10,979	445	132	313	0.5	630	62	126	1,132
TOTAL	9,138	8,438	11,749	766	330	1,888	62,096	73	50	94,528	3,890	1,715	2,175	8	9,115	600	1,620	13,518

1/ Metropolitan Water District direct deliveries in Domenigoni Valley

2/ Improvement District A - Rainbow Canyon Only (WR-13)

The quality of the water supplies imported through the MWD system in 2003-04 is indicated by the average monthly total dissolved solids at the Skinner Treatment Plant effluent line as shown on Table 5.3. The table also shows the percent of imported water obtained from the SWP. Water imported by Elsinore Valley MWD has the same quality as the MWD system.

5.3 Water Years 1966-2004

Water quantities imported by districts into the Santa Margarita River Watershed during Water Years 1966-2004 are shown on Table 5.4. Total imports to these districts are measured; however some districts serve lands outside the Watershed. For these districts, which include Eastern MWD, Elsinore Valley MWD, Fallbrook PUD and Rainbow MWD, the portion delivered in the Santa Margarita River Watershed must be estimated.

Review of the historical trend of total imports shown on Table 5.4 indicates significant year-to-year variations with relatively low imports in wet years and higher imports in dry years, combined with an underlying growth rate to serve increasing municipal water demands in the Murrieta-Temecula area.

Exports over the 1966-2004 period are also shown on Table 5.4. These include estimated water exports on Camp Pendleton less estimated wastewater returns, as well as an estimate of exports by the Fallbrook Public Utility District and the Naval Weapons Station after 1983, and Elsinore Valley MWD after 1986. Exports by Eastern MWD were initiated in 1992-1993 and Rancho California WD began exporting water in 2002-03. Exports do not include water that naturally flows from the Santa Margarita River into the Pacific Ocean.

5.4 Lake Skinner

Lake Skinner is a 44,000 acre foot reservoir constructed by MWD on Tucalota Creek, within the Santa Margarita River Watershed. The purpose of Lake Skinner is to provide regulatory and emergency storage capacity for water imported to southern California. MWD does not have a water right to store or divert water in Lake Skinner. Accordingly, a Memorandum of Understanding and Agreement on Operation of Lake Skinner (MOU), dated November 12, 1974, approved by the Court on January 16, 1975, contains provisions to protect Santa Margarita River Watershed water users from potential effects of Lake Skinner on either subsurface or surface flows.

Protection against a decrease in subsurface flows caused by the dam is afforded by a provision in the MOU that requires that MWD release water from Lake Skinner into Tucalota Creek if groundwater levels in Well AV-28B fall below an elevation of 1356.64 feet. Between June and September MWD released a total of 153 acre feet to maintain well levels above the minimum. At the end of September 30, 2004, the well level was 1360.74 feet.

TABLE 5.3

SANTA MARGARITA RIVER WATERSHED
TOTAL DISSOLVED SOLIDS
CONCENTRATION OF IMPORTED WATER

YEAR MONTH	TOTAL DISSOLVED SOLIDS MG/L /1		PERCENT STATE PROJECT WATER	
	2002-03	2003-04	2002-03	2003-04
OCT	495	482	32	31
NOV	524	540	26	22
DEC	543	563	22	19
JAN	543	574	19	18
FEB	532	498	*	40
MAR	513	466	28	45
APR	489	473	32	41
MAY	436	480	44	38
JUNE	447	491	46	38
JULY	455	482	39	37
AUG	480	480	33	38
SEPT	475	466	32	38

1/ As measured in the Skinner Treatment Plant Effluent line.

* - Skinner Plant treated a blend of Lake Perris and Diamond Valley Lake waters

TABLE 5.4

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

Quantities in Acre Feet

	IMPORTS										EXPORTS							
											------CAMP PENDLETON-----							
YEAR	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 1/	MWD 2/	MURRIETA COUNTY WD	RAINBOW MWD	RANCHO CAL WD	U.S. NAVAL WS	WESTERN MWD 3/	TOTAL IMPORTS	EXPORTS	WASTEWATER RETURNS	NET EXPORT	U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	TOTAL EXPORTS
1966	1,604	N/R	3,351	0	0	1,308	0	0	24	6,287	3,251	974	2,277	0	0	0	0	2,277
1967	1,630	N/R	2,852	0	0	1,095	0	0	20	5,597	3,180	1,243	1,937	0	0	0	0	1,937
1968	1,464	N/R	3,423	0	0	1,377	0	0	27	6,291	3,368	1,214	2,154	0	0	0	0	2,154
1969	1,741	N/R	2,837	0	0	1,253	0	0 E	25	5,856	3,276	1,170	2,106	0	0	0	0	2,106
1970	1,417	N/R	3,538	0	0	1,689	0	0 E	31	6,675	3,809	1,113	2,696	0	0	0	0	2,696
1971	1,383	N/R	3,405	0	0	1,650	0	76 E	34	6,548	3,527	1,090	2,437	0	0	0	0	2,437
1972	1,470	N/R	3,916	0	0	2,037	0	115 E	34	7,572	3,543	1,168	2,375	0	0	0	0	2,375
1973	1,533	N/R	3,210	0	0	1,616	0	115 E	30	6,504	3,544	1,187	2,357	0	0	0	0	2,357
1974	1,601	N/R	3,967	0	0	2,049	0	115 E	36	7,768	3,532	1,140	2,392	0	0	0	0	2,392
1975	1,969	N/R	3,597	0	0	1,247	0	115 E	34	6,962	3,098	1,530	1,568	0	0	0	0	1,568
1976	2,493	N/R	4,627	0	0	2,239	119	115 E	35	9,628	3,619	1,497	2,122	0	0	0	0	2,122
1977	2,947	N/R	5,212	0	0	2,343	1,845	115 E	24	12,486	3,194	1,416	1,778	0	0	0	0	1,778
1978	2,551	569	5,202	0	0	2,188	5,774	115 E	26	16,425	3,071	1,283	1,788	0	0	0	0	1,788
1979	1,894	712	5,723	0	0	2,348	7,009	115 E	24	17,824	4,756	1,427	3,329	0	0	0	0	3,329
1980	1,192	696	6,404	0	0	2,489	10,126	115 E	25	21,047	3,651	1,405	2,246	0	0	0	0	2,246
1981	716	798	8,543	0	0	3,153	15,282	115 E	34	28,642	3,892	1,249	2,643	0	0	0	0	2,643
1982	1,112	678	7,079	0	0	2,460	13,378	115 E	34	24,856	3,761	1,273	2,488	0	0	0	0	2,488
1983	1,211	658	6,720	0	0	2,190	5,752	115 E	26	16,672	3,000	1,242	1,758	26 E	0	0	1,003	2,787
1984	699	816	8,506	0	0	3,068	6,716	115 E	26	19,946	3,243	1,120	2,123	26 E	0	0	1,032	3,181
1985	679	808	7,831	0	0	3,410	7,158	102	27	20,015	3,377	1,200	2,177	26 E	0	0	1,060	3,263
1986	760	882	8,585	0	0	2,945	11,174	94	34	24,474	3,326	981	2,345	16 P	0	0	1,096	3,457
1987	1,155	938	8,656	0	0	3,390	7,564	116	36	21,855	3,444	1,799	1,645	26	0	4	1,129	2,805
1988	2,047	1,032	8,033	0	0	2,985	17,854	120	36	32,108	3,457	1,872	1,585	26	0	55	1,154	2,820
1989	3,746	1,341	9,066	0	0	3,003	22,895	128	24	40,203	3,418	1,446	1,972	23	0	74	1,181	3,250
1990	5,601	2,255	10,103	0	0	3,818	22,030	145	22	43,974	2,971	1,451	1,520	27	0	114	1,271	2,932
1991	9,479	2,421	7,962	0	0	2,904	21,238	109	20	44,133	2,168	1,219	949	13	0	134	960	2,056
1992	8,593	2,190	7,893	0	0	2,277	16,931	99	25	38,008	2,426	1,548	878	7	0	140	1,083	2,108
1993	5,393	1,914	6,925	0	0	1,965	11,411	117	30	27,755	2,329	1,926	403	16	705	150	1,255	2,529
1994	7,150	3,221	7,250	0	0	1,651	16,386	73	37	35,768	2,702	1,501	1,201	5	3,159	170	1,068	5,603
1995	4,625	3,117	6,538	547	0	1,661	15,108	125	29	31,750	2,761	1,611	1,170	12	3,908	185	1,153	6,428
1996	4,960	4,181	7,993	1,005	0	1,815	23,600	100	35	43,689	3,577	1,493	2,084	5	2,993	213	1,035	6,330
1997	3,284	4,283	7,894	3,521	0	1,429	26,992	109	30	47,542	3,643	1,932	1,711	6	3,201	226	1,021	6,165
1998	5,117	5,100	6,382	5,023	0	1,601	19,584	97	31	42,935	3,742	2,073	1,669	8	4,513	247	1,482	7,919
1999	4,327	6,134	7,430	3,781	0	1,727	34,490	111	41	58,041	3,558	2,130	1,428	5	4,133	254	1,377	7,197
2000	7,256	7,172	9,365	712	0	2,217	55,409	104	42	82,277	4,072	2,115	1,957	7	3,649	279	1,634	7,526
2001	5,948	6,592	8,398	689	0	1,804	41,823	73	59	65,386	3,653	2,075	1,578	8	4,457	310	1,643	7,996
2002	8,117	7,596	9,580	595	0	1,676	54,148	97	64	81,873	3,701	1,950	1,751	9	5,325	412	1,495	8,992
2003	9,062	7,091	9,130	495	102	1,510	50,680	88	42	78,200	3,767	1,688	2,079	10	7,636	483	1,706	11,914
2004	9,138	8,438	11,749	766	330	1,888	62,096	73	50	94,528	3,890	1,715	2,175	8	9,115	600	1,620	13,518

1/ Includes DeLuz Heights MWD prior to 1991

2/ Metropolitan Water District direct deliveries in Domenigoni Valley

3/ Improvement District A - Rainbow Canyon Only (WR-13)

N/R - Not Reported

E - Estimate

P - Partial year data

The MOU also provides that all local surface inflow that enters Lake Skinner will be released into Tucalota Creek. In its 1980 modification the MOU provides that local surface inflow is to be determined by using the hydrologic equation for Lake Skinner that is specified in the MOU. That equation is used to determine inflow and the related release for large flood events. However, in many years the local inflow is small compared to the large quantities of imported water inflow and outflow at Lake Skinner. The error of measurement for these large inflows and outflows is larger than the local inflow in many instances. Accordingly, MWD also monitors the flow in Tucalota Creek, Rawson Creek and Middle Creek during storms and uses those observations to supplement the hydrologic equation.

During 2003-04, there was no local runoff into Lake Skinner.

5.5 Diamond Valley Lake

Diamond Valley Lake is located in Diamond and Domenigoni Valleys within the Santa Margarita River Watershed. The Lake was created by three dams, one each at the east and west ends of Domenigoni/Diamond Valley and a saddle dam at the low point on the north rim. The East Dam diverts surface and groundwater flows from a 4.2 square mile drainage area in the Santa Margarita River Watershed, known as Goodhart Canyon, into the Santa Ana River Watershed. The West Dam intercepts existing westward surface and subsurface flows from an additional 13.19 square mile area. These intercepted flows may or may not be offset by seepage losses from the reservoir when filled.

MWD does not have a water right to store local waters in the reservoir, so a Memorandum of Understanding and Agreement on Operation of Domenigoni Valley Reservoir (now known as Diamond Valley Lake) (MOU) was developed and approved by the Court on January 19, 1995. Among other things, the MOU provides:

> The quantity and quality of surface runoff that would flow past the West Dam in the absence of the Reservoir will be determined and a like quantity of water of similar quality will be released from the Reservoir or San Diego Canal (SDC) into Warm Springs Creek.

The MOU indicates that the required releases would be determined by measuring the surface inflows into Goodhart Canyon Detention Basin. A quantity equal to 4.1 times the measured flow will be released into Warm Springs Creek.

Total required releases into Warm Springs Creek during 2003-04 were 1.31 acre feet.

Although all surface waters within the Santa Margarita River Watershed in Domenigoni Valley and Diamond Valley are subject to the continuing jurisdiction of the Court, groundwater contained within the younger alluvium, north of the south line of Section 9, Township 6 South, Range 2 West, SBM is not considered by the Court to be a part of the Santa Margarita River system as long as groundwater levels are below an elevation of 1400 feet. During 2003-04 groundwater elevations in Well MO-6, which is located along the south line of Section 9, decreased from 1359.01 feet at the beginning of the water year to 1357.76 feet at the end of the water year.

During 2003-04, there were no injections into the Domenigoni Valley groundwater basin pursuant to Agreements for Mitigation of Groundwater. As previously noted the groundwater in the Domenigoni Valley groundwater basin is outside this Court's jurisdiction when groundwater levels are below 1400 feet.

SECTION 6 - WATER RIGHTS

6.1 General

Water is used in the Santa Margarita River Watershed under a variety of water rights. In the early 1960's, the U. S. District Court in its Interlocutory Judgments described water rights in the Watershed as primarily riparian rights and overlying rights. Riparian rights belong to owners of land parcels located adjacent to streams in the Watershed or overlying younger alluvium deposits generally along the stream channels. Overlying rights were divided by the Court into two categories based on the location where the water is obtained and used. Water extracted from lands where subsurface waters add to, contribute to and support the Santa Margarita River stream system was found to be subject to the continuing jurisdiction of the Court. Lands in this category were identified by the Court and listed in Interlocutory Judgments. In general, these parcels of land overlie younger or older alluvium deposits. The Court has stated that the issue of apportionment of water rights has not been presented to the Court, but the Court would litigate the apportionment if and when in the future it becomes necessary to do so.

The other category of overlying use applies to parcels of land where subsurface flows do not add to, contribute to or support the Santa Margarita River stream system. These parcels were also identified by the Court and found to be outside the continuing jurisdiction of the Court. In general, these lands overlie basement complex or residuum deposits.

The Court also described a number of other rights in the Watershed. These included surface water appropriative water rights that have been administered by the State of California since 1914. These rights are discussed in the following subsection of this report.

In Interlocutory Judgment No. 41, the Court found that the United States reserved rights to the use of the waters of the Santa Margarita River stream system which under natural conditions would be physically available on the Cahuilla, Pechanga and Ramona Indian Reservations, including rights to the use of groundwaters sufficient for the present and future needs of the Indians residing thereon. In Interlocutory Judgment No. 44, the Court recognized and reserved water rights for lands within the Cleveland and San Bernardino National Forests and for lands being administered pursuant to the Taylor Grazing Act.

Since the early 1960's there have been substantial changes in water use in the Watershed, especially in the Murrieta-Temecula Groundwater Area. During the 1950's and early 1960's when this case was under active litigation, most of the water use in the Murrieta-Temecula area consisted of individual property owners pumping water for use on their own properties. In 1965, the Rancho California WD was formed. The District developed Agency Agreements with most of the landowners within the District. In these Agency Agreements, the landowners "...without transferring any water rights and

privileges pertaining to said land...." designated the District as their exclusive agent for the development and management of their water supply.

Thus, many landowners within the Rancho California WD are not exercising their overlying rights. Instead, Rancho California WD pumps groundwater and uses it throughout the District area as agent on behalf of the landowners.

Rancho California WD also pumps water as a groundwater appropriator along with Murrieta CWD and Eastern MWD.

Another change from the early 1960's is the large scale importation of water into the Santa Margarita River Watershed by Rancho California WD. A portion of such importation finds its way into the groundwater aquifers. The legal status of return flows from imported supplies as well as direct recharge of imported water was clarified by the final judgment in *City of Los Angeles v. City of San Fernando, et al.,* 1975 14 Cal. 3rd 199. This decision in the Supreme Court of the State of California made two major findings with respect to imported water.

The first was that agencies have the right to recharge and store imported water in a groundwater basin and to extract the imported water for use, subject to applicable state and federal laws. In addition, agencies that import and deliver water to lands overlying a groundwater basin have a continuing right to extract the return flow from such water. The return flow is that portion of the imported supply that percolates into the groundwater basin. In the San Fernando case this portion was found to range from 20 percent to 35.7 percent of the imported supplies.

The Rancho Division of the Rancho California WD overlies the Murrieta-Temecula Groundwater Area. Thus a portion of the import supply delivered to the Rancho Division of Rancho California WD percolates into the underlying aquifers.

Imported water is also supplied to the Santa Rosa Division within Rancho California WD, however only a relatively small part of this division overlies the Murrieta-Temecula Groundwater Area. Thus there is less imported water return flow from the Santa Rosa Division.

Classification of Rancho California WD supplies into various water right categories is discussed in Section 7 of this Report.

Camp Pendleton representatives contend that the Court has jurisdiction over imported water to the full extent that imported water, as well as its use, its returns and its products, affects in any significant manner the water rights within the Watershed over which the Court has traditionally asserted its jurisdiction. Other parties dispute the Court's jurisdiction over imported water.

6.2 Appropriative Surface Water Rights

Another broad category of water rights used in the Watershed is surface water appropriative rights. Since 1914, these rights have been administered by the SWRCB.

A list of current permits, licenses and other active rights obtained from the SWRCB is shown on Table 6.1. A permit by the SWRCB authorizes construction of a project, sets terms for the project's completion and development of water use and may impose other conditions. After the permittee demonstrates that construction is complete, water is being put to use and the permit conditions have been met, the SWRCB can issue a license. The license remains in effect as long as the license conditions are met and the water is put to beneficial use.

Perfected direct diversion rights and active storage rights from creeks in the Watershed are summarized below:

	Direct Diversions Gallons Per Day	Storage Acre Feet
Cahuilla Valley	720	5
Cottonwood Creek	485,000	60
Cutea Creek	5,825	---
DeLuz Creek	4,700	100
Fern Creek	213,000	100
Kohler Canyon	158,000	40
Long Canyon Spring	89	---
Rainbow Creek	---	0.5
Rattlesnake Canyon	12,000	---
Temecula Creek	25,820	40,000
Sandia Canyon	---	8
Sourdough Spring	55	---
Santa Margarita River	133	4,000
Nelson Creek	1,550	---
TOTAL	906,892	44,313.5

These direct diversion rights of 906,892 gallons per day correspond to 1.4 cfs or 2.78 acre feet per day.

TABLE 6.1

SANTA MARGARITA RIVER WATERSHED

APPROPRIATIVE WATER RIGHTS

PERMITS AND LICENSES

I.D. NO.	OWNER	FILING DATE	SOURCE OF WATER	POINT OF DIVERSION	AMOUNT	USE	STATUS
6629	William H. & Sandra J. Cyrus	4/9/30	Coahuila Valley	Sec. 4, 7S, 3E	DD-720 gpd	D	License
6893	Earl C. & Mamie LaBine	2/13/31	Temecula Creek	Sec. 20, 9S, 2E	DD-820 gpd	D/I	License
7035	Nyla Lawler	8/10/31	Cutca Creek	Sec. 29, 9S, 1E	DD-5725 gpd	D/I	License
7731	Earl C. & Mamie LaBine	11/02/33	Temecula Creek	Sec. 20, 9S, 2E	DD-7200 gpd	D/I	License
9137	Goodarz Irani	10/07/37	Temecula Creek	Sec. 12, 9S, 1E	DD-400 gpd	D	License
9291	Luis Olivos	5/13/38	Nelson Creek	Sec. 23, 8S, 5W	DD-1550 gpd	D	License
10806	James R., Phyllis & Bruce Gramm	4/22/44	Temecula Creek	Sec. 34, 9S, 2E	DD-2880 gpd	D	License
11161	Roy C. Pursche & J. Zink	9/26/45	Rattlesnake Canyon	Sec. 28, 9S, 2E	DD-12,000 gpd	D/I	License
11518	Rancho California Water District	8/16/46	Temecula Creek	Sec. 10, 8S, 1W	ST-40,000 AF	D/I/R	Permit
11587	U. S. Bureau of Reclamation	10/11/46	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
12178	Fallbrook Public Utility District	11/28/47	Santa Margarita River	Sec. 3, 7S, 4W	ST-10,000 AF	D/I/M	Permit
12179	U. S. Bureau of Reclamation	11/28/47	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
13505	David H. & Kathleen C. Lypps	12/12/49	Cottonwood Creek	Sec. 30, 8S, 4W	DD-0.75 cfs & ST-42 AF	R/S	License
17239	Ward Family Trust	8/15/56	Temecula Creek	Sec. 20, 9S, 2E	DD-120 gpd	D/E	License
20507	David H. & Kathleen C. Lypps	11/24/61	Cottonwood Creek	Sec. 19, 8S, 4W Sec. 30, 8S, 4W	ST-18 AF	I/R	License
20608	Pete and Dorothy Prestininzi	2/13/62	DeLuz Creek	Sec. 20, 8S, 4W	ST-100 AF	D/I/R	License
20742	U. S. Cleveland National Forest	4/24/62	Sourdough Spring	Sec. 25, 9S, 1E	DD-55 gpd	E	License
21074	U. S. Cleveland National Forest	12/07/62	Cutca Spring	Sec. 17, 9S, 1E	DD-100 gpd	S/W	License
21471A	U. S. Department of Navy	9/23/63	Santa Margarita River	Sec. 5, 10S, 4W Sec. 2, 11S, 5W	ST-4,000 AF	D/I/M/Z	License
21471B	U. S. Bureau of Reclamation	9/23/63	Santa Margarita River	Sec. 32, 9S, 4W	ST-165,000 AF	D/I/M/Z	Permit
27756	James R. Grammer	5/23/83	Temecula Creek	Sec. 3, 10S, 2E	DD-14,400 gpd	I/S	Permit
28133	Charles F. Ruggles	5/14/84	Cahuilla Creek	Sec. 15, 8S, 2E	ST-5AF	E/H/I/R/S	Permit

OTHER RIGHTS

05751S/Federal	U. S. Cleveland National Forest	1/01/70	Long Canyon Spring	Sec. 16, 9S, 1E	DD-89 gpd	E/R/S/W	
000024/State	Judge Dial Perkins	12/26/86	Santa Margarita River	Sec. 12, 9S, 4W	DD-133.3 gpd	D	
000751/State	Lawrence Butler	5/31/67	Fern Creek	Sec. 31, 8S, 4W	DD-0.33 cfs ST-100 AF	I	
011411/State	Agri Empire, Inc.	5/16/84	Kohler Canyon	Sec. 33, 9S, 2E	DD-0.245 cfs ST-40 AF	I/S	
012235/State	William A. & Lois D. Cunningham	8/27/85	DeLuz Creek	Sec. 4, 9S, 4W	DD-4700 gpd	D/I	
001583/Stock	George F. Yackey	12/27/77	Sandia Canyon	Sec. 25, 8S, 4W	ST-8.0 AF	S	
002380/Stock	Chris R. & Jeanette L. Duarte	12/16/77	Rainbow Creek	Sec. 12, 9S, 3W	ST-0.5 AF	S	

KEY TO USE: *DD - Direct Diversion* *D - Domestic* *R - Recreation* *E - Fire Protection* *H - Fish Culture*
ST - Diversion to Storage *I - Irrigation* *M - Municipal* *S - Stockwatering* *Z - Other*
W - Fish & Wildlife Protection and/or Enhancement

Storage rights shown in Table 6.1 include 185,000 acre feet of storage rights on the Santa Margarita River held by the U. S. Bureau of Reclamation (ID Nos. 11587, 12179, and 21471B) that have not been exercised. The time period during which these rights must be exercised has recently been extended by the SWRCB to December 31, 2008.

Table 6.1 also lists other rights recognized by the SWRCB. These rights generally are based on Statements of Water Diversion and Use that have been filed with the SWRCB. Such statements include one by the United States on behalf of the Cleveland National Forest, which states that the diversion and use of water from Long Canyon Spring is made pursuant to a withdrawal and reservation of the land and resources for National Forest System purposes as of February 14, 1907.

Besides the federal filing, there are also Statements of Water Diversion and Use filed by individuals. Three of these statements represent riparian or pre-1914 appropriative diversions from DeLuz Creek, Fern Creek and Santa Margarita River that have been reported to the SWRCB. The other statement represents a pre-1914 appropriative right to divert water from a spring in Kohler Canyon into a 40 acre foot reservoir.

The last two rights noted on Table 6.1 represent filings made in 1977 pursuant to Subchapter 2.5 to Chapter 3 of Title 23 of the California Code of Regulations. That subchapter deals with Water Rights for Stockponds.

In addition to appropriative rights under SWRCB jurisdiction, there are a number of nonstatutory appropriative rights that were established prior to 1914. These rights continue to be used to support diversions of water from the Santa Margarita River stream system. Such rights, which are listed in the various Interlocutory Orders developed in this litigation, are shown on Table 6.2.

In 1990-91, in Order No. 91-07, the SWRCB revised its Order No. 89-25 entitled, "Order Adopting Declaration of Fully Appropriated Stream Systems and Specifying Conditions for Acceptance of Applications and Registrations." These Orders list the Santa Margarita River stream system as fully appropriated "from the confluence of the Santa Margarita River and the Pacific Ocean upstream including all tributaries where hydraulic continuity exists."

The consequences of this Order are as follows:

1. The Board is precluded from accepting any application to appropriate water from the Santa Margarita River System except where the proposed appropriation is consistent with conditions contained in the Declaration.

TABLE 6.2

SANTA MARGARITA RIVER WATERSHED
PRE - 1914 APPROPRIATIVE WATER RIGHTS
Listed in Interlocutory Decrees

LISTED OWNER	CURRENT OWNER	DATE OF APPROPRIATION	SOURCE OF WATER	POINT OF DIVERSION	AMOUNT	USE
Anderson, Nina B.	Nezami, Mohammed	April 11, 1892	Fern Creek	NW 1/4 Of SE 1/4 Sec 31, T8S, R4W	32 gpm	Irrigation
Butler, Lawrence W. and Mary C.	Vanginkel, Norman Tr and Vanginkel, Deborah San Diego Gas & Electric	Sept. 23, 1896	Fern Creek	NW 1/4 Of SE 1/4 Sec 31, T8S, R4W	Capacity of 8 inch pipe	Irrigation
Wilson, Samuel M. and Hazel A.	Shirley, Robert G. and Bobbi J.	Aug. 3, 1911	DeLuz Creek	NW 1/4 Of SW 1/4 Sec 32, T8S, R4W	50 miner's inches 65 AF/Yr	Irrigation
United States	United States	1883	Santa Margarita River	Sec 5, T10S, R4W	20 cfs 1200 AF/Yr	Domestic Irrigation Stock Water

2. Initiation of a water right pursuant to the Water Rights Permitting Reform Act of 1988 (Water code Section 1228 et seq.) --that is, by registering small use domestic appropriations–is precluded, except where the proposed appropriation is consistent with conditions contained in the Declaration. Small use domestic appropriations refer to uses that do not exceed direct diversions of 4,500 gallons per day or diversion by storage of 10 acre feet per year for incidental aesthetic, recreational, or fish and wildlife purposes.

3. Pursuant to Water Code Section 1206(a) the Board is authorized, but not required, to cancel pending applications where inconsistent with conditions contained in the Declaration; previous Orders implement a procedure for disposition of such applications pending on the effective date of the Declaration.

The Order provides for reconsideration of the Order either upon petition of an interested party or upon the Board's own motion.

6.3 Fallbrook PUD Proposal to Change Point of Diversion and Place of Use

For some years, the Bureau of Reclamation has held Permit Nos. 8511, 11356, 11357, and 15000 (Application Nos. 11587, 12178, 12179, and 2147B) (see Table 6.1) for the benefit of Fallbrook PUD and the United States of America, the Department of the Navy, Marine Corps Base, Camp Pendleton, California. However in February 1999, Permit No. 11356 (Application No. 12178) was transferred back to Fallbrook PUD in order for Fallbrook to change the point of diversion to Lake Skinner. Lake Skinner is owned by Metropolitan Water District of Southern California and is presently used to store and regulate imported water.

On November 20, 2001, the Chief of the Division of Water Rights of the State Water Resources Control Board authorized an Order Approving Changes in Source Point of Diversion, Place of Use and Amending the Permit (No. 11356). The permit provides for storage and diversion of up to 10,000 AF per year. Storage of local water in Lake Skinner and subsequent diversion will reduce the volume of local stormwater flow downstream of Lake Skinner during significant storm events. During 2003-04 Fallbrook PUD and MWD continued to work together to amend the Memorandum of Understanding and Agreement on Operation of Lake Skinner.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SECTION 7 - WATER PRODUCTION AND USE

7.1 General

Water production and use data were obtained from several types of substantial users including water purveyors, Indian Reservations, mobile home parks and private landowners. Private landowners who qualify as substantial water users are those who irrigate eight or more acres or who produce or use an equivalent quantity of water.

Major water purveyors who reported production and use data in 2003-04 Water Year are listed as follows:

Anza Mutual Water Company
Eastern Municipal Water District
Elsinore Valley Municipal Water District
Fallbrook Public Utility District
Lake Riverside Estates
Metropolitan Water District of Southern California
Murrieta County Water District
Rainbow Municipal Water District
Rancho California Water District
U. S. Marine Corps, Camp Pendleton including U.S. Naval Weapons Station, Fallbrook Annex
Western Municipal Water District

Lake Riverside Estates is listed with major water purveyors although it does not deliver water to customers. However it does produce make-up water for losses from Lake Riverside.

In addition to the major purveyors, there are a number of smaller water systems in the Watershed. Of these, Butterfield Oaks Mobile Home Park, Jojoba Hills SKP Resort, Outdoor Resorts Rancho California, Inc. and Hawthorn Water System are substantial users.

Three Indian Reservations, the Cahuilla, Pechanga and Ramona, are noted in Interlocutory Judgment No. 41, the Judgment that deals with Water Rights on Indian Reservations in the Watershed. Estimates and/or measurements of water production and use are reported for the Cahuilla and Pechanga Indian Reservations; the Ramona Reservation has no reported water use.

A portion of a fourth Reservation, the Pauma Mission Reserve Tract of the Pauma Yuima Band of Mission Indians, is also located within the Watershed. However, these lands overlie basement complex, which waters have been found by the Court to not add to, support or contribute to the Santa Margarita River stream system.

The final category of water users is private landowners who use water primarily for irrigation.

The water use data collected for the 2003-04 Water Year are summarized on Table 7.1. Total imported supplies plus local production totaled 136,655 acre feet compared to 120,792 reported in 2002-03. Of that quantity, 55,857 acre feet were used for agriculture; 10,110 acre feet were used for commercial purposes; 51,167 acre feet were used for domestic purposes; 51 acre feet were discharged to Murrieta Creek; 4 acre feet were discharged to Temecula Creek; 3,146 acre feet were discharged to the Santa Margarita River from MWD WR-34 by Rancho California WD; 3,890 acre feet of fresh water were exported by Camp Pendleton; and 5,094 acre feet were recharged by Rancho California WD to storage. The overall system loss was 7,336 acre feet. System gain or loss is the result of many factors including errors in measurement, differences between periods of use and periods of production, leakage and unmeasured uses.

Monthly production and use data for major water purveyors are attached to this report as Appendix A. Uses are listed under agricultural, ag/domestic, commercial and domestic categories. The definition of agricultural, ag/domestic, commercial and domestic uses varies for the different purveyors in the Watershed. Accordingly definitions of these uses for major water purveyors are shown on Table 7.2. It is noted that much of the non-agricultural water use in the Watershed can also be considered municipal use, which includes both the domestic and commercial uses shown in tables in this report. Similar data for Water Years 1966-2004 are summarized in tables presented in Appendix B. Appendix C presents information on substantial users outside purveyor service areas.

7.2 Water Purveyors

Anza Mutual Water Company

Anza Mutual Water Company's service area is in the eastern part of the Watershed in the Anza Valley. Production is from two wells: Well No. 1 drilled in 1951 and perforated from 20 feet to 260 feet; and Well No. 2 drilled later to a depth of 287 feet and perforated in the bottom 130 feet. Production for 2003-04 was 40.44 acre feet from Well No. 1 as shown in Appendix A, Table A-10. Well No. 2 was not in use for 2003-04. The depth of water in Well No. 1 ranged from 49.4 feet to 61.5 feet.

Interlocutory Judgment No. 33 divides aquifers in Anza Valley at this location into two categories: the shallow aquifer and the deep aquifer. Based on information available to the Court the shallow aquifer was determined to include the younger and older alluvial deposits in the Anza Groundwater Basin and extend to a maximum but variable depth of approximately 100 feet. The deep aquifer underlies the shallow aquifer in an area about one-half mile in width and two miles in length, within portions of Sections 16, 17, 21, 22, 27 and 28 of Township 7 South, Range 3 East, SBM. Anza Mutual Water Company's wells are within the area of the deep aquifer. From the perforated intervals in the wells, it

SANTA MARGARITA RIVER WATERSHED

WATER PRODUCTION AND USE

2003-04

Quantities in Acre Feet

	PRODUCTION			USE					
	WELL/ SURFACE	IMPORT	TOTAL	AG	COMM	DOM	LOSS	TOTAL	WATER RIGHT
WATER PURVEYORS									
Anza Mutual Water Company	40	0	40	0	0	36	4 1/	40	Appropriative
Eastern MWD	0	9,138	9,138	0	0	8,960	178	9,138	Appropriative
Elsinore Valley MWD	0	8,438	8,438 12/	96	3,238	5,104	0	8,438	———
Fallbrook PUD	0	11,749	11,749	7,018	649	3,573	509	11,749	Appropriative
Lake Riverside Estates	351	0	351	0	351 2/	0	0	351	Appropriative
Metropolitan Water District	0	766	768	728	0 3/	0	38	786	———
Murrieta CWD	1,979	330	2,309	282	407	1,479	141	2,309	Appropriative
Rainbow MWD	0	1,888	1,888	1,567	0	149	172	1,888	———
Rancho California WD	25,353 4/	62,096 5/	87,449	39,016 6/	4,883	29,314	14,236 7/	87,449	Various
U.S.M.C. - Camp Pendleton	6,765	0	6,765	479	---- 8/	2,156	4,130 1/ 9/	6,765	Appropriative/ Riparian
U.S. Naval Weapons Station	0	73	73	0	---- 8/	66	7 1/	73	———
Western MWD	0	50	50	0	45	0	5 1/	50	———
INDIAN RESERVATIONS									
Cahuilla	42	0	42	0	----	42	0	42	Overlying/Reserved
Pechanga	725	0	725	81	537	71	36	725	Overlying/Reserved
SMALL WATER SYSTEMS									
Butterfield Oaks	11	0	11	0	0	10	1 1/	11	Riparian/Overlying
Outdoor Resorts	217	0	217	158	0	54	5 1/	217	Overlying
Jojoba Hills SKP Resort	75	0	75	0	0	68	7 1/	75	Overlying
Hawthorn Water System	94	0	94	0	0	85	9 1/	94	Appropriative
OTHER SUBSTANTIAL USERS	6,475 10/	0	6,475	6,432	0	0	43 11/	6,475	
TOTAL	**42,127**	**94,528**	**136,655**	**55,857**	**10,110**	**51,167**	**19,521**	**136,655**	

1/ Assumes 10% system loss
2/ Recreation Use
3/ Construction use at Diamond Valley Lake
4/ 24,101 AF production from Old Alluvium and 1,252 AF of Vail Recovery
5/ Includes 43,936 AF direct use; 16,088 AF direct recharge; and 3,146 AF from MWD WR-34
6/ 33,467 AF Ag, and 5,549 Ag/Domestic
7/ 51 AF discharged into Murrieta Creek; 4 AF discharged into Temecula Creek; 3,146 AF discharged into Santa Margarita River from MWD WR-34; 5,094 AF of import remaining in storage; and a system loss of 5,941 AF
8/ Listed with Domestic uses
9/ Includes exports of 3,890 acre feet
10/ 429 AF for surface diversion plus 6,813 AF from groundwater as shown in Appendix C minus 42 AF on the Cahuilla Reservation and minus 725 AF on the Pechanga Reservation
11/ 10% of surface diversions
12/ Sales figures

TABLE 7.2

SANTA MARGARITA RIVER WATERSHED
DEFINITIONS OF WATER USE
BY MUNICIPAL WATER PURVEYORS
2003-04

DISTRICT	AGRICULTURAL	DOMESTIC	COMMERCIAL
EASTERN MUNICIPAL WATER DISTRICT	A commercial enterprise producing a crop/livestock on at least 5 acres and able to accept a delivery of at least 24 consecutive hours	Single family, multiple units and agricultural uses of less than 5 acres	Not reported
ELSINORE VALLEY MUNICIPAL WATER DISTRICT	Delivery of water for agricultural purposes in growing or raising for commerce, trade or industry or for use by public eduational or correctional institutions	Delivery of water to single family residential customers in single, detached residential units	Delivery of water to multi-family residential units; commercial, industrial establishments; cities, political sub-divisions or quasi-governmental associations
FALLBROOK PUBLIC UTILITY DISTRICT	AG - A commercial enterprise producing a crop/livestock/fowl on at least 1 acre fully used for ag purposes; can include incidental domestic use related to residency AG/DOM - Water used for both ag and domestic purposes	Single family, multi-unit and large domestic residences and the first 20,000 gallons used by an ag/domestic meter	Offices, businesses, schools and hydrants
RAINBOW MUNICIPAL WATER DISTRICT	AG- 1 acre or more of plantable, resalable products DOM/AG - Same as Ag with a house on the parcel	DOMESTIC - Homes	Generally no commercial use in district
RANCHO CALIFORNIA WATER DISTRICT	AG - 1 acre or more of plantable, resalable products GOLF - Outside water use at golf courses VINEYARDS - Outside irrigation for vineyards LANDSCAPE - Landscaping around freeways, parking lots, office buildings, median strips, AG/DOM - First 1600 c.f. for each user alloted to domestic, and the balance to agriculture	DOMESTIC - Homes MULTIPLE - Apartments and Condominiums	COMMERCIAL - Office buildings, industrial users other than agri-businesses FLOATING - Fire hydrants used during construction CONSTRUCTION - Other fire hydrants used for grading LAKE SKINNER - Recreational use at Lake Skinner MISCELLANEOUS - Schools, fire departments, parks, government agencies DETECTOR CK. METERS - Only used when there is a fire
MURRIETA COUNTY WATER DISTRICT	Agricultural uses and irrigation for crops	Homes and multiple units	Businesses, public agencies, schools and construction
USMC, CAMP PENDLETON	Irrigation - Water used for ag purposes, not landscaping, golf courses or parks	Camp Supply - Includes landscaping, golf courses parks and	Reported under Camp Supply

may be concluded that most of the production from Well No. 1 and all of the production from Well No. 2 are from the deep aquifer. Interlocutory Judgment No. 33 concluded that waters contained in the deep aquifer did not add to, support or contribute to the Santa Margarita River stream system and were, therefore, declared to be outside the Court's jurisdiction.

Thus, most of the water produced by the Anza Mutual Water Company is outside the Court's jurisdiction. The relatively small portion pumped from the shallow aquifer in Well No. 1 is pumped under a groundwater appropriative right.

Eastern Municipal Water District

Eastern MWD is a member agency of MWD and its service area includes a portion of the Rancho California WD and Murrieta County WD. Within the Watershed, the District wholesales water to those districts and also retails water directly to consumers. Water sold to Rancho California WD and Murrieta County WD is not listed in this report as imported water to Eastern MWD.

Eastern MWD's service area outside Rancho California WD and Murrieta County WD is located in the northern part of the Watershed. Water for their service area is imported.

Imports, not including water wholesaled to Rancho California WD or Murrieta County WD or delivered to Elsinore Valley MWD, totaled 17,381 acre feet. A portion of that import amounting to 8,243 acre feet was exported from the Santa Margarita River Watershed resulting in net import to the watershed of 9,138 acre feet. These data are shown in Appendix A.

Eastern MWD's groundwater production in the Santa Margarita River Watershed is provided by Well 7S/3W-15N which is 345 feet deep. There was no production in 2003-04 and the well was destroyed in August 2004.

In addition to importing fresh water, Eastern MWD also reclaims wastewater at its Temecula Valley Regional Water Reclamation Facility.

Disposition of wastewater from the Temecula Valley Regional Water Reclamation Facility (Facility) service area for Water Years 2002-03 and 2003-04 is shown below:

	2002-03		2003-04	
	Quantity	Percent	Quantity	Percent
	AF	%	AF	%
Used in Santa Margarita	3,542	32	3,221	26
Used outside Santa Margarita	2,955	26	3,688	30
Reuse	6,497	58	6,909	56
Unaccounted for Production	4,681	42	5,427	44
TOTAL PRODUCTION	11,178	100	12,336	100

It can be noted that the quantities of reclaimed wastewater used within the Santa Margarita River Watershed decreased from 3,542 acre feet in 2002-03 to 3,221 acre feet in 2003-04. During the same period reuse outside the Santa Margarita River Watershed increased from 2,955 acre feet to 3,688 acre feet. From the foregoing it may be concluded that 26 percent of the wastewater is reused in the watershed and 30 percent is used outside the watershed. Unaccounted for production increased from 4,681 acre feet to 5,427 acre feet. Unaccounted for production includes changes of storage in Winchester and Sun City storage ponds, evaporation and percolation losses, and discharges of 2,480 acre feet to the Santa Ana Watershed. In previous years much of the wastewater discharged to the Santa Ana Watershed would have been used in Rancho California WD's 2 MGD Demonstration Project. However that Project was discontinued on October 18, 2002.

Because of concerns about the potential export of native Santa Margarita water, the sources of water supply to the Facility service area were determined and are shown on Table 7.3. In 2003-04, 23 percent of the supply to the service area was groundwater. Thus, the percent of wastewater reused within the Santa Margarita Watershed exceeded the percent of groundwater in the supply, and on a proportional basis there was no export of native waters.

Estimates of water production and use for the period 1966-2004 are shown in Appendix B.

TABLE 7.3

SANTA MARGARITA RIVER WATERSHED
WATER DELIVERIES TO TEMECULA VALLEY
REGIONAL WATER RECLAMATION FACILITY SERVICE AREA

	2000		2001		2002		2003		2004	
Eastern MWD	AF	%	AF	%	AF	%	AF	%	AF	%
Deliveries to TVRWRF Service Area										
1. Groundwater	630		355		13		0		0	
2. Import 1/	7,256		5,948		8,117		9,062		9,138	
3. Total	7,886		6,303		8,130		9,062		9,138	
Rancho California WD										
Deliveries to TVRWRF Service Area										
1. Groundwater 2/	7,149		7,481		6,427		6,697		6,879	
2. Import 3/	8,643		8,076		11,791		11,231		13,341	
3. Total 4/	15,792		15,557		18,218		17,928		20,220	
Total Deliveries to TVRWRF Service Area										
1. Groundwater	7,779	32.9%	7,836	35.8%	6,440	24.4%	6,697	24.8%	6,879	23.4%
2. Import	15,899	67.1%	14,024	64.2%	19,908	75.6%	20,293	75.2%	22,479	76.6%
3. Total	23,678	100.0%	21,860	100.0%	26,348	100.0%	26,990	100.0%	29,358	100.0%

1/ EMWD imports are based on discharges from EM-17.
2/ Based on ratio of groundwater to total production in Rancho Division of RCWD
3/ Based on ratio of import to total production in Rancho Division of RCWD
4/ Total RCWD deliveries in TVRWRF Service Area

Elsinore Valley Municipal Water District

Elsinore Valley MWD provides water to its service area around Lake Elsinore, a portion of which is within the Santa Margarita River Watershed. Elsinore Valley MWD obtains its supply from ten wells, all located outside the Santa Margarita River Watershed, and also imports MWD water through Eastern MWD and Western MWD.

As shown in Appendix A, the District reports that 8,438 acre feet of imported water was delivered in the portion of their service area that is inside the Santa Margarita River Watershed in 2003-04. Also during 2003-04, approximately 600 acre feet of wastewater were exported from that same area.

Production and use during the period 1966 to 2004 are shown in Appendix B.

Fallbrook Public Utility District

In 2003-04, Fallbrook PUD imported 19,640 acre feet through its contract with the San Diego County Water Authority as shown in Appendix A. Of this quantity, 5,027 acre feet were delivered to the former DeLuz Heights Water District service area that is entirely within the Santa Margarita River Watershed. Of the remaining importations it is estimated that 46 percent, or 6,722 acre feet, were delivered to lands inside the Santa Margarita River Watershed. The remainder was delivered to lands in the adjacent San Luis Rey River Watershed. Thus, imports to the Watershed totaled 11,749 acre feet in 2003-04.

In addition to importations, the District has three wells; however, in 2003-04, there was no pumpage from these wells. In 2003-04 Fallbrook PUD reclaimed 1,654 acre feet of wastewater of which 26 acre feet were reused in the watershed.

Production during the period 1966 to 2004 included direct diversions from the Santa Margarita River for water years before 1972 as well as imported water and well production as shown in Appendix B.

Lake Riverside Estates

Lake Riverside Estates pumps water from Well No. 7S/2E-32C1, into Lake Riverside to replace evaporation losses. Production for 2003-04 was 351 acre feet as shown in Appendix A, Table A-10. The production well was drilled in 1962 and is located in an area of younger alluvium in the Cahuilla Groundwater Basin. The driller's log shows sand and clay for the entire well depth of 338 feet.

Interlocutory Judgment No. 33 indicates that the owners of lands in the Cahuilla Groundwater Basin have correlative overlying rights to the use of the groundwater that is the basis for this production.

Metropolitan Water District of Southern California

Pursuant to a Court Order, MWD delivered 766 acre feet of imported water for irrigation of lands in Domenigoni Valley. MWD did not import any water for groundwater recharge and there was no water used for construction purposes. As previously noted, the groundwater in the Domenigoni Valley groundwater basin is outside this Court's jurisdiction when groundwater levels are below 1400 feet. This production is shown in Appendix A and production for the period 1966-2004 is shown in Appendix B.

Murrieta County Water District

Murrieta CWD serves an area in the vicinity of the town of Murrieta. In Water Year 2003-04, Murrieta CWD produced 1,979 acre feet of water from six wells as shown in the following tabulation and imported 330 acre feet as shown in Appendix A.

Well Designation	Well Name	2003-04 Production Acre Feet	Casing Depth Feet	Water Depth Feet	Well Depth Feet	Perforated Interval Feet
7S/3W-20	Clay	144	101	273 - 306	940	330 – 350 370 – 470 680 – 790 830 – 900
7S/3W-20C9	Holiday	381	25	95 - 104	307	60 – 307
7S/3W-20G5	House	102	50	170 - 189	298	120 – 252
7S/3W-17R2	Lynch	0	26	45	212	172 – 212
7S/3W-18J2	North	716	50	230 - 321	650	240 - 260 500 – 640
7S/3W-20D	South	440	50	173 - 186	446	120 – 446
7S/3W-7M	Alson	196	50	240 - 288	416	106 – 416
TOTAL		1,979				

All of these wells are located in the Murrieta-Temecula Groundwater Area. Interlocutory Judgment No. 30 indicates the younger alluvium deposits in Murrieta Valley extend in various depths to a maximum of approximately 30 feet from the ground surface.

The Court noted that it was impossible, based on evidence available in 1962, to determine with exactness the depth of the younger alluvial deposits throughout the Valley. However, it did decide to retain continuing jurisdiction and that subsequent findings could be made, if needed. Older alluvial deposits are found below the younger alluvium.

Six of the seven Murrieta CWD wells are perforated at depths of 106 feet or more. One of the Murrieta CWD wells (Holiday) has perforations beginning at a depth of 60 feet. This depth is well below the maximum depth of younger alluvium found by the Court in 1962. In addition, water depths in the Holiday well ranged from 95 to 104 feet in 2003-04. Accordingly all of Murrieta CWD well production is from the older alluvium under a groundwater appropriative right.

Production for the period between 1966 and 2004 is shown in Appendix B.

Rainbow Municipal Water District

Rainbow MWD is located in San Diego County in the south-central part of the Watershed. In recent years about ten percent of the District's imported supply is delivered to the portion of the District's service area inside the Watershed. Most of the District is in the San Luis Rey River Watershed. As shown in Appendix A, total deliveries of imported water in the Watershed in 2003-04 amounted to 1,888 acre feet.

Total imports to the District for years between 1966 and 2004 as well as the estimated portion served inside the Santa Margarita River Watershed, are shown in Appendix B.

Rancho California Water District

Rancho California WD serves water to a 99,600 acre service area in the central portion of the Watershed. The District produced water from 46 wells in 2003-04 and also imported water, as shown in Appendix A. Use is shown in Appendix A under the categories of agriculture, ag/domestic, commercial and domestic. In Water Year 2003-04, well production of native water included 25,353 acre feet from the Murrieta-Temecula Groundwater Area. This quantity included 24,101 acre feet from the older alluvium, and 1,252 acre feet of recovered Vail recharge. Import supplies totaled 63,170 acre feet of which 43,936 acre feet were direct use, 16,088 acre feet were recharged, and 3,146 acre feet were released from MWD WR-34 into the Santa Margarita River. A portion of that import amounting to 1,074 acre feet was exported from the Santa Margarita River Watershed resulting in net import to the watershed of 62,096. During 2003-04, use totaled 87,449 acre feet including 33,467 acre feet by agriculture, 5,549 acre feet by ag/domestic, 4,883 acre feet by commercial, 29,314 acre feet by domestic, 3,201 acre feet were released into Murrieta Creek, Temecula Creek and the Santa Margarita River, 5,094 acre feet of import was recharged to storage, and 5,941 acre feet was system loss.

The District reclaimed and reused 3,257 acre feet of wastewater during the year, in addition to 1,650 acre feet obtained from Eastern MWD for reuse.

Rancho California WD produces groundwater under a variety of rights as follows:

1. Recovery of water appropriated at Vail Lake
2. Recovery of import return flows and recharged imported water
3. Groundwater appropriative rights
4. As agent on behalf of overlying landowners

Vail Appropriation

Rancho California WD's Vail Dam appropriative rights are described in Application No. 11518 as amended on June 17, 1947, and in Permit 7032. That right provides that the District may store up to 40,000 acre feet in Vail Reservoir each year between November 1 and April 30, subject to applicable limitations, and that the water so stored may be used for irrigation and domestic uses incidental to farming operations on 3,797 acres of land between May 1 and October 31. Such use may be by direct diversion from Vail Lake or by recovery with wells of water released from Vail and spread downstream in Pauba Valley.

The place of use for irrigation and domestic use is described as follows:

Sections 5, 6, 7 and 18; T8S, R1W
Sections 1, 10 through 21, 28 and 29; T8S, R2W
Sections 13 and 24; T8S, R3W.

In 1971, the Permit was amended to add recreational use at Vail Reservoir within Section 10, T8S, R1W.

No water was released from Vail during 2003-04 for groundwater recharge. Releases from Vail for groundwater recharge for the period 1980 to 2004 are shown in Appendix B.

Water use in the Permit 7032 service area is shown on Table 7.4. This use will be compared with well production from the younger alluvium in a later section of this report.

TABLE 7.4

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
PERMIT 7032 AREA WATER USE
2003-04

Quantities in Acre Feet

MONTH YEAR	AG	COMM	AG/DOM	DOM	TOTAL
2003					
OCT	24	26	98	104	252
NOV	41	28	102	97	268
DEC	11	14	44	49	118
2004					
JAN	11	15	47	48	121
FEB	9	13	33	41	96
MAR	6	11	24	37	78
APR	19	14	81	66	180
MAY	21	35	89	85	230
JUNE	30	25	81	108	244
JULY	43	32	97	129	301
AUG	95	41	104	163	403
SEPT	55	29	87	141	312
TOTAL	365	283	887	1,068	2,603

Imported Water Return Flows

During 2003-04, Rancho California WD imported 43,936 acre feet of water for direct use compared to 30,762 acre feet in 2002-03. Quantities of imported water delivered to the Rancho Division and the Santa Rosa Division are shown below for Water Years 2002-03 and 2003-04.

	Rancho Division Imports		Santa Rosa Division Imports		Total Imports	
Month	2003	2004	2003	2004	2003	2004
October	2,372	2,031	993	2,123	3,365	4,154
November	818	512	803	561	1,621	1,073
December	380	456	287	548	667	1,004
January	387	993	533	994	920	1,987
February	351	353	325	310	676	663
March	218	1,178	164	1,156	382	2,334
April	538	1,679	512	1,453	1,050	3,132
May	1,393	2,828	1,343	2,808	2,736	5,636
June	1,736	2,744	1,509	2,483	3,245	5,227
July	2,788	3,666	2,631	3,361	5,419	7,027
August	2,957	3,125	2,982	2,893	5,939	6,018
September	2,343	2,822	2,399	2,859	4,742	5,681
Total	16,281	22,387	14,481	21,549	30,762	43,936

Return flows for 2003-04 based on imported water use in the Rancho Division and Santa Rosa Division are shown on Table 7.5 and on Table 7.6.

In those tables, imported water is allocated to agricultural, ag/domestic, commercial and domestic uses in each of eight hydrogeologic areas in the Rancho Division service area. This allocation is the proportion of the total deliveries to each use that is made up of imported water. In 2003-04, 64.97 percent of the supply to the Rancho Division was imported and 70.10 percent of the supply to the Santa Rosa Division was imported.

In general the Santa Rosa Division does not overlie the groundwater area. However there are several areas classified as being in the Santa Rosa Division that do overlie the groundwater area and generate return flows from imported supplies. Data from most of these lands have been reported since December 1991.

TABLE 7.5

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2003-04
RANCHO DIVISION
Quantities in Acre Feet

	HYDROGEOLOGIC AREAS								
	0 NO HYDRO-GEO CODE	1 MURRIETA WOLF 1/2 QYAL 1/2 QTOAL	2 SANTA GERTRUDIS QYAL	3 LOWER MESA QTOAL	4 PAUBA QYAL	5 SOUTH MESA QTOAL	6 UPPER MESA QTOAL	7 PALOMAR QTOAL	TOTAL
AGRICULTURAL *									
Total Use	1,176.59	666.59	692.13	3,031.45	366.48	922.09	940.73	1,023.25	8,819.31
% Import	64.97	64.97	64.97	64.97	64.97	64.97	64.97	64.97	
Import Use	764.45	433.09	449.69	1,969.57	238.10	599.10	611.20	664.82	5,730.01
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	191.11	108.27	112.42	492.39	59.53	149.77	152.80	166.20	1,432.50
AG/DOMESTIC									
Total Use	659.60	49.08	0.00	23.40	731.96	40.31	495.81	157.71	2,157.86
% Import	64.97	64.97	64.97	64.97	64.97	64.97	64.97	64.97	
Import Use	428.55	31.89	0.00	15.20	475.57	26.19	322.14	102.46	1,401.99
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	107.14	7.97	0.00	3.80	118.89	6.55	80.53	25.62	350.50
COMMERCIAL									
Total Use	216.92	1,446.34	891.51	1,008.94	221.63	137.99	145.90	1.97	4,071.20
% Import	64.97	64.97	64.97	64.97	64.97	64.97	64.97	64.97	
Import Use	140.93	939.70	579.23	655.52	144.00	89.65	94.79	1.28	2,645.11
% Credit	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Credit	14.09	93.97	57.92	65.55	14.40	8.97	9.48	0.13	264.51
DOMESTIC									
Total Use	1,174.85	2,116.58	2,208.71	12,876.39	602.91	3,578.45	1,572.64	546.75	24,677.27
% Import	64.97	64.97	64.97	64.97	64.97	64.97	64.97	64.97	
Import Use	763.31	1,375.17	1,435.03	8,365.95	391.72	2,324.96	1,021.76	355.23	16,033.12
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	190.83	343.79	358.76	2,091.49	97.93	581.24	255.44	88.81	4,008.28
TOTAL USE	3,227.95	4,278.58	3,792.35	16,940.18	1,922.98	4,678.83	3,155.08	1,729.68	39,725.64
TOTAL									
Total Import Use	2,097.24	2,779.85	2,463.94	11,006.24	1,249.38	3,039.89	2,049.90	1,123.79	25,810.23
Total Credit	503.17 **	554.01	529.10	2,653.23	290.75	746.53	498.25	280.76	6,055.79
Total Credit Qyal		277.00	529.10		290.75				1,096.85
Total Credit Qtoal		277.00		2,653.23		746.53	498.25	280.76	4,455.77

* Includes golf course and landscape irrigation
** This credit not applied to either Qyal or Qtoal

TABLE 7.6

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2003-04
SANTA ROSA DIVISION
Quantities in Acre Feet

	HYDROGEOLOGIC AREAS			
	1 MURRIETA WOLF 1/2 QYAL 1/2 QTOAL	3 LOWER MESA QTOAL	8 RTS 279, 280 & 285 1/4 QYAL 3/4 QTOAL	TOTAL
AGRICULTURAL *				
Total Use	0.00	0.00	636.46	636.46
% Import	70.10	70.10	70.10	
Import Use	0.00	0.00	446.13	446.13
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	111.53	111.53
AG/DOMESTIC				
Total Use	0.00	0.00	0.00	0.00
% Import	70.10	70.10	70.10	
Import Use	0.00	0.00	0.00	0.00
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	0.00	0.00
COMMERCIAL				
Total Use	0.00	0.00	620.84	620.84
% Import	70.10	70.10	70.10	
Import Use	0.00	0.00	435.18	435.18
% Credit	10.00	10.00	10.00	
Credit	0.00	0.00	43.52	43.52
DOMESTIC				
Total Use	0.00	0.00	1,477.03	1,477.03
% Import	70.10	70.10	70.10	
Import Use	0.00	0.00	1,035.33	1,035.33
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	258.83	258.83
TOTAL USE	0.00	0.00	2,734.32	2,734.32
TOTAL				
Total Import Use	0.00	0.00	1,916.63	1,916.63
Total Credit	0.00	0.00	413.88	413.88
Total Credit Qyal	0.00		103.47	103.47
Total Credit Qtoal	0.00	0.00	310.41	310.41

* Includes golf course and landscape irrigation

The percentage of imported water that becomes return flow varies according to the use as follows:

Agricultural Use	25%
Ag/Domestic Use	25%
Commercial Use	10%
Domestic Use	25%

Based on the foregoing factors, the return flow credit for 2003-04 is computed to be 6,055.79 acre feet for the Rancho Division and 413.88 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Some of the hydrogeologic areas overlie older alluvium and some overlie younger alluvium. Comparison of exposures of younger alluvium with maps of the District's hydrogeologic areas indicates that the Santa Gertrudis, Pauba and half of the Murrieta-Wolf areas overlie younger alluvium. The area of the Santa Rosa Division that overlies the groundwater area is one-fourth in the younger alluvium and three-fourths in the older alluvium. Import return flows in these areas can be credited against pumping from the younger alluvium. These credits for 2003-04 are 1,096.85 acre feet for the Rancho Division and 103.47 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Rancho California WD imported an additional 16,088 acre feet of water for groundwater recharge in 2003-04, of which 10,994 acre feet were recovered.

Division of Local Water

During 2003-04, Rancho California WD pumped 36,347 acre feet of groundwater. Some of this water was pumped from the younger alluvium and some from the older alluvium. The Court determined that water in both the younger alluvium and older alluvium adds to, contributes to and supports the Santa Margarita River stream system. The primary reason for differentiating between younger alluvium and older alluvium production is that, in California, production from the younger alluvium is generally considered to be governed by water rights that apply to the regulation of surface waters. Production from the older alluvium is generally considered to be governed by regulations that apply to groundwater.

During joint development of a groundwater model of the area it was necessary to develop estimates of the transmissivity for each aquifer. These estimates were based on pump tests. The resulting transmissivity values were then used to estimate the relative groundwater production from each aquifer. For Rancho California WD wells, the percent production estimated to originate in the younger alluvium is shown in Table 7.7.

Production from the younger alluvium and older alluvium for 2003-04 using the percentages noted in Table 7.7 is presented in Table 7.8. It may be noted that 12,245 acre feet were pumped from the younger alluvium and 24,102 acre feet were pumped from the older alluvium in 2003-04.

The production of 12,245 acre feet from the younger alluvium, as shown on Table 7.8 includes recovery of 1,252 acre feet of Vail recharge and 10,994 feet of import recharge. The recovered Vail recharge was used for authorized uses in the Permit 7032 service area as shown in Table 7.4. Although there were no Vail releases to groundwater storage in 2003-04 there is sufficient unrecovered recharge from prior years to offset the use of 1,252 acre feet in 2003-04. Rancho California WD imported 16,088 acre feet of water in 2003-04 for direct recharge of which 10,994 acre feet were recovered leaving 5,094 acre feet as unrecovered direct recharge.

Imported water carryover to 2004-05 includes the following:

		AF
1.	Carryover from 2002-03	20,933
2.	Unrecovered direct recharge in 2003-04	5,094
3.	Import Return Flow Credit for 2003-04	1,200
4.	Total Carryover to 2004-05	27,227

Thus, there was no unauthorized use under Permit 7032 in 2003-04 and 27,227 acre feet of imported supplies remain available to offset younger alluvium production in future years.

TABLE 7.7

SANTA MARGARITA RIVER WATERSHED
PERCENT PRODUCTION FROM YOUNGER ALLUVIUM IN RANCHO CALIFORNIA WATER DISTRICT WELLS

RCWD WELL NO.	LOCATION TOWNSHIP/ RANGE/ SECTION	SEAL DEPTH FEET	PERFORATED INTERVAL FEET	DEPTH YOUNGER ALLUVIUM FEET	PERCENT YOUNGER ALLUVIUM %		REMARKS
108	7S/3W-26R1	55	130-210; 250-310; 340-440; 700-740; 780-980	0	0.0%	Murriete	No. 108 Winchester, clay 0'-40'
107	7S/3W-26J1	55	60-120; 190-260; 280-300; 390-590	58	0.0%	Murrieta	No. 105 - gravel & clay 58'-84'
108	7S/3W-25E1		60-110; 190-280; 350-410; 430-450; 470-490;	55	0.0%	Murrieta	Formerly No. 109 gravel/sandy clay 55'-70'
109	8S/2W-17J1	52	70-150; 170-210	75	84.0%		Brown clay and gravel 75' to 105'
110	8S/1W-6K1	54	75-155	165	97.0%		Clay 165'-190'. Prior to 10/23/97 perf int. 70-150; 200-240; 320-380; 420-
113	7S/2W-25H1	52	96-136; 275-462; 482-	Shallow	0.0%		
116	8S/1W-6J	Unknown	60-120; 140-200; 220-260; 270-330; 370-390	150	94.0%		Clay 150'-170'
119	8S/2W-19J	55	170-260; 300-470		0.0%	Wolf Valley	Perforated below 170'
123	8S/1W-7B	55	100-260; 300-380; 420-	135	65.0%		Brown Sand Clay 135'-210'
129	7S/2W-20L	Unknown	180-290; 416-480; 520-600	Shallow	0.0%	Santa Gertrudis	Qyal very shallow along Santa Gertrudis Creek
132	8S/1W-7D	55	70-390; 430-500	135	82.0%		Brown Clay Streaks 135'-175'
135	7S/3W-27M10	55	70-170	50	0.0%	Murriete Valley	Silty clay 50'-69'
141	8S/2W-11P	55	120-190; 215-235; 270-380; 430-510	104	0.0%		Silt & sand 104'-185'; Well 11L1 is 112'
144	7S/3W-27D	55	983-1123; 1143-1283; 1343-1483; 1503-1743	25	0.0%	Murrieta Valley	Sand with silty clay 25'-45'
146	7S/3W-28	50	50-190	42	0.0%	Murrieta	
152	8S/1W-5K	50	70-470; 490-540	130	90.8%		Forebay
153	8S/1W-5K3	50	50-220	170	99.0%		Forebay
157	8S/1W-5L	50	50-210	128	96.8%		Forebay
158	8S/1W-5K	50	50-210	100	96.5%		Forebay
205	7S/3W-35A	50	150-1000	10	0.0%	Santa Gertrudis/	Sandy clay 10'-20'
210	8S/2W-12K	None	48-228	140	94.0%		Clay cobblestones 160'-167', 175'-
218	8S/2W-20B5	27	48-289	40	0.0%		Old 28; clay with sand layer 40'-60'; now monitoring wells 427, 428 and
486	8S/3W-1P2	Unknown	106-822	49	0.0%	Long Canyon	Old 219, Cantarini, herd clay 49'-60'
220	7S/3W-26Q1	34	114-450	58	0.0%		Clay 58' - 73'
487	8S/2W-12K1	Unknown	50-100; 100-140	140	100.0%		Old 221, JK, Exh. 16, Monitoring well since 1983
223	8S/2W-20C1	Unknown	48-250	60	94.0%	Wolf Valley	CAT Well; east of Wildomar Fault; nearby Exh 16 wells 17Q @62' & 17M @55' are also east of Wildomar
224	8S/2W-15D	Unknown	48-250	106	68.0%		Old Well 50, clay 106'-138'
230	8S/2W-11J1	Unknown	24-31; 32.5-34; 35-40; 61-65; 70-76; 80-85; 86.5-91; 92.5-98.5	>119	100.0%		Old Well 30, depth of well is 119'
231	8S/2W-20B6	55	80-120; 150-270	35	0.0%		Old 104, P-34, Clay 20'-23'; 35'-41'; East of Wildomar Fault
232	8S/2W-11J3	51	95-135; 175-215; 235-295	135	92.0%		Old 111, 105, P-31; coarse sand & clay 135' - 155'
233	8S/2W-12K2	51	95-135; 175-215; 235-	145	88.0%		Old 112, P32; sand and clay at 145'-
234	8S/2W-11P1	52	80-100; 120-140; 200-240; 280-320; 340-400	125	74.0%		Brown Clay at 125'; sand and clay at 125'-140'
235	8S/3W-1Q1	55	Unknown	Shallow	0.0%	Long Canyon	
240	8S/2W-11L1	Unknown	48-298	112	86.0%		Old Well No. 40; clay 112'-136'
301	7S/3W-18Q1	93	140-280; 280-520; 540-	26	0.0%	Murrieta	Old JR1; blue clay 26'-32'

TABLE 7.8

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
WELL PRODUCTION FROM YOUNGER AND OLDER ALLUVIUM
2003-04
Quantities in Acre Feet

WELL NO.	QYAL	QTOAL	TOTAL
101	0.00	282.00	282.00
102	0.00	95.00	95.00
106	0.00	340.00	340.00
108	0.00	119.00	119.00
109	263.76	50.24	314.00
110	1,705.26	52.74	1,758.00
113	0.00	467.00	467.00
118	0.00	886.00	886.00
119	0.00	1,463.00	1,463.00
120	0.00	1,409.00	1,409.00
121	0.00	0.00	0.00
122	0.00	802.00	802.00
123	103.35	55.65	159.00
124	0.00	647.00	647.00
125	0.00	1,219.00	1,219.00
126	0.00	1,458.00	1,458.00
126	0.00	1,165.00	1,165.00
129	0.00	0.00	0.00
130	0.00	563.00	563.00
131	0.00	714.00	714.00
132	333.74	73.26	407.00
133	0.00	475.00	475.00
135	0.00	26.00	26.00
138	0.00	1,090.00	1,090.00
139	0.00	826.00	626.00
140	0.00	0.00	0.00
141	0.00	394.00	394.00
143	0.00	607.00	607.00
144	0.00	194.00	194.00
145	0.00	635.00	635.00
146	0.00	20.00	20.00
149	0.00	312.00	312.00
151	0.00	0.00	0.00
152	2,697.67	273.33	2,971.00
153	1,918.62	19.38	1,936.00
155	0.00	191.00	191.00
157	2,000.86	66.14	2,067.00
156	1,006.50	36.51	1,043.00
201	0.00	0.00	0.00
203	0.00	274.00	274.00
205	0.00	1,943.00	1,943.00
207	0.00	0.00	0.00
208	0.00	0.00	0.00
209	0.00	0.00	0.00
210	501.02	31.98	533.00
211	0.00	0.00	0.00
215	0.00	39.00	39.00
216	0.00	0.00	0.00
217	0.00	916.00	916.00
231	0.00	404.00	404.00
232	484.84	42.16	527.00
233	1,074.48	146.52	1,221.00
234	155.40	54.60	210.00
235	0.00	1,060.00	1,060.00
301	0.00	0.00	0.00
302	0.00	49.00	49.00
309	0.00	2,115.00	2,115.00
TOTAL	**12,245.49**	**24,101.51**	**36,347.00**

Western Municipal Water District

Western MWD wholesales imported water to Rancho California WD and also serves water to its Improvement District A near the southern boundary of Riverside County along I-15 freeway. Deliveries to Rancho California WD are included under Rancho California WD.

In Water Year 2003-04, imports to Improvement District A amounted to approximately 50 acre feet as shown in Appendix A, Table A-10.

Deliveries to Improvement District A through turnout WR-13 for the period 1966 to 2004 are shown in Table 5.4.

U. S. Marine Corps - Camp Pendleton

Camp Pendleton is located on the coastal side of the Santa Margarita River Watershed. Water is provided by 14 wells that produced 6,765 acre feet in Water Year 2003-04. This production is from the younger alluvium and is based on riparian and appropriative rights. Of this quantity, 3,890 acre feet were exported to areas of the Base outside the Watershed as shown in Appendix A.

A portion of the exported water amounting to 1,715 acre feet were returned to the Santa Margarita River Watershed as wastewater.

Production and estimated use inside and outside the Watershed, as well as wastewater returns, are shown in Appendix B for the period 1966-2004.

In addition to the operations at Camp Pendleton involving diversions from the Santa Margarita River, water is also imported by the Naval Weapons Station (NWS). The NWS occupies about 9,148 acres in the northeastern part of Camp Pendleton. Since 1969 the NWS has relied on imported water delivered via Fallbrook PUD for its supply. Wastewater is exported from the NWS and the Watershed via an outfall line also used by the Fallbrook Public Utility District. In 2003-04, 73 acre feet were imported of which 8 acre feet of wastewater were exported, as shown in Appendix A. Imports and use between 1966 and 2004 are shown in Appendix B.

7.3 Indian Reservations

Water use information about the Cahuilla, Pechanga and Ramona Indian Reservations in the Watershed is described in the following sections:

Cahuilla Indian Reservation

In general, domestic water use on the Cahuilla Indian Reservation is not measured, however reports indicate that 300 people reside on the Reservation. These residents use water primarily for domestic purposes as well as for livestock watering and grazing. Annual domestic water use, based on 125 gallons per capita per day, amounts to a total annual use of about 42 acre feet from wells listed in Appendix C.

The foregoing estimate is for total domestic water use on the Reservation. A portion of this use may not be under Court jurisdiction, but the estimate will be used until individual well production quantities are available to allow determination of the portion under Court jurisdiction. The estimated domestic use is included on Table 4.1 under water purveyor production.

An additional 5 acre feet was put to commercial use at a casino. This water was pumped from well 7S/2E-26B3 that overlies basement complex and is outside court jurisdiction.

Under federal law, production from groundwaters within the lands of the Cahuilla Indian Reservation in either the younger or older alluvial deposits which are a part of the shallow aquifer of the Anza Ground Water Area or which are part of the Cahuilla Ground Water Basin can be considered to be under a federal reserved right, in accordance with Interlocutory Judgment No. 41 which provides as follows in Order No. 3:

> *IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the United States of America intended to reserve, and did reserve, rights to the use of the waters of the Santa Margarita River which under natural conditions would be physically available on the Cahuilla Indian Reservation, including rights to the use of ground waters, sufficient for the present and future needs of the Indians residing thereon with priority dates of December 27, 1875, for lands transferred by the Executive Order of that date; March 14, 1887, for lands transferred by the Executive Order of that date; December 29, 1891, for lands transferred by the Executive Order of that date.*

Pechanga Indian Reservation

During 2003-04, water well production by the Pechanga Water System amounted to 721 acre feet. In addition, it is estimated that a spring produced about 4 acre feet during the year for a total production of 725 acre feet as shown in Appendix A, Table A-10. Information about system wells and the spring is shown in the following tabulation:

Well Designation 8S/2W	Name	Water Depth Feet	Well Depth Feet	Perf. Interval Feet
28R1	Ball Park	87.09	1,000	130 - 220
28Q6	Sea Bee	78.84	610	N/A
29A1	Kelsey Tract	106.01	348	N/A
29B10	Eduardo	68.40 *	N/A	N/A
29	Eagle II	N/A	646	275 - 636
29	New Kelsey	N/A	425	105 - 415
29	New Stevenson	N/A	245	100 – 235
29	South Boundary	N/A	350	150 - 340

N/A - Not Available * Water depth in Well 8S/2W-29B9

The wells listed above are in areas of younger alluvium at ground surface. The depth of the younger alluvium in Wolf Valley was estimated by representatives of Rancho California WD and the United States for Rancho California WD Wells No. 117 (8S/2W-20E) and No. 119 (8S/2W-19J) to be in the range of 120 to 170 feet in depth. Thus, based on available well construction data, some of the production is from the younger alluvium and some from the older alluvium. Under state law production from the wells that originate in the older alluvium can be considered to be under a groundwater appropriative right or an overlying right, depending on the circumstances at each well.

Under federal law, production from groundwaters that originate in either the younger or older alluvium within the Murrieta-Temecula Ground Water Area can be considered to be under a federal reserved right, in accordance with Interlocutory Judgment No. 41 which provides as follows in Order No. 7:

> *IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the United States of America intended to reserve, and did reserve, rights to the use of the waters of the Santa Margarita River stream system which under natural conditions would be physically available on the Pechanga Indian Reservation, including rights to the use of ground waters sufficient for the present and future needs of the Indians residing thereon with priority dates of June 27, 1882, for those lands established by the Executive Order of that date; January 9, 1907, for those lands transferred by the Executive Order of that date; August 29, 1893, for those lands added to the Reservation by Patent on that date; and May 25, 1931, for those lands added to the Reservation by Patent of that date.*

Ramona Indian Reservation

The Ramona Indian Reservation occupies 560 acres of land of which 321 acres are inside the Watershed. The Ramona Reservation has no reported water use or residents.

Under federal law, production from groundwaters contained in shallow aquifer of the Anza Ground Water Basin overlain by lands of the Ramona Indian Reservation within the watershed of the Santa Margarita River can be considered to be under a federal reserved right, in accordance with Interlocutory Judgment No. 41 that provides as follows in Order No. 1:

> *IT IS ORDERED, ADJUDGED AND DECREED that the United States of America when it established the Ramona Indian Reservation intended to reserve and did reserve rights to the use of the waters of the Santa Margarita River stream system which under natural conditions would be physically available on the Ramona Reservation, including rights to the use of ground waters, sufficient for the present and future needs of the Indians residing thereon with a priority date of December 29, 1891.*

7.4 Small Water Systems

There are a number of mobile home parks in the Watershed. These range from relatively permanent structures, to those catering to recreational vehicles and campgrounds. Water production from wells is shown in Appendix A, Table A-10 for Butterfield Oaks Mobile Home Park, Hawthorn Water System, Outdoor Resorts Rancho California, Inc., and Jojoba Hills SKP Resort.

7.5 Irrigation Water Use

Estimated water production reported by substantial users for irrigation in the Santa Margarita River Watershed is shown on Table 7.1 to be 6,475 acre feet. This quantity includes 6,050 acre feet of well production and 425 acre feet of surface diversion as shown in Appendix C.

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SECTION 8 - UNAUTHORIZED WATER USE

8.1 General

From time to time there are complaints of unauthorized water uses of various types in the Watershed. Such complaints are investigated when they are brought to the attention of the Watermaster. The status of the current list of unauthorized uses is described as follows:

8.2 Unauthorized Small Storage Ponds

Many small dams and reservoirs have been constructed on streams in the Watershed. The legal basis for these ponds is described in the 1988-89 Watermaster Report. Basically, the Court has held that storage of water in ponds less than 10 acre feet in capacity and used for stock watering is a valid use of riparian water. The Court has also held that:

> The temporary or non-seasonal impoundment by riparian owners for the purpose of providing a head for irrigation or for the purpose of temporarily accumulating sufficient water to make possible efficient irrigation is a proper riparian use of water.

Criteria for determining non-seasonal storage of irrigation water have yet to be developed.

8.3 Rancho California Water District Water Use

A number of unauthorized water use issues raised by the United States were settled with the completion of a Cooperative Water Resource Management Agreement (CWRMA) between the United States on behalf of Camp Pendleton, and Rancho California Water District.

Although the CWRMA provides that the United States will withdraw its protest of Rancho California WD's application to the State Water Resources Control Board to change the place of use, type of use and rediversion facilities in Permit 7032, protests by U. S. Fish and Wildlife Service, the U. S. Bureau of Indian Affairs and the California Sportfishing Alliance have not been resolved. The case entitled *United States of America v. Rancho California Water District,* Riverside County Superior Court, Case No. EO 14837, Court of Appeal, Fourth Judicial District, Case No. 229096 has been dismissed.

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SECTION 9 - THREATS TO WATER SUPPLY

9.1 General

General threats to the long-term water supply in the Santa Margarita River Watershed, which have been described in previous Watermaster Reports, are as follows:

1. High nitrate concentrations in Rainbow Creek and in Anza Valley.

2. Potential overdraft conditions at various locations in the Watershed.

3. Potentially adverse salt balance conditions in the upper Santa Margarita River area.

9.2 High Nitrate Concentrations

In past years, high concentrations of nitrate have been measured in Anza Valley and on Rainbow Creek. Conditions in Anza Valley were generally described in the 1993-94 report. Few measurements have been reported in Anza Valley since then.

In 1999 the Regional Water Quality Control Board began preparation of a Total Maximum Daily Load (TMDL) plan for Rainbow Creek. In the draft TMDL the Regional Board concluded that the observed concentrations on nitrate were far in excess of 1.0 mg/l, a goal for nitrate that may be computed using a ratio of 10 parts nitrogen to one part phosphorous and the desired Basin Plan goal of 0.1 mg/l phosphorous. The draft TMDL further reports that the concentrations that exceed the Basin Plan goals for biostimulatory substances have caused excessive algae growth at various locations along Rainbow Creek.

The draft TMDL calls for a 28% reduction in nitrogen and phosphorous loads to meet drinking water standards for nitrate (10 mg/l as nitrogen) within four years after the TMDL is approved by the EPA. Thereafter the load allocations are to be reduced by 10% every four years until biostimulatory goals are met.

Meeting the initial 28% reduction will require loading reduction of 70 – 80% for commercial nurseries, irrigated agricultural lands, residential land uses and septic tanks.

The draft TMDL also requires the County of San Diego to develop and implement a watershed management plan for nutrients. This plan is to describe measures to achieve the necessary reductions. The County will also be responsible for investigating groundwater and septic tank conditions.

On May 8, 2002, the Regional Board held a public hearing. Since then the Regional Board staff has revised the technical report in response to comments from EPA, the County of San Diego, Hines Nursery, and the Farm Bureau. During 2003-04 the revised report underwent peer review and will be available for additional public comment and adoption into the Basin Plan in 2004-05.

9.3 Potential Overdraft Conditions

Previous Watermaster reports have noted concerns about overdraft conditions in Anza Valley and in the Murrieta-Temecula area. The 1989-90 Watermaster Report described a water supply study, conducted by a consultant to Riverside County, which concluded that Anza Valley water use in 1986 was approximately equal to the perennial yield and that as of 1986 useable groundwater in storage approximated 56,000 acre feet. No further studies relative to groundwater use in Anza Valley are available. Historical measurements of groundwater levels for Anza Mutual Water Company's Well No. 1 (7S/3E-21G1) located in Anza Valley are plotted in this Report on Figure 4.4. It can be noted that the water level in October 2004 is within the general range observed since the early 1970's.

No recent published studies of safe yield are available for the Murrieta-Temecula area. Groundwater resources in much of the area are being managed by Rancho California WD. The District prepares an annual groundwater production program with the goal of developing the maximum perennial yield from the basin. The District monitors water levels and well production in each of several hydrogeologic subareas. Each year that data, combined with other information including water quality, natural and artificial recharge, pump settings, and well construction factors, are used to develop a recommended production program. Production rates are commonly lowered in subareas where water levels have declined over several years, and production rates are increased in areas where decline has not occurred. As a final check the recommended production rates are checked using the latest version of the Rancho California WD groundwater model.

In addition, Rancho California WD in cooperation with Camp Pendleton is in the process of refining a multi-level groundwater monitoring network, pursuant to the Cooperative Water Resource Management Agreement. The purpose of the network is to develop data for use in assessing safe yield operations.

Groundwater level data for three wells in the Murrieta-Temecula Groundwater Area are included in this report as Figures 4.1, 4.3 and 4.5. Water levels in the Windmill Well (8S/2W-12H1) located at the eastern part of Pauba Valley declined 1.3 feet in 2003-04. Water levels in Well 7S/3W-20C9 in the Murrieta CWD area had no change from last year, and those in Well 8S/2W-29G1 on the Pechanga Indian Reservation in Wolf Valley were down 11.9 feet from last year. As can be seen from the long-term hydrographs, the foregoing groundwater levels are at the low end of the broad range of groundwater levels experienced in recent years, except for Well 29G1 on the Pechanga Indian Reservation which is below its historical range.

9.4 Salt Balance

A key issue in management of a groundwater basin is potential build up of salts from imported water supplies. Such a build-up could decrease the usability of waters in a basin. Consideration must be given to measures that allow export of salts from a basin to offset the salt load in water entering the groundwater basin.

During 2003-04, Eastern MWD exported 3,688 acre feet of treated wastewater from the watershed for reuse. An additional 5,427 acre feet were exported for operational reasons. At an average total dissolved solids concentration of 650 mg/l there is approximately 1,768 pounds of salt in every acre foot of wastewater. Thus in 2003-04, approximately 8,058 tons of salt were exported by Eastern MWD.

In addition to export of treated wastewater, the salt balances of the Murrieta-Temecula groundwater area and the lower Santa Margarita River groundwater area are affected by discharges from wells into Murrieta Creek or Temecula Creek. In 2003-04 wells discharged 55 acre feet, as shown below, together with estimated total dissolved solids in the water.

Well No.	Release Acre Feet	TDS mg/l	Sample Date
101	27	500	8/14/02
109	3	970	6/19/03
118	24	580	11/08/02
231	1	1080	5/24/01
Total	55		

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SECTION 10 - WATER QUALITY

10.1 Surface Water Quality

The U.S.G.S. collected continuous water quality measurements for dissolved oxygen, pH, specific conductance and temperature at the Santa Margarita River gaging stations near Temecula during 2003-04. Data collected at the station are published by the U.S.G.S. in its annual Water Resource Data report. The highest average daily high and the lowest average daily low for each parameter for each month are shown in Table 10.1 for months in water year 2004.

Surface water quality data collected in prior years by Camp Pendleton, Eastern MWD, and Rancho California WD are listed in earlier Watermaster reports.

10.2 Groundwater Quality

During 2003-04 water quality data were collected from wells at Murrieta County WD, Rancho California WD, Pechanga Indian Reservation, and Camp Pendleton.

Murrieta County WD sampled six wells in 2003-04. Concentrations of total dissolved solids ranged from 380 to 800 mg/l as shown in Appendix Table D-3. Total dissolved solids in one of the wells exceeded the Basin Plan Objective of 750 mg/l. Concentrations of nitrates were far below the drinking water standard of 45 mg/l as nitrate, ranging from none detected to 11 mg/l.

Water quality data for Rancho California WD wells are shown in Appendix Table D-4. Samples were collected from 35 wells during 2003-04. Of the 35 wells, 25 wells were analyzed for nitrates only. In these wells, nitrate concentrations ranged up to 31 mg/l as nitrate, with the drinking water standard being 45 mg/l as nitrate. Samples from the remaining 10 wells were subjected to standard chemical analysis. TDS concentrations increased from the previous year in nine wells, and decreased in one well.

TABLE 10.1

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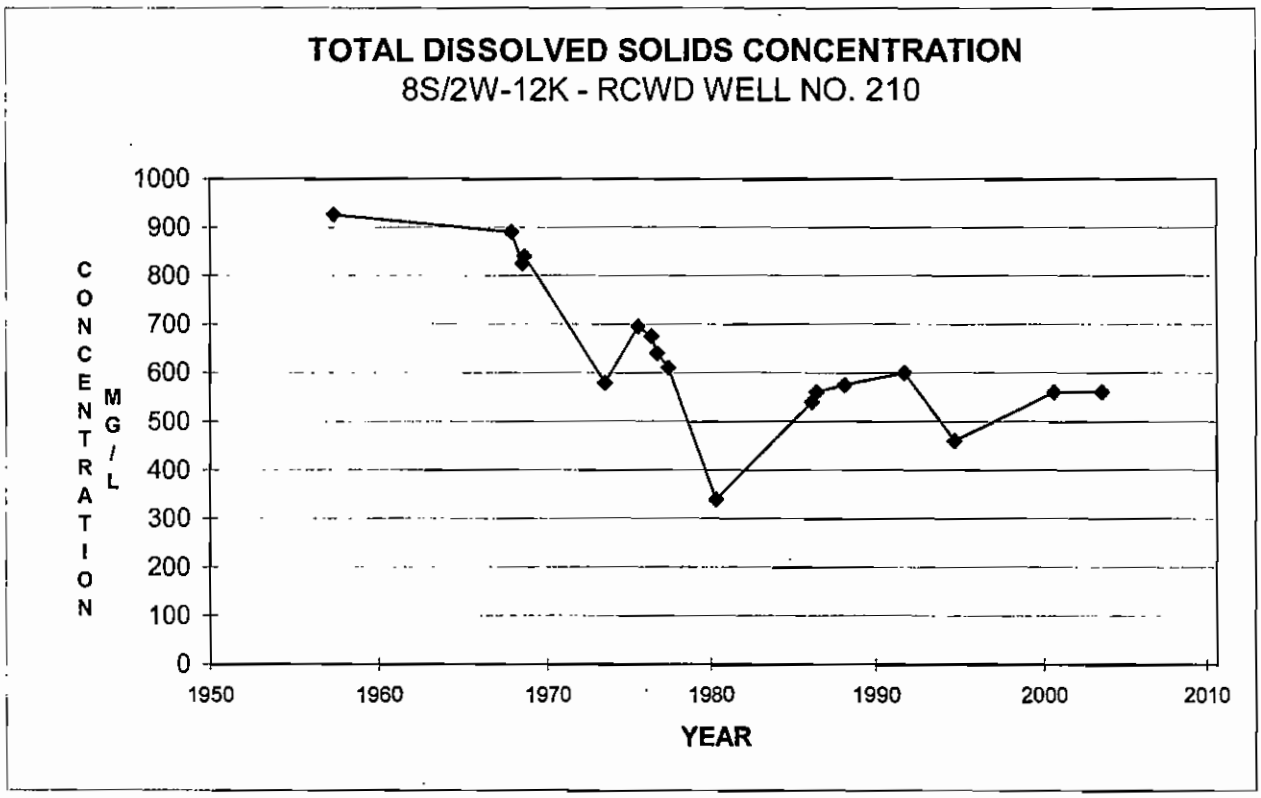
RANGES IN AVERAGE DAILY CONCENTRATION OF DISSOLVED OXYGEN, PH, SPECIFIC CONDUCTANCE AND TEMPERATURE AT SANTA MARGARITA RIVER NEAR TEMECULA

Water Year 2003-04

COLLECTION MONTH/YEAR	DISSOLVED OXYGEN mg/l		pH		SPECIFIC CONDUCTANCE microsiemens/cm		TEMPERATURE Deg C	
	High	Low	High	Low	High	Low	High	Low
2003								
October	9.0	6.9	8.0	7.8	897	783	25.6	20.4
November	9.8	6.3	8.0	7.1	1310	474	20.4	12.1
December	10.1	8.9	8.1	7.8	970	912	15.4	12.8
2004								
January	12.2	10.6	8.2	7.8	996	918	12.2	11.3
February	15.1	6.6	8.1	7.2	1340	505	14.0	9.8
March	10.9	8.7	8.2	7.8	1040	808	19.7	13.4
April	11.0	5.2	8.3	7.5	1220	706	23.1	15.9
May	9.3	6.5	8.2	7.8	963	828	21.3	18.5
June	8.8	5.0	8.0	7.6	1140	847	23.4	19.6
July	9.2	6.4	8.1	7.6	1050	822	25.3	21.5
August	9.4	7.0	8.0	7.7	955	731	24.0	18.8
September	9.3	6.1	7.9	7.5	834	724	23.4	18.7

Total dissolved solids concentrations for Rancho California WD Well 210 are shown on Figure 10.1 for samples collected since 1957 when the well was constructed. The figure shows a decline in TDS from approximately 900 mg/l for the samples collected during the 1960's to the 500-600 mg/l range in recent years.

FIGURE 10.1



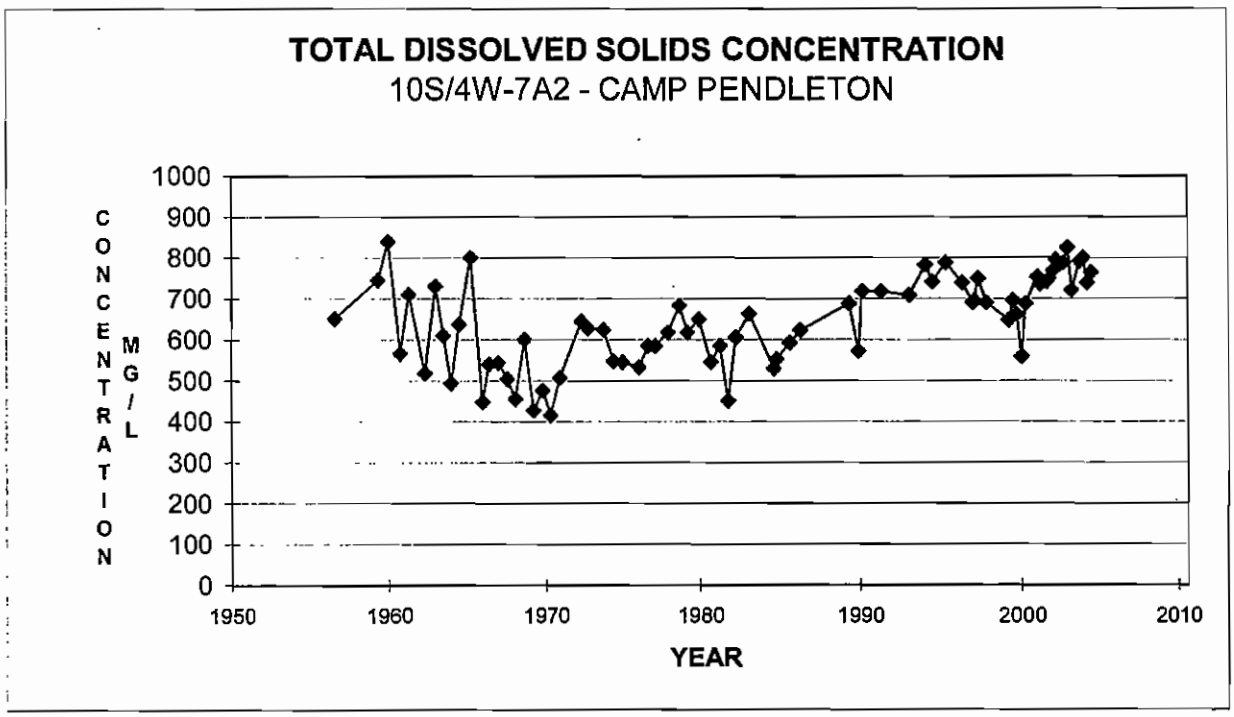
Appendix Table D-5 shows water quality data collected by the U.S.G.S. from wells on Indian Reservations. In 2003-04 samples were collected from six wells on the Pechanga Indian Reservation. No nitrate concentrations exceeded 10 mg/l as N. Total dissolved solids concentrations ranged from 234 to 440 mg/l.

During 2003-04 samples of groundwater were collected from 12 wells at Camp Pendleton as shown on Appendix Table D-6. These wells were subjected to standard chemical analysis with results generally consistent with the historical results. Of the 12 wells sampled, eight provided one or more samples where total dissolved solids concentrations exceeded 750 mg/l, the Basin Plan Objective. This result is the same as last year.

In six of the 12 wells, one or more of the samples taken had total dissolved solids concentration that exceeded those in the prior year.

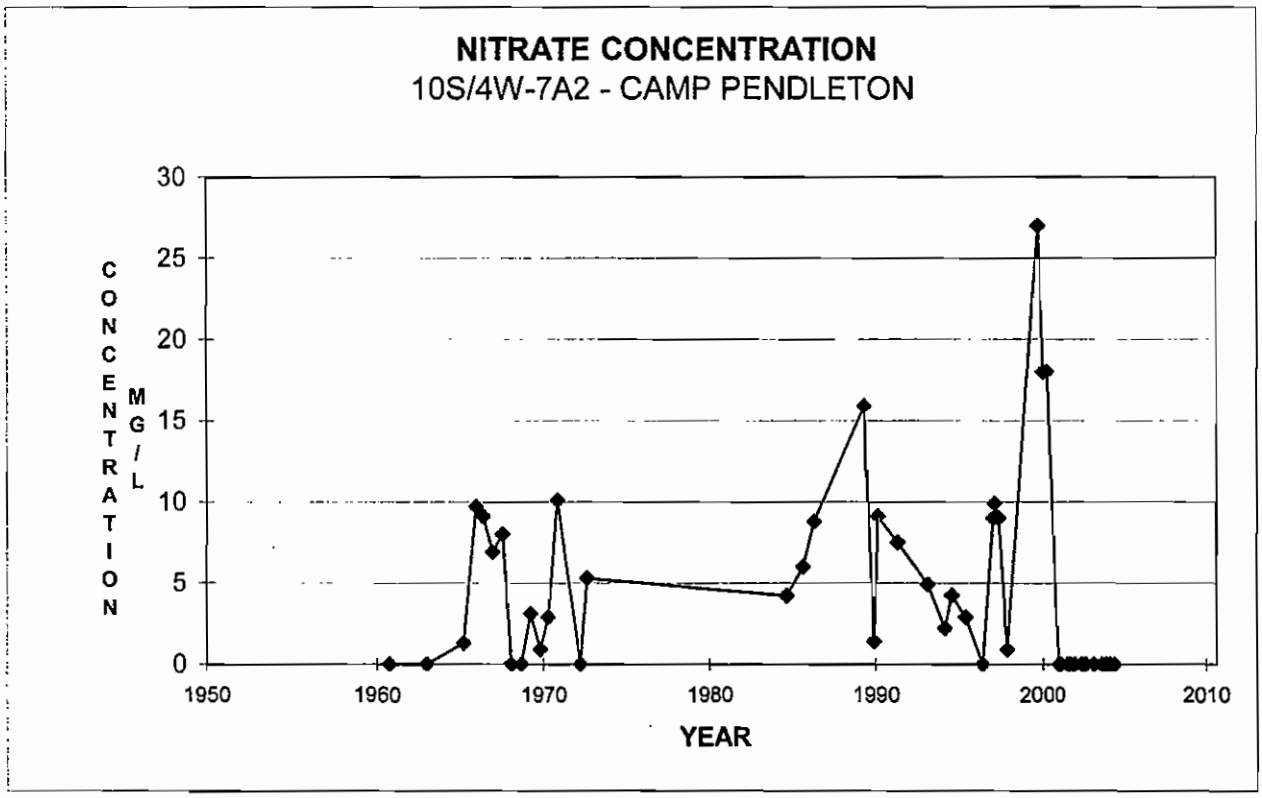
Historical total dissolved solids concentrations for Camp Pendleton Well 7A2 are shown on Figure 10.2 for samples collected since mid-1950. The figure shows a decline between mid-1950 and 1970, then a period of increasing concentration to levels in the 550-800 mg/l range. Analysis of samples collected in 2003-04 indicated total dissolved solids concentrations of 739, 764, 791, and 800 mg/l.

FIGURE 10.2



Historical nitrate concentrations for the same well (7A2) are shown on Figure 10.3. Four samples collected in 2003-04 indicated there were no detected concentrations of nitrate.

FIGURE 10.3



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SECTION 11 – COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

11.1 General

On August 20, 2002, the Cooperative Water Resource Management Agreement (CWRMA) between Camp Pendleton and Rancho California WD was approved by the District Court. Among other things, the CWRMA provides that on May 1 of each year the Technical Advisory Committee is to compute a hydrologic index for the year based on streamflow and precipitation between October and April. In May 2004 it was determined that 2004 was a "Critically Dry" year. The hydrologic index for the year establishes the required flows at the Santa Margarita River near Temecula gaging station for the calendar year. Required flows for 2003-04, a "Critically Dry" year, are listed in Section 5 of the CWRMA and are shown on Table 11.1.

The CWRMA also settled, for the duration of the Agreement, a number of ongoing water right issues between Camp Pendleton and Rancho California WD. In recent years these issues have been noted in the annual Watermaster report or have been the subject of comments by the United States about the annual Watermaster report. In order to avoid this perennial controversy, these comments have been consolidated in Appendix F to this report.

11.2 Required Flows

Under the CWRMA Rancho California WD guarantees that the ten-day moving average of the measured flows at the Santa Margarita River gaging station near Temecula shall meet the required flows for each month during the year. In order to meet the required flows, Rancho California WD discharges make-up water into the river immediately upstream from the U.S.G.S. gaging station. These discharges are normally measured at MWD's Outlet WR-34.

Flow requirements are based on two-thirds of the median natural flow of the Santa Margarita River at the Gorge for a given hydrologic condition. During the winter period (January through April) the District shall maintain a ten-day running average equal to 11.5 cfs less carry-over credits less requested Foregone Make-Up Water. The District may earn Climatic Credits if it has provided Make-Up Water in excess of its Actual Requirement. The Climatic Credit is equal to the Make-Up Water released less the Actual Requirement less Credits, but not less than 3.0 cfs. The Actual Requirement is determined on May 1 of each year and applied retroactively to the flows during the winter period.

During the non-winter period (May through December) the District shall maintain a ten-day running average equal to the flow requirements specified in the Agreement as determined on May 1st less requested Foregone Make-Up Water. When the District is required to provide Make-Up Water in any calendar year in excess of 4,000 acre feet, it may apply a credit for such excess during the following two winter periods. At no time is the District required to make up more than 11.5 cfs.

TABLE 11.1

SANTA MARGARITA RIVER WATERSHED

MONTHLY SUMMARY OF REQUIRED FLOWS, DISCHARGES, CREDITS AND ACCOUNTS

2004 - CRITICALLY DRY YEAR

Month	USGS Provisional Discharge AF	USGS Website Daily Discharge AF	Minimum Flow Maintenance Requirement cfs /1	Section 5 Flows cfs /2	No. of Days 10-Day Moving Average is Less Than Required Flow	Discharge from WR-34 Per MWD AF	Climatic Credits Earned AF /3	Camp Pendleton Groundwater Account /4 Input AF	Camp Pendleton Groundwater Account /4 Cumulative Balance AF
Jan	509.6	510.9	8.4 / 7.1	4.5	0	449.0	264.5	92.2	2,188.6
Feb	3,294.3	3,294.3	7.1	4.5	8	187.8	89.7	86.3	2,274.8
Mar	610.5	614.1	7.1	4.5	0	322.9	162.2	92.2	2,367.1
Apr	465.1	465.1	7.1	4.5	2	339.7	161.2	89.3	2,456.3
May	267.2	235.8	3.8	3.8	0	205.6	0.0	0.0	2,456.3
June	209.1	202.7	3.3	3.3	1	154.8	0.0	0.0	2,456.3
July	183.3	188.0	3.0	3.0	0	166.7	0.0	0.0	2,456.3
Aug	194.6	185.1	3.0	3.0	0	183.9	0.0	0.0	2,456.3
Sept	182.5	179.3	3.0	3.0	0	177.4	0.0	0.0	2,456.3
Oct	7,652.6	8,451.6	3.0	3.0	0	111.2	0.0	0.0	2,456.3
Nov	1,247.2	1,300.8	3.0	3.0	0	103.0 /5	0.0	0.0	2,456.3
Dec	6,340.6	6,348.5	3.3	3.3	0	122.8	0.0	0.0	2,456.3
TOTAL	21,156.5	21,976.2			11	2,524.8	677.7	360.0	

1 - Required flows for January 1 - 22 equal 11.5 cfs less 3.1 cfs Cap Credit; Jauary 22 to April 30, equals 11.5 cfs less 4.4 cfs Cap Credit.

2 - The Table in Section 5 of the CWRMA sets forth guaranteed monthly flows at the gorge once the Hydrologic Condition for the calendar year is established.

3 - Climatic Credits equal the WR-34 discharges less actual Flow Requirements which is the flow indicated in Section 5 of the CRWMA less applicable credits but not less than 3.0 cfs.

4 - Camp Pendleton's rights to groundwater equals the Flow indicated in Section 5 of the CWRMA less the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs.

5 - Includes 53.2 AF for RCWD River Meter

The measured daily flows, the ten-day moving average, and the differences between the moving average and the required flows are shown in Appendix E. Two listings of daily discharges are shown in the tables in Appendix E: the U.S.G.S. provisional discharge and the U.S.G.S. website discharge. The discharges shown on the website are those that dictate daily decisions regarding the quantities of Make-Up Water required and those discharges are used to compute the ten-day moving average. The provisional discharge is a more refined estimate developed later by the U.S.G.S. and published in their annual reports. The number of days each month when the ten-day moving average was less than the required flow is summarized on Table 11-1. It can be noted that the moving average was less than the required flow on 11 days during the year.

During the 2003 calendar year, Rancho California WD discharges to the Santa Margarita River through MWD's Outlet WR-34 as measured by Rancho California WD totaled 5,484 acre feet. Since the District receives Credits for Make-Up Water in excess of 4,000 acre feet in a calendar year, there are 1,484 acre feet of Cap Credit available to be applied to reduce flow requirements during the two following winter periods (January – April) of 2004 and 2005. In 2004 Rancho California WD applied 1001.9 acre feet of these Credits during the winter period. [(21 days X 3.1 cfs) + (100 days X 4.4 cfs)] X (86,400/43,560). That leaves 482 acre feet of Credits to be applied in 2005.

Since flows are required to be maintained during the January – April period prior to learning the hydrologic index, the CWRMA provides for a Climatic Credit in the event the District provides Make-Up Water in excess of its actual requirement as determined on May 1st. Climatic Credits totaled 677.7 AF in 2004.

The CWRMA also provides that Camp Pendleton may acquire rights to groundwater above the gorge by foregoing its right to make-up water from the District, or to the extent that the District's Actual Flow Maintenance requirements are less than the flows in the table in Section 5 of the CWRMA.

During 2003, a total of 2,096.3 acre feet were contributed to Camp Pendleton's groundwater account during the year as shown on the revised Table 11.1 for 2003. In 2004, 360 AF were added to the account.

TABLE 11.1

SANTA MARGARITA RIVER WATERSHED

MONTHLY SUMMARY OF REQUIRED FLOWS, DISCHARGES, CREDITS AND ACCOUNTS

2003 - ABOVE NORMAL YEAR
Revised

Month ****	USGS Provisional Discharge AF	USGS Website Daily Discharge AF	Minimum Flow Maintenance Requirement cfs	Section 5 Flows cfs /1	No. of Days 10-Day Moving Average is Less Than Required Flow	Discharge from WR-34 Per MWD	Discharge from WR-34 Per RCWD	Climatic Credits Earned AF /2	Camp Pendleton Groundwater Account /3 Input AF	Camp Pendleton Groundwater Account /3 Cumulative Balance AF
Jan	750.9	805.5	11.5 *	17.8	0	509.8	670.4	0.0	387.4	387.4
Feb	9,828.7	9,856.7	11.5 *	17.8	0	459.2	333.0	0.0	349.9	737.3
Mar	5,408.7	5,485.7	11.5 *	17.8	0	508.4	491.3	0.0	387.4	1,124.6
Apr	2,350.0	2,449.6	11.5 *	17.8	0	480.7	510.1	0.0	374.9	1,499.5
May	676.7	760.9	11.5 *	11.7	0	563.5	564.8	0.0	12.3	1,511.8
June	548.8	603.8	9.4	9.4	1	512.4	513.4	0.0	0.0	1,511.8
July	502.2	579.2	7.8	7.8	0	498.2	498.7	0.0	0.0	1,511.8
Aug	492.5	473.7	7.6	7.6	0	484.4	485.0	0.0	0.0	1,511.8
Sept	477.0	465.5	7.4	7.4	0	454.4	454.9	0.0	0.0	1,511.8
Oct	494.7	482.8	7.7	7.7	0	461.6	465.6	0.0	15.1	1,526.9
Nov	452.8	459.4	4.5 **	8.8	1	226.2	226.2	0.0	255.9	1,782.7
Dec	870.2	870.8	5.3 ***	10.4	0	270.6	270.6	0.0	313.6	2,096.3
TOTAL	22,853.4	23,293.4			2	5,429.4	5,484.0	0.0	2,096.3	

* - Maximum make up water is 11.5 cfs
** - Revised to 4.5 cfs on 10/30/03
*** - Revised to 5.3 cfs on 10/30/03
**** - Monthly totals shown may not be equal to numbers shown in columns due to computer rounding.
1 - The Table in Section 5 of the CWRMA sets forth guaranteed monthly flows at the gorge once the Hydrologic Condition for the calendar year is established.
2 - Climatic Credits equal the WR-34 discharges less actual Flow Requirements which is the flow indicated in Section 5 of the CRWMA less applicable credits but not less than 3.0 cfs.
3 - Camp Pendleton's rights to groundwater equals the Flow indicated in Section 5 of the CWRMA less the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs.

11.3 Water Quality

The U. S. Geological Survey continuously monitors four parameters of water quality at the Santa Margarita River near Temecula gaging station, including dissolved oxygen, pH, specific conductance, and temperature. The daily averages for each of these parameters are reported annually. Monthly highs and lows for each parameter are listed in Table 10.1 for the water year ending September 30, 2004.

11.4 Monitoring Programs

The Agreement provides for the establishment of two monitoring programs: one to assess the impacts of operations on water supply, water quality and riparian habitat within Camp Pendleton, and; one to assess safe yield operations at Rancho California Water District.

During 2003-04, Camp Pendleton continued to develop a monitoring plan based on a similar monitoring plan for the Santa Margarita River developed by the Nature Conservancy. Apparent loss from the Santa Margarita River between FPUD Sump and the Ysidora gage is shown in the following tabulation. Monthly flows at the Ysidora gaging station on Camp Pendleton are compared with the sum of the upstream flows at the FPUD Sump, Sandia Creek, and DeLuz Creek stations. Also in 2003-04, the Technical Advisory Committee investigated the construction of a multi-level monitoring well for the Murrieta-Temecula groundwater basin.

Month	Ysidora Gaga AF	Sandia Creek + Deluz Creek + FPUD Sump Gage AF	Apparent Loss (-) AF
October	501	692	(191)
November	843	920	(77)
December	1,390	1,363	+ 27
January	1,350	1,300	+ 50
February	5,250	4,528	+ 722
March	1,700	1,710	(10)
April	1,190	1,002	+ 188
May	308	591	(283)
June	116	440	(324)
July	94	323	(229)
August	50	337	(317)
September	0	330	(330)
Total	12,762	13,536	(774)

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SECTION 12 - FIVE YEAR PROJECTION OF WATERMASTER OFFICE TASKS, EXPENDITURES AND REQUIREMENTS

12.1 General

Projected tasks over the next five years are listed below in two categories: normal tasks, which are part of the usual Watermaster office operation; and additional tasks, which are foreseen but are not part of the normal office operations.

12.2 Normal Tasks

Tasks that are normally part of the Watermaster Office operation are as follows:

1. Update List of Substantial Users
2. Collect Water Production, Use, Import and Availability Data
3. Collect Well Location, Construction and Water Level Data
4. Administer Water Rights
5. Collect Water Quality Data
6. Monitor Water Quality and Water Right Activities
7. Administer Lake Skinner and Diamond Valley Lake MOU's
8. Administer Steering Committee Matters
9. Prepare Court Reports/Budgets
10. Monitor Streamflow and Water Quality Measuring
11. Data Management
12. Administer Cooperative Water Resource Management Agreement

12.3 Additional Tasks

Tasks that have been identified but which are not part of normal operations are as follows:

1. Prepare List of All Water Users Under Court Jurisdiction
2. Prepare Inventory of Ponds and Reservoirs
3. Determine Salt Balance

12.4 Projected Expenditures

Projected expenditures for the current year and over the next five years are listed as follows:

		Projected Expenditures		
		Watermaster Office	Gaging Station	Total
Current Year	2004/2005	$174,500	$148,875	$323,375
Projected Years	2005/2006	$181,300	$158,175	$339,475
	2006/2007	$190,400	$166,100	$356,500
	2007/2008	$199,900	$174,400	$374,300
	2008/2009	$209,900	$183,100	$393,000
	2009/2010	$220,400	$192,300	$412,700

SECTION 13 - WATERMASTER OFFICE BUDGET 2005-2006

A total Watermaster Budget of $339,475 for the Water Year ending September 30, 2006, is shown below.

This budget includes $181,300 for the Watermaster Office and $158,175 for U.S.G.S. gaging station operations. The budgeted cost for gaging station operation is based on the annual renewal of an agreement between the Watermaster and the U. S. Geological Survey.

	APPROVED BUDGET CURRENT YEAR 2004-05 $	PROPOSED BUDGET 2005-06 $
Watermaster Office		
Rent	9,600	9,600
Accounting Services	3,600	3,600
Supplies	700	900
General Liability & Professional Insurance	4,500	4,800
Printing	2,200	2,200
Audit	2,400	2,600
Publications	2,300	2,300
Clerical/Data Management	45,000	50,000
Telephone	2,000	2,000
Miscellaneous Operating/Maintenance	1,600	1,600
Mileage/Travel	500	500
Office Equipment and Software	1,500	1,500
Watermaster		
Consulting Services	83,000	84,000
Automobile Expense	3,600	3,700
Travel Reimbursement	12,000	12,000
SUBTOTAL WATERMASTER OFFICE	**$ 174,500**	**$ 181,300**
USGS Gaging Station Operation and Maintenance	$ 124,950	$ 132,775
USGS Water Quality Operation and Maintenance	23,925	25,400
TOTAL	**$ 323,375**	**$ 339,475**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

APPENDIX A

WATER PRODUCTION AND USE

WATER YEAR 2003-04

AUGUST 2005

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-1

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT

2003-04

Quantities in Acre Feet

	PRODUCTION					USE						RECLAIMED WASTEWATER					
MONTH YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW	NET IMPORT	TOTAL	AG 2/	COMM	DOM 3/	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW 4/	OUTSIDE SMRW OTHER REUSE	OUTSIDE SMRW EXPORT 5/	RELEASE TO RIVER	RECHARGE	TOTAL
2003																	
OCT	0	1,185	486	699	699	0	0	693	693	6	699	246	251	509	0	0	1,006
NOV	0	707	412	295	295	0	0	286	286	9	295	155	116	730	0	0	1,001
DEC	0	839	587	252	252	0	0	239	239	13	252	143	254	631	0	0	1,028
2004																	
JAN	0	864	386	478	478	0	0	454	454	24	478	145	32	848	0	0	1,025
FEB	0	469	263	206	206	0	0	196	196	10	206	249	302	430	0	0	981
MAR	0	1,267	405	862	862	0	0	819	819	43	862	31	102	915	0	0	1,048
APR	0	1,546	655	891	891	0	0	849	849	42	891	282	723	(1)	0	0	1,004
MAY	0	1,811	688	1,123	1,123	0	0	1,111	1,111	12	1,123	319	272	463	0	0	1,054
JUNE	0	1,653	590	1,063	1,063	0	0	999	999	64	1,063	323	354	345	0	0	1,022
JULY	0	2,791	1,296	1,495	1,495	0	0	1,552	1,552	(57)	1,495	401	342	300	0	0	1,043
AUG	0	2,138	1,558	578	578	0	0	619	619	(41)	578	505	513	54	0	0	1,072
SEPT	0	2,113	917	1,196	1,196	0	0	1,142	1,142	54	1,196	422	427	203	0	0	1,052
TOTAL	0	17,381	8,243	9,138	9,138	0	0	8,960	8,960	178	9,138	3,221	3,688	5,427	0	0	12,336

1/ Does not include deliveries to Rancho California Water District or Elsinore Valley Municipal Water District

2/ Figures are 95% of water pumped and imported to allow for 5% loss

3/ Figures are 95% of water pumped and imported to allow for 5% loss

4/ Includes 0 AF of sewage diverted to RCWD

5/ Unaccounted for Export

TABLE A-2

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT
2003-04
Quantities in Acre Feet

	PRODUCTION			USE						
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE	WASTEWATER EXPORTED
2003										
OCT	0	740	740	5	285	450	740	0	740	49
NOV	0	546	546	4	211	331	546	0	546	41
DEC	0	411	411	2	142	267	411	0	411	51
2004										
JAN	0	446	446	2	152	292	446	0	446	35
FEB	0	377	377	2	143	232	377	0	377	43
MAR	0	436	436	2	137	297	436	0	436	52
APR	0	561	561	6	213	342	561	0	561	45
MAY	0	1001	1001	29	402	570	1,001	0	1001	45
JUNE	0	848	848	9	338	501	848	0	848	61
JULY	0	943	943	10	366	567	943	0	943	53
AUG	0	1202	1202	15	483	704	1,202	0	1202	63
SEPT	0	927	927	10	366	551	927	0	927	62
TOTAL	0	8,438	8,438	96	3,238	5,104	8,438	0	8,438	600

* Assumes no loss

TABLE A-3

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

2003-04

Quantities in Acre Feet

	PRODUCTION							USE						WASTEWATER			
MONTH YEAR	WELLS	TOTAL DISTRICT IMPORT	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	SMRW IMPORT 1/	TOTAL SMRW IMPORT	TOTAL PRODUCTION	AG	COMM	DOM	TOTAL IN SMRW	LOSS*	TOTAL USE IN SMRW	FROM SMRW	REUSE IN SMRW	FROM U. S. N.W.S.	EXPORTED FROM SMRW
2003																	
OCT	0	1,795	921	874	402	1,323	1,323	1,097	53	404	1,554	(231)	1,323	147	2.30	0.63	144
NOV	0	1,103	192	911	419	611	611	341	46	275	662	(51)	611	138	0.90	0.64	136
DEC	0	1,116	319	797	367	686	686	421	39	256	716	(30)	686	139	1.30	0.63	137
2004																	
JAN	0	1,130	193	937	431	624	624	284	30	199	513	111	624	140	1.50	0.74	138
FEB	0	695	185	510	235	420	420	291	34	194	519	(99)	420	133	0.90	0.84	131
MAR	0	1,229	189	1,040	478	667	667	245	36	151	432	235	667	144	0.30	0.81	143
APR	0	1,453	342	1,111	511	853	853	496	53	278	827	26	853	136	1.60	0.64	134
MAY	0	2,058	402	1,656	762	1,164	1,164	596	62	242	900	264	1,164	138	2.90	0.63	134
JUNE	0	1,960	559	1,401	644	1,203	1,203	772	73	423	1,268	(65)	1,203	133	3.30	0.63	129
JULY	0	2,344	524	1,820	837	1,361	1,361	739	65	326	1,130	231	1,361	139	3.30	0.57	135
AUG	0	2,363	648	1,715	789	1,437	1,437	897	73	467	1,437	0	1,437	136	2.80	0.73	133
SEPT	0	2,394	553	1,841	847	1,400	1,400	839	85	358	1,282	118	1,400	131	4.60	0.49	126
TOTAL	0	19,640	5,027	14,613	6,722	11,749	11,749	7,018	649	3,573	11,240	509	11,749	1,654	26	8	1,620

1/ Approximately 46% of the Fallbrook area is within the Santa Margarita River Watershed

*Loss = Total production less total use

TABLE A-4

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
DELIVERIES IN DOMENIGONI VALLEY
2003-04
Quantities in Acre Feet

	PRODUCTION			USE					
MONTH YEAR	WELLS	IMPORT TO SMRW	TOTAL IN SMRW	AG	COMM/ DOM *	GW RECHARGE	TOTAL DELIVERED	LOSS **	TOTAL USE
2003									
OCT	0	44	44	42	0	0	42	2	44
NOV	0	5	5	5	0	0	5	0	5
DEC	0	9	9	9	0	0	9	0	9
2004									
JAN	0	9	9	9	0	0	9	0	9
FEB	0	0	0	0	0	0	0	0	0
MAR	0	39	39	37	0	0	37	2	39
APR	0	227	227	216	0	0	216	11	227
MAY	0	50	50	48	0	0	48	3	50
JUNE	0	85	85	81	0	0	81	4	85
JULY	0	130	130	124	0	0	124	7	130
AUG	0	99	99	94	0	0	94	5	99
SEPT	0	69	69	66	0	0	66	3	69
TOTAL	0	766	766	728	0	0	728	38	766

* Construction water
** Loss = 5%

TABLE A-5

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

MURRIETA COUNTY WATER DISTRICT
2003-04
Quantities in Acre Feet

MONTH YEAR	PRODUCTION			USE					
	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE
2003									
OCT	183	35	218	32	26	140	198	20	218
NOV	160	13	173	22	22	115	159	14	173
DEC	122	0	122	14	27	80	121	1	122
2004									
JAN	113	0	113	10	43	46	99	14	113
FEB	114	0	114	11	29	80	120	(6)	114
MAR	97	0	97	7	16	61	84	13	97
APR	161	3	164	16	26	114	156	8	164
MAY	176	34	210	28	26	142	196	14	210
JUNE	179	82	261	36	37	176	249	12	261
JULY	177	85	262	35	31	182	248	14	262
AUG	223	66	289	33	73	166	272	17	289
SEPT	274	12	286	38	51	177	266	20	286
TOTAL	1,979	330	2,309	282	407	1,479	2,168	141	2,309

* Loss = Total production less total delivered

TABLE A-6

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT

2003-04

Quantities in Acre Feet

	PRODUCTION			USE				
MONTH YEAR	LOCAL	IMPORT TO WATERSHED	TOTAL IN WATERSHED	AG	COMMERCIAL/ DOMESTIC	TOTAL DELIVERIES	LOSS*	TOTAL USE
2003								
OCT	0	190	190	158	15	173	17	190
NOV	0	190	190	157	16	173	17	190
DEC	0	96	96	78	9	87	9	96
2004								
JAN	0	101	101	83	9	92	9	101
FEB	0	87	87	71	8	79	8	87
MAR	0	52	52	41	6	47	5	52
APR	0	109	109	90	9	99	10	109
MAY	0	181	181	152	13	165	16	181
JUNE	0	217	217	182	15	197	20	217
JULY	0	193	193	160	15	175	18	193
AUG	0	245	245	205	18	223	22	245
SEPT	0	227	227	190	16	206	21	227
TOTAL	0	1,888	1,888	1,567	149	1,716	172	1,888

*Loss = 10% of use

TABLE A-7

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

2003-2004

Quantities in Acre Feet

MONTH YEAR	PRODUCTION					USE									VAIL	RECLAIMED WASTEWATER
	WELLS 1/	IMPORT 2/	EXPORT	NET IMPORT	TOTAL	AG	AG/ DOM	COMM	DOM	SMR RELEASE 3/	IMPORT RECHARGE TO STORAGE 4/	TOTAL USE	LOSS 5/	TOTAL	RELEASE AND RECHARGE 6/	REUSED IN SMRW 7/
2003																
OCT	2,693	6,271	103	6,168	8,861	3,368	538	449	2,765	469	447	8,036	825	8,861	6	332
NOV	1,997	2,737	97	2,640	4,637	3,100	494	504	2,665	233	452	7,448	(2,811)	4,637	0	196
DEC	1,877	2,718	50	2,668	4,545	1,834	291	322	1,618	271	446	4,782	(237)	4,545	0	247
2004																
JAN	1,445	4,377	44	4,333	5,778	1,805	289	355	1,662	454	935	5,500	278	5,778	0	254
FEB	1,212	2,346	36	2,310	3,522	1,527	238	261	1,423	191	571	4,211	(689)	3,522	0	254
MAR	1,709	4,145	27	4,118	5,827	888	149	246	1,243	326	517	3,369	2,458	5,827	0	288
APR	1,940	4,677	78	4,599	6,539	2,864	490	399	2,200	341	331	6,625	(86)	6,539	0	270
MAY	2,644	6,866	97	6,769	9,413	3,502	569	440	2,480	206	93	7,290	2,123	9,413	22	297
JUNE	2,331	5,895	108	5,787	8,118	3,432	560	401	2,897	160	(159)	7,291	827	8,118	35	277
JULY	2,451	8,426	156	8,270	10,721	4,532	755	563	3,633	175	396	10,054	667	10,721	(198)	275
AUG	2,559	7,426	125	7,301	9,860	2,254	391	497	3,205	191	415	6,953	2,907	9,860	31	291
SEPT	2,494	7,286	153	7,133	9,627	4,361	785	446	3,523	184	650	9,949	(322)	9,627	3	276
TOTAL	25,353	63,170	1,074	62,096	87,449	33,467	5,549	4,883	29,314	3,201	5,094	81,508	5,941	87,449	(101)	3,257

1/ Wells recovered 24,101 AF from older alluvium and 1,252 AF from Vail recharge

2/ Includes 43,936 AF direct use; 16,088 AF direct recharge; and 3,146 AF from MWD WR-34

3/ 4 AF into Temecula Creek from Wells 109 and 231; 51 AF into Murrieta Creek from Wells 101 and 118; 3,146 AF from MWD WR-34

4/ 16,088 AF of direct recharge less 10,994 AF of import recovery

5/ Loss = Total production less total use and includes 141 acre feet pumped from wells 102, 135 and 146 directly into reclaimed water system

6/ Vail releases and the related Vail recharge are computed as Total Release less Inflow to be bypassed

7/ Does not include EMWD reclaimed wastewater production

TABLE A-8

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON

2003-04
Quantities in Acre Feet

	PRODUCTION			USE						RECLAIMED WASTEWATER		
MONTH YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE 1/ IN SMRW	AGRICULTURE 1/ OUT SMRW	CAMP SUPPLY 2/ IN SMRW	CAMP SUPPLY 2/ OUT SMRW	TOTAL EXPORT	TOTAL 3/ IN SMRW	RECHARGED IN SMRW 4/	IMPORT 5/ RECHARGED IN SMRW	TOTAL RECHARGED IN SMRW
2003												
OCT	209	451	660	82	128	196	255	383	278	88	145	233
NOV	87	414	501	34	53	181	233	286	215	84	134	218
DEC	7	527	534	3	4	230	297	301	233	87	151	238
2004												
JAN	43	390	433	17	26	170	220	246	187	87	155	242
FEB	39	317	356	15	24	138	179	203	153	88	154	242
MAR	52	374	426	20	32	163	211	243	183	85	119	204
APR	56	422	478	22	34	183	239	273	205	80	136	216
MAY	79	534	613	31	48	229	305	353	260	91	153	244
JUNE	114	527	641	44	69	225	302	371	269	90	162	252
JULY	146	539	685	57	89	232	307	396	289	97	136	233
AUG	126	550	676	49	77	237	313	390	286	99	138	237
SEPT	269	493	762	105	164	212	281	445	317	85	132	217
TOTAL	1,227	5,538	6,765	479	748	2,396	3,142	3,890	2,875	1,061	1,715	2,776

1/ Agricultural water use is divided with 39% used inside the SMRW and 61% used outside

2/ Camp Supply water use inside the SMRW equals 44% of sum of Camp Supply production plus Naval Weapons Station Import, minus the NWS Import (SMRW CS = .44 {CS+NWS Imp} - NWS Imp.)

3/ Assumes no losses

4/ Discharge from Plant Nos. 3 plus 8 plus 29.17 acre feet per month from Plant No. 13

5/ Discharge from Plant No. 1, plus discharge from Pond 2, plus excess of Plant No. 13 over 29.17 acre feet per month

TABLE A-9

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

2003-2004
Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
MONTH YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL/ DOMESTIC	LOSS 2/	TOTAL USE	EXPORTED
2003								
OCT	0.0	5.0	5.0	0.0	4.5	0.5	5.0	0.6
NOV	0.0	2.1	2.1	0.0	1.9	0.2	2.1	0.6
DEC	0.0	2.8	2.8	0.0	2.5	0.3	2.8	0.7
2004								
JAN	0.0	2.5	2.5	0.0	2.3	0.2	2.5	0.7
FEB	0.0	1.6	1.6	0.0	1.5	0.1	1.6	0.8
MAR	0.0	3.1	3.1	0.0	2.8	0.3	3.1	0.8
APR	0.0	5.5	5.5	0.0	5.0	0.5	5.5	0.7
MAY	0.0	11.0	11.0	0.0	10.0	1.0	11.0	0.6
JUNE	0.0	11.8	11.8	0.0	10.7	1.1	11.8	0.7
JULY	0.0	8.7	8.7	0.0	7.9	0.8	8.7	0.6
AUG	0.0	9.3	9.3	0.0	8.5	0.8	9.3	0.7
SEPT	0.0	9.4	9.4	0.0	8.5	0.9	9.4	0.5
TOTAL	0.0	72.8	72.8	0.0	66.2	6.6	72.8	8.0

1/ - Import via Fallbrook Public Utility District

2/ - Loss = 10% of Use

TABLE A-10

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

2003-04

Quantities in Acre Feet

	IMPORT	PRODUCTION						
MONTH YEAR	WESTERN MWD IMPORTS TO IMPROVEMENT DISTRICT A	ANZA MUTUAL WATER COMPANY	OUTDOOR RESORTS RANCHO CALIFORNIA, INC.	BUTTERFIELD OAKS MOBILE HOME PARK	LAKE RIVERSIDE ESTATES	PECHANGA INDIAN RESERVATION	HAWTHORN WATER SYSTEM	JOJOBA HILLS SKP RESORT
2003								
OCT	3.90	4.39	4.50 A	0.15	25.89	57.90	9.55	6.75
NOV	2.60	2.98	4.50 A	0.15	9.31	49.90	6.73	6.02
DEC	4.80	1.74	4.50 A	0.15	0.66	42.70	4.35	5.97
2004								
JAN	2.80	1.21	1.78	0.15	3.51	41.60	4.21	6.01
FEB	2.10	2.58 A	1.81	0.16	13.47	49.90	5.03	5.06
MAR	3.50	2.58 A	4.53	0.29	32.32.	53.80	6.00	5.50
APR	4.50	2.58 A	7.06	0.30	47.48	56.50	5.81	5.62
MAY	5.10	2.58 A	7.79	0.28	45.65	71.90	8.41	7.04
JUNE	4.40	2.58 A	5.48	0.40	45.65	69.10	9.42	5.60
JULY	5.80	5.28	6.90	0.42	45.65	79.10	11.22	6.53
AUG	5.30	6.54	5.76	0.43	46.28	77.40	11.92	7.94
SEPT	5.50	5.40	4.16	0.42	34.93	71.30	11.54	6.85
SUBTOTAL			58.77	3.30		721.10		
			158.00 *	7.50 *		4.00 **		
TOTAL	50.30	40.44	216.77	10.80	350.80	725.10	94.19	74.89

A - Average

* Estimated non-metered use

** Surface Diversion

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

APPENDIX B

WATER PRODUCTION AND USE

WATER YEAR 1965-66 TO WATER YEAR 2003-04

AUGUST 2005

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE B-1

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION					USE						RECLAIMED WASTEWATER					
WATER YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW	NET IMPORT	TOTAL	AG 2/	COMM	DOM 3/	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW	OUTSIDE SMRW REUSE	OUTSIDE SMRW OTHER EXPORT 4/	RELEASE TO RIVER	RECHARGE	TOTAL
1966	0	1,604	0	1,604	1,604	1,520	0	4	1,524	80	1,604	0	0		0	100	100
1967	0	1,630	0	1,630	1,630	1,544	0	4	1,548	82	1,630	0	0		0	100	100
1968	0	1,464	0	1,464	1,464	1,366	0	5	1,391	73	1,464	0	0		0	100	100
1969	0	1,741	0	1,741	1,741	1,646	0	6	1,654	87	1,741	0	0		0	100	100
1970	0	1,417	0	1,417	1,417	1,340	0	7	1,346	71	1,417	0	0		0	101	101
1971	0	1,383	0	1,383	1,383	1,306	0	8	1,314	69	1,383	0	0		0	119	119
1972	0	1,470	0	1,470	1,470	1,388	0	8	1,396	74	1,470	0	0		0	242	242
1973	0	1,533	0	1,533	1,533	1,447	0	10	1,456	77	1,533	0	0		0	217	217
1974	0	1,601	0	1,601	1,601	1,511	0	10	1,521	80	1,601	0	0		0	193	193
1975	0	1,969	0	1,969	1,969	1,859	0	11	1,871	98	1,969	0	0		0	253	253
1976	145	2,493	0	2,493	2,638	2,356	0	150	2,506	132	2,636	134	0		0	155	289
1977	431	2,947	0	2,947	3,378	2,723	64	423	3,209	169	3,376	244	0		0	70	314
1976	375	2,551	0	2,551	2,926	2,409	0	371	2,780	146	2,926	300	0		0	75	375
1979	289	1,894	0	1,694	2,183	1,784	0	290	2,074	109	2,183	350	0		0	147	497
1960	261	1,192	0	1,192	1,473	1,116	0	283	1,399	74	1,473	375	0		0	220	595
1961	282	716	0	716	998	663	0	285	948	50	998	375	0		0	304	679
1982	321	1,112	0	1,112	1,433	1,038	0	323	1,361	72	1,433	375	0		0	386	761
1983	106	1,211	0	1,211	1,317	1,131	0	120	1,251	66	1,317	375	0		0	466	841
1984	238	699	0	699	935	644	0	244	888	47	935	400	0		0	525	925
1985	314	679	0	679	993	624	0	319	943	50	993	450	0		0	565	1,015
1986	229	760	0	760	989	700	0	239	940	49	989	800	0		0	509	1,109
1987	89	1,155	0	1,155	1,244	636	0	543	1,182	62	1,244	850	0		0	554	1,204
1988	4	2,047	0	2,047	2,051	524	0	1,424	1,948	103	2,051	650	0		0	650	1,300
1989	685	3,746	0	3,746	4,431	1,146	0	3,064	4,209	222	4,431	1,058	0		0	1,636	2,694
1990	492	8,576	2,977	5,801	6,093	978	0	4,610	5,786	305	6,093	1,567	0		0	2,160	3,727
1991	456	16,621	7,142	9,479	9,935	651	0	6,567	9,436	497	9,935	1,282	0		0	2,272	3,554
1992	527	13,486	4,893	8,593	9,120	29	0	8,635	8,664	456	9,120	1,323	0		245	2,385	3,953
1993	524	7,287	1,694	5,393	5,917	36	0	5,585	5,621	296	5,917	1,709	990	(285)	192	2,020	4,626
1994	232	10,082	2,932	7,150	7,382	0	0	7,013	7,013	369	7,382	2,667	2,465	694	0	0	5,846
1995	182	11,539	6,914	4,625	4,807	16	0	4,551	4,567	240	4,807	2,154	1,357	2,551	0	0	6,062
1996	299	11,730	6,770	4,960	5,259	0	0	4,996	4,996	263	5,259	2,979	2,473	520	0	0	5,972
1997	408	5,093	1,809	3,264	3,692	0	0	5,226	5,226	(1,534)	3,692	3,126	2,319	862	0	0	6,327
1998	240	6,609	1,492	5,117	5,357	0	0	5,090	5,090	267	5,357	2,949 5/	2,139	2,374	0	0	7,462
1999	669	7,118	2,719	4,327	4,996	0	0	4,746	4,748	250	4,996	3,741 6/	3,070	1,063	0	0	7,674
2000	630	9,179	1,923	7,256	7,886	0	0	7,493	7,493	393	7,886	4,669 7/	3,664	(15)	0	0	8,318
2001	355	9,219	3,271	5,948	6,303	0	0	5,989	5,989	314	6,303	4,571 8/	3,249	1,208	0	0	9,028
2002	13	12,777	4,954	8,117	8,130	0	0	7,724	7,724	406	8,130	4,843 9/	4,863	462	0	0	10,168
2003	0	14,175	5,113	9,062	9,062	0	0	8,610	8,610	452	9,062	3,542 10/	2,955	4,681	0	0	11,178
2004	0	17,381	8,243	9,138	9,138	0	0	8,960	8,960	178	9,138	3,221 11/	3,688	5,427	0	0	12,336

1/ Does not include deliveries to Rancho California Water District or Elsinore Valley Municipal Water District
2/ Figures are 95% of water pumped and imported to allow for 5% loss
3/ Figures are 95% of water pumped and imported to allow for 5% loss
4/ Unaccounted for Export
5/ Includes 905 AF of sewege diverted to RCWD
6/ Includes1,159 AF of sewage diverted to RCWD
7/ Includes1,162 AF of sewage diverted to RCWD
8/ Includes1,201 AF of sewege diverted to RCWD
9/ Includes1,219 AF of sewage diverted to RCWD
10/ Includes 1,056 AF of sewage diverted to RCWD
11/ Includes 0 AF of sewage diverted to RCWD

TABLE B-2

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION			USE						
WATER YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE	WASTEWATER EXPORTED
1966										
1967										
1968										
1969										
1970										
1971										
1972										
1973										
1974										
1975										
1976										
1977										
1978										
1979										
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989	0	1,341	1,341				1,341	0	1,341	74
1990	0	2,255	2,255				2,255	0	2,255	114
1991	0	2,421	2,421				2,421	0	2,421	134
1992	0	2,190	2,190				2,190	0	2,190	140
1993	0	2,964	2,964	539	84	2,341	2,964	0	2,964 R	150
1994	0	3,232	3,232	687	93	2,452	3,232	0	3,232 R	170
1995	0	3,127	3,127	520	100	2,507	3,127	0	3,127 R	185
1996	0	4,197	4,197	871	109	3,217	4,197	0	4,197 R	213
1997	0	4,296	4,296	848	118	3,330	4,296	0	4,296 R	226
1998	0	5,100	5,100	667	1,396	3,037	5,100	0	5,100	247
1999	0	6,133	6,133	921	1,626	3,586	6,133	0	6,133 R	254
2000	0	7,174	7,174	1,089	1,971	4,114	7,174	0	7,174 R	279
2001	0	6,215	6,215	925	1,815	3,475	6,215	0	6,215 R	310
2002	0	7,596	7,596	1,173	1,902	4,521	7,596	0	7,596	412
2003	0	7,091	7,091	63	2,665	4,363	7,091	0	7,091	483
2004	0	8,438	8,438	96	3,238	5,104	8,438	0	8,438	600

* Assumes no loss

TABLE B-3

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

	PRODUCTION							USE				
WATER YEAR	WELLS	TOTAL DISTRICT IMPORT	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	SMRW IMPORT 1/	TOTAL SMRW IMPORT	TOTAL PRODUCTION	AG	COMM/ DOM	TOTAL IN SMRW	LOSS 2/	TOTAL USE IN SMRW
1966	176	11,169	0	11,169	3,351	3,351	3,404	2,735	328	3,063	341	3,404
1967	16	9,508	0	9,508	2,852	2,852	2,857	2,253	319	2,572	285	2,857
1968	13	11,411	0	11,411	3,423	3,423	3,427	2,554	531	3,085	342	3,427
1969	178	9,458	0	9,458	2,837	2,837	2,891	1,787	814	2,601	290	2,891
1970	305	11,794	0	11,794	3,538	3,538	3,630	2,649	617	3,266	364	3,630
1971	7	11,350	0	11,350	3,405	3,405	3,407	2,386	681	3,067	340	3,407
1972	0	13,054	0	13,054	3,916	3,916	3,916	2,749	775	3,524	392	3,916
1973	0	10,610	38	10,572	3,172	3,210	3,210	2,156	732	2,888	322	3,210
1974	0	12,911	134	12,777	3,833	3,967	3,967	2,703	868	3,571	396	3,967
1975	0	11,492	213	11,279	3,384	3,597	3,597	2,420	816	3,236	361	3,597
1976	0	13,147	431	12,716	4,196	4,627	4,627	3,200	965	4,165	462	4,627
1977	20	13,435	587	12,848	4,625	5,212	5,232	3,536	1,174	4,710	522	5,232
1978	97	12,626	651	11,975	4,551	5,202	5,299	3,504	1,265	4,769	530	5,299
1979	187	12,865	961	11,904	4,762	5,723	5,910	3,820	1,498	5,318	592	5,910
1980	192	13,602	1,191	12,411	5,213	6,404	6,596	4,258	1,678	5,936	660	6,596
1981	87	16,878	1,994	14,884	6,549	8,543	8,630	5,688	2,144	7,832	798	8,630
1982	0	13,270	1,805	11,465	5,274	7,079	7,079	4,614	1,862	6,476	603	7,079
1983	0	12,298	1,969	10,329	4,751	6,720	6,720	4,320	1,871	6,191	529	6,720
1984	0	15,429	2,609	12,820	5,897	8,506	8,506	5,814	2,077	7,891	615	8,506
1985	0	14,256	2,358	11,898	5,473	7,831	7,831	5,187	2,135	7,322	509	7,831
1986	0	15,383	2,794	12,589	5,791	8,585	8,585	5,698	2,319	8,017	568	8,585
1987	0	15,313	2,986	12,327	5,670	8,656	8,656	5,793	2,281	8,074	582	8,656
1988	28	14,460	2,559	11,901	5,474	8,033	8,061	5,181	2,348	7,529	532	8,061
1989	94	16,179	3,007	13,172	6,059	9,066	9,160	5,620	2,706	8,326	834	9,160
1990	15	17,568	3,745	13,823	6,358	10,103	10,118	6,275	2,878	9,153	965	10,118
1991	46	13,939	2,871	11,068	5,091	7,962	8,008	5,146	2,314	7,460	548	8,008
1992	45	13,698	2,950	10,748	4,943	7,893	7,938	5,285	2,201	7,486	452	7,938
1993	86	12,695	2,010	10,685	4,915	6,925	7,011	4,329	2,349	6,678	333	7,011
1994	83	13,124	2,246	10,878	5,004	7,250	7,333	4,282	2,666	6,948	385	7,333
1995	3	11,620	2,208	9,412	4,330	6,538	6,541	3,818	2,798	6,316	225	6,541
1996	0	14,168	2,733	11,435	5,260	7,993	7,993	4,411	3,247	7,658	335	7,993
1997	0	14,005	2,688	11,317	5,206	7,894	7,894	4,351	3,249	7,600	294	7,894
1998	0	11,757	1,803	9,954	4,579	6,382	6,382	3,245	2,798	6,043	339	6,382
1999	0	14,307	1,572	12,735	5,858	7,430	7,430	3,748	3,271	7,019	411	7,430
2000	0	15,983	2,705	14,478	6,660	9,365	9,365	5,138	3,903	9,041	324	9,365
2001	0	15,249	2,562	12,687	5,836	8,398	8,398	4,413	3,537	7,950	448	8,398
2002	0	17,422	2,900	14,522	6,680	9,580	9,580	5,185	4,036	9,221	359	9,580
2003	0	15,864	3,393	12,471	5,737	9,130	9,130	6,041	3,737	9,778	(648)	9,130
2004	0	19,640	5,027	14,613	6,722	11,749	11,749	7,018	4,222	11,240	509	11,749

1/ Total SMRW production equals SMRW Import plus 30% local (1966-1971)
2/ Loss = Total production less total use (Neglects change in Storage at Red Mtn After 1985)

TABLE B-4

SANTA MARGARITA RIVER WATERSHED

ANNUAL WASTEWATER PRODUCTION AND DISTRIBUTION

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

WATER YEAR	TOTAL WASTEWATER PRODUCTION	PERCENT WASTEWATER FROM SMRW	WASTEWATER FROM SMRW	WASTEWATER REUSED IN SMRW	WASTEWATER FROM U.S.N.W.S.	WASTEWATER EXPORTED FROM SMRW	PERCENT WASTEWATER FROM SLR WATERSHED 1/	WASTEWATER IMPORTED FROM SLR WATERSHED
1966	395	81	320		0	0	19	75
1967	460	80	368		0	0	20	92
1968	524	80	419		0	0	20	105
1969	588	79	465		0	0	21	123
1970	652	78	509		0	0	22	143
1971	717	78	559		0	0	22	158
1972	782	77	602		0	0	23	180
1973	847	76	644		0	0	24	203
1974	912	75	684		0	0	25	228
1975	976	75	732		0	0	25	244
1976	1,040	74	770		0	0	26	270
1977	1,105	73	807		0	0	27	298
1978	1,170	72	842		0	0	28	328
1979	1,234	72	888		0	0	28	346
1980	1,298	71	922		0	0	29	376
1981	1,363	70	954		0	0	30	409
1982	1,428	69	985		0	0	31	443
1983	1,492	69	1,029		26 E	1,003	0	0
1984	1,556	68	1,058		26 E	1,032	0	0
1985	1,621	67	1,086		26 E	1,060	0	0
1986	1,685	66	1,112		18 P	1,094	0	0
1987	1,750	66	1,155		27	1,128	0	0
1988	1,815	65	1,180		25	1,155	0	0
1989	1,881	64	1,204		22	1,182	0	0
1990	1,952	66	1,298		27	1,271	0	0
1991	1,622	60	973		11	962	0	0
1992	1,730	63	1,090		7	1,083	0	0
1993	2,051	62	1,271		16	1,255	0	0
1994	1,834	58	1,073		5	1,068	0	0
1995	1,941	60	1,165		12	1,153	0	0
1996	1,799	58	1,040		5	1,035	0	0
1997	1,780	58	1,027		6	1,021	0	0
1998	2,297	65	1,490		8	1,482	0	0
1999	2,175	64	1,382		5	1,377	0	0
2000	2,164	76	1,641		7	1,634	0	0
2001	2,191	76	1,675	24	8	1,643	0	0
2002	2,061	74	1,532	28	9	1,495	0	0
2003	2,276	76	1,737	21	10	1,706	0	0
2004	2,199	75	1,654	26	8	1,620	0	0

NOTE: Measured quantities available for Total Wastewater in Water Year 1969 and July 1989
All other quantities are estimated (1966 - 1989). Prior to 1983, Wastewater was discharged into Fallbrook Creek. After 1983, Wastewater is discharged into an ocean outfall.

1/ - San Luis Rey Watershed
E - Estimated
P - Partial Year Data

TABLE B-5

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
DELIVERIES IN DOMENIGONI VALLEY

Quantities in Acre Feet

	PRODUCTION			USE					
WATER YEAR	WELLS	IMPORT TO SMRW	TOTAL IN SMRW	AG	COMM/ DOM *	GW RECHARGE	TOTAL DELIVERED	LOSS **	TOTAL USE
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	547	547	337	183	0	520	27	547
1996	0	1,005	1,005	725	230	0	955	50	1,005
1997	0	3,521	3,521	561	2,747	37	3,345	176	3,521
1998	0	5,023	5,023	183	4,183	406	4,772	251	5,023
1999	0	3,781	3,781	384	2,829	379	3,592	189	3,781
2000	0	712	712	87	339	251	677	35	712
2001	0	689	689	480	0	175	655	34	689
2002	0	595	595	540	25	0	565	30	595
2003	0	496	495	470	0	0	470	25	495
2004	0	766	766	728	0	0	728	38	766

* Construction Water
** Loss = 5%

TABLE B-6

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

MURRIETA COUNTY WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION			USE					
WATER YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE
1966	41	0	41	0	0	37	37	4	41
1967	45	0	45	0	0	41	41	4	45
1968	54	0	54	0	0	49	49	5	54
1969	54	0	54	0	0	49	49	5	54
1970	73	0	73	0	0	66	66	7	73
1971	83	0	83	3	0	72	75	8	83
1972	111	0	111	10	0	91	101	10	111
1973	92	0	92	11	0	72	84	8	92
1974	132	0	132	14	0	107	120	12	132
1975	153	0	153	18	0	121	139	14	153
1976	117	0	117	22	0	84	106	11	117
1977	170	0	170	21	0	134	155	15	170
1978	169	0	169	19	0	135	154	15	169
1979	197	0	197	19	0	160	179	18	197
1980	218	0	218	20	0	178	198	20	218
1981	265	0	265	30	0	211	241	24	265
1982	230	0	230	21	0	188	209	21	230
1983	216	0	216	14	0	182	196	20	216
1984	304	0	304	26	0	250	276	28	304
1985	308	0	308	19	0	261	280	28	308
1986	305	0	305	22	0	255	277	28	305
1987	326	0	326	23	0	273	296	30	326
1988	303	0	303	13	35	262	275	28	303
1989	286	0	286	11	72	262	344	(4)	286
1990	465	0	465	13	76	266	355	110	465
1991	459	0	459	15	88	250	353	106	459
1992	492	0	492	6	122	302	430	62	492
1993	508	0	508	4	105	323	432	76	508
1994	512	0	512	10	103	324	437	75	512
1995	521	0	521	12	86	312	420	101	521
1996	629	0	629	88	110	373	571	58	629
1997	638	0	638	76	96	379	551	87	638
1998	603	0	603	79	87	349	515	88	603
1999	827	0	827	79	125	548	752	75	827
2000	1,123	0	1,123	199	365	493	1,057	66	1,123
2001	1,389	0	1,389	163	414	713	1,290	99	1,389
2002	1,679	0	1,679	230	348	1,067	1,645	34	1,679
2003	1,748	102	1,850	272	275	1,284	1,831	19	1,850
2004	1,979	330	2,309	282	407	1,479	2,168	141	2,309

* Loss = Total production less total delivered

TABLE B-7

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION			USE				
WATER YEAR	LOCAL	IMPORT TO DISTRICT	TOTAL IN WATERSHED 1/	AG 2/	COMMERCIAL/ DOMESTIC 3/	TOTAL DELIVERIES	LOSS 4/	TOTAL USE
1966	0	14,538	1,308	1,049	140	1,189	119	1,308
1967	0	12,167	1,095	878	117	995	100	1,095
1968	0	15,301	1,377	1,104	147	1,252	125	1,377
1969	0	13,917	1,253	1,005	134	1,139	114	1,252
1970	0	18,764	1,689	1,354	181	1,535	154	1,689
1971	0	18,338	1,650	1,324	177	1,500	150	1,650
1972	0	22,633	2,037	1,634	218	1,852	185	2,037
1973	0	17,955	1,616	1,296	173	1,469	147	1,616
1974	0	22,768	2,049	1,643	219	1,863	186	2,049
1975	0	13,856	1,247	1,000	133	1,134	113	1,247
1976	0	24,878	2,239	1,796	240	2,035	204	2,239
1977	0	26,038	2,343	1,879	251	2,130	213	2,343
1978	0	24,312	2,188	1,755	234	1,989	199	2,188
1979	0	26,084	2,348	1,883	251	2,134	213	2,347
1980	0	27,660	2,489	1,997	266	2,263	226	2,489
1981	0	35,036	3,153	2,529	337	2,866	287	3,153
1982	0	27,334	2,460	1,973	263	2,236	224	2,460
1983	0	24,957	2,190	1,735	256	1,991	199	2,190
1984	0	32,526	3,068	2,483	306	2,789	279	3,068
1985	0	28,612	3,410	2,798	302	3,100	310	3,410
1986	0	29,023	2,945	2,353	324	2,677	268	2,945
1987	0	29,449	3,390	2,765	317	3,082	308	3,390
1988	0	29,070	2,985	2,372	342	2,714	271	2,985
1989	0	32,034	3,003	2,385	345	2,730	273	3,003
1990	0	34,612	3,818	3,003	468	3,471	347	3,818
1991	0	27,754	2,904	2,276	364	2,640	264	2,904
1992	0	26,056	2,277	1,877	193	2,070	207	2,277
1993	0	23,766	1,965	1,655	132	1,787	178	1,965
1994	0	22,173	1,651	1,368	133	1,501	150	1,651
1995	0	20,935	1,661	1,398	112	1,510	151	1,661
1996	0	24,835	1,815	1,487	163	1,650	165	1,815
1997	0	24,638	1,429	1,139	160	1,299	130	1,429
1998	0	19,693	1,601	1,315	141	1,456	145	1,601
1999	0	24,961	1,727	1,411	159	1,570	157	1,727
2000	0	30,446	2,217	1,861	154	2,015	202	2,217
2001	0	27,214	1,804	1,439	202	1,641	163	1,804
2002	0	32,854	1,676	1,368	156	1,524	152	1,676
2003	0	29,156	1,510	1,237	136	1,373	137	1,510
2004	0	33,686	1,888	1,567	149	1,716	172	1,888

1/ 1966 through 1982 estimated to be 9% of total district imports
2/ 1966 through 1982 estimated to be 80.2% of total deliveries to watershed
3/ 1966 through 1982 estimated to be 10.7% of total deliveries to watershed
4/ Loss = 10% of use

TABLE B-8

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION					USE									VAIL		RECLAIMED WASTEWATER	
YEAR	WELLS	IMPORT	EXPORT	NET IMPORT	TOTAL	AG	AG/ DOM	COMM	DOM	SMR RELEASE	IMPORT RECHARGE TO STORAGE	TOTAL USE	LOSS 1/	TOTAL	RELEASE AND RECHARGE	IRRIGATION 2/	REUSE IN SMRW	MURRIETA CREEK DISCHARGE 3/
1966		0	0	0	0						0				0	185	0	0
1967	4,288	0	0	0	4,288						0				0	1,136	0	0
1968	5,100	0	0	0	5,100						0				0	398	0	0
1969	3,617	0	0	0	3,617						0				0	697	0	0
1970	6,721	0	0	0	6,721						0				0	540	0	0
1971	7,960	0	0	0	7,960						0				0	1,541	0	0
1972	8,369	0	0	0	8,369						0				0	203	0	0
1973	7,726	0	0	0	7,726						0				0	524	0	0
1974	10,163	0	0	0	10,163						0				0	1,066	0	0
1975	10,357	0	0	0	10,357						0				0	369	0	0
1976	11,809	119	0	119	11,928						0				0	50	0	0
1977	10,522	1,845	0	1,845	12,367						0				0	0	0	0
1978	8,930	5,774	0	5,774	14,704						0				0	0	0	0
1979	11,371	7,009	0	7,009	18,380						0				0	0	0	0
1980	12,621	10,126	0	10,126	22,747						0				10,944	0	0	0
1981	15,612	15,282	0	15,282	30,894						0				6,802	0	0	0
1982	12,631	13,378	0	13,378	26,009						0				6,058	0	0	0
1983	16,675 4/	5,752	0	5,752	22,427						0				12,113	715	0	0
1984	25,660	0,716	0	8,716	32,376						0				6,612	1,144	0	0
1985	24,373	7,158	0	7,158	31,531						0				5,027	1,201	0	0
1986	28,997	11,174	0	11,174	38,171						0				8,722	1,053	0	0
1987	33,735	7,564	0	7,564	41,299						0				8,089	273	48	0
1988	21,367	17,854	0	17,854	39,221						0				4,844	0	82	0
1989	26,131	22,895	0	22,895	49,026	25,333		3,316	13,198	852	0 5/	42,699	6,327	49,026	0	0	168	0
1990	33,241	22,030	0	22,030	55,271	27,643		3,940	14,916	902	0	47,401	7,870	55,271	0	0	133	0
1991	26,503	21,238	0	21,238	47,741	32,924		2,941	10,603	785	0 6/	47,253	488	47,741	6,253	0	352	0
1992	29,968	16,931	0	16,931	46,899	30,851		2,406	9,672	683	0	43,412	3,487	46,899	2,244	0	374	0
1993	31,029	11,411	0	11,411	42,440	29,265		2,141	10,618	519	0	42,543	(103)	42,440	31,704	0	378	0
1994	32,725	18,386	0	16,386	49,111	32,534		2,322	12,370	467	0	47,693	1,418	49,111	8,469	0	1,936	0
1995	33,111	15,108	0	15,108	48,219	31,081		2,526	13,779	1,464	0	48,850	(631)	48,219	11,158	0	1,753	0
1996	36,086	23,600	0	23,600	59,686	35,912		2,752	16,330	2,149	0	57,143	2,543	59,686	9,427	0	2,264	0
1997	33,980	26,992	0	26,992	60,972	38,287		3,350	18,635	2,978	164	63,414	(2,442)	60,972	1,725	0	693 7/	0
1998	26,851	19,584	0	19,584	46,435	28,307		2,805	16,273	459	0	47,844	(1,409)	46,435	4,514	0	1,376 7/	1,179
1999	30,598	34,490	0	34,490	65,088	37,157		3,674	19,610	1,044	2,286	63,771	1,317	65,088	1,010	0	1,524 7/	1,654
2000	27,938	55,409	0	55,409	83,347	40,672	3,339	2,162	23,783	1,067	8,008	79,031	4,316	83,347	(49)	0	3,550 7/	1,854
2001	26,421	41,823	0	41,823	68,244	30,383	4,525	4,053	22,866	514	2,374	64,715	3,529	68,244	(361)	0	3,719 7/	2,015
2002	24,895	54,148	0	54,148	79,043	35,747	5,345	5,285	26,573	715	1,454	75,119	3,924	79,043	(314)	0	4,519 7/	2,180
2003	25,240	50,927	247	50,680	75,920	30,277	4,645	4,457	28,044	4,896	2,750	73,069	2,851	75,920	(658)	0	3,780 7/	104
2004	25,353	83,170	1,074	82,096	87,449	33,467	5,549	4,883	29,314	3,201	5,094	81,508	5,941	87,449	(101)	0	3,257 7/	0

1/ Loss = Total production less total use
2/ Irrigation 1966 to 1976 by pumping from Vail Lake.
Figures from 1966 to 1972 supplied by USGS; 1972 to 2004 supplied by RCWD.
3/ Discharge from 2MGD Demonstration project (ceased October 18, 2002)
4/ Includes 98 AF from wells out of groundwater area

5/ Import recharge was 2,294 AF but portion remaining in storage was not computed due to lack of data
6/ Import recharge was 701 AF but portion remaining in storage was not computed due to lack of data
7/ Does not include EMWD reclaimed wastewater production

TABLE B-9

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON
EXCLUDING NAVAL WEAPONS STATION SHOWN ON B-10

Quantities in Acre Feet

	PRODUCTION			USE						RECLAIMED WASTEWATER		
WATER YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE 1/ IN SMRW	AGRICULTURE 1/ OUT SMRW	CAMP SUPPLY 2/ IN SMRW	CAMP SUPPLY 2/ OUT SMRW	TOTAL EXPORT	TOTAL 3/ IN SMRW	RECHARGED IN-SMR 4/	IMPORT 5/ RECHARGED IN SMRW	TOTAL RECHARGED IN SMRW
1966	1,101	4,605	5,706	429	672	2,026	2,579	3,251	2,455	919	974	1,893
1967	796	4,811	5,607	310	486	2,117	2,694	3,180	2,427	914	1,243	2,156
1968	986	4,939	5,925	385	601	2,172	2,767	3,368	2,557	866	1,214	2,080
1969	940	4,821	5,761	367	573	2,058	2,763	3,276	2,485	1,019	1,170	2,189
1970	1,106	5,481	6,587	431	675	2,347	3,134	3,809	2,778	1,032	1,113	2,145
1971	819	5,291	6,110	319	500	2,264	3,028	3,527	2,583	921	1,090	2,011
1972	817	5,323	6,140	319	498	2,278	3,045	3,543	2,597	900	1,168	2,068
1973	1,003	5,121	6,124	391	612	2,189	2,932	3,544	2,580	949	1,187	2,137
1974	909	5,202	6,111	355	554	2,224	2,978	3,532	2,579	915	1,140	2,055
1975	757	4,593	5,350	295	462	1,957	2,636	3,098	2,252	989	1,530	2,519
1976	885	5,384	6,269	345	540	2,305	3,079	3,619	2,650	949	1,497	2,447
1977	994	4,506	5,500	388	606	1,918	2,588	3,194	2,308	942	1,416	2,358
1978	176	5,177	5,353	69	107	2,213	2,964	3,071	2,282	1,164	1,283	2,446
1979	1,070	7,213	8,283	417	653	3,109	4,104	4,756	3,527	1,065	1,427	2,493
1980	835	5,495	6,330	326	509	2,353	3,142	3,651	2,679	1,101	1,405	2,506
1981	1,464	5,240	6,704	571	893	2,241	2,999	3,892	2,812	1,119	1,249	2,368
1982	1,447	5,024	6,471	564	883	2,146	2,878	3,761	2,710	982	1,273	2,254
1983	942	4,215	5,157	367	575	1,790	2,425	3,000	2,157	1,252	1,242	2,494
1984	1,078	4,501	5,579	420	658	1,916	2,585	3,243	2,336	1,323	1,120	2,443
1985	1,069	4,764	5,833	417	652	2,039	2,725	3,377	2,456	1,419	1,200	2,619
1986	953	4,807	5,760	372	581	2,062	2,745	3,326	2,434	1,259	981	2,240
1987	1,098	4,838	5,936	428	670	2,064	2,774	3,444	2,492	1,367	1,799	3,166
1988	1,223	4,721	5,944	477	746	2,010	2,711	3,457	2,487	1,523	1,872	3,396
1989	856	5,044	5,900	334	522	2,148	2,896	3,418	2,482	1,301	1,446	2,747
1990	855	4,228	5,083	333	522	1,779	2,449	2,971	2,112	1,277	1,451	2,728
1991	554	3,159	3,713	216	338	1,329	1,830	2,168	1,545	1,070	1,219	2,289
1992	898	3,254	4,152	350	548	1,376	1,878	2,426	1,726	933	1,548	2,481
1993	1,067	2,879	3,946	416	651	1,201	1,678	2,329	1,617	1,049	1,926	2,975
1994	1,471	3,150	4,621	574	897	1,345	1,805	2,702	1,919	1,034	1,501	2,535
1995	985	3,768	4,753	384	601	1,588	2,180	2,781	1,972	980	1,473	2,453
1996	1,000	5,199	6,199	390	610	2,232	2,967	3,577	2,622	951	1,493	2,444
1997	1,066	5,238	6,304	416	650	2,244	2,994	3,644	2,660	988	1,932	2,920
1998	1,026	5,468	6,494	400	626	2,352	3,116	3,742	2,752	935	2,073	3,008
1999	1,064	5,054	6,118	415	649	2,145	2,909	3,558	2,560	893	2,130	3,023
2000	1,296	5,765	7,061	506	790	2,483	3,282	4,072	2,989	1,036	2,116	3,152
2001	1,025	5,341	6,366	399	626	2,314	3,027	3,653	2,713	1,065	2,075	3,140
2002	1,184	5,269	6,453	462	722	2,290	2,979	3,701	2,752	950	1,950	2,900
2003	1,270	5,210	6,480	495	775	2,218	2,992	3,767	2,713	999	1,688	2,687
2004	1,227	5,538	6,765	479	748	2,396	3,142	3,890	2,875	1,061	1,715	2,776

1/ Agricultural water use is divided with 39% used inside the SMRW and 61% used outside.

2/ Camp Supply water use inside the SMRW equals 44% of sum of Camp Supply production plus Naval Weapons Station Import, less the NWS Import for years beginning 1969. Prior to 1969 44% was used inside the SMRW and 56% was used outside.

3/ Assumes No Losses

4/ Wastewater Recharged in SMR equals effluent from Plants 3, 8 and 13 (partial).

5/ Wastewater Import Recharged in SMRW equals effluent from Plant 1 plus the portion of the effluent from Plant 2 returned to SMRW via Pond 2 plus the portion of effluent from Plant 13 not included in 4/. No record available for effluent from Plant 2 returned to SMRW for 1966-1974 & 1982 - June 1990. Calculation of Import recharged in SMRW from Plant 2 is based on zero when no record is available.

TABLE B-10

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
WATER YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL DOMESTIC	LOSS 2/	TOTAL USE	EXPORTS
1966	87	0	87	0	79	9	87	0
1967	92	0	92	0	83	9	92	0
1968	108	0	108	0	97	11	108	0
1969	138	0	138	0	113	25	138	0
1970	152	0	152	0	125	27	152	0
1971	39 P	76 E	115	0	100	15	115	0
1972	0	115 E	115	0	105	10	115	0
1973	0	115 E	115	0	105	10	115	0
1974	0	115 E	115	0	105	10	115	0
1975	0	115 E	115	0	105	10	115	0
1976	0	115 E	115	0	105	10	115	0
1977	0	115 E	115	0	105	10	115	0
1978	0	115 E	115	0	105	10	115	0
1979	0	115 E	115	0	105	10	115	0
1980	0	115 E	115	0	105	10	115	0
1981	0	115 E	115	0	105	10	115	0
1982	0	115 E	115	0	105	10	115	0
1983	0	115 E	115	0	105	10	115	26 E
1984	0	115 E	115	0	105	10	115	26 E
1985	0	102	102	0	93	9	102	26 E
1986	0	94	94	0	85	9	94	18 P
1987	0	116	116	0	105	11	116	27
1988	0	120	120	0	109	11	120	25
1989	0	128	128	0	116	12	128	22
1990	0	145	145	0	132	13	145	27
1991	0	109	109	0	99	10	109	11
1992	0	99	99	0	90	9	99	7
1993	0	117	117	0	106	11	117	16
1994	0	73	73	0	66	7	73	5
1995	0	125	125	0	114	11	125	12
1996	0	100	100	0	91	9	100	5
1997	0	109	109	0	99	10	109	6
1998	0	97	97	0	88	9	97	8
1999	0	111	111	0	101	10	111	5
2000	0	104	104	0	95	9	104	7
2001	0	73	73	0	66	7	73	8
2002	0	97	97	0	88	9	97	9
2003	0	88	88	0	80	8	88	10
2004	0	73	73	0	66	7	73	8

1/ - Estimate 1969-1984 - Records not available
2/ - Loss = 10% of Use

E - Estimate
P - Partial year data

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

APPENDIX C

SUBSTANTIAL USERS OUTSIDE

ORGANIZED WATER SERVICE AREAS

AUGUST 2005

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA								
Clawson, Gary A.	43425 Sage Road	917-050-009	309.74	Total				
	Aguanga, Ca. 92536	917-050-007	82.19	|				
		581-070-013	43.10	of				
		581-150-013	120.56	|				
		581-150-016	25.37	|				
		581-070-014	158.08	30.00	Alfalfa	8S/1E-7N(1)	Total	
						8S/1E-7N(2)	of	
						8S/1E-7Q(1)	|	
						8S/1E-7Q(2)	90.00	
Strange, Owen W.	m/t P.O. Box 1974	583-040-022	97.78	Total		8S/1E-19Q(1)	0.00	
and Elizabeth G.	Rancho Santa Fe,	583-040-021	13.45	|			Domestic	
Trustees, Strange	Ca. 92067	583-130-001-3	80.00	of				
Living Trust	43023 Hwy 79	583-120-001-2	120.00	|				
of 4-15-88	Aguanga, CA 92536	583-060-003-9	41.60	0.00				
						8S/1E-29L Diversion		0.00
Twin Creek Ranch/	c/o Jim Holden	583-120-081	17.29	15.00	Row Crops			
Chester M. Mason	P. O. Box 519	583-120-083	68.09	65.00	Row Crops	8S/1E-28N1	Total	
Family Trust	Corona, Ca. 91718					8S/1E-28N(2)	|	
	44201 Hwy 79 Aguanga						|	
	44735 Hwy 79 Aguanga	583-120-084	179.39	30.00	Row Crops	8S/1E-29H	of	
		583-150-001	80.00	15.00	Row Crops		|	
				15.00	Row Crops		|	
		583-140-014	48.03	15.00	Row Crops	8S/1E-33F	|	
		583-140-015	40.00	35.00	Row Crops	8S/1E-33G1	|	
		583-140-016	40.00	38.00	Row Crops	8S/1E-33B	912.00	
		583-140-018	10.09	0.00				
		583-140-020	10.15	0.00				
		583-140-019	10.00	0.00				

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA (Cont)								
Harris, Homer N. and Dolores G.	44444 Sage Road Aguanga, CA 92536	581-160-014	17.73	Total Of 15.00	Citrus	8S/1E-18J(1) 8S/1E-18J(2)		
		581-160-015	7.42	5.00	Fruit and			
		581-150-009	7.00	10.00	Walnuts	8S/1E-18H(1)	13.29	
						8S/1E-18H(2)	0.20	
		581-180-022	30.00	0.00				
		581-180-004	20.00	0.00				
		581-180-020	20.00	0.00		8S/1E-17M	39.90	
		581-180-021	2.15			8S/1E-17E	22.29	
Valeywide Recreation and Parks District	901 W. Esplanade Ave San Jacinto, CA 92582	581-170-009	7.82	7.82	Grass	Used 8S/1E-17E	owned by Harris	
Missionary Foundation Inc.	44350 Sage Road Aguanga, CA 92536	581-170-011	290.03	20.00	Row Crops	8S/1E-17B	35.00	
						8S/1E-17H	Domestic	
	m/t 5160 Acadia Drive Riverside, CA 92505	581-180-009	120.00	0.00				
		581-190-001	320.00	0.00				
California Golf Academy	43590 Sage Road Aguanga, CA 92536 m/t 8762 Garden Grove Blvd. Suite #204 Garden Grove, CA 92844	581-120-006	200.00	6.00	Grapes	8S/1E-8K2	24.00	
TOTAL AGUANGA GROUNDWATER AREA				**321.82**			**1,136.68**	**0.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA								
Agri-Empire, Inc.	m/t P. O. Box 490	113-090-01	377.07	85.00	Potatoes			
	San Jacinto, CA 92383	113-090-03	21.46					
		113-090-05	541.22					
		113-100-01	389.81			9S/2E-11B - Diversion		0.00
		113-130-01	150.09			9S/2E-17D - Spring		0.00
		113-140-03	196.54			9S/2E-16N2	68.00	
						9S/2E-16M	112.00	
						9S/2E-16F1	36.00	
						9S/2E-16N1	150.00	
						9S/2E-16F2	0.00	
						9S/2E-16K - Diversion		0.00
		113-140-04	503.24					
		113-140-05	45.09					
		113-140-06	93.94					
		114-020-09	37.16					
		114-030-08	331.79			9S/2E-22	0.00	
		114-030-26	42.87					
* Land leased from Arlie W. and Coral R. Bergman	37126 Hwy 79 Warner Springs, CA 92086	113-140-01 *	358.62	Total 0f		9S/2E-16B(1) 9S/2E-16B(2) 9S/2E-16G	Total 0f 336.00	
		113-140-02 *	38.75	80.00	Potatoes			
Papac, Andrew and Olga	m/t 2030 Santa Anita Ave South El Monte, CA 91733 38642 Highway 79 Warner Springs, CA 92086	113-060-012	63.21	20.00	Bermuda Grass	9S/2E-7D	38.00	
						9S/2E-7E - Diversion		38.00
TOTAL TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA				**185.00**			**740.00**	**38.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY								
Greenwald, Alvin G.	6010 Wilshire Blvd #500	573-180-001	156.38	156.38	Row Crops	7S/3E-17E	625.52	
	Los Angeles, CA 90036	576-070-001	70.00	70.00	Pasture	7S/3E-20N	266.00	
Agri-Empire, Inc.	P.O. Box 490							
	San Jacinto, CA 92383							
	Section 8	573-090-005	40.00	0.00				
		573-100-002	27.79					
	Section 10	575-050-044	14.38	0.00				
		575-060-002	133.93	0.00		7S/3E-11N4	225.00	
						7S/3E-11P3	170.00	
	Section 13	575-100-037	57.80	0.00				
	Section 14	575-110-021	143.75	0.00		7S/3E-14D1	0.00	
		575-110-027	54.45	0.00				
		575-310-002	39.09	0.00		7S/3E-14C2	318.00	
		575-310-011	80.00	0.00				
		575-310-012	80.00	0.00				
		575-310-013	17.46	0.00				
		575-310-014	0.75	0.00				
		575-310-027	17.46	0.00				
		575-310-028	0.92	0.00				
	Section 15	575-080-014	9.92	0.00				
		575-080-015	4.35	0.00				
		575-080-017	9.75	0.00				
		575-080-018	10.13	0.00				
		575-080-019	31.29	0.00				
		575-080-021	20.00	Total				
		575-080-022	20.00	of				
		575-080-024	20.00					
		575-080-027	20.00	35.00	Potatoes			
		575-090-010	38.80	0.00				
	Section 17	573-180-011	39.74	0.00				

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont)								
Agri-Empire, Inc. (Cont)								
	Section 20	576-060-009	8.26	0.00				
		576-060-031	16.09	0.00				
		576-060-033	79.45	0.00				
		576-060-037	41.41	0.00				
		576-060-038	5.41	0.00				
		576-070-003	80.00	0.00				
		576-070-005	116.57	0.00				
	Section 21	576-080-003	133.72	Total of				
		576-100-061	37.71	140.00	Potatoes			
		576-110-001	160.00	0.00				
		576-110-002	28.00	0.00				
		576-110-004	50.00	0.00				
		576-110-006	19.29	0.00		7S/3E-21R3	488.00	
		576-110-007	17.85	0.00				
		576-110-008	17.00	0.00				
		576-110-009	18.41	0.00				
	Section 22	575-120-012	88.03	0.00				
		575-130-003	19.55	0.00				
		575-130-006	40.89	0.00				
		575-130-008	18.56	Total				
		575-130-009	20.06	|				
		575-130-010	20.07	|				
		575-130-011	19.19	of				
		575-130-012	18.18	|				
		575-130-013	19.02	|				
		575-130-014	19.00	|				
		575-130-015	17.58	75.00	Potatoes			
		575-120-018	20.45	Total				
		575-120-019	20.45	|				
		575-120-032	4.69	|				
		575-120-033	4.68	|				
		575-120-034	4.68	of				
		575-120-035	4.28	62.00	Potatoes			
*Leased from Dionisios & Irini Argyros		575-120-028*	4.68	Total				
2813 Monogram Ave, Long Beach, CA 90815		575-120-029*	4.68	of				
		575-120-030*	4.68	|				
		575-120-031*	4.23	18.00	Potatoes			
	Section 23	575-140-019	105.04	0.00				

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont)								
Cahuilla Indian Reservation								
	Domestic and Commercial Wells Reported by Bureau of Indian Affairs						Total	
	Wells in Basement Complex	Wells out of Watershed	Wells with QYAL and/or QTOAL					
	7S/2E-14L1	8S/3E-2A1	7S/2E-14J1	7S/2E-28Q1	7S/3E-31L2			
	7S/2E-25D1	8S/3E-2B1	7S/2E-14M1	7S/2E-33C1	7S/3E-34E1			
	7S/2E-26B1	8S/3E-2D1	7S/2E-14M2	7S/2E-33E1	7S/3E-34N1			
	7S/2E-26B2	8S/3E-2E1	7S/2E-14R1	7S/2E-33N1	7S/3E-34Q1			
	7S/2E-28B3	8S/3E-2G1	7S/2E-23A1	7S/3E-27C1	8S/2E-4D1			
	7S/2E-34E1	8S/3E-2H1	7S/2E-23D1	7S/3E-27C2	8S/2E-4N1			
	7S/2E-36A1	8S/3E-2K1	7S/2E-23F1	7S/3E-27H1	8S/2E-4N2			
	7S/2E-36J1		7S/2E-23G1	7S/3E-27M1	8S/2E-4P1			
	7S/2E-36R1		7S/2E-23H1	7S/3E-28A1	8S/2E-4R1			
	7S/3E-26A1		7S/2E-23K1	7S/3E-28A2	8S/2E-4R2			
	7S/3E-29Q1		7S/2E-23M1	7S/3E-28D1	8S/3E-5Q1		of	
	7S/3E-30H1		7S/2E-23P1	7S/3E-28C1	8S/3E-6J1			
	7S/3E-31A1		7S/2E-23Q1	7S/3E-29M1				
	7S/3E-31N1		7S/2E-25C1	7S/3E-3OP1				
	7S/3E-31Q1		7S/2E-25F1	7S/3E-3OQ1				
	7S/3E-32D1		7S/2E-25R1	7S/3E-3OR1				
	7S/3E-32O2		7S/2E-26E1	7S/3E-3OR2				
	8S/3E-6B1		7S/2E-28L1	7S/3E-3OR3				
	8S/3E-6B2		7S/2E-27A1	7S/3E-31C1				
	8S/3E-6G1		7S/2E-27H1	7S/3E-31F1				
	8S/3E-6R1		7S/2E-28N1	7S/3E-31L1				
							42.00	
SUBTOTAL ANZA VALLEY				**556.38**			**2,112.52**	**0.00**
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
LEWIS VALLEY								
Green Shell Company 39850 Sage Road Hemet, CA 92343	571-080-012	80.00	50.00	Olive Trees	7S/1E-20Q		55.00	
SUBTOTAL LEWIS VALLEY				**50.00**			**55.00**	**0.00**
TOTAL WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA				**606.38**			**2,167.52**	**0.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
MURRIETA-TEMECULA GROUNDWATER AREA								
Temecula Ranchos	c/o McMillan Farm Mgt.	943-040-011	20.00	18.00	Citrus	7S/2W-28L	251.00	
	29379 Rancho Cal. Rd	943-060-010	94.49	89.00	Citrus			
	#201	943-060-011	26.50	29.00	Citrus			
	Temecula, CA 92390							
Anza Grove	c/o McMillan Farm Mgt.	942-180-002	40.28	Total				
	29379 Rancho Cal. Rd	942-240-003	40.83	of				
	#201	942-240-004	40.83	|				
	Temecula, CA 92390	942-240-005	39.31	155.00	Citrus	7S/2W-26B1	319.00	
Stage Ranch Farm Management	P. O. Box 1371	927-620-004	17.84	15.00	Wine Grapes	7S/3W-31G(1)	38.00	
	Temecula, CA 92593							
A Peel Citrus	c/o Stage Ranch Farm Mgrr	917-240-015-7	20.00	0.00				
Giddings, Richard W.	P. O. Box 1371	917-240-014-6	60.00	0.00				
Mendoza, Bertha	Temecula, CA 92593	917-150-006-1	120.00	110.00		8S/1W-21K(1)	280.00	
	38695 Highway 79	917-150-002-7	117.76	0.00	Citrus	8S/1W-21K(2)		
	Warner Springs, CA 92086					8S/1W-21P(1)		
						8S/1W-21P(2)		
Boots, Clydene	P. O. Box 321	909-090-019	16.66	14.00	Pasture			
	Murrieta, CA 92362	909-100-017				7S/3W-21P	60.00	
	25555 Washington Ave							
	Murrieta, Ca. 92564							
James A. and	Highway 79 S	943-230-001	109.34	30.00	Grapes			
Maggie Carter	Temecula, CA	917-250-004	80.00	Total		8S/1W-25Q	0.00	
Living Trust	m/t P. O. Box 507	917-250-005	80.00	of		8S/1W-25P	24.00	
	Santa Ana, CA 92702-0507			|		8S/1W-25N(1)Spring 3		0.00
		917-250-007	240.00	220.00	Grapes	8S/1W-36K Spring 4		0.00
						8S/1W-36H Spring 6		0.00
						8S/1W-36K(1)	50.00	
						8S/1W-38K(2)	60.00	
						8S/1W-36K(3)	100.00	
						8S/1W-36L - Stream Diversion		52.00

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
MURRIETA-TEMECULA GROUNDWATER AREA (Cont)								
Regency Properties	44051 Rainbow Cyn Rd. Temecula, CA 92592	922-220-002	86.11	Total		8S/2W-19(D)	155.11	
		922-220-003	5.75	|				
		922-220-004	52.18	|				
		922-220-007	14.36	|				
		922-220-008	3.99	of				
		922-230-002	59.29	|				
		922-230-003	1.00	|				
		922-230-004	40.00	|				
		922-230-007	25.00	|				
		922-230-008	16.11	150.00	Grass			
Carson, David M. and Carol J.	25471 Hayes Ave Murrieta, CA 92362	909-260-036	8.87	7.00	Pasture	7S/3W-29G	39.90	
		909-260-042	4.31	3.50	Pasture			

Pechanga Indian Reservation

Domestic and Commercial Wells Reported by Bureau of Indian Affairs						Total	
Wells in Basement Complex	Wells out of Watershed	Wells with QYAL and/or QTOAL				|	
		8S/2W-28J1	8S/2W-34B3			|	
		8S/2W-28J2	8S/2W-34B4			|	
		8S/2W-28P1	8S/2W-34C1			|	
		8S/2W-28Q1	8S/2W-34D1			of	
		8S/2W-28Q2	8S/2W-34E1			|	
		8S/2W-28Q4	8S/2W-34F1			|	
		8S/2W-28Q8	8S/2W-34F2			|	
		8S/2W-28Q7	8S/2W-34F3			|	
		8S/2W-28R1	8S/2W-34F4			|	
		8S/2W-29A1	8S/2W-34F7			|	
		8S/2W-29B10	8S/2W-35D1			|	
				Domestic Use	67.00		
				Commercial Use	537.00		
				Irrigation	81.00		
				Loss	36.00		
				TOTAL USE		721.00	4.00
TOTAL MURRIETA-TEMECULA GROUNDWATER AREA		**840.50**				**2,098.01**	**56.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE								
DE LUZ CREEK								
Ezor, Albert E.	40922 DeLuz Road Fallbrook, CA 92028	101-271-17	47.79	12.00 2.00	Avocados Vegetables	8S/4W-29D(1) 8S/4W-29D(2)	36.80 Total	
Bryant, Warren and Lori	40724 DeLuz Rd Fallbrook, CA 92028	101-271-19 101-271-20 101-271-21 101-271-22	19.08 5.02 11.86 6.41	Total of 8.00	Pasture	8S/4W-29E(1) 8S/4W-29E(2)	30.40 Total	
Prestininzi, Pete and Dorothy N.	2525 E. Mission Road Fallbrook, CA 92028 Richmond Truck Trail and DeLuz Murrieta Road	101-220-12 101-210-53	31.63 50.44	6.00 Pasture & Flowers 12.00	Avocados and Citrus	8S/4W-20A(1) 8S/4W-20H(1) 8S/4W-20H(2) 8S/4W-20A(2) 8S/4W-20H(3) 8S/4W-20A - Diversion	16.00 16.00 14.00	0.00
Varela, Alfred	41125 DeLuz Rd Fallbrook, CA 92028	101-210-11	15.23	8.50 0.50	Avocados Citrus	8S/4W-20Q(1) 8S/4W-20Q(2)	21.60 Total	
Kreidler, Erich Delacruz, Rodrigo and Monica	41257 DeLuz Rd Fallbrook, CA 92028	101-210-12	30.28	10.00 18.00 2.00	Avocados Citrus Row crops	8S/4W-20Q(1) 8S/4W-20Q(2) 8S/4W-20Q(3)	Total of 68.20	
Wagner, Wilbur A.	41128 DeLuz	101-210-23 101-210-22	17.19 4.55	11.00 3.00 3.00	Avocados Persimmons Persimmons	8S/4W-20P(1) 8S/4W-20P(2) 8S/4W-20P(3)	0.00 0.00 33.00	
Chambers, Robert R. and Clytia M.	m/t 11439 Laurelcrest Dr. Studio City, CA 91604 40888 DeLuz-Murrieta Roa	101-571-03 102-130-42	41.72 73.14	20.00 5.00 20.00	Flowers Fruit Flowers	8S/4W-28A 8S/4W-28A - Diversion 9S/4W-9B(1) 9S/4W-9B(2) 9S/4W-9B(3)	30.00 51.00 1.00 30.00	5.00
Welburn, Douglas J. and Sue	40787 DeLuz Murrieta Rd. Fallbrook, CA 92028 40751 DeLuz Murrieta Rd	101-571-08	28.98	8.50 1.50	Row Crops Trees	8S/4W-28G1	35.00	
Nezami, Mohammed Bluebird Ranch	2193 Calle Rociada Fallbrook, CA m/t P. O. Box 1089 Fallbrook, CA 92088	101-312-02 101-312-01	58.17 82.29	45.00 5.00 42.00	Flowers Avocados Flowers	8S/4W-31K(1) 8S/4W-31K(2) 8S/4W-31K(3) 8S/4W-31L 8S/4W-31L - Diversion	Total of 182.18	31.48

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE (Cont)								
DE LUZ CREEK (Cont)								
Vanginkel, Norman and Deborsh	39452 DaLuz Road Fallbrook, CA 92028 m/t 20564 Calla De La Ladera Yorba Linda, CA 92887	101-312-03	80.00	25.00	Nursery Stock	8S/4W-31J(1)	0.00	
						8S/4W-31J(2)	19.00	
						8S/4W-31J(3)	5.00	
						8S/4W-31J(4)	40.00	
						8S/4W-31J(5)	6.00	
		102-052-04	22.04	10.00	Avocados	8S/4W-6A	0.00	
		102-731-02	4.26					
Daily Family Trust	40555 Ross Road Fallbrook, CA 92028	101-430-27	2.73	Total of				
		101-430-30	16.39	7.00	Avocados			
		101-500-01	16.62	7.00	Limes			
		101-480-14	13.20	6.00	Persimmons	8S/4W-34- Lake Diversion		7.00
SUBTOTAL DELUZ CREEK				**243.00**			**613.18**	**43.48**
SANDIA CREEK								
Cal June, Inc.	P. O. Box 9551 No. Hollywood, CA 91609 40378 Sandia Creek Fallbrook, CA 92028	101-380-40	126.32	65.00	Avocados	8S/4W-25P(1)		
						8S/4W-25P(2)		
						8S/4W-25P(3)		
						8S/4W-25P(4)		
						8S/4W-25P(5)		
						8S/4W-25P - Diversion		132.00
SUBTOTAL SANDIA CREEK				**65.00**			**0.00**	**132.00**
SANTA MARGARITA RIVER								
San Diego State University Foundatior	47981 Willow Glen Rd. Temecula, CA m/t Louis Haberkern, Director SDSU Foundation 5250 Campanile Dr., 4th Flr. San Diego, CA 92182-1999	918-040-10	120.00	Total of	Citrus and	8S/3W-33Q1	0.00	
		918-060-17	40.00	20.00	Avocados	8S/3W-33Q(2)	20.00	
						8S/3W-33Q - Diversion		60.00
SUBTOTAL SANTA MARGARITA RIVER				**20.00**			**20.00**	**60.00**
TOTAL SANTA MARGARITA RIVER BELOW GORGE				**328.00**			**633.18**	**235.48**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2003-2004	IRRIGATED CROP 2003-2004	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
LOWER MURRIETA								
Northwind Fams, Inc.	c/o Cliff Ronnenberg	571-020-046	81.09	0.00				
	11292 Western Avenue	571-020-047	40.80	0.00				
	Stanton, CA 90680	571-020-048	36.75	0.00				
(Sage Ranch Nursery)	42522 E. Benton Rd.	571-020-049	148.86	0.00		7S/1E-7D		
	Aguanga, CA	571-020-004	1.50	0.00				
		571-520-007	109.50	Total				
		571-520-008	99.43	|				
		571-520-009	80.23	of				
		571-520-010	78.20	|				
		915-140-003	101.65	|				
		915-140-008	21.39	|				
		470-210-007	53.62	|				
		470-220-004	121.00	400.00	Olive trees	7S/1E-7E - Diversion		100.00
Gonzalez, Enrique and Maria M.	39800 E. Benton Rd. Temecula, CA 92390	915-120-18	37.74	10.00	Pasture	7S/1W-10R(1) 7S/1W-10R(2) 7S/1W-10R(3) 7S/1W-10R(4) 7S/1W-10R(5) 7S/1W-10R(6)	Total of | 38.00 Domestic	
TOTAL LOWER MURRIETA				**410.00**			**38.00**	**100.00**
GRAND TOTAL				**2,691.70**			**6,813.39**	**429.48**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

APPENDIX D

WATER QUALITY DATA

AUGUST 2005

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Holiday Well	06/16/89	1300	775	122	39	100	2	178	66	372	40
7S/3W-20C09	10/18/91	—	—	—	—	—	—	—	—	—	25
	11/15/91	—	—	—	—	—	—	—	—	—	26
	12/13/91	—	—	—	—	—	—	—	—	—	28
	01/10/92	—	—	—	—	—	—	—	—	—	27
	02/07/92	—	—	—	—	—	—	—	—	—	27
	05/01/92	—	—	—	—	—	—	—	—	—	32
	05/29/92	—	—	—	—	—	—	—	—	—	28
	08/21/92	—	—	—	—	—	—	—	—	—	27
	01/22/93	960	605	83	29	83	2	130	84	278	33
	10/15/93	—	—	—	—	—	—	—	—	—	32
	03/30/94	—	—	—	—	—	—	—	—	—	44
	06/22/94	—	—	—	—	—	—	—	—	—	35
	09/14/94	—	—	—	—	—	—	—	—	—	31
	12/07/94	—	—	—	—	—	—	—	—	—	30
	03/01/95	—	—	—	—	—	—	—	—	—	32
	06/21/95	—	—	—	—	—	—	—	—	—	11
	09/13/95	—	—	—	—	—	—	—	—	—	27
	12/06/95	—	—	—	—	—	—	—	—	—	26
	03/27/96	—	—	—	—	—	—	—	—	—	15
	06/06/96	—	—	—	—	—	—	—	—	—	24
	09/11/96	—	—	—	—	—	—	—	—	—	22
	11/08/96	—	—	—	—	—	—	—	—	—	55
	11/14/96	—	—	—	—	—	—	—	—	—	25
	12/05/96	—	—	—	—	—	—	—	—	—	24
	03/27/97	—	—	—	—	—	—	—	—	—	20
	06/18/97	—	—	—	—	—	—	—	—	—	21
	12/03/97	—	—	—	—	—	—	—	—	—	18
	03/25/98	—	—	—	—	—	—	—	—	—	21
	04/22/98	1090	680	89	29	85	1	150	76	290	22
	06/17/98	—	—	—	—	—	—	—	—	—	23
	10/01/98	—	—	—	—	—	—	—	—	—	25
	12/02/98	—	—	—	—	—	—	—	—	—	28
	02/24/99	—	—	—	—	—	—	—	—	—	33
	03/24/99	—	—	—	—	—	—	—	—	—	26
	09/09/99	—	—	—	—	—	—	—	—	—	36
	12/03/99	—	—	—	—	—	—	—	—	—	32
	07/12/00	—	—	—	—	—	—	—	—	—	21
	08/04/00	1290	790	110	36	99	—	180	110	320	21
	10/24/01	—	—	—	—	—	—	—	—	—	17
	03/06/02	—	—	—	—	—	—	—	—	—	15
	07/11/02	—	780	—	—	—	—	—	—	310	—
	10/03/03	—	800	113	—	—	—	—	—	332	—
	04/21/04	—	—	—	—	—	—	—	—	—	11

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
House Well	06/16/89	660	345	34	3	95	2	87	60	153	<1
7S/3W-20G06	02/27/91	770	---	---	---	---	---	110	65	168	<1
	03/01/91	730	---	---	---	---	---	110	---	---	<1
	03/08/91	680	420	42	5	90	2	110	68	122	<1
	05/10/91	750	---	---	---	---	---	---	---	---	<1
	10/11/91	---	---	---	---	---	---	---	---	---	<1
	11/08/91	---	---	---	---	---	---	---	---	---	<1
	05/22/92	---	---	---	---	---	---	---	---	---	<1
	08/14/92	---	---	---	---	---	---	---	---	---	<1
	01/22/93	720	415	40	5	106	2	100	68	168	<1
	09/07/94	---	---	---	---	---	---	---	---	---	<1
	12/27/95	---	---	---	---	---	---	---	---	---	<1
	03/22/95	---	---	---	---	---	---	---	---	---	<1
	06/14/95	---	---	---	---	---	---	---	---	---	<1
	09/06/95	---	---	---	---	---	---	---	---	---	<1
	12/27/95	---	---	---	---	---	---	---	---	---	<1
	03/20/96	---	---	---	---	---	---	---	---	---	<2
	06/12/96	---	---	---	---	---	---	---	---	---	<2
	09/04/96	---	---	---	---	---	---	---	---	---	<2
	12/26/96	---	---	---	---	---	---	---	---	---	<2
	03/19/97	---	---	---	---	---	---	---	---	---	<2
	06/12/97	---	---	---	---	---	---	---	---	---	<2
	12/30/97	---	---	---	---	---	---	---	---	---	<2
	03/18/98	---	---	---	---	---	---	---	---	---	<2
	04/15/98	660	360	30	3	94	1	91	62	130	<2
	06/10/98	---	---	---	---	---	---	---	---	---	<2
	10/01/98	---	---	---	---	---	---	---	---	---	<2
	12/23/98	---	---	---	---	---	---	---	---	---	<2
	02/17/99	---	---	---	---	---	---	---	---	---	<2
	03/17/99	---	---	---	---	---	---	---	---	---	<2
	06/09/99	---	---	---	---	---	---	---	---	---	<2
	09/01/99	---	---	---	---	---	---	---	---	---	<2
	12/22/99	---	---	---	---	---	---	---	---	---	ND
	03/15/00	640	370	29	3	92	2	82	61	130	<2
	06/07/00	---	---	---	---	---	---	---	---	---	<2
	09/27/00	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	<2
	03/06/02	---	---	---	---	---	---	---	---	---	<2
	07/11/02	---	440	---	---	---	---	---	---	170	---
	10/03/03	630	380	34	3	103	---	87	---	140	ND
	04/21/04	---	---	---	---	---	---	---	---	---	<2

ND - None Detected

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
South Well	09/07/90	690	405	62	17	68	2	83	56	229	4
7S/3W-20D	10/04/91	—	—	—	—	—	—	—	—	—	2
	11/01/91	—	—	—	—	—	—	—	—	—	3
	11/26/91	—	—	—	—	—	—	—	—	—	2
	05/15/92	—	—	—	—	—	—	—	—	—	<1
	10/01/93	—	—	—	—	—	—	—	—	—	2
	09/28/94	—	—	—	—	—	—	—	—	—	1
	12/21/94	—	—	—	—	—	—	—	—	—	3
	03/15/95	—	—	—	—	—	—	—	—	—	2
	06/07/95	—	—	—	—	—	—	—	—	—	2
	09/27/95	—	—	—	—	—	—	—	—	—	2
	12/20/95	—	—	—	—	—	—	—	—	—	3
	03/13/96	—	—	—	—	—	—	—	—	—	2
	06/15/96	—	—	—	—	—	—	—	—	—	3
	09/25/96	—	—	—	—	—	—	—	—	—	3
	12/18/96	—	—	—	—	—	—	—	—	—	3
	04/09/97	—	—	—	—	—	—	—	—	—	2
	06/04/97	—	—	—	—	—	—	—	—	—	2
	03/11/98	—	—	—	—	—	—	—	—	—	<2
	04/08/98	820	500	73	18	67	2	92	73	250	3
	06/03/98	—	—	—	—	—	—	—	—	—	3
	10/01/98	—	—	—	—	—	—	—	—	—	3
	12/16/98	—	—	—	—	—	—	—	—	—	2
	03/10/98	—	—	—	—	—	—	—	—	—	2
	06/09/99	—	—	—	—	—	—	—	—	—	2
	09/22/99	—	—	—	—	—	—	—	—	—	<2
	12/15/99	—	—	—	—	—	—	—	—	—	ND
	02/09/00	810	460	55	14	84	1	99	63	210	<2
	05/03/00	—	—	—	—	—	—	—	—	—	<2
	08/04/00	780	440	47	9	100	—	99	48	210	<2
	08/23/00	—	—	—	—	—	—	—	—	—	<2
	10/24/01	—	—	—	—	—	—	—	—	—	<2
	03/20/02	—	—	—	—	—	—	—	—	—	4
	07/11/02	—	460	—	—	—	—	—	—	180	—
	10/03/03	—	460	59	—	—	—	—	—	207	—
	04/21/04	—	—	—	—	—	—	—	—	—	<2

ND - None Detected

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
North Well	06/16/89	730	390	40	7	98	2	98	45	201	<1
7S/3W-18J02	10/25/91	---	---	---	---	---	---	---	---	---	<1
	11/22/91	---	---	---	---	---	---	---	---	---	<1
	05/08/92	---	---	---	---	---	---	---	---	---	<1
	08/28/92	---	---	---	---	---	---	---	---	---	<1
	01/22/93	680	405	39	8	99	2	100	51	183	<1
	10/22/93	---	---	---	---	---	---	---	---	---	<1
	07/08/94	810	520	---	---	87	---	130	53	---	<1
	09/21/94	---	---	---	---	---	---	---	---	---	<1
	12/14/94	---	---	---	---	---	---	---	---	---	<1
	03/08/95	---	---	---	---	---	---	---	---	---	<1
	06/28/95	---	---	---	---	---	---	---	---	---	<1
	09/20/95	---	---	---	---	---	---	---	---	---	<1
	12/13/95	---	---	---	---	---	---	---	---	---	<1
	03/06/96	---	---	---	---	---	---	---	---	---	<2
	06/26/96	---	---	---	---	---	---	---	---	---	<2
	09/18/96	---	---	---	---	---	---	---	---	---	<2
	12/11/96	---	---	---	---	---	---	---	---	---	<2
	06/25/97	---	---	---	---	---	---	---	---	---	<2
	07/08/98	760	460	49	9	100	2	110	51	220	<2
	10/01/98	---	---	---	---	---	---	---	---	---	<2
	12/09/98	---	---	---	---	---	---	---	---	---	<2
	02/03/99	---	---	---	---	---	---	---	---	---	<2
	03/03/99	---	---	---	---	---	---	---	---	---	<2
	06/23/99	---	---	---	---	---	---	---	---	---	<2
	09/22/99	---	---	---	---	---	---	---	---	---	<2
	12/08/99	---	---	---	---	---	---	---	---	---	<2
	01/05/00	780	440	47	9	100	---	99	48	210	<2
	05/03/00	---	---	---	---	---	---	---	---	---	<2
	07/19/00	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	<2
	03/06/02	---	---	---	---	---	---	---	---	---	<2
	07/11/02	---	420	---	---	---	---	---	---	180	---
	10/03/03	---	440	53	---	---	---	---	---	---	---
	04/21/04	---	---	---	---	---	---	---	---	---	<2

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Lynch Well 7S/3W-17R02	06/16/89	760	410	70	17	55	1	86	30	262	8
Morris Well 7S/3W-19R	09/07/90	530	280	38	7	68	3	50	49	168	3
Alson Well 7S/3W-7M	06/06/90	1520	915	138	46	110	1	250	81	433	31
	07/21/98	1260	880	100	37	120	<1	180	92	330	23
	09/09/98	1200	850	110	39	120	<1	180	100	320	23
	05/03/00	---	---	---	---	---	---	---	---	---	20
	05/19/00	1290	800	97	36	110	<1	180	96	330	19
	11/28/01	1290	750	93	33	110	<1	180	96	310	17
	03/06/02	---	---	---	---	---	---	---	---	---	20
	07/01/02	---	650	---	---	---	---	---	---	270	---
	10/03/03	880	550	80	26	95	---	ND	ND	259	ND
New Clay Well 7S/3W-20	03/09/04	480	340	23	1	87	1	79	64	98	<2

ND - None Detected

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 101	06/01/88	810	495	76	15	79	8	116	16	314	—
7S/3W-34G1	08/05/88	—	—	—	—	—	—	—	—	—	<1
	05/23/90	630	365	30	6	91	2	101	35	107	3
	08/04/93	860	465	76	14	78	2	120	22	275	<1
	08/09/96	820	480	69	14	83	2	110	15	310	<2
	10/16/97	—	—	—	—	—	—	—	—	—	<2
	08/11/99	840	510	70	14	85	2	110	17	300	<2
	06/25/02	—	—	—	—	—	—	—	—	—	<2
	08/14/02	870	500	66	14	85	2.5	120	15	250	<2
	06/11/03	—	—	—	—	—	—	—	—	—	<2
	06/15/04	—	—	—	—	—	—	—	—	—	<2
No. 102	01/04/89	695	370	9	2	134	1	101	25	195	<1
8S/3W-2Q1	01/15/92	930	615	38	4	160	3	160	55	250	<1
	05/17/95	850	475	21	1	144	1	120	130	98	<1
	06/20/95	1190	700	26	2	207	2	150	220	131	<1
	06/09/97	—	—	—	—	—	—	—	—	—	<2
No. 105	07/06/89	500	280	30	6	66	2	71	22	134	14
7S/3W-25M1	03/17/93	480	310	17	2	80	2	67	22	110	14
No. 106	06/29/88	920	485	38	5	143	3	182	66	70	16
7S/3W-26R1	05/13/92	880	515	35	4	142	2	180	72	110	17
	05/16/95	870	495	32	3	138	2	160	57	116	14
	07/07/97	—	—	—	—	—	—	—	—	—	8
	07/20/98	—	—	—	—	—	—	—	—	—	9
	07/20/99	—	—	—	—	—	—	—	—	—	9
	07/06/00	—	—	—	—	—	—	—	—	—	8
	05/01/01	490	300	7	<1	96	<1	70	23	100	8
	07/10/01	—	—	—	—	—	—	—	—	—	12
	07/03/02	—	—	—	—	—	—	—	—	—	8
	07/07/03	—	—	—	—	—	—	—	—	—	6.8
	05/11/04	530	310	9	<1	93	1	80	25	88	8
	07/13/04	—	—	—	—	—	—	—	—	—	8
No. 107	04/11/88	490	365	19	4	73	2	69	22	116	15
7S/3W-26J1	05/29/91	950	535	63	15	104	3	130	120	171	11
No. 108	05/25/88	780	455	51	11	96	2	120	68	153	14
7S/3W-25E1	05/29/91	930	500	59	14	104	3	130	110	153	10
	05/13/94	640	395	23	5	100	2	120	51	104	7
	05/16/95	—	—	—	—	—	—	—	—	—	5
	05/13/97	540	300	7	<1	110	<1	110	15	85	4
	05/05/99	—	—	—	—	—	—	—	—	—	8
	05/16/00	630	350	7	<1	110	<1	130	12	65	3
	05/02/01	—	—	—	—	—	—	—	—	—	2
	11/19/02	—	—	—	—	—	—	—	—	—	2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 109	06/01/88	1400	920	136	35	120	4	100	300	296	—
8S/2W-17J1	08/05/88	—	—	—	—	—	—	—	—	—	10
	06/12/91	1330	800	110	26	120	5	120	270	275	9
	06/22/94	1370	1010	138	32	124	5	140	320	287	7
	06/06/95	—	—	—	—	—	—	—	—	—	8
	06/13/97	1440	1010	130	31	140	4	140	330	280	10
	07/16/97	—	—	—	—	—	—	—	—	—	2.2 as N
	04/14/99	—	—	—	—	—	—	—	—	—	12
	04/11/00	—	—	—	—	—	—	—	—	—	13
	06/21/00	1330	870	120	28	130	4	120	280	270	3.2
	04/10/01	—	—	—	—	—	—	—	—	—	13
	06/11/03	1400	970	140	32	130	4	130	340	290	12
	06/19/03	1400	970	150	32	120	4.2	130	340	290	12
	01/07/04	—	—	—	—	—	—	—	—	—	13
No. 110	03/31/88	1100	630	70	23	132	6	115	163	268	3
8S/1W-06K1	03/11/93	1010	610	60	21	124	5	110	200	201	3
	04/27/95	—	—	—	—	—	—	—	—	—	1
	07/20/99	—	—	—	—	—	—	—	—	—	<2
	07/06/00	—	—	—	—	—	—	—	—	—	2
	07/10/01	—	—	—	—	—	—	—	—	—	2
	03/11/02	850	500	58	20	81	5	74	190	160	<2
	07/03/02	—	—	—	—	—	—	—	—	—	<2
	09/16/03	—	—	—	—	—	—	—	—	—	2
	09/01/04	—	—	—	—	—	—	—	—	—	2
No. 113	03/28/88	700	400	41	12	87	2	11	20	192	18
7S/2W-25H01	03/21/91	570	290	21	5	79	2	88	17	119	11
	03/03/94	700	410	46	13	86	2	120	25	189	19
	04/27/95	—	—	—	—	—	—	—	—	—	24
	03/20/97	880	500	53	15	96	2	140	33	200	22
	07/20/98	—	—	—	—	—	—	—	—	—	23
	09/16/98	—	—	—	—	—	—	—	—	—	22
	02/25/99	—	—	—	—	—	—	—	—	—	19
	04/14/99	—	—	—	—	—	—	—	—	—	17
	06/03/99	—	—	—	—	—	—	—	—	—	21
	09/14/99	—	—	—	—	—	—	—	—	—	22
	10/21/99	—	—	—	—	—	—	—	—	—	25
	11/02/99	—	—	—	—	—	—	—	—	—	22
	12/14/99	—	—	—	—	—	—	—	—	—	23
	01/11/00	—	—	—	—	—	—	—	—	—	18
	03/07/00	810	470	75	16	59	2	70	94	200	11
	04/11/00	—	—	—	—	—	—	—	—	—	23
	05/03/00	—	—	—	—	—	—	—	—	—	24
	06/21/00	—	—	—	—	—	—	—	—	—	23
	09/13/00	—	—	—	—	—	—	—	—	—	23

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 113 (cont'd)	10/06/00	—	—	—	—	—	—	—	—	—	21
7S/2W-25H01	02/14/01	—	—	—	—	—	—	—	—	—	16
	05/30/01	—	—	—	—	—	—	—	—	—	23
	06/12/01	—	—	—	—	—	—	—	—	—	22
	08/01/01	—	—	—	—	—	—	—	—	—	22
	11/13/01	—	—	—	—	—	—	—	—	—	22
	05/01/02	—	—	—	—	—	—	—	—	—	19
	08/06/02	—	—	—	—	—	—	—	—	—	20
	11/05/02	—	—	—	—	—	—	—	—	—	21
	02/07/03	—	—	—	—	—	—	—	—	—	22
	03/05/03	1000	610	65	19	110	2.5	160	41	260	26
	08/05/03	—	—	—	—	—	—	—	—	—	21
	11/13/03	—	—	—	—	—	—	—	—	—	24
	02/10/04	—	—	—	—	—	—	—	—	—	24
	05/04/04	—	—	—	—	—	—	—	—	—	23
	08/10/04	—	—	—	—	—	—	—	—	—	24
No. 118	08/08/90	715	480	14	1	162	1	120	79	101	1
8S/3W-11B	09/26/90	—	—	—	—	—	—	—	—	—	1
	09/10/93	860	525	19	1	178	1	130	94	198	<1
	06/20/95	—	—	—	—	—	—	—	—	—	<1
	09/16/96	970	560	33	2	180	2	120	120	230	<2
	07/23/97	—	—	—	—	—	—	—	—	—	0.2 as N
	09/16/98	—	—	—	—	—	—	—	—	—	2
	11/02/99	1040	580	46	4	170	2	130	100	240	<2
	09/20/00	—	—	—	—	—	—	—	—	—	<2
	08/18/02	—	—	—	—	—	—	—	—	—	<2
	11/08/02	1100	590	46	4.5	160	1.3	140	94	240	<2
	09/23/03	—	—	—	—	—	—	—	—	—	<2
No. 119	07/16/96	450	280	44	9	35	<1	39	18	180	15
8S/2W-19J	08/14/97	—	—	—	—	—	—	—	—	—	12
	12/24/97	—	320	—	—	—	—	—	—	—	3.1 as N
	03/04/98	—	380	—	—	—	—	—	—	—	3.3 as N
	06/04/98	—	—	—	—	—	—	—	—	—	3.8 as N
	06/12/98	—	400	—	—	—	—	—	—	—	—
	09/16/98	—	—	—	—	—	—	—	—	—	3.7 as N
	01/08/99	—	430	—	—	—	—	—	—	—	—
	04/13/99	—	—	—	—	—	—	—	—	—	28
	06/02/99	—	560	—	—	—	—	—	—	—	4.8 as N
	07/27/99	940	640	103	21	58	1	70	150	264	30
	09/14/99	—	—	—	—	—	—	—	—	—	22
	09/14/99	—	—	—	—	—	—	—	—	—	4.8 as N

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 119 (cont'd)	10/26/99	---	---	---	---	---	---	---	---	---	24
8S/2W-19J	11/02/99	---	---	---	---	---	---	---	---	---	22
	12/14/99	---	560	---	---	---	---	---	---	---	22
	04/04/00	---	---	---	---	---	---	---	---	---	20
	12/14/00	---	---	---	---	---	---	---	---	---	4.6 as N
	03/29/01	---	---	---	---	---	---	---	---	---	20
	06/20/01	---	---	---	---	---	---	---	---	---	4.2 as N
	09/14/01	---	---	---	---	---	---	---	---	---	4.2 as N
	09/28/01	---	---	---	---	---	---	---	---	---	18
	11/16/01	---	---	---	---	---	---	---	---	---	16
	07/24/02	770	490	81	15	49	1.1	51	90	240	19
	05/23/02	---	480	---	---	---	---	---	---	---	18
	11/08/02	---	---	---	---	---	---	---	---	---	15
	02/19/03	---	---	---	---	---	---	---	---	---	17
	02/10/04	---	---	---	---	---	---	---	---	---	15
No. 120	06/20/90	570	330	6	1	116	1	82	31	113	11
8S/2W-17G	06/10/93	590	340	6	<1	122	1	85	35	104	12
	07/19/96	630	360	6	<1	120	1	88	42	120	14
	06/16/97	---	---	---	---	---	---	---	---	---	10
	08/14/97	---	---	---	---	---	---	---	---	---	9
	06/02/99	620	360	6	<1	122	<1	84	45	120	10
	06/06/00	---	---	---	---	---	---	---	---	---	11
	06/13/01	---	---	---	---	---	---	---	---	---	12
	06/01/02	670	370	8.1	<1	130	1	86	46	130	11
	06/11/03	---	---	---	---	---	---	---	---	---	12
	06/22/04	---	---	---	---	---	---	---	---	---	15
No. 121	10/27/89	900	475	63	14	99	2	109	28	290	<1
7S/3W-34J	05/19/92	1000	560	72	17	120	3	170	56	270	<1
	07/18/97	---	---	---	---	---	---	---	---	---	ND
	07/24/97	---	640	---	---	---	---	---	---	---	ND
	08/20/97	---	---	---	---	---	---	---	---	---	ND
	09/03/97	---	---	---	---	---	---	---	---	---	ND
	06/19/02	---	---	---	---	---	---	---	---	---	ND

ND - None Detected

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 122	06/23/97	---	---	---	---	---	---	---	---	---	6
8S/2W-20P1	07/25/97	660	460	64	13	44	1	61	65	190	8
	10/10/97	---	---	---	---	---	---	---	---	---	9
	12/23/97	---	400	---	---	---	---	---	---	---	1.8 as N
	03/25/98	---	450	---	---	---	---	---	---	---	2.2 as N
	06/03/98	---	---	---	---	---	---	---	---	---	2.4 as N
	06/05/98	---	460	---	---	---	---	---	---	---	---
	09/17/98	---	---	---	---	---	---	---	---	---	2.2 as N
	01/08/99	---	450	---	---	---	---	---	---	---	---
	06/03/99	---	470	---	---	---	---	---	---	---	2.1 as N
	04/13/99	---	---	---	---	---	---	---	---	---	9
	09/21/99	---	---	---	---	---	---	---	---	---	2.1 as N
	03/07/00	---	---	---	---	---	---	---	---	---	16
	04/04/00	---	---	---	---	---	---	---	---	---	9
	06/28/00	780	470	79	16	62	1	73	100	210	11
	12/13/00	---	---	---	---	---	---	---	---	---	2.5 as N
	03/27/01	---	---	---	---	---	---	---	---	---	2.5 as N
	04/18/01	---	---	---	---	---	---	---	---	---	10
	06/20/01	---	---	---	---	---	---	---	---	---	2.4 as N
	09/13/01	---	---	---	---	---	---	---	---	---	2.7 as N
	12/13/01	---	550	---	---	---	---	---	---	---	---
	05/14/02	---	570	---	---	---	---	---	---	---	9
	03/05/03	---	---	---	---	---	---	---	---	---	10
	03/16/04	---	---	---	---	---	---	---	---	---	12
No. 123	06/06/90	1100	690	69	27	132	6	130	170	281	4
8S/1W-7B	06/10/93	1120	690	74	25	136	6	120	190	250	5
	02/05/97	930	550	55	18	110	5	83	130	250	1.3
	04/27/99	---	---	---	---	---	---	---	---	---	3
	06/02/99	---	---	---	---	---	---	---	---	---	3
	07/20/99	---	---	---	---	---	---	---	---	---	2
	08/11/99	---	---	---	---	---	---	---	---	---	2
	09/14/99	---	---	---	---	---	---	---	---	---	2
	10/21/99	---	---	---	---	---	---	---	---	---	2
	11/02/99	---	---	---	---	---	---	---	---	---	2
	02/09/00	1150	610	59	20	100	5	83	150	240	3
	02/09/01	---	---	---	---	---	---	---	---	---	3
	03/10/03	880	550	59	20	87	4.5	80	180	170	<2
	02/03/04	---	---	---	---	---	---	---	---	---	2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 124	06/20/90	660	380	38	4	92	3	97	48	153	13
8S/2W-11R1	07/22/93	690	430	42	5	89	3	90	57	159	17
	07/18/95	---	---	---	---	---	---	---	---	---	11
	10/26/99	700	420	45	4	94	3	97	61	160	16
	07/06/00	---	---	---	---	---	---	---	---	---	17
	07/10/01	---	---	---	---	---	---	---	---	---	16
	07/03/02	---	---	---	---	---	---	---	---	---	10
	10/02/02	600	330	24	2.4	92	1.9	75	38	150	10
	01/08/03	---	---	---	---	---	---	---	---	---	2.3 as N
	07/01/03	---	---	---	---	---	---	---	---	---	8.3
	07/07/04	---	---	---	---	---	---	---	---	---	9.4
No. 125	06/20/90	740	425	17	5	132	3	99	54	186	4
8S/2W-12H	06/10/93	770	450	18	5	140	3	150	60	131	3
	06/20/95	---	---	---	---	---	---	---	---	---	2
	06/09/97	---	---	---	---	---	---	---	---	---	2
	09/17/98	---	---	---	---	---	---	---	---	---	3
	06/03/99	720	440	10	3	135	2	89	76	170	<2
	11/02/99	---	---	---	---	---	---	---	---	---	3
	11/15/00	---	---	---	---	---	---	---	---	---	2
	07/24/01	---	---	---	---	---	---	---	---	---	4
	06/19/02	700	400	8.8	2.3	130	1.8	87	54	170	<2
	07/03/02	---	---	---	---	---	---	---	---	---	2
	01/13/03	---	---	---	---	---	---	---	---	---	.38 as N
	07/01/03	---	---	---	---	---	---	---	---	---	<2
	06/09/04	---	---	---	---	---	---	---	---	---	<2
No. 126	05/04/88	480	290	4	<1	106	<1	53	14	64	<1
8S/2W-15H	07/06/89	500	270	2	1	108	<1	55	11	98	<1
	07/18/95	540	315	1	<1	122	<1	72	11	122	<1
	07/07/97	---	---	---	---	---	---	---	---	---	<2
	07/16/97	---	---	---	---	---	---	---	---	---	0.2 as N
	07/23/97	---	---	---	---	---	---	---	---	---	0.2 as N
	08/20/97	---	---	---	---	---	---	---	---	---	0.4 as N
	09/03/97	---	---	---	---	---	---	---	---	---	0.2 as N
	09/17/97	---	---	---	---	---	---	---	---	---	0.2 as N

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 126 (cont'd)	07/20/98	520	330	2	<1	120	<1	56	11	130	<2
8S/2W-15H	09/16/98	---	300	---	---	---	---	---	---	---	0.4 as N
	04/14/99	---	---	---	---	---	---	---	---	---	2
	04/11/00	---	---	---	---	---	---	---	---	---	<2
	04/11/01	---	---	---	---	---	---	---	---	---	2
	07/12/01	530	300	2	<1	100	<1	53	12	140	<2
	06/20/02	---	---	---	---	---	---	---	---	---	<2
	08/06/02	---	---	---	---	---	---	---	---	---	<2
	01/08/03	---	---	---	---	---	---	---	---	---	0.25 as N
	11/04/03	---	---	---	---	---	---	---	---	---	<2
	07/22/04	520	310	1.5	ND	110	ND	59	10	120	0.27 as N
No. 128	07/06/89	400	230	27	3	54	2	59	7	101	25
7/3W-36M	07/08/92	390	230	21	2	59	2	55	1	110	24
	07/20/95	380	275	16	2	66	1	65	10	101	19
	07/07/97	---	---	---	---	---	---	---	---	---	15
	07/20/98	370	260	12	<1	71	1	48	11	110	14
	06/02/99	---	---	---	---	---	---	---	---	---	13
	06/08/01	---	---	---	---	---	---	---	---	---	14
	07/10/01	400	230	10	<1	68	<1	44	12	100	12
	06/20/02	---	---	---	---	---	---	---	---	---	12
	01/08/03	---	---	---	---	---	---	---	---	---	12
	01/14/04	---	---	---	---	---	---	---	---	---	10
	07/14/04	390	240	8.3	1	67	1	48	11	92	13
No. 129	11/29/89	430	260	16	3	66	2	71	16	92	9
7S/2W-20L	08/08/90	440	280	20	5	64	2	72	14	119	10
	04/01/92	---	---	---	---	---	---	---	---	---	12
	09/10/93	470	275	24	6	60	2	74	16	110	13
	08/09/96	460	270	19	3	67	2	70	15	100	11
	02/04/97	---	---	---	---	---	---	---	---	---	53
	12/20/00	550	330	44	13	47	2	81	14	130	20
	03/22/01	---	---	---	---	---	---	---	---	---	20
	04/17/01	---	---	---	---	---	---	---	---	---	20
	05/02/01	---	---	---	---	---	---	---	---	---	18
	06/08/01	---	---	---	---	---	---	---	---	---	20
	10/16/01	---	---	---	---	---	---	---	---	---	19
	11/13/01	---	---	---	---	---	---	---	---	---	18
	02/26/02	---	---	---	---	---	---	---	---	---	16
	05/23/02	---	---	---	---	---	---	---	---	---	14
	09/18/02	---	---	---	---	---	---	---	---	---	15

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 130	02/17/88	650	365	16	1	132	1	69	64	0	4
8S/2W-11R	02/14/91	640	365	4	<1	132	1	68	56	122	---
	04/24/91	---	---	---	---	---	---	---	---	---	3
	02/09/94	650	410	3	<1	148	1	81	72	146	4
	05/16/95	---	---	---	---	---	---	---	---	---	4
	02/05/97	780	450	4	<1	170	<1	78	82	150	5
	05/14/97	---	---	---	---	---	---	---	---	---	4
	04/14/99	---	---	---	---	---	---	---	---	---	5
	02/10/00	750	440	4	<1	170	<1	76	77	170	5
	04/12/00	---	---	---	---	---	---	---	---	---	5
	05/25/00	---	---	---	---	---	---	---	---	---	6
	05/24/01	---	---	---	---	---	---	---	---	---	6
	05/24/02	---	---	---	---	---	---	---	---	---	5
	02/19/03	820	460	4.1	<1	170	<1	87	96	180	5
	05/04/04	---	---	---	---	---	---	---	---	---	5.1
No. 131	03/10/88	530	270	4	<1	108	1	57	52	31	1
8S/1W-12J	03/21/91	630	335	7	<1	120	1	74	65	98	3
	03/03/94	660	345	9	<1	124	2	86	73	119	2
	03/30/95	---	---	---	---	---	---	---	---	---	2
	03/20/97	660	370	6	<1	125	1	81	73	100	2
	07/07/97	---	---	---	---	---	---	---	---	---	<2
	07/27/98	---	---	---	---	---	---	---	---	---	2
	06/03/99	---	---	---	---	---	---	---	---	---	<2
	03/07/00	720	380	9	<1	140	2	81	80	130	3
	06/21/00	---	---	---	---	---	---	---	---	---	2
	06/27/01	---	---	---	---	---	---	---	---	---	2
	06/05/02	---	---	---	---	---	---	---	---	---	<2
	03/13/03	700	390	8	<1	130	1.4	88	88	130	3
	06/11/03	---	---	---	---	---	---	---	---	---	<2
	06/09/04	---	---	---	---	---	---	---	---	---	<2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 132	04/18/88	1000	620	94	13	103	6	109	153	235	2
8S/1W-07D	05/08/91	920	590	64	19	110	5	100	160	201	<1
	05/13/94	730	460	50	15	78	5	73	110	195	1
	05/16/95	---	---	---	---	---	---	---	---	---	<1
	07/18/95	860	520	59	17	100	4	90	130	223	1
	07/20/98	900	590	69	20	110	5	89	150	230	2
	01/06/99	---	---	---	---	---	---	---	---	---	2
	02/03/99	---	---	---	---	---	---	---	---	---	2
	04/14/99	---	---	---	---	---	---	---	---	---	3
	06/03/99	---	---	---	---	---	---	---	---	---	3
	07/27/99	---	---	---	---	---	---	---	---	---	5
	08/11/99	---	---	---	---	---	---	---	---	---	4
	09/15/99	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	4
	11/02/99	---	---	---	---	---	---	---	---	---	3
	12/15/99	---	---	---	---	---	---	---	---	---	3
	05/03/00	---	---	---	---	---	---	---	---	---	2
	05/16/01	800	500	57	17	74	5	63	180	150	3
	05/01/02	---	---	---	---	---	---	---	---	---	2
No. 133	03/28/90	970	605	50	20	112	5	120	131	235	3
8S/1W-7C	03/11/93	970	580	48	19	120	4	110	140	204	3
	06/06/95	---	---	---	---	---	---	---	---	---	2
	07/18/95	850	680	26	10	142	2	120	100	174	2
	06/23/97	---	---	---	---	---	---	---	---	---	3
	07/20/98	790	500	24	9	140	2	96	93	170	2
	08/02/00	---	---	---	---	---	---	---	---	---	3
	03/28/01	800	460	22	10	130	2	98	100	170	<2
	08/02/01	---	---	---	---	---	---	---	---	---	<2
	09/18/02	---	---	---	---	---	---	---	---	---	2
	09/16/03	---	---	---	---	---	---	---	---	---	2
	03/12/04	810	500	25	10	130	2.4	95	99	180	2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 135	05/24/89	2450	1390	122	65	300	2	410	225	464	33
7S/3W-27M	06/06/90	1540	945	73	36	215	1	250	150	323	13
	12/11/90	4400	2670	270	109	480	4	1030	380	314	<1
	08/06/92	1800	810	63	33	170	1	200	160	281	---
	01/16/97	---	---	---	---	---	---	---	---	---	3.7 as N
	02/04/97	---	---	---	---	---	---	---	---	---	3.5 as N
	02/12/97	---	---	---	---	---	---	---	---	---	4.0 as N
	02/20/97	---	---	---	---	---	---	---	---	---	3.4 as N
	02/25/97	---	---	---	---	---	---	---	---	---	3.4 as N
	03/04/97	---	---	---	---	---	---	---	---	---	3.7 as N
	03/18/97	---	---	---	---	---	---	---	---	---	3.3 as N
	03/25/97	---	---	---	---	---	---	---	---	---	3.5 as N
	04/08/97	---	---	---	---	---	---	---	---	---	3.4 as N
	04/15/97	---	---	---	---	---	---	---	---	---	3.4 as N
	04/22/97	---	---	---	---	---	---	---	---	---	3.5 as N
	05/06/97	1930	1050	97	48	220	2	340	190	360	3.3 as N
	05/14/97	---	---	---	---	---	---	---	---	---	3.4 as N
	05/21/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/04/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/11/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/18/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/25/97	---	---	---	---	---	---	---	---	---	3.3 as N
	07/02/97	---	---	---	---	---	---	---	---	---	3.3 as N
	09/17/97	1960	1260	---	---	---	---	430	220	---	13
No. 138	10/30/90	460	240	19	2	74	2	71	13	113	18
8S/2W-6F	10/06/93	420	240	11	<1	70	1	56	10	92	14
	10/11/96	430	270	9	<1	78	1	55	8.9	100	15
	04/14/99	---	---	---	---	---	---	---	---	---	5
	06/03/99	---	---	---	---	---	---	---	---	---	3
	10/26/99	430	240	10	<1	76	1	60	11	100	19
	03/13/00	---	---	---	---	---	---	---	---	---	5
	03/22/01	---	---	---	---	---	---	---	---	---	17
	03/13/02	---	---	---	---	---	---	---	---	---	21
	06/20/02	---	---	---	---	---	---	---	---	---	16
	10/02/02	440	220	10	<1	75	1.2	58	7.8	96	17
	06/12/03	---	---	---	---	---	---	---	---	---	16

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 139	12/29/87	460	295	24	7	65	1	60	11	104	7
7S/2W-32G	11/23/92	450	275	32	9	46	2	60	13	134	20
	12/19/95	500	298	36	12	50	2	72	12	156	2.8
	03/25/97	---	---	---	---	---	---	---	---	---	10
	03/13/00	---	---	---	---	---	---	---	---	---	9
	03/28/01	---	---	---	---	---	---	---	---	---	8
	03/11/02	530	280	29	10	57	2	73	13	140	9
	03/09/04	---	---	---	---	---	---	---	---	---	8
No. 140	02/18/88	560	325	33	10	65	2	77	14	153	13
7S/2W-33F	01/15/92	450	235	11	2	88	1	68	18	107	2
	02/28/95	560	325	36	11	58	2	94	14	140	12
	03/25/97	---	---	---	---	---	---	---	---	---	8
	02/27/98	650	360	31	11	76	2	95	16	130	5
	09/17/98	---	---	---	---	---	---	---	---	---	8
	05/16/01	---	---	---	---	---	---	---	---	---	11
	02/01/01	650	370	31	12	72	2	110	21	150	4
	05/24/02	---	---	---	---	---	---	---	---	---	7
No. 141	01/06/88	780	440	64	11	82	3	65	91	217	13
8S/2W-11P	01/30/92	820	500	63	13	95	3	79	110	238	19
	03/30/95	840	490	58	11	100	3	70	97	241	14
	03/25/97	---	---	---	---	---	---	---	---	---	15
	03/26/98	760	480	62	12	90	3	69	86	230	16
	01/04/99	---	---	---	---	---	---	---	---	---	14
	02/12/99	---	---	---	---	---	---	---	---	---	19
	10/21/99	---	---	---	---	---	---	---	---	---	17
	11/03/99	---	---	---	---	---	---	---	---	---	14
	12/14/99	---	---	---	---	---	---	---	---	---	14
	06/20/00	---	---	---	---	---	---	---	---	---	15
	01/04/01	700	450	52	6	84	3	75	70	190	15
	09/28/01	---	---	---	---	---	---	---	---	---	18
	11/08/02	---	---	---	---	---	---	---	---	---	15
	09/16/03	---	---	---	---	---	---	---	---	---	19
	01/13/04	760	490	65	11	84	3.1	70	90	220	21

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 143	01/15/88	670	345	8	2	134	1	91	57	95	11
8S/2W-17J	10/17/90	660	345	25	4	112	2	89	62	140	12
	03/03/94	690	370	24	3	114	2	93	68	131	11
	03/30/95	—	—	—	—	—	—	—	—	—	11
	03/25/97	600	330	15	2	110	1	87	44	89	9
	07/18/97	—	—	—	—	—	—	—	—	—	2.0 as N
	07/23/97	—	—	—	—	—	—	—	—	—	2.0 as N
	08/20/97	—	—	—	—	—	—	—	—	—	2.3 as N
	09/03/97	—	—	—	—	—	—	—	—	—	2.2 as N
	09/17/97	—	—	—	—	—	—	—	—	—	2.0 as N
	09/17/98	—	350	—	—	—	—	—	—	—	2.3 as N
	10/21/99	—	—	—	—	—	—	—	—	—	13
	03/07/00	730	400	21	3	120	2	84	68	140	12
	10/13/00	—	—	—	—	—	—	—	—	—	8
	10/10/01	—	—	—	—	—	—	—	—	—	8
	01/13/03	—	—	—	—	—	—	—	—	—	2.1 as N
	11/19/02	—	—	—	—	—	—	—	—	—	10
	03/10/03	650	370	14	1.9	110	1	92	52	130	10
	01/07/04	—	—	—	—	—	—	—	—	—	12
No. 144	09/14/88	610	335	8	<1	114	1	95	33	92	<1
7S/3W-27D3	12/19/95	730	420	34	1	124	1	120	33	186	<1
	12/20/00	690	400	28	1	120	<1	120	35	170	<2
	05/22/01	—	—	—	—	—	—	—	—	—	<2
	08/20/02	—	—	—	—	—	—	—	—	—	<2
	08/27/03	—	—	—	—	—	—	—	—	—	<2
	12/16/03	630	420	33	1.8	110	1	110	28	170	<2
	08/12/04	—	—	—	—	—	—	—	—	—	<2
No. 145	10/04/90	800	490	43	8	110	2	110	78	171	<1
7S/3W-28C	10/06/93	650	375	23	3	106	1	85	58	146	<1
	11/27/96	650	340	26	2	110	1	87	48	150	<2
	02/04/97	670	370	24	2	110	1	87	55	160	<2
	01/28/98	—	—	—	—	—	—	—	—	—	<2
	01/04/99	—	—	—	—	—	—	—	—	—	<2
	10/26/99	690	400	29	3	110	1	96	61	170	<2
	01/06/00	—	—	—	—	—	—	—	—	—	<2
	01/25/01	—	—	—	—	—	—	—	—	—	<2
	01/18/02	—	—	—	—	—	—	—	—	—	<2
	10/09/02	690	390	26	2.3	110	1.2	94	52	160	<2
	01/15/03	—	—	—	—	—	—	—	—	—	<2
	01/07/04	—	—	—	—	—	—	—	—	—	<2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 146	12/10/96	900	500	57	23	98	<1	100	64	280	15
7S/3W-28	03/02/00	---	---	---	---	---	---	---	---	---	4
No. 149	06/15/93	---	---	---	---	---	---	---	---	---	5
8S/1W-2C	10/10/01	---	---	---	---	---	---	---	---	---	4
	03/11/02	1040	610	61	23	120	4	100	170	250	4
	12/11/02	---	---	---	---	---	---	---	---	---	3.2
	01/23/03	---	---	---	---	---	---	---	---	---	4
	03/12/03	1000	600	59	22	120	3.7	100	170	230	3
	01/13/04	---	---	---	---	---	---	---	---	---	4
No. 149A	08/26/88	950	540	71	211	96	1	115	47	302	18
7S/3W-28A	10/31/91	800	480	36	13	122	3	93	110	195	---
No. 150	09/29/88	1950	1235	134	29	225	2	290	220	390	15
7S/3W-27P	12/21/91	1000	590	74	17	108	4	130	110	207	---
No. 151	09/20/88	5780	3410	280	114	840	5	1660	670	369	<1
7S/3W-34B	Abandoned										
No. 151	07/25/91	860	485	53	16	103	4	90	130	183	---
8S/2W-2G	07/28/91	730	400	39	12	100	3	91	58	177	---
	07/29/91	600	340	9	2	122	5	63	34	204	---
	10/17/91	510	295	3	<1	118	1	45	10	137	---
	08/10/94	550	340	3	<1	110	1	59	22	119	<1
	06/16/97	---	---	---	---	---	---	---	---	---	<2
	08/14/97	540	300	2	<1	110	<1	44	10	160	<2
	09/16/98	---	---	---	---	---	---	---	---	---	<2
	01/06/00	510	300	1	<1	110	<1	33	4.6	180	<2
No. 152	01/11/02	860	550	64	20	77	6	75	190	160	<2
8S/1W-5K2	01/08/03	---	---	---	---	---	---	---	---	---	<2
	01/07/04	---	---	---	---	---	---	---	---	---	<2
No. 153	12/29/93	804	485	53	18	92	5	86	120	214	<1
8S/1W-5K3	04/13/99	880	540	63	23	79	5	68	220	150	<2
	04/11/00	---	---	---	---	---	---	---	---	---	2
	06/14/01	---	---	---	---	---	---	---	---	---	<2
	04/02/02	820	500	63	22	75	4.2	80	190	140	<2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 154 8S/1W-5L2	01/28/94	930	530	46	20	106	6	89	130	214	3
No. 155	09/16/93	680	355	22	2	108	1	90	64	104	<1
7S/3W-28C	02/23/95	760	445	30	3	126	1	120	82	140	4
	06/06/95	---	---	---	---	---	---	---	---	---	5
	08/14/97	---	---	---	---	---	---	---	---	---	4
	02/25/98	880	540	43	5	130	1	100	100	190	5
	07/27/98	---	---	---	---	---	---	---	---	---	3
	02/09/00	---	---	---	---	---	---	---	---	---	2
	09/13/00	690	410	23	2	120	<1	100	72	130	2
	02/14/01	---	---	---	---	---	---	---	---	---	5
	02/21/02	---	---	---	---	---	---	---	---	---	2
	02/28/03	---	---	---	---	---	---	---	---	---	<2
	01/07/04	600	360	10	<1	120	<1	100	60	100	<2
	02/23/04	---	---	---	---	---	---	---	---	---	6
No. 157	04/13/99	930	600	59	21	110	7	95	150	240	<2
8S/1W-5L	04/11/00	---	---	---	---	---	---	---	---	---	2
	06/14/01	---	---	---	---	---	---	---	---	---	<2
	04/02/02	830	520	60	22	78	4.1	78	190	150	<2
No. 158	06/21/94	1090	620	67	23	124	7	120	170	259	—
8S/1W-5K	04/14/99	1050	660	63	24	120	7	110	160	270	<2
	04/11/00	---	---	---	---	---	---	---	---	---	2
	06/14/01	---	---	---	---	---	---	---	---	---	2
	04/02/02	900	550	61	22	92	5.7	93	190	180	<2
No. 201	03/28/91	530	315	19	6	83	2	83	16	110	2
7S/2W-27J	03/11/93	460	300	8	2	87	1	51	20	146	<1
No. 202 7S/2W-36J1	12/11/88	740	440	47	18	84	3	97	48	223	17

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 203	05/18/88	960	580	50	39	110	4	96	115	275	---
8S/1W-6P1	06/29/88	970	530	44	36	112	4	120	123	250	5
	06/12/91	800	415	21	17	108	3	91	90	174	2
	06/22/94	980	645	59	38	99	4	130	130	256	4
	06/07/95	---	---	---	---	---	---	---	---	---	5
	06/23/97	880	530	31	26	120	3	100	110	230	4
	08/14/97	---	---	---	---	---	---	---	---	---	3
	11/02/99	---	---	---	---	---	---	---	---	---	5
	06/22/00	820	580	94	18	58	<1	63	110	250	22
	07/12/00	880	570	43	33	120	3	100	130	240	7
	08/08/00	---	---	---	---	---	---	---	---	---	6
	11/22/00	---	---	---	---	---	---	---	---	---	5
	11/20/01	---	---	---	---	---	---	---	---	---	5
	11/08/02	---	---	---	---	---	---	---	---	---	4
	01/08/03	---	---	---	---	---	---	---	---	---	.90 as N
	06/10/03	850	460	31	23	100	2.2	92	100	220	5
	11/04/03	---	---	---	---	---	---	---	---	---	5
No. 204	05/22/91	740	425	50	12	85	3	120	18	198	19
7S/2W-26G	05/13/94	690	375	37	7	85	3	130	19	125	19
No. 205	03/28/88	500	290	23	3	81	2	83	27	107	21
7S/3W-35A	03/13/91	490	275	22	3	75	2	62	23	113	21
	03/03/94	510	275	20	2	72	2	72	24	104	20
	04/26/95	---	---	---	---	---	---	---	---	---	22
	03/25/97	480	270	20	2	75	2	66	18	110	21
	05/09/01	410	270	21	3	67	1	60	17	120	23
	11/13/01	---	---	---	---	---	---	---	---	---	21
	02/19/02	---	---	---	---	---	---	---	---	---	20
	05/14/02	---	---	---	---	---	---	---	---	---	18
	08/27/02	---	---	---	---	---	---	---	---	---	20
	11/20/02	---	---	---	---	---	---	---	---	---	18
	01/08/03	---	---	---	---	---	---	---	---	---	4.5 as N
	03/31/03	---	---	---	---	---	---	---	---	---	18
	06/11/03	---	---	---	---	---	---	---	---	---	18
	09/16/03	---	---	---	---	---	---	---	---	---	21
	12/04/03	---	---	---	---	---	---	---	---	---	20
	03/09/04	---	---	---	---	---	---	---	---	---	18
	06/09/04	---	---	---	---	---	---	---	---	---	18
	09/01/04	---	---	---	---	---	---	---	---	---	19

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 207	09/01/88	510	245	1	<1	108	<1	54	26	82	<1
8S/2W-14B	09/14/88	480	305	3	<1	106	<1	58	23	24	1
	08/14/91	480	245	1	<1	100	<1	52	28	55	<1
	08/10/94	440	285	2	<1	91	1	56	29	76	2
	08/15/97	510	280	2	<1	97	<1	52	25	98	<2
	07/27/98	---	---	---	---	---	---	---	---	---	2
	12/27/00	480	280	2	<1	100	<1	53	30	120	2
No. 208	09/01/88	680	415	44	15	77	3	119	14	186	18
7S/2W-35M	09/14/88	690	440	44	14	77	3	129	14	183	16
	08/14/91	600	340	23	7	89	2	85	18	162	4
	08/10/94	560	370	22	6	89	2	93	20	156	5
	06/06/95	---	---	---	---	---	---	---	---	---	4
	08/12/96	---	---	---	---	---	---	---	---	---	2
	07/27/99	---	---	---	---	---	---	---	---	---	15
	08/18/99	---	---	---	---	---	---	---	---	---	20
No. 209	05/22/91	790	435	40	14	105	2	150	35	162	8
7S/2W-28J	05/13/94	760	525	64	22	48	3	150	15	153	25
	06/20/95	---	---	---	---	---	---	---	---	---	5
	05/15/97	690	390	10	3	130	<1	110	56	130	1.3
No. 210	04/15/59	1366	—	101	23	150	10	149	200	275	3
8S/2W-12K	01/18/63	400	926	99	30	17.5	4.5	145	255	329	4
	11/30/67	1415	890	136	5	152	10	146	230	305	3
	07/26/68	1250	825	96	22	144	8	130	190	290	5
	09/06/68	1310	840	82	26	132	5	142	222	276	12
	07/19/73	1200	579	84	21.4	149	6.8	122	237	301	19.7
	08/08/75	1140	695	84	14	150	6	101	190	287	15
	06/22/76	1240	675	76	26	142	7	101	205	278	36
	10/13/76	1120	640	92	22	100	6	110	170	262	5
	06/16/77	1130	610	84	18	114	6	110	170	259	11
	05/20/80	580	340	30	8	75	4	51	67	152	9
	04/03/86	800	540	65	17	86	4.5	75	112	235	3.5
	07/15/86	830	560	72	19	86	4	87	118	250	4
	03/28/88	1030	575	76	22	93	5	99	143	247	4
	09/25/91	1040	600	74	20	120	5	120	160	238	5
	09/19/94	645	460	52	14	79	4	70	100	198	2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 210 (Cont'd)	09/16/96	---	---	---	---	---	---	---	---	---	3
8S/2W-12K	09/16/98	---	---	---	---	---	---	---	---	---	3
	12/15/98	---	---	---	---	---	---	---	---	---	2
	01/04/99	---	---	---	---	---	---	---	---	---	2
	02/03/99	---	---	---	---	---	---	---	---	---	2
	04/08/99	---	---	---	---	---	---	---	---	---	3
	06/02/99	---	---	---	---	---	---	---	---	---	3
	09/07/99	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	5
	12/15/99	---	---	---	---	---	---	---	---	---	5
	05/03/00	---	---	---	---	---	---	---	---	---	5
	09/13/00	830	560	64	17	100	4	74	190	180	4
	05/08/01	---	---	---	---	---	---	---	---	---	4
	05/13/02	---	---	---	---	---	---	---	---	---	3
	01/08/03	---	---	---	---	---	---	---	---	---	.52 as N
	08/20/03	---	---	---	---	---	---	---	---	---	2.2
	09/16/03	830	560	65	18	78	4.5	76	180	160	2
	08/10/04	---	---	---	---	---	---	---	---	---	3.2
No. 211	04/08/97	720	400	67	14	54	1	59	65	220	13
8S/2W-20R1	12/23/97	---	410	---	---	---	---	---	---	---	3.1 as N
	03/25/98	---	620	---	---	---	---	---	---	---	3.6 as N
	06/03/98	---	---	---	---	---	---	---	---	---	3.4 as N
	06/05/98	---	480	---	---	---	---	---	---	---	---
	09/17/98	---	---	---	---	---	---	---	---	---	3.3 as N
	12/17/98	---	430	---	---	---	---	56	66	---	16
	06/03/99	---	430	---	---	---	---	---	---	---	3.4 as N
	12/14/99	---	310	---	---	---	---	---	---	---	10
	04/04/00	700	430	71	14	52	1	57	66	220	17
	06/22/00	---	400	---	---	---	---	---	---	---	15
	12/13/00	---	---	---	---	---	---	---	---	---	4.5 as N
	03/27/01	---	---	---	---	---	---	---	---	---	4.5 as N
	06/20/01	---	---	---	---	---	---	---	---	---	2.7 as N
	09/13/01	---	---	---	---	---	---	---	---	---	4.7 as N
	11/13/01	---	450	---	---	---	---	---	---	---	---
	05/14/02	---	370	---	---	---	---	---	---	---	12
	07/15/03	630	370	61	11	46	1.2	46	51	220	11
No. 212	03/28/88	640	330	42	2	74	3	81	33	146	14
8S/2W-11N	09/25/91	600	320	41	2	82	4	86	35	146	14

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 215	08/15/90	650	380	40	13	71	3	100	14	162	11
7S/2W-34M	09/26/90	---	---	---	---	---	---	---	---	---	13
	06/22/94	630	400	41	13	67	2	110	16	159	11
	06/16/97	630	370	29	9	81	2	110	16	160	6
	08/15/97	---	---	---	---	---	---	---	---	---	7
	08/11/04	630	380	35	12	76	2.6	100	14	150	<2
	09/09/04	---	---	---	---	---	---	---	---	---	9
No. 216	06/01/88	480	280	25	4	65	2	71	11	134	---
8S/2W-7W	06/29/88	480	275	29	5	59	3	81	7	110	26
	06/12/91	500	285	30	5	59	2	76	9	113	23
	05/27/92	470	285	33	6	53	2	72	10	119	20
	04/25/01	490	300	28	4	55	2	74	13	120	12
No. 217	03/28/88	580	285	8	1	108	1	81	20	113	15
8S/2W-17M1	08/10/88	570	280	8	1	105	1	82	20	55	13
	08/14/91	570	305	17	2	99	2	74	28	134	16
	08/10/94	610	365	20	3	97	2	82	38	134	16
	08/15/97	660	370	20	3	107	1	80	41	130	13
	05/09/00	---	---	---	---	---	---	---	---	---	15
	10/12/00	650	380	19	2	110	1	81	49	150	16
	05/14/01	---	---	---	---	---	---	---	---	---	17
	05/14/02	---	---	---	---	---	---	---	---	---	12
	10/15/03	690	400	25	3.3	110	1.6	84	58	150	16
	05/06/04	---	---	---	---	---	---	---	---	---	17
No. 231	08/15/90	1280	805	126	18	120	5	100	310	244	9
8S/2W-20B6	09/26/90	---	---	---	---	---	---	---	---	---	6
	03/04/92	1700	1270	180	51	160	6	140	510	332	5
	06/20/95	1640	1300	171	44	124	6	75	520	287	5.3
	02/27/98	---	---	---	---	---	---	---	---	---	3
	05/16/00	---	---	---	---	---	---	---	---	---	5
	05/24/01	1490	1080	140	35	120	5	120	340	330	3
	05/13/02	---	---	---	---	---	---	---	---	---	2
No. 232	08/15/90	960	590	71	19	110	5	98	130	235	30
8S/2W-11J3	09/26/90	---	---	---	---	---	---	---	---	---	35
	09/25/91	980	565	74	19	106	5	98	120	244	37
	09/19/94	805	495	54	14	92	4	80	110	207	15
	09/13/96	---	---	---	---	---	---	---	---	---	22

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 232 (cont'd)	11/04/97	1000	660	76	20	110	4	97	130	230	29
8S/2W-11J3	07/27/98	---	---	---	---	---	---	---	---	---	38
	12/10/98	---	---	---	---	---	---	---	---	---	22
	01/06/98	---	---	---	---	---	---	---	---	---	30
	01/29/99	---	---	---	---	---	---	---	---	---	10
	02/03/99	---	---	---	---	---	---	---	---	---	26
	02/24/99	---	---	---	---	---	---	---	---	---	37
	04/08/99	---	---	---	---	---	---	---	---	---	33
	04/21/99	---	---	---	---	---	---	---	---	---	34
	06/23/99	---	---	---	---	---	---	---	---	---	33
	07/08/99	---	---	---	---	---	---	---	---	---	36
	08/25/99	---	---	---	---	---	---	---	---	---	33
	09/21/99	---	---	---	---	---	---	---	---	---	31
	10/06/99	---	---	---	---	---	---	---	---	---	30
	11/17/99	---	---	---	---	---	---	---	---	---	32
	12/14/99	---	---	---	---	---	---	---	---	---	32
	01/18/00	---	---	---	---	---	---	---	---	---	31
	02/29/00	---	---	---	---	---	---	---	---	---	10
	03/21/00	---	---	---	---	---	---	---	---	---	25
	04/11/00	---	---	---	---	---	---	---	---	---	29
	05/25/00	---	---	---	---	---	---	---	---	---	26
	06/21/00	---	---	---	---	---	---	---	---	---	26
	07/11/00	---	---	---	---	---	---	---	---	---	25
	09/13/00	920	590	65	17	105	4	91	150	210	21
	10/06/00	---	---	---	---	---	---	---	---	---	18
	11/08/00	---	---	---	---	---	---	---	---	---	17
	12/13/00	---	---	---	---	---	---	---	---	---	20
	01/04/01	---	---	---	---	---	---	---	---	---	19
	02/28/01	---	---	---	---	---	---	---	---	---	10
	04/10/01	---	---	---	---	---	---	---	---	---	20
	10/10/01	---	---	---	---	---	---	---	---	---	26
	05/14/02	---	---	---	---	---	---	---	---	---	22
	08/06/02	---	---	---	---	---	---	---	---	---	4*
	01/08/03	---	---	---	---	---	---	---	---	---	6.0 as N
	03/31/03	---	---	---	---	---	---	---	---	---	11
	06/10/03	---	---	---	---	---	---	---	---	---	31
	07/08/03	---	---	---	---	---	---	---	---	---	30
	08/20/03	---	---	---	---	---	---	---	---	---	28
	09/16/03	1100	680	67	18	110	4.3	100	150	240	33

* Sample may have been switched with Well 233

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 232 (cont'd)	10/14/03	---	---	---	---	---	---	---	---	---	31
8S/2W-11J3	01/14/04	---	---	---	---	---	---	---	---	---	23
	02/10/04	---	---	---	---	---	---	---	---	---	21
	04/14/04	---	---	---	---	---	---	---	---	---	25
	05/06/04	---	---	---	---	---	---	---	---	---	26
	06/22/04	---	---	---	---	---	---	---	---	---	25
	07/14/04	---	---	---	---	---	---	---	---	---	25
	08/10/04	---	---	---	---	---	---	---	---	---	31
	09/08/04	---	---	---	---	---	---	---	---	---	26
No. 233 (Old 112)	06/15/88	900	535	71	21	100	5	96	136	247	4
8S/2W-12K2	03/27/91	1020	580	66	19	114	5	95	140	247	12
	03/03/94	740	425	50	14	75	4	71	100	186	2
	04/27/95	---	---	---	---	---	---	---	---	---	6
	03/27/97	880	510	57	15	100	4	81	120	220	4
	01/04/99	---	---	---	---	---	---	---	---	---	5
	02/03/99	---	---	---	---	---	---	---	---	---	4
	04/08/99	---	---	---	---	---	---	---	---	---	4
	06/03/99	---	---	---	---	---	---	---	---	---	4
	07/20/99	---	---	---	---	---	---	---	---	---	5
	08/11/99	---	---	---	---	---	---	---	---	---	4
	09/07/99	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	5
	11/03/99	---	---	---	---	---	---	---	---	---	4
	04/11/00	970	570	64	18	110	4	85	150	230	4
	10/06/00	---	---	---	---	---	---	---	---	---	3
	10/10/01	---	---	---	---	---	---	---	---	---	4
	08/06/02	---	---	---	---	---	---	---	---	---	26*
	01/13/03	---	---	---	---	---	---	---	---	---	1 as N
	07/07/03	---	---	---	---	---	---	---	---	---	2.7
	07/13/04	---	---	---	---	---	---	---	---	---	3
No. 234 (Old 114)	03/31/88	840	480	54	15	100	4	61	109	241	18
8S/2W-11P	03/27/91	1020	605	69	19	114	5	77	138	256	37
	06/20/95	---	---	---	---	---	---	---	---	---	11
	09/26/96	---	---	---	---	---	---	---	---	---	9
	02/04/97	---	---	---	---	---	---	---	---	---	12
	04/25/97	840	500	56	15	95	4	77	120	230	8

* Sample may have been switched with Well 232

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 234 (cont'd)	01/19/99	---	---	---	---	---	---	---	---	---	12
(Old 114)	02/12/99	---	---	---	---	---	---	---	---	---	16
8S/2W-11P	04/21/99	---	---	---	---	---	---	---	---	---	15
	06/03/99	---	---	---	---	---	---	---	---	---	16
	07/27/99	---	---	---	---	---	---	---	---	---	18
	08/19/99	---	---	---	---	---	---	---	---	---	17
	09/21/99	---	---	---	---	---	---	---	---	---	16
	10/26/99	---	---	---	---	---	---	---	---	---	13
	04/13/00	900	550	64	18	10	4	70	150	220	13
	07/06/00	---	---	---	---	---	---	---	---	---	12
	07/12/01	---	---	---	---	---	---	---	---	---	7
	08/02/01	---	---	---	---	---	---	---	---	---	<2
	11/20/02	---	---	---	---	---	---	---	---	---	3
	12/11/02	850	520	62	17	80	3.7	74	170	170	4
	11/04/03	---	---	---	---	---	---	---	---	---	10
No. 235 (Old 137)	06/24/88	460	310	40	10	41	2	58	10	140	15
8S/3W-1Q1	06/20/90	420	230	22	4	56	2	50	6	128	18
	06/10/93	370	235	15	2	65	2	51	9	113	17
	07/16/96	410	230	16	2	60	1	48	8.9	110	20
	06/09/97	---	---	---	---	---	---	---	---	---	17
	06/03/99	390	240	13	1	63	1	46	6.7	98	17
	11/03/99	---	---	---	---	---	---	---	---	---	16
	11/09/00	---	---	---	---	---	---	---	---	---	15
	11/20/01	---	---	---	---	---	---	---	---	---	13
	06/11/02	380	210	10	<1	62	1.2	48	7.2	100	16
	11/05/02	---	---	---	---	---	---	---	---	---	17
	11/18/03	---	---	---	---	---	---	---	---	---	11
No. 301	07/29/92	500	290	20	6	80	1	45	56	143	<1
7S/3W-18Q1	02/27/97	580	350	45	16	48	2	49	54	200	4
	08/15/97	---	---	---	---	---	---	---	---	---	6
	12/27/00	570	360	49	15	53	2	55	57	180	7
	02/22/02	---	---	---	---	---	---	---	---	---	<2
	05/14/02	550	340	---	---	---	---	57	50	---	3
	12/11/02	580	350	---	---	---	---	---	---	---	2.5
No. 302	04/11/88	690	360	36	6	100	1	77	65	192	<1
7S/3W-18H	05/15/91	760	425	58	9	87	2	83	72	220	<1
	05/14/92	---	270	12	2	90	<1	48	48	---	---
	05/05/94	870	530	69	16	84	2	110	88	238	<1

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 302 (cont'd)	05/16/95	---	---	---	---	---	---	---	---	---	<1
7S/3W-18H	07/16/96	530	320	---	---	---	---	60	54	---	2
	05/13/97	560	500	73	14	94	2	110	86	240	<2
	07/27/99	---	---	---	---	---	---	---	---	---	<2
	05/17/00	520	320	11	1	99	<1	51	50	130	<2
	06/13/00	520	310	---	---	---	---	---	---	---	<2
	07/11/00	---	---	---	---	---	---	---	---	---	<2
	12/20/01	790	500	---	---	---	---	110	140	---	<2
	12/11/02	870	510	---	---	---	---	---	---	---	ND
	06/19/03	620	370	22	3.8	95	<1	77	63	140	<2
	03/17/04	830	510	---	---	---	---	110	85	---	<2
	06/22/04	---	---	---	---	---	---	---	---	---	<2
	09/21/04	900	550	---	---	---	---	110	82	---	<2
No. 309	08/15/90	690	370	19	3	119	2	140	25	73	5
7S/3W-27H	04/11/91	---	---	---	---	---	---	---	---	---	<.001
	09/25/91	730	365	19	2	122	2	150	27	82	5
	08/11/94	730	430	20	2	120	2	160	30	73	5
	02/16/95	---	---	---	---	---	---	---	---	---	18
	07/16/97	---	---	---	---	---	---	---	---	---	1.1 as N
	07/23/97	---	---	---	---	---	---	---	---	---	1.2 as N
	08/20/97	---	---	---	---	---	---	---	---	---	1.1 as N
	09/03/97	---	---	---	---	---	---	---	---	---	1.1 as N
	09/18/97	---	---	---	---	---	---	---	---	---	1.1 as N
	10/03/97	790	520	21	2	130	2	170	33	85	6
	08/06/98	---	---	---	---	---	---	---	---	---	6
	09/16/98	---	460	---	---	---	---	---	---	---	1.4 as N
	07/20/99	---	---	---	---	---	---	---	---	---	6
	05/10/00	---	450	20	2	130	<1	---	---	85	---
	07/06/00	---	---	---	---	---	---	---	---	---	6
	08/02/00	740	450	21	2	140	1	180	38	87	7
	07/19/01	---	---	---	---	---	---	---	---	---	7
	11/19/02	---	---	---	---	---	---	---	---	---	5
	01/13/03	---	---	---	---	---	---	---	---	---	1.1 as N
	08/20/03	880	490	21	2.1	140	1.5	190	33	83	5
	01/07/04	---	---	---	---	---	---	---	---	---	6

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3*	NO3
Pechanga Indian Reservation											
8S/2W-28R01	08/03/89	495	286	41	4.0	60	0.9	37	13	177	1.1 as N
	07/26/90	525	296	48	4.8	54	1.0	45	14	191	1.5 as N
	07/17/91	462	261	31	3.2	66	0.8	44	12	155	.8 as N
	07/27/93	445	269	44	4.4	43	0.5	28	14	170	1.9 as N
	08/15/94	421	232	32	3.3	55	0.9	28	11	156	1.5 as N
	08/30/95	375	200	21	2.2	55	0.6	31	11	129	.7 as N
	08/27/96	—	—	—	—	—	—	—	—	—	1.5 as N
	08/13/97	398	241	20	2.1	59	0.62	37	11	130	.572 as N
	08/20/98	481	282	36	3.9	60	0.85	38	14	167	1.1 as N
	08/25/99	446	252	28	3.1	59	0.66	41	12	—	.758 as N
	08/22/00	456	265	29	3.3	61	0.73	39	14	—	.759 as N
	08/21/01	522	320	51	5.9	48	1.0	42	16	—	1.73 as N
	08/21/02	457	284	33	3.7	61	0.87	41	13	—	1.09 as N
	08/12/03	518	330	55	6.5	50.4	1.08	39.7	14.3	—	1.94 as N
	08/18/04	546	317	56.8	6.2	—	1.4	42.6	14.2	—	1.64 as N
8S/2W-35D01	08/03/89	660	358	43	5.5	87	1.2	78	35	169	.35 as N
	07/26/90	669	384	41	4.9	92	1.5	82	36	176	.40 as N
	07/17/91	641	371	40	4.4	98	1.7	81	36	175	.39 as N
	07/27/93	638	374	49	5.9	79	1.8	71	27	199	.34 as N
	08/16/94	601	334	30	3.2	95	1.5	71	29	163	.16 as N
	08/30/95	587	322	33	4	81	1.5	68	25	178	.11 as N
	08/27/96	596	352	28	3.3	92	1.4	72	29	167	.10 as N
8S/2W-29A01	08/02/89	346	207	31	11	24	0.4	18	7.0	131	2.0 as N
	07/24/90	354	193	32	11	25	0.4	24	6.7	133	2.0 as N
	07/18/91	361	194	32	10	26	0.4	25	6.0	134	1.8 as N
	08/15/94	363	216	33	12	25	0.5	24	7.7	132	2.6 as N
	08/31/95	363	208	32	11	23	0.4	21	8.1	137	2.6 as N
	08/28/96	—	—	—	—	—	—	—	—	—	2.9 as N
	08/12/97	368	238	32	12	24	0.44	22	7.4	138	3.05 as N
	08/19/98	411	246	36	11	31	0.45	25	8.2	153	2.94 as N
	08/25/99	375	222	33	12	23	0.39	20	6.7	—	3.81 as N
	08/22/00	374	237	33	12	24	0.42	18	7.3	—	3.48 as N
	08/21/01	374	236	34	12	24	0.46	20	7.3	—	3.56 as N
8S/2W-34B04	10/05/89	617	371	51	8.2	67	1	58	30	192	.47 as N
	07/26/90	605	341	50	8	65	1	61	31	194	.50 as N
	07/18/91	564	339	46	7.4	67	1	53	27	185	.87 as N
	07/27/93	267	170	18	2.8	34	0.5	14	9.7	96	1.10 as N

* - Alkalinity as CAC02

TABLE D-5 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3*	NO3
Pechanga Indian Reservation (Continued)											
8S/2W-28Q02	10/05/89	629	378	48	19	49	0.7	76	14	169	4.2 as N
	07/26/90	613	383	48	18	47	0.6	75	12	171	3.9 as N
	07/18/91	618	379	49	18	49	0.7	83	14	172	3.0 as N
	07/28/93	620	400	51	20	47	0.7	63	15	174	9.6 as N
	08/17/94	641	396	51	21	50	0.8	60	17	179	11.0 as N
	08/31/95	653	396	53	21	48	0.7	60	19	184	12.0 as N
	08/28/96	—	—	—	—	—	—	—	—	—	11.0 as N
	08/12/97	614	411	47	19	47	0.7	63	15	176	8.9 as N
	08/19/98	625	402	47	20	47	0.7	60	14	—	9.85 as N
	08/21/02	598	394	47	19	46	0.7	64	15	—	8.5 as N
	08/12/03	604	405	48.8	19.8	47.8	0.69	69.1	14	—	7.1 as N
	08/18/04	615	386	51.6	20.2	—	0.86	78.8	16.5	—	4.03 as N
8S/2W-28Q06	09/17/93	312	200	19	2.9	43	1	16	2.8	126	1.0 as N
	08/30/95	310	174	16	3.4	46	0.6	16	3.8	131	1.4 as N
	08/13/97	300	186	11	1.4	55	0.59	17	2.7	122	1.16 as N
	08/20/98	434	247	12	0.7	79	0.6	57	15	111	<.05 as N
8S/2W-28Q07	08/20/98	367	223	13	1.4	66	0.57	32	10	121	.731 as N
	08/25/99	377	216	13	1.4	63	0.52	32	9.8	—	.760 as N
	08/22/00	384	234	18	2.1	62	0.68	28	11	—	1.14 as N
	08/21/01	402	242	22	2.5	60	0.81	33	12	—	1.03 as N
	08/21/02	383	238	18	2.1	65	0.75	30	11	—	1.2 as N
	08/12/03	394	255	23.1	2.7	63.7	0.85	30	11.8	—	1.61 as N
	08/18/04	376	234	22.1	2.3	—	0.93	29.5	10.9	—	1.29 as N
8S/2W-20J01	08/15/90	1130	596	100	22	110	2.3	110	200	236	1.3 as N
	12/20/93	868	—	80	16	76	1.4	86	110	—	3.6 as N
8S/2W-20J02	08/15/90	404	216	42	6.3	38	0.8	27	12	159	1.2 as N
	12/20/93	408	—	42	6	35	0.8	29	12	—	1.2 as N
8S/2W-29B02	03/01/90	456	257	5.5	0.14	89	0.8	66	22	100	—
	03/06/90	456	256	5.9	0.13	90	0.7	66	20	99	<0.1 as N
8S/2W-29B03	03/06/90	478	275	14	1.9	84	0.8	65	16	123	<0.1 as N

* - Alkalinity as CAC03

TABLE D-5 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3*	NO3
Pechanga Indian Reservation (Continued)											
8S/2W-29B05	03/02/90	397	229	29	9.5	43	1.2	35	4.9	141	1.8 as N
8S/2W-29B06	03/02/90	406	259	34	11	38	0.8	38	10	143	---
	03/06/90	427	240	32	11	40	1.0	40	8.1	148	1.2 as N
8S/2W-29B07	03/07/90	396	230	8.6	2.5	71	0.9	51	11	102	<0.1 as N
	08/16/90	371	199	8.4	1.8	69	0.8	50	14	106	<0.1 as N
8S/2W-29B08	03/07/90	464	272	31	9.4	52	1.2	58	12	134	0.45 as N
	08/16/90	458	261	34	9.1	48	1.1	59	17	135	0.4 as N
8S/2W-29B09	03/07/90	343	210	21	9.2	39	1.0	24	6.7	131	1.3 as N
	08/17/90	317	197	26	10	26	1.1	22	3.4	130	1.6 as N
8S/2W-29B10	08/19/98	367	223	12	0.64	75	0.62	50	10	121	<.05 as N
	08/26/99	393	219	12	0.72	68	0.56	46	11	---	<.05 as N
	08/22/00	393	228	12	0.76	69	0.58	43	11	---	<.05 as N
	08/21/01	398	231	11	0.62	72	0.57	49	15	---	.04 as N
	08/12/03	387	239	11.3	0.65	---	0.57	47.2	18.4	---	2.41as N
	08/18/04	390	232	11.2	0.64	---	0.64	48	20.8	---	<.06 as N
8S/2W-28M03	08/26/99	562	319	38	13	52	0.77	68	15	---	2.59 as N
	08/12/03	534	344	40.7	14.7	53.5	0.86	58.9	14.1	---	4.21 as N
	08/19/04	708	440	61.4	22.5	---	0.93	87.6	52	---	6.16 as N
8S/2W-29J02	08/26/99	565	329	39	15	47	1.6	66	14	---	2.67 as N
	08/22/00	562	337	39	15	47	1.5	65	14	---	2.70 as N
	08/21/01	574	351	40	15	50	1.6	70	15	---	2.63 as N
	08/21/02	554	345	41	16	50	1.8	68	14	---	2.93 as N
	08/12/03	592	372	45.4	16.6	54.2	1.65	78.2	15.4	---	2.41 as N
	08/19/04	598	362	48.8	16.9	---	1.88	80	17	---	3.06 as N

* - Alkalinity as CAC03

TABLE D-5 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3*	NO3
Cahuilla Indian Reservation											
8S/3E-2K01	07/20/89	531	323	46	11	41	3.4	60	22	136	3.6 as N
	08/01/90	508	310	46	11	38	3.3	60	19	134	3.8 as N
	07/16/91	522	306	50	10	39	3.3	61	21	139	3.7 as N
7S/3E-21L01	08/02/89	1050	675	90	19	100	3.5	84	190	216	3.1 as N
	08/01/90	1020	610	87	18	100	3.4	85	180	217	3.0 as N
	07/17/91	995	636	93	18	100	3.7	95	180	206	2.5 as N
7S/2E-33N	08/02/89	355	206	16	2.1	53	3.5	48	15	78	.73 as N
7S/3E-34E01	07/20/89	338	204	30	5.6	26	5.0	29	7.0	98	3.3 as N
	07/31/91	337	109	31	5.5	25	4.5	31	6.3	99	3.5 as N
	07/16/91	335	209	31	5.9	26	4.7	32	6.3	99	3.5 as N

* - Alkalinity as CAC03

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C3	10/60	1060	639	66.5	24.0	116.0	4.5	160	110.0	264.0	trace
(Bldg 2201)	06/62	1190	718	60.0	33.2	123.0	3.8	190	124.0	232.0	1.4
(Previously	07/64	1217	734	79.2	27.8	144.0	1.6	180	150.0	248.9	---
reported as	05/65	1485	896	75.2	30.3	158.0	2.4	180	120.0	253.8	0
10S/5W-26C1)	01/66	---	808	76.8	33.2	157.0	3.4	170	180.0	292.8	0.62
	06/66	---	684	75.2	26.8	112.0	2.4	128	148.0	263.5	3.9
	01/67	---	856	81.6	26.3	138.0	3.5	162	140.0	310.0	3
	08/67	---	880	99.2	38.1	156.0	3.6	160	230.0	322.1	5.3
	02/68	---	768	65.6	25.4	156.0	3.4	160	164.0	236.7	0
	04/69	---	852	66.0	32.0	162.0	3.2	166	210.0	249.0	0
	11/69	---	844	87.0	31.0	140.0	3.6	164	180.0	262.0	0
	07/70	---	672	99.0	32.0	139.0	3	158	205.0	259.0	2.7
	12/70	1180	712	83.0	28.0	138.0	3	166	170.0	266.0	0
	09/71	1062	640	83.0	27.0	128.0	2.8	136	175.0	278.0	0.4
	05/72	1130	681	56.0	24.0	140.0	2.8	136	165.0	220.0	0
	10/72	1165	703	64.0	27.0	159.0	3.6	132	180.0	293.0	1.8
	10/73	1140	688	72.0	27.0	131.0	3.8	144	190.0	200.0	0.3 as N
	02/76	1140	688	70.4	28.3	143.0	3.1	132	182.0	273.3	1.8 as N
	09/76	1100	663	67.0	25.0	152.0	2.5	152	131.0	327.0	2.8 as N
	03/77	1080	651	67.0	28.0	173.0	3.1	128	160.0	254.0	4.4 as N
	10/78	1150	694	70.0	25.0	120.0	3.5	139	145.0	253.8	<1 as N
	06/79	1100	663	72.0	27.3	125.0	3	134	142.0	258.6	<1 as N
	10/80	1200	693	78.8	23.7	136.0	3.3	172	136.0	273.3	0.2 as N
	04/81	1160	737	82.4	22.4	126.0	3.6	140	134.0	268.4	<0.5 as N
	11/81	1300	863	97.6	31.5	169.0	2.2	204	209.0	248.9	0.8 as N
	11/81	950	573	74.0	18.3	120.0	2.1	144	130.0	224.5	0.3 as N
	05/82	1100	663	80.8	26.6	140.0	1.5	181	138.0	268.4	<0.5 as N
	03/83	1000	603	84.0	20.5	144.0	3.2	152	143.0	273.3	<0.5 as N
	05/84	1150	694	80.0	27.6	126.0	3.1	133	150.0	283.0	0.2 as N
	06/85	1100	680	89.0	26.0	140.0	3	150	64.0	440.0	<0.4
	09/85	1242	724	78.0	28.0	122.0	6	154	149.1	244.4	<0.4
	05/86	1387	750	85.2	29.1	130.7	4.3	166	130.8	242.6	<1
	06/89	1302	734	78.1	23.0	85.9	—	136	145.0	212.0	<0.4
	01/91	1271	—	81.0	36.1	152.0	—	166	—	—	<0.04
	06/91	1290	752	99.0	32.4	133.0	—	167	136.0	237.0	<0.4
	03/92	1210	792	91.0	29.8	146.0	—	159	135.0	279.0	<0.4
	06/93	1290	764	68.3	27.5	149.0	—	168	130.0	265.0	<0.4
	03/94	1210	783	100.0	37.1	100.0	—	145	167.0	—	2.2
	08/94	1160	741	87.5	35.5	96.1	—	141	187.0	—	4.23

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C3	06/95	1330	806	97.7	37.4	142.0	—	207	166.0	—	<0.04
(Bldg 2201)	01/96	1300	764	91.0	33.0	140.0	—	177	142.0	363.0	<0.0
(Continued)	06/96	1300	751	93.0	30.0	130.0	—	164	156.0	252.0	<0.0
	06/97	1215	758	88.0	29.0	130.0	<2	151	148.0	292.0	<2 as N
	12/97	1200	690	81.0	29.0	140.0	3	155	150.0	250.0	ND
	04/98	1200	790	83.0	31.0	101.0	3	170	156.0	240.0	ND
	06/98	1230	714	85.0	30.0	136.0	3	163	ND	293.0	ND
	02/99	1250	731	84.0	29.0	127.0	3	160	140.0	281.0	ND
	04/99	1220	769	88.0	30.0	127.0	3	138	160.0	317.0	ND
	05/01	1300	794	98.0	36.0	130.0	3	173	179.0	317.0	ND
	10/03	1340	761	90.0	31.0	—	4	162	188.0	210.0	0
	01/04	1320	743	94.0	32.0	—	5	182	212.0	203.0	0
	04/04	1350	731	90.0	32.0	—	5	184	197.0	235.0	0
	07/04	1100	773	91.0	32.0	—	5	167	197.0	215.0	0
10S/4W-18M5	06/89	1156	688	74.6	24.4	67.9	—	130	138.0	197.0	8.9
(Bldg 2373)	01/90	1120	630	86.4	32.3	101.0	—	156	166.0	210.0	<0.05
(Previously	04/90	1160	720	98.8	34.8	107.0	—	152	146.0	218.0	1.4
reported as	01/91	1202	—	84.1	40.5	117.0	—	162	153.0	—	<0.04
10S/4W-18M4	06/91	1180	736	102.0	37.1	106.0	—	163	138.0	197.0	<0.4
	03/94	1020	658	69.6	27.8	104.0	—	135	140.0	—	0.89
	08/94	1110	684	81.4	32.2	178.0	—	144	157.0	—	<0.44
	06/95	1170	679	95.3	35.2	113.0	—	145	116.0	—	13.8
	06/96	1100	682	86.0	32.0	95.0	—	155	261.0	210.0	<0.0
	02/97	1180	640	79.0	32.0	110.0	—	142	162.0	190.0	<2 as N
	06/97	1117	709	85.0	33.0	110.0	<5	150	164.0	223.0	<2 as N
	12/97	1100	700	82.0	33.0	110.0	3	141	157.0	220.0	ND
	03/98	1100	710	83.0	33.0	100.0	3	182	158.0	150.0	ND
	06/98	1200	720	85.0	34.0	119.0	4	159	154.0	281.0	ND
	02/99	1020	613	70.0	30.0	85.0	4	130	85.0	179.0	8
	05/00	1020	709	91.0	33.0	94.0	4	146	149.0	220.0	ND
	08/00	1160	707	81.0	39.0	79.0	4	149	153.0	177.0	ND
	02/01	1200	736	85.0	35.0	116.0	4	164	180.0	244.0	ND
	04/01	1200	606	85.0	34.0	112.0	4	154	177.0	232.0	ND
	09/01	1250	761	90.0	37.0	115.0	4	166	188.0	232.0	ND
	11/01	1290	737	91.0	37.0	118.0	3	181	207.0	256.0	ND
	02/02	1260	781	89.0	36.0	123.0	4.6	170	189.0	255.0	ND
	04/02	1250	755	90.0	37.0	116.0	4.1	175	195.0	200.0	ND
	05/02	1290	750	92.0	38.0	110.0	4	157	194.0	180.0	100 as N
	07/02	1260	753	90.0	37.0	114.0	4	171	196.0	200.0	ND

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-18M5	01/03	1350	816	---	---	---	---	160	201.0	---	ND
(Bldg 2373)	02/03	---	---	96.0	40.0	---	4.6	---	---	---	---
(Previously	04/03	1210	738	95.0	27.0	---	3.9	175	210.0	192.0	ND
reported as	10/03	1290	752	91.0	37.0	134.0	5	167	193.0	199.0	0
10S/4W-18M4	01/04	1230	717	93.0	38.0	111.0	6	159	194.0	173.0	0
(Continued)	04/04	1280	722	82.0	36.0	112.0	6	168	213.0	180.0	0
	07/04	1080	739	88.0	37.0	92.0	7	156	198.0	190.0	0
10S/5W-23J1	05/56	1090	685	61.5	24.3	142.0	---	142	110.0	293.0	0.06
(Bldg 2301)	12/56	1060	666	67.0	27.0	96.0	---	124	85.0	274.0	---
	12/57	---	780	66.3	23.9	159.0	---	138	155.0	308.0	10.6
	05/59	1100	691	75.2	25.3	112.0	---	136	152.0	297.7	---
	01/60	1120	704	72.7	27.3	116.5	---	112	144.0	291.0	---
	10/60	1045	657	63.2	21.4	99.0	3.6	140	112.0	242.0	0
	05/61	1280	770	76.0	36.5	136.0	3	124	195.0	299.6	0
	05/62	1133	712	68.8	30.3	136.0	2	128	175.0	275.7	---
	01/63	1111	698	72.0	35.1	127.0	2.8	128	199.0	268.4	---
	06/63	1108	696	78.4	25.4	118.0	2.9	148	130.0	258.6	0 as N
	07/64	1165	732	74.4	27.8	128.0	1.2	139	160.0	268.4	---
	05/65	1130	710	80.0	26.4	145.0	2.1	148	120.0	268.4	0.14
	01/66	---	736	88.0	18.1	142.0	2.8	124	155.0	263.5	1.8
	06/66	---	736	75.2	29.3	138.0	2.7	145	175.0	295.2	4.8
	01/67	---	744	76.8	25.9	118.0	3	136	125.0	287.9	2.2
	08/67	---	680	70.4	28.3	128.0	2.3	140	100.0	292.8	8.4
	02/68	---	660	48.0	19.5	130.0	2.8	124	119.0	234.0	6.1
	04/69	---	708	70.0	28.0	126.0	2.5	128	170.0	278.0	0
	11/69	---	684	73.0	28.0	126.0	2.8	138	165.0	273.0	0
	05/70	---	716	74.0	25.0	122.0	0.1	134	170.0	210.0	4.4
	12/70	1090	385	78.0	25.0	126.0	2.6	142	170.0	250.0	3.1
	09/71	1025	644	75.0	38.0	120.0	2.7	124	190.0	229.0	0.9
	05/72	1050	660	75.0	21.0	124.0	2.3	124	155.0	244.0	2.2
	10/73	1140	716	74.0	22.0	128.0	2.8	136	160.0	220.0	0.5 as N
	06/74	1060	680	74.0	13.0	131.0	2.9	158	138.0	220.0	0.01 as N
	02/76	1050	660	73.6	25.4	136.0	2.9	119	170.0	248.9	2.0 as N
	09/76	1100	691	58.0	32.0	146.0	2.6	140	148.0	321.8	2.6 as N
	03/77	1080	679	69.0	29.0	110.0	3	128	155.0	259.0	4.3 as N
	01/78	1100	691	70.0	23.0	147.0	3	140	135.0	259.0	4.4 as N
	10/78	1150	723	74.0	22.0	120.0	2.9	134	149.0	248.9	<1 as N
	04/79	1000	628	70.4	22.4	118.0	2.6	122	138.0	239.1	<1 as N

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23J1	10/80	1150	745	74.0	22.5	128.0	3	152	138.0	239.1	0.2 as N
(Bldg 2301)	05/81	1020	580	67.2	17.3	116.0	3.1	132	111.0	205.0	<0.5 as N
(Continued)	03/83	900	599	65.6	19.5	129.0	2.8	136	129.0	234.2	<0.5 as N
	12/83	1000	628	72.4	22.4	127.0	2.6	140	150.0	249.0	<0.1 as N
	05/84	1100	691	78.8	25.9	120.0	2.8	130	150.0	254.0	0.2 as N
	06/85	1100	691	59.0	26.0	130.0	3	140	70.0	440.0	3.5
	09/85	1203	705	66.0	26.0	110.0	6	150	144.0	226.6	<0.4
	06/89	1139	662	71.5	21.7	80.8	—	117	128.0	209.0	<0.4
	01/90	1150	632	90.6	32.4	102.0	—	160	170.0	214.0	<0.5
	01/91	1112	—	73.7	32.0	128.0	—	136	136.0	—	<0.04
	06/91	1090	662	87.4	29.7	117.0	—	140	121.0	204.0	<0.4
	03/92	1080	644	74.2	25.8	133.0	—	127	118.0	282.0	1.3
	03/93	1210	674	72.8	24.5	117.0	—	127	124.0	261.0	<0.4
	06/93	1090	670	63.9	25.7	119.0	—	117	128.0	237.0	<0.4
	03/94	1120	683	73.9	27.0	121.0	—	141	130.0	—	<0.4
	08/94	1160	707	78.9	28.2	129.0	—	139	153.0	—	<0.44
	06/95	1160	742	88.2	28.8	131.0	—	165	147.0	—	<0.04
	01/96	1300	690	79.0	29.0	140.0	—	147	131.0	292.0	<0.0
	06/96	1020	674	82.0	29.0	120.0	—	134	129.0	204.0	<0.0
	02/97	1100	650	74.0	27.0	150.0	—	126	172.0	245.0	<2 as N
	03/97	1073	630	77.0	28.0	130.0	—	142	134.0	254.0	<2 as N
	02/99	1180	647	75.0	27.0	125.0	3	150	130.0	272.0	ND
	04/99	1240	722	81.0	30.0	124.0	3	157	150.0	293.0	ND
	08/99	1180	735	79.0	29.0	120.0	3	190	183.0	281.0	ND
	12/99	1190	699	83.0	30.0	118.0	3	100	158.0	278.0	ND
	02/00	1110	723	81.0	30.0	116.0	3	90	163.0	293.0	ND
	05/00	1070	714	81.0	29.0	115.0	3	170	152.0	273.0	ND
	08/00	1200	735	80.0	29.0	117.0	3	150	118.0	275.0	ND
	02/01	1230	730	84.0	31.0	132.0	ND	158	158.0	293.0	ND
	04/01	1190	636	81.0	30.0	123.0	3	146	148.0	287.0	ND
	09/01	1300	751	88.0	32.0	132.0	3	155	160.0	293.0	ND
	10/01	1380	757	88.0	33.0	133.0	3	152	159.0	311.0	ND
	02/02	1220	724	86.0	31.0	124.0	2	146	156.0	293.0	ND
	04/02	1210	726	89.0	32.0	124.0	2.8	ND	162.0	240.0	100 as N
	07/02	1280	735	85.0	31.0	129.0	3.1	155	165.0	236.0	ND
	10/02	—	701	87.0	—	141.0	2.9	157	170.0	257.0	ND
	11/02	—	—	87.0	31.0	—	—	—	—	—	—
	01/03	1260	760	—	—	—	—	146	162.0	—	ND
	02/03	—	—	68.0	32.0	139.0	3.5	—	—	—	—
	04/03	1200	708	87.0	32.0	127.0	2.8	158	175.0	245.0	ND
	10/03	1210	696	82.0	30.0	144.0	3	167	177.0	232.0	0
	01/04	1170	678	87.0	31.0	121.0	4	151	175.0	227.0	0
	04/04	1270	697	82.0	31.0	120.0	4	155	171.0	250.0	0
	07/04	1030	702	87.0	31.0	98.0	5	138	151.0	245.0	0

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-18E3	06/89	1166	758	80.5	28.1	67.4	—	132	157	198.0	9.5
(Bldg 2393)	01/90	1230	748	97.4	39.7	106.0	—	178	179	226.0	<0.05
	04/90	1190	733	99.6	37.5	112.0	—	159	156	207.0	2.5
	06/91	1130	680	97.6	37.6	100.0	—	139	142	166.0	2.7
	02/94	1180	731	83.3	35.5	104.0	—	142	159	—	11.1
	08/94	1150	725	84.3	35.2	102.0	—	147	164	—	1
	06/95	932	636	75.4	29.1	86.6	—	102	140	—	14
	06/96	1117	710	92.0	36.0	93.0	—	180	297	206.0	<0.0
	02/97	1100	686	89.0	38.0	110.0	—	157	166	220.0	<2 as N
	03/97	1116	673	87.0	36.0	110.0	—	147	113	213.0	<2 as N
	06/97	1131	779	90.0	37.0	99.0	<5	151	177	199.0	<2 as N
	09/98	1160	727	83.0	36.0	90.0	3	160	181	232.0	ND
	10/99	1200	325	88.0	39.0	117.0	4	130	180	268.0	ND
	02/00	1100	739	84.0	37.0	100.0	4	130	180	281.0	ND
	05/00	1030	717	80.0	35.0	96.0	4	168	183	229.0	2
	02/01	1360	798	97.0	44.0	111.0	4	184	212	244.0	ND
	04/01	1310	728	94.0	42.0	114.0	4	168	208	232.0	ND
	09/01	1330	791	96.0	42.0	115.0	4	173	209	224.0	ND
	03/02	1320	778	102.0	44.0	123.0	4.4	196	229	242.0	ND
	04/02	1300	808	101.0	44.0	117.0	4	183	220	200.0	ND
	07/02	1390	778	96.0	42.0	114.0	3.7	180	214	209.0	ND
	10/02	1360	763	97.0	41.0	126.0	4	180	207	214.0	ND
	01/03	1290	749	96.0	40.0	116.0	3.7	172	200	200.0	ND
	02/03	—	—	—	—	131.0	—	—	—	—	—
	04/03	1210	783	99.0	42.0	129.0	3.9	176	201	191.0	ND
	10/03	1320	775	97.0	41.0	126.0	5	168	231	174.0	0
	01/04	1270	763	101.0	42.0	106.0	6	162	220	180.0	0
	04/04	1320	781	96.0	43.0	105.0	6	179	250	195.0	0
	07/04	1370	784	100.0	43.0	89.0	6	169	219	203.0	0
10S/4W-7R2	06/89	1281	765	76.5	25.1	82.4	—	149	153	209.0	10.3
(Bldg 2603)	04/89	1270	788	104.0	36.5	126.0	—	173	161	215.0	2.6
	06/91	1400	836	111.0	41.1	130.0	—	195	155	215.0	0.04
	02/94	1260	738	83.3	32.0	131.0	—	169	155	—	<0.04
	08/94	1260	738	84.3	33.7	129.0	—	166	149	—	<0.44

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7R2	06/95	1290	897	93.6	35.2	129.0	—	202	164	—	0.69
(Bldg 2603)	02/97	1200	720	84.0	36.0	130.0	—	150	152	240.0	<1 as N
(Continued)	03/97	1143	708	83.0	35.0	130.0	—	152	137	240.0	<2 as N
	06/97	1227	831	94.0	34.0	120.0	<5	185	147	247.0	<2 as N
	12/97	1200	700	84.0	36.0	120.0	3	150	173	240.0	ND
	03/98	1200	780	85.0	36.0	110.0	3	187	162	180.0	ND
	06/98	1190	734	ND	ND	ND	ND	ND	ND	ND	ND
	12/97	1200	700	84.0	36.0	120.0	3	150	173	240.0	ND
	03/98	1200	780	85.0	36.0	110.0	3	187	162	180.0	ND
	06/98	1190	734	ND	ND	ND	ND	ND	ND	ND	ND
	02/99	1160	663	76.0	32.0	102.0	3.0	150.0	150.0	214.0	ND
	08/99	1120	727	76.0	33.0	99.0	3.0	156.0	230.0	281.0	ND
	10/99	1130	660	78.0	33.0	120.0	3.0	110.0	160.0	262.0	ND
	02/00	1030	592	79.0	35.0	95.0	3.0	120.0	160.0	244.0	ND
	05/00	1010	699	76.0	33.0	96.0	3.0	129.0	127.0	229.0	ND
	08/00	1140	720	77.0	33.0	87.0	3.0	ND	157.0	232.0	ND
	10/02	1120	617	—	—	102.0	—	—	—	—	—
	12/02	—	—	73.0	32.0	—	—	132.0	164.0	—	ND
	01/03	1150	680	—	—	113.0	3.6	135.0	165.0	174.0	ND
	02/03	—	—	76.0	34.0	—	4.5	—	—	—	—
	04/03	—	717	62.0	34.0	122.0	4.0	164.0	—	209.0	ND
	05/03	1190	—	—	—	—	—	156.0	182.0	—	—
	10/03	1250	737	81	37	130	5	163.0	201.0	192	0
	01/04	1240	694	86	39	107	6	153.0	182.0	185	0
	04/04	1320	750	84	40	108	6	170.0	210.0	220	0
	07/04	1100	761	92	41	88	7	172.0	204.0	205	0
10S/4W-7H2	08/56	1060	882	78.0	30.0	112	—	150	82	326.0	—
(Bldg 2671)	01/60	820	500	55.2	14.7	85.0	—	76	98	224.0	—
	10/60	1300	793	74.5	20.5	126.0	4.3	182	116	320.0	—
	05/61	1390	840	100.0	29.2	170.0	3.3	170	135	362.0	—
	05/62	1220	744	70.4	39.0	142.0	2.4	184	86	312.3	—
	01/63	1300	740	65.6	26.4	162.0	2.4	166	153	259.0	0.7
	07/63	1100	671	64.0	25.4	118.0	2.7	148	97	280.6	0.0 as N
	01/64	1020	622	70.4	33.2	117.0	2.7	172	98	302.6	3.3
	07/64	1400	854	83.2	27.3	134.0	1.4	164	98	322.1	—
	04/65	1490	909	97.6	23.4	152.0	4.7	196	110	346.5	0.9
	01/66	—	832	102.0	28.0	166.0	3.1	194	88	414.8	6.6
	06/66	—	768	86.4	26.3	150.0	3.1	184	110	331.8	6.9

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2	01/67	—	768	72.0	29.3	128.0	3.1	174	72	324.5	6.9
(Bldg 2671)	08/67	—	608	57.6	24.4	116.0	2.4	132	70	251.3	10.2
(Continued)	02/68	—	572	67.2	17.6	105.0	2.4	118	94	251.0	0
	09/68	—	636	74.0	19.0	112.0	3	144	96	268.0	0.4
	04/69	—	820	72.0	33.0	138.0	2.8	180	140	285.0	0.9
	11/69	—	604	66.0	24.0	116.0	2.8	140	110	259.0	1.8
	05/70	—	640	65.0	26.0	115.0	2.4	142	120	183.0	3.1
	09/71	1075	656	77.0	24.0	120.0	2.8	144	125	273.0	1.3
	05/72	1000	610	46.0	24.0	117.0	2.4	140	130	141.0	0
	10/72	1110	677	88.0	26.0	105.0	3.6	144	126	283.0	3.5
	10/73	1120	683	75.0	23.0	118.0	2.7*	132	130	200.0	0.6 as N
	06/74	1210	712	72.0	19.0	150.0	3.1	208	112	195.0	0.01 as N
	01/75	850	519	61.0	21.0	93.0	2.4	102	95	212.0	2.3 as N
	02/76	1200	732	91.2	20.5	126.0	3.2	176	130	244.0	2.6 as N
	09/76	1200	732	48.0	29.0	180.0	2.4	192	123	336.7	4.2 as N
	03/77	1400	854	94.0	33.0	158.0	2.8	216	140	342.0	2.8 as N
	01/78	1000	610	66.0	23.0	100.0	2.7	128	123	205.0	4.4 as N
	10/78	1300	793	82.0	31.0	134.0	2.7	160	157	258.6	<1 as N
	04/79	1200	732	84.8	28.3	144.0	3.1	164	116	312.3	<1 as N
	01/80	1450	885	93.0	30.0	163.0	3	196	200	273.0	<1 as N
	10/80	1050	591	70.4	21.7	104.0	3.7	140	125	219.6	2.0 as N
	05/81	1000	645	72.4	21.7	105.0	3.5	128	123	209.8	<0.5 as N
	05/82	1330	811	100.8	35.9	176.0	1.6	269	198	263.5	<0.5 as N
	03/83	890	669	77.2	23.7	95.0	3.4	132	136	209.8	0.65 as N
	12/83	1000	610	70.4	23.7	123.0	2.6	136	150	224.0	0.5 as N
	05/84	1100	671	77.2	24.6	116.0	2.7	133	155	244.0	0.2 as N
	09/84	1300	650	6.6	29.0	120.0	2.6	200	170	250.0	12
	11/84	1100	671	81.6	23.4	124.0	2.7	149	175	249.0	1.2 as N
	05/86	1592	994	104.7	39.7	167.3	4.4	232	167	301.8	<1 as N
	06/89	1137	826	79.1	28.5	85.5	—	157	158	246.0	12.6
	01/90	1290	772	96.3	38.6	116.0	—	184	179	252.0	0.9/1.2
	04/90	1320	817	109.0	42.1	128.0	—	177	167	249.0	5.4
	01/91	401	—	87.3	44.4	103.1	—	205	179	—	1.07
	03/93	1500	824	92.6	33.1	136.0	—	194	154	277.0	1.8
	03/94	1370	827	103.0	36.4	135.0	—	163	145	—	0.9
	08/94	1270	762	91.1	35.5	129.0	—	162	172	—	5.64
	06/95	1260	771	100.0	35.8	127.0	—	197	178	—	2.8
	06/96	1300	751	96.0	36.0	120.0	—	162	174	247.0	1.1
	02/97	1300	830	100.0	41.0	150.0	—	186	161	186.0	<2 as N
	06/97	1323	831	94.0	36.0	140.0	<5	158	149	271.0	2 as N

* Reported as 27

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2	12/97	1200	670	91.0	36.0	120.0	3	150	169	220.0	ND
(Bldg 2671)	12/97	1200	710	87.0	35.0	120.0	2	152	182	220.0	1.5
(Continued)	03/98	1200	810	89.0	36.0	120.0	3	201	168	240.0	ND
	06/98	1390	830	ND	ND	ND	ND	ND	ND	ND	ND
	09/98	1290	748	87.0	32.0	110.0	2.0	158	160	299	ND
	02/99	1130	663	75.0	31.0	106.0	3.0	150	150	238	5
	05/99	1170	711	75.0	32.0	85.0	4.0	ND	180	268	ND
	08/99	1040	310	74.0	30.0	94.0	2.0	100	400	207	ND
	10/99	1210	757	86.0	35.0	120.0	3.0	154	100	295	3
	08/00	1290	766	83.0	33.0	89.0	2.0	184	150	323	ND
	02/01	1140	707	85.0	35.0	107.0	2.0	152	179	232	ND
	04/01	1190	718	88.0	37.0	112.0	3.0	153	193	210	ND
	09/01	1200	729	89.0	38.0	106.0	3.0	158	192	201	ND
	11/01	1210	693	90.0	38.0	106.0	3.0	168	209	214	ND
	02/02	1190	726	94.0	39.0	106.0	2.7	147	198	208	ND
	04/02	1190	724	91.0	38.0	107.0	2.9	153	204	173	ND
	07/02	1200	755	88.0	37.0	107.0	3.1	162	201	180	ND
	10/02	1250	722	91.0	38.0	99.0	2.6	150	197	177	ND
	01/03	1260	781	—	—	—	—	144	204	—	ND
	02/03	—	—	95.0	39.0	119.0	3.2	—	—	—	—
	04/03	1310	776	93.0	38.0	123.0	3.0	178	217	185	ND
	04/04	1660	890	112.0	47.0	143.0	4.0	208	162	370	0
	07/04	1460	785	98.0	38.0	109.0	4.0	186	191	275	0
10S/4W-7A2	05/56	920	651	59.0	22.0	100	—	104	94	213.0	—
(Bldg 2673)	05/59	—	745	52.8	16.5	60.3	—	84	41	207.4	—
	01/60	—	840	51.2	17.6	95.0	—	98	92	210.0	—
	10/60	870	566	62.0	23.0	80.0	4.2	110	104	234.0	0
	05/61	1180	710	72.0	34.0	114.0	3.3	104	150	227.0	—
	05/62	797	518	63.2	23.4	75.0	2	100	96	214.7	—
	01/63	1195	730	64.0	24.9	157.0	3.1	162	183	220.0	0
	07/63	574	610	57.6	19.5	85.0	2.7	102	100	244.0	0.3 as N
	01/64	760	494	59.2	19.3	82.0	3.3	100	85	253.7	0.5 as N
	07/64	980	637	64.0	21.5	94.0	1.4	100	95	241.6	—
	04/65	1230	800	73.3	22.5	106.0	4.5	120	110	248.9	1.3
	01/66	—	448	—	—	86.0	2.5	82	75	190.3	9.7
	06/66	—	540	60.8	21.0	81.0	2.5	102	95	222.0	9.1
	01/67	—	544	60.8	19.5	88.0	2.9	106	69	229.4	6.9

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7A2	08/67	---	504	54.4	20.0	79.0	2.1	96	58	214.7	8
(Bldg 2673)	02/68	---	456	60.8	17.6	86.0	2.7	94	78	222.0	0
(Continued)	09/68	---	600	67.0	18.0	90.0	3	110	96	232.0	0
	04/69	---	428	46.0	18.0	73.0	20	76	90	183.0	3.1
	11/69	---	476	59.0	18.0	88.0	2.7	98	110	198.0	0.9
	05/70	---	416	54.0	18.0	79.0	2.6	92	90	151.0	2.9
	12/70	780	507	64.0	16.0	89.0	2.7	100	90	222.0	10.1
	05/72	990	644	77.0	24.0	86.0	2.8	116	135	207.0	0
	10/72	965	627	77.0	27.0	94.0	2.9	104	145	239.0	5.3
	10/73	960	624	72.0	19.0	105.0	2.8	112	140	195.0	0.9 as N
	06/74	950	548	68.0	19.0	101.0	3.1	138	102	207.0	0.35 as N
	01/75	840	546	58.0	22.0	87.0	2.7	98	95	217.0	2.2 as N
	02/76	820	533	68.8	20.5	76.0	3	106	88	214.7	2.2 as N
	09/76	900	585	48.0	45.0	98.0	2.3	116	112	258.6	3.0 as N
	03/77	900	585	70.0	23.0	76.0	2.8	123	113	195.0	2.6 as N
	01/78	950	618	64.0	24.0	100.0	2.7	124	108	200.0	4.3 as N
	10/78	1050	683	74.0	20.0	80.0	3	113	128	205.0	<1 as N
	04/79	950	618	65.6	19.5	98.0	3.1	109	118	190.3	<1 as N
	01/80	1000	650	67.0	23.0	99.0	3.1	128	111	187.0	<1 as N
	10/80	900	546	67.2	20.5	86.0	3.4	108	86	205.0	2.3 as N
	05/81	810	585	57.2	14.4	83.0	3.4	92	84	180.6	0.7 as N
	11/81	800	451	57.2	16.3	85.0	2	92	110	185.4	0.5 as N
	05/82	930	605	68.8	21.5	97.0	1.6	115	96	205.0	<0.5 as N
	03/83	900	663	78.8	23.7	95.0	3.4	132	135	209.8	0.7 as N
	09/84	1000	530	51.0	23.0	80.0	2.9	110	110	200.0	4.2
	11/84	850	553	67.2	28.3	73.0	2.9	111	137	190.0	1.7 as N
	09/85	1007	593	66.0	26.0	64.0	5.8	124	139	180.6	6
	05/86	1051	623	72.6	26.5	79.5	3.5	131	124	153.6	8.8
	06/89	1073	688	72.1	23.9	59.6	—	120	140	184	15.9
	01/89	1080	572	91.2	34.2	80.2	—	151	178	174	1.4
	04/90	1130	718	111.0	42.1	91.0	—	148	167	175	9.1
	06/91	1190	718	113.0	40.3	93.8	—	173	180	160	7.5
	03/93	1370	708	86.9	32.8	93.3	—	147	93.3	200	4.9
	03/94	1210	783	100.0	37.1	100.0	—	145	167	—	2.2
	08/94	1160	741	87.5	35.5	96.1	—	141	184	—	4.23
	06/95	1200	788	99.4	37.5	101.0	—	173	200	—	2.9

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7A2	06/96	1129	739	91.0	37.0	90.0	—	188	312	206	<0.0
(Bldg 2673)	02/97	1100	690	82.0	35.0	140.0	—	127	131	180	<2 as N
(Continued)	03/97	1109	695	91.0	39.0	93.0	—	137	191	166	2.2 as N
	06/97	1096	749	89.0	36.0	90.0	<5	138	178	187	2 as N
	12/97	1100	690	84.0	36.0	83.0	4	140	181	160	<.2 as N
	05/99	1050	648	78.0	32.0	111.0	3	171	192	207	ND
	08/99	1040	696	78.0	33.0	84.0	4	120	390	146	ND
	10/99	1070	663	78.0	34.0	90.0	4	132	120	195	6 as N
	02/00	1010	559	83.0	35.0	82.0	4	140	190	220	4 as N
	05/00	972	688	80.0	34.0	79.0	4	144	167	190	4 as N
	02/01	1200	753	92.0	40.0	100.0	3	164	212	195	ND
	04/01	1210	736	91.0	40.0	103.0	5	159	217	183	ND
	09/01	1200	741	93.0	41.0	98.0	4	153	228	183	ND
	11/01	1220	750	92.0	41.0	106.0	4	170	228	189	ND
	02/02	1230	769	99.0	43.0	101.0	4.2	173	218	195	ND
	04/02	1260	796	101.0	45.0	102.0	4.5	170	229	160	100 as N
	07/02	1350	784	98.0	43.0	103.0	4.3	183	239	159	ND
	10/02	1370	788	102.0	45.0	104.0	4.3	175	241	167	ND
	01/03	1330	825	104.0	—	—	—	—	—	—	—
	02/03	—	—	105.0	45.0	—	—	—	—	—	—
	04/03	1260	721	90.0	40.0	102.0	4.6	170	228	153	ND
	10/03	1340	791	94.0	41.0	121.0	6	180	268	144	0
	01/04	1390	800	99.0	46.0	105.0	7	173	264	136	0
	04/04	1270	739	86.0	42.0	98.0	6	160	252	160	0
	07/04	1390	764	97.0	45.0	87.0	7	176	262	163	0
10S/5W-23G3	06/91	1160	684	83.4	28.3	125.0	—	145	124	223	<0.04
(Bldg 33926)	03/92	1060	674	75.9	24.1	127.0	—	139	111	269	<0.4
	03/93	1182	584	67.8	21.1	110.0	—	135	101	274	<0.4
	06/93	1020	623	60.5	22.4	116.0	—	125	107	225	<0.4
	03/94	1120	665	80.0	25.0	122.0	—	129	117	—	1.8
	08/94	1150	699	78.7	26.4	125.0	—	141	118	—	<0.44
	06/95	1060	673	75.9	23.1	118.0	—	158	114	—	<0.04
	01/96	1200	619	71.0	24.0	120.0	—	139	107	262	<0.0
	07/96	—	—	—	—	—	—	—	—	—	<0.0
10S/5W-23K2	06/89	1207	698	75.6	22.8	84.0	—	138	137	231	<0.4
(Bldg 33924)	04/89	1240	728	100.0	32.9	129.0	—	158	148	245	1.3
	01/91	1193	—	80.6	35.2	131.0	—	21.3	146	—	<0.04
	06/91	1160	676	88.1	29.6	118.0	—	141	129	224	<0.04

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23K2	03/92	1130	705	76.7	26.0	126.0	---	149	125	279	<0.4
(Bldg 33924)	06/92	1130	717	66.8	26.7	124.0	---	146	140	232	<0.4
(Continued)	03/93	1285	331	72.1	23.8	115.0	---	131	122	273	<0.4
	02/97	1200	780	89.0	32.0	130.0	---	166	165	250	<2 as N
	03/97	1230	700	94.0	34.0	140.0	---	187	162	264	<2 as N
	06/97	1231	778	91.0	31.0	130.0	<2	171	165	264	<2 as N
	12/97	1200	710	82.0	30.0	130.0	2	156	162	230	ND
	03/98	1200	710	82.0	30.0	110.0	2	191	146	240	ND
	06/98	1170	658	79.0	28.0	123.0	2	157	ND	293	ND
	02/99	1170	696	75.0	27.0	123.0	3	160	130	259	ND
	04/99	1210	667	76.0	27.0	118.0	3	148	140	268	ND
	08/99	1140	714	79.0	27.0	116.0	3	180	165	268	ND
	10/99	1150	721	80.0	28.0	131.0	3	110	150	281	ND
	02/00	1050	619	82.0	28.0	108.0	3	100	140	293	ND
	05/00	1060	716	80.0	29.0	112.0	3	173	141	268	ND
	08/00	1210	722	82.0	29.0	105.0	3	162	156	268	ND
	04/01	1210	705	85.0	30.0	130.0	3	163	157	281	ND
	09/01	1210	672	85.0	30.0	125.0	3	163	149	281	ND
	10/01	1200	680	81.0	29.0	143.0	3	162	159	281	ND
	02/02	1160	675	80.0	29.0	129.0	3.5	143	152	268	ND
	04/02	1180	682	84.0	31.0	124.0	2.9	151	ND	230	ND
	04/02	1210	706	80.0	29.0	127.0	2.9	156	156	221	ND
	10/02	1210	669	83.0	30.0	120.0	2.9	150	162	206	ND
	01/03	1320	801	---	---	140.0	2.8	---	180	245	ND
	02/03	---	---	97.0	34.0	---	---	---	---	---	---
	04/03	1330	743	89.0	32.0	133.0	2.8	162	164	234	ND
	10/03	1210	712	87.0	31.0	135.0	4	155	177	204	0
	04/04	1320	713	85.0	32.0	121.0	5	165	167	228	0
	07/04	1070	703	89.0	32.0	101.0	5	147	173	230	0
10S/5W-13R2	01/90	1030	540	*96	26.6	94.8	---	141	130	200	0.7
(Bldg 2363)	06/91	1150	702	98.7	32.0	109.0	---	149	125	288	1.3
	06/93	1130	705	72.0	28.4	107.0	---	140	139	262	0.9
	03/94	1020	658	69.6	27.8	104.0	---	135	140	---	0.89
	06/95	1140	636	92.5	30.7	115.0	---	149	151	---	14.2
	06/96	1103	680	91.0	31.0	100.0	---	148	251	233	<0.0
	06/97	1082	708	85.0	29.0	110.0	<5	135	145	244	<2 as N
	12/97	1000	640	81.0	28.0	100.0	2	119	128	250	ND
	03/98	1100	620	85.0	31.0	110.0	2	161	144	220	ND
	06/98	1100	680	83.0	30.0	109.0	3	137	140	275	0.68
	09/98	1160	662	81.0	28.0	90.0	3	144	90	256	ND

ND - None Detected
* - Reported as .96

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-13R2	04/01	1100	612	83.0	29.0	106.0	3	131	146	238	ND
(Bldg 2363)	09/01	1150	679	89.0	31.0	156.0	2	142	156	241	ND
(Continued)	11/01	1130	658	87.0	30.0	104.0	2	148	169	262	ND
	02/02	1120	674	85.0	30.0	112.0	3.2	140	160	257	ND
	04/02	1130	673	79.0	36.0	113.0	3.9	145	176	200	ND
	04/02	1120	682	89.0	32.0	106.0	2.7	142	167	205	ND
	07/02	1150	676	83.0	30.0	111.0	2.7	145	64	205	ND
	10/02	1220	711	---	---	110.0	2.7	149	175	203	ND
	11/02	---	---	87.0	31.0	---	---	---	---	---	ND
	01/03	1210	713	---	---	---	---	138	165		ND
	02/03	---	---	88.0	33.0	106.0	2.7	---	---	---	---
	04/03	---	---	87.0	---	---	---	---	---	---	---
	05/03	1230	728	---	33.0	112.0	2.9	155	183	181	ND
	10/03	1190	741	179.0	33.0	123.0	3	168	212	179	0
	04/04	1200	731	177.0	34.0	104.0	4	151	177	177	0
	07/04	1270	701	220.0	32.0	103.0	4	163	186	220	0
10S/4W-7D1	03/99	1280	765	91.0	34.0	127.0	2	190	160	272	ND
(Previously	06/99	1080	706	76.0	31.0	88.0	2.2	163	118	220	ND
reported as	08/99	1080	690	76.0	32.0	93.0	3	160	191	244	ND
10S/4W-7A3)	10/99	1070	660	76.0	32.0	100.0	3	131	120	232	4
	05/00	1010	702	79.0	34.0	94.0	3	177	164	254	4
	08/00	1170	732	84.0	36.0	89.0	3	155	188	201	5
	02/01	1230	753	89.0	39.0	113.0	2	170	198	220	ND
	04/01	1230	726	89.0	39.0	115.0	4	160	191	243	ND
	09/01	1210	735	89.0	39.0	107.0	4	163	185	217	ND
	11/01	1240	725	89.0	39.0	117.0	3	168	205	220	ND
	02/02	1250	765	97.0	43.0	109.0	3.4	155	184	234	ND
	04/02	1290	790	98.0	44.0	109.0	3.4	158	208	200	ND
	07/02	1320	809	96.0	43.0	117.0	3.7	182	217	200	ND
	10/02	1380	787	99.0	43.0	113.0	3.7	170	216	203	ND
	01/03	1370	810	---	---	---	---	155	194	---	ND
	02/03	---	---	101.0	44.0	134.0	4	---	---	---	---
	04/03	1440	789	93.0	40.0	125.0	3.6	177	205	216	ND
	10/03	1370	820	91.0	40.0	130.0	4	175	235	180	0
	01/04	1350	747	97.0	42.0	114.0	6	168	226	184	0
	04/04	1400	766	92.0	42.0	112.0	6	162	228	198	0
	07/04	1410	784	98.0	43.0	92.0	6	171	231	200	0

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23G4	06/99	1070	668	69.0	23.0	106.0	1.7	163	144	305	ND
	08/99	1090	657	72.0	25.0	115.0	2	180	153	317	ND
	10/99	1150	716	79.0	27.0	140.0	2	120	140	305	ND
	02/00	956	622	78.0	23.0	117.0	2	90	120	268	ND
	05/00	1040	686	77.0	27.0	116.0	2	181	141	307	ND
	08/00	1180	722	80.0	28.0	105.0	2	155	143	232	ND
	02/01	1100	706	73.0	25.0	125.0	2	149	164	268	ND
	04/01	1170	701	61.0	29.0	126.0	2	154	149	282	ND
	09/01	1180	671	80.0	28.0	125.0	2	149	142	271	ND
	10/01	1180	678	81.0	28.0	132.0	2	161	156	281	ND
	02/02	1170	685	80.0	28.0	134.0	2.8	143	144	279	ND
	04/02	1200	711	87.0	31.0	127.0	2.3	150	204	235	ND
	07/02	1180	730	83.0	29.0	130.0	2.5	158	151	230	ND
	10/02	1180	649	78.0	27.0	115.0	2.1	135	138	214	ND
	01/03	1210	740	—	—	129.0	2.2	145	154	225	ND
	02/03	—	—	—	30.0	—	—	—	—	—	—
	04/03	1200	681	79.0	27.0	128.0	2.5	150	152	215	ND
	10/03	1160	647	80.0	27.0	136.0	3	152	156	216	0
	04/04	1140	640	66.0	24.0	117.0	3	147	133	215	0
	07/04	1180	657	68.0	24.0	99.0	4	140	114	245	0
10S/5W-23K3	06/99	1150	700	75.0	27.0	106.0	2.2	163	155	317	ND
(Bldg 330923	08/99	1170	722	79.0	28.0	114.0	3	120	140	293	ND
	10/99	1170	723	78.0	28.0	140.0	3	120	140	293	ND
	02/00	1120	712	83.0	30.0	117.0	3	120	157	293	ND
	02/01	1240	758	85.0	61.0	136.0	3	167	152	305	ND
	04/01	1220	726	85.0	61.0	135.0	3	162	154	293	ND
	09/01	1240	682	81.0	29.0	132.0	3	162	144	281	ND
	10/01	1330	746	87.0	32.0	134.0	3	166	156	293	ND
	02/02	1190	720	83.0	29.0	140.0	3.5	150	155	280	ND
	04/02	1210	691	82.0	29.0	127.0	2.7	145	142	231	ND
	07/02	1230	738	81.0	29.0	134.0	3.1	167	151	240	ND
	10/02	1270	716	85.0	30.0	137.0	2.9	—	182	221	ND
	01/03	1340	626	—	—	141.0	2.6	—	185	252	ND
	02/03	—	—	100.0	35.0	—	—	—	—	—	—
	04/03	1350	733	—	—	—	2.6	—	171	—	ND
	05/03	—	—	85.0	30.0	129.0	—	—	—	225	—
	10/03	867	800	84.0	30.0	141.0	3	160	173	224	0
	02/04	1250	698	83.0	29.0	120.0	4	154	172	233	0
	04/04	1240	706	76.0	28.0	121.0	4	153	170	220	0
	07/04	1040	729	84.0	30.0	99.0	5	158	169	240	0

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C3	09/01	1410	804	101.0	38.0	138.0	3	173	175	296	ND
(Bldg 2202	10/01	1370	814	104.0	38.0	131.0	3	199	198	317	ND
	02/02	1380	834	99.0	36.0	128.0	3	172	183	318	ND
	04/02	1370	808	104.0	39.0	124.0	3.2	180	184	258	ND
	07/02	1450	829	187.0	37.0	137.0	3.3	187	193	260	ND
	10/02	1400	793	98.0		ND	3.4	179	195	248	ND
	11/02			98.0	36.0	---	---	---	---	---	---
	12/02	---	---	---	---	---	---	---	---	---	ND
	01/03	1300	608	---	---	144.0	2	161	180	235	ND
	02/03	---	---	94.0	33.0	---	---	---	---	---	---
	04/03	1290	759	94.0	32.0	137.0	3.1	162	198	230	ND

ND - None Detected

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

APPENDIX E

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS CALENDAR YEAR 2004

AUGUST 2005

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

JANUARY 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /2 cfs	Climatic Credits Earned /2 AF	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /3 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	8.9	8.9				8.0	15.9	5.0	9.9	1.5	3.0	0.0	0.0	2099.3
2	9.7	9.7				8.0	15.8	5.0	9.8	1.5	3.0	0.0	0.0	2102.3
3	11.0	11.0				7.9	15.7	4.9	9.7	1.5	3.0	0.0	0.0	2105.3
4	9.0	9.0				7.9	15.7	4.9	9.7	1.5	3.0	0.0	0.0	2108.2
5	8.8	8.8				7.9	15.7	4.9	9.7	1.5	3.0	0.0	0.0	2111.2
6	8.7	8.7				7.8	15.5	4.8	9.5	1.5	3.0	0.0	0.0	2114.2
7	8.4	8.8				7.7	15.3	4.7	9.3	1.5	3.0	0.0	0.0	2117.2
8	8.2	8.4				7.7	15.2	4.7	9.2	1.5	3.0	0.0	0.0	2120.1
9	8.2	8.2				7.7	15.3	4.7	9.3	1.5	3.0	0.0	0.0	2123.1
10	8.1	8.2				7.7	15.3	4.7	9.3	1.5	3.0	0.0	0.0	2126.1
11	8.2	8.2	9.0	8.4	0.6	7.8	15.5	4.8	9.5	1.5	3.0	0.0	0.0	2129.1
12	8.3	8.3	8.9	8.4	0.5	7.7	15.3	4.7	9.3	1.5	3.0	0.0	0.0	2132.0
13	8.6	8.6	8.8	8.4	0.4	7.8	15.4	4.8	9.4	1.5	3.0	0.0	0.0	2135.0
14	8.6	8.6	8.5	8.4	0.1	7.8	15.5	4.8	9.5	1.5	3.0	0.0	0.0	2138.0
15	9.2	9.2	8.5	8.4	0.1	7.8	15.5	4.8	9.5	1.5	3.0	0.0	0.0	2141.0
16	9.0	9.0	8.5	8.4	0.1	7.8	15.4	4.8	9.4	1.5	3.0	0.0	0.0	2143.9
17	8.9	8.9	8.6	8.4	0.2	7.8	15.4	4.8	9.4	1.5	3.0	0.0	0.0	2146.9
18	8.7	8.7	8.6	8.4	0.2	7.7	15.3	4.7	9.3	1.5	3.0	0.0	0.0	2149.9
19	8.6	8.6	8.6	8.4	0.2	7.6	15.1	4.6	9.1	1.5	3.0	0.0	0.0	2152.9
20	8.5	8.5	8.6	8.4	0.2	7.4	14.7	4.4	8.7	1.5	3.0	0.0	0.0	2155.8
21	7.9	7.9	6.7	8.4	0.3	7.0	13.8	4.0	7.8	1.5	3.0	0.0	0.0	2158.8
22	7.3	7.3	8.6	7.1	1.5	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2161.8
23	7.6	7.6	8.5	7.1	1.4	6.5	12.8	3.5	6.8	1.5	3.0	0.0	0.0	2164.8
24	7.7	7.6	8.4	7.1	1.3	6.5	12.8	3.5	6.8	1.5	3.0	0.0	0.0	2167.7
25	7.6	7.6	8.3	7.1	1.2	6.5	12.8	3.5	6.8	1.5	3.0	0.0	0.0	2170.7
26	7.4	7.4	8.2	7.1	1.1	6.4	12.7	3.4	6.7	1.5	3.0	0.0	0.0	2173.7
27	7.3	7.4	8.0	7.1	0.9	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2176.7
28	7.2	7.2	7.9	7.1	0.8	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2179.6
29	7.1	7.1	7.7	7.1	0.6	8.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2182.6
30	7.1	7.1	7.6	7.1	0.5	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2185.6
31	7.1	7.1	7.4	7.1	0.3	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2188.6
TOTAL SFD	256.9	257.6	175.8	163.4	12.4	226.4		133.4		46.5		0.0		
TOTAL AF	509.6	510.9	348.7	324.1	24.6	449.0	449.0		264.5		92.2		0.0	

1 - Required flow for Jan 1 - 21 equals 11.5 cfs less 3.1 cfs Cap Credits from 2003; for Jan 22 - 31 required flow equals 11.5 cfs less 4.4 cfs Cap Credits from 2003
2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3 - Art. 17 - January - April Camp Pendleton rights to groundwater equal the Flow Indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

FEBRUARY 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /2 cfs	Climatic Credits Earned /2 AF	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /3 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	12.0	12.0	7.3	7.1	0.2	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2191.5
2	7.8	7.8	7.8	7.1	0.7	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2194.5
3	74.0	74.0	7.8	7.1	0.7	2.5	5.0	0.0	0.0	1.5	3.0	0.0	0.0	2197.5
4	5.8	5.8	14.5	7.1	7.4	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2200.5
5	3.6	3.6	15.2	7.1	8.1	1.9	3.8	0.0	0.0	1.5	3.0	0.0	0.0	2203.4
6	6.6	6.6	13.9	7.1	6.8	5.9	11.7	2.9	5.7	1.5	3.0	0.0	0.0	2206.4
7	6.6	6.6	13.8	7.1	6.7	5.9	11.7	2.9	5.7	1.5	3.0	0.0	0.0	2209.4
8	6.6	6.6	13.8	7.1	6.7	5.9	11.7	2.9	5.7	1.5	3.0	0.0	0.0	2212.4
9	6.6	6.6	13.7	7.1	6.8	5.9	11.7	2.9	5.7	1.5	3.0	0.0	0.0	2215.3
10	6.6	6.6	13.7	7.1	6.8	5.9	11.8	2.9	5.8	1.5	3.0	0.0	0.0	2218.3
11	5.5	5.5	13.6	7.1	6.5	4.9	9.8	1.9	3.8	1.5	3.0	0.0	0.0	2221.3
12	7.4	7.4	13.0	7.1	5.9	6.7	13.3	3.7	7.3	1.5	3.0	0.0	0.0	2224.3
13	7.3	7.3	12.9	7.1	5.8	6.7	13.2	3.7	7.2	1.5	3.0	0.0	0.0	2227.2
14	7.2	7.2	6.3	7.1	-0.8	6.7	13.2	3.7	7.2	1.5	3.0	0.0	0.0	2230.2
15	7.2	7.2	8.4	7.1	-0.7	6.7	13.2	3.7	7.2	1.5	3.0	0.0	0.0	2233.2
16	7.3	7.3	8.8	7.1	-0.3	6.7	13.3	3.7	7.3	1.5	3.0	0.0	0.0	2236.2
17	7.3	7.3	6.8	7.1	-0.3	6.7	13.2	3.7	7.2	1.5	3.0	0.0	0.0	2239.1
19	6.0	6.0	6.9	7.1	-0.2	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	2242.1
19	13.0	13.0	6.8	7.1	-0.3	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2245.1
20	1.4	1.4	7.5	7.1	0.4	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2248.1
21	0.9	0.9	7.0	7.1	-0.1	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2251.0
22	399.0	399.0	6.5	7.1	-0.6	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2254.0
23	138.0	138.0	45.7	7.1	38.6	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2257.0
24	28.0	28.0	58.7	7.1	51.6	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2260.0
25	6.1	6.1	60.8	7.1	53.7	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2262.9
26	791.0	791.0	60.7	7.1	53.8	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2265.9
27	70.0	70.0	139.1	7.1	132.0	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2266.9
28	17.0	17.0	145.3	7.1	138.2	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2271.9
29	5.1	5.1	148.4	7.1	139.3	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2274.8
30	—	—	—		—	—	—	—	—	—	—	—	—	—
31	—	—	—		—	—	—	—	—	—	—	—	—	—
TOTAL SFD	1660.9	1660.9	878.8	205.9	672.9	94.7		45.2		43.5		0.0		
TOTAL AF	3294.3	3294.3	1743.0	408.4	1334.6	187.8	187.8		89.7		88.3		0.0	

1 - Required flow equals 11.5 cfs less 4.4 cfs Cap Credits from 2003
2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3 - Art. 17 - January - April Camp Pendleton rights to groundwater equal the Flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less then 3.0 cfs.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

MARCH 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /2 cfs	Climatic Credits Earned /2 AF	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /3 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	2.5	2.5	146.4	7.1	139.3	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2277.8
2	73.0	73.0	145.4	7.1	138.3	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2280.8
3	26.0	27.7	152.5	7.1	145.4	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2283.8
4	7.4	7.4	155.2	7.1	148.1	0.0	0.0	0.0	0.0	1.5	3.0	0.0	0.0	2286.7
5	6.6	6.6	116.1	7.1	109.0	3.7	7.3	0.7	1.3	1.5	3.0	0.0	0.0	2289.7
6	8.0	7.9	102.9	7.1	95.8	5.8	11.6	2.6	5.6	1.5	3.0	0.0	0.0	2292.7
7	7.3	7.3	100.9	7.1	93.8	5.9	11.7	2.9	5.7	1.5	3.0	0.0	0.0	2295.7
8	7.4	7.4	101.0	7.1	93.9	6.2	12.3	3.2	6.3	1.5	3.0	0.0	0.0	2298.6
9	7.7	7.7	22.7	7.1	15.6	6.6	13.1	3.6	7.1	1.5	3.0	0.0	0.0	2301.6
10	7.2	7.4	16.5	7.1	9.4	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2304.6
11	7.1	7.1	15.5	7.1	8.4	6.1	12.1	3.1	6.1	1.5	3.0	0.0	0.0	2307.6
12	7.1	7.1	16.0	7.1	8.9	6.1	12.1	3.1	6.1	1.5	3.0	0.0	0.0	2310.5
13	7.1	7.1	9.4	7.1	2.3	6.1	12.1	3.1	6.1	1.5	3.0	0.0	0.0	2313.5
14	7.1	7.1	7.3	7.1	0.2	6.1	12.1	3.1	6.1	1.5	3.0	0.0	0.0	2316.5
15	7.2	7.2	7.3	7.1	0.2	6.1	12.0	3.1	6.0	1.5	3.0	0.0	0.0	2319.5
16	7.2	7.2	7.3	7.1	0.2	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2322.4
17	7.2	7.2	7.3	7.1	0.2	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2325.4
18	7.6	7.6	7.3	7.1	0.2	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2328.4
19	8.1	8.1	7.3	7.1	0.2	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2331.4
20	7.8	7.8	7.3	7.1	0.2	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2334.3
21	7.8	7.8	7.4	7.1	0.3	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2337.3
22	7.3	7.3	7.4	7.1	0.3	5.9	11.7	2.9	5.7	1.5	3.0	0.0	0.0	2340.3
23	7.1	7.1	7.4	7.1	0.3	5.7	11.4	2.7	5.4	1.5	3.0	0.0	0.0	2343.3
24	7.2	7.2	7.4	7.1	0.3	5.7	11.4	2.7	5.4	1.5	3.0	0.0	0.0	2346.2
25	6.9	6.9	7.5	7.1	0.4	5.7	11.4	2.7	5.4	1.5	3.0	0.0	0.0	2349.2
26	7.3	7.3	7.4	7.1	0.3	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2352.2
27	7.5	7.5	7.4	7.1	0.3	6.4	12.7	3.4	6.7	1.5	3.0	0.0	0.0	2355.2
28	8.6	8.6	7.5	7.1	0.4	6.4	12.7	3.4	6.7	1.5	3.0	0.0	0.0	2358.1
29	7.2	7.2	7.6	7.1	0.5	6.4	12.6	3.4	6.6	1.5	3.0	0.0	0.0	2361.1
30	7.3	7.3	7.5	7.1	0.4	6.3	12.5	3.3	6.5	1.5	3.0	0.0	0.0	2364.1
31	7.0	7.0	7.4	7.1	0.3	6.3	12.5	3.3	6.5	1.5	3.0	0.0	0.0	2367.1
TOTAL SFD	307.8	309.6	1233.3	220.1	1013.2	162.8		81.8		46.5		0.0		
TOTAL AF	610.5	614.1	2446.3	436.6	2009.7	322.9	322.9		162.2		92.2		0.0	

1 - Required flow equals 11.5 cfs less 4.4 cfs Cap Credits from 2003
2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3 - Art. 17 - January - April Camp Pendleton rights to groundwater equal the Flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

APRIL 2004 - CRITICALLY DRY YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Provisional Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement /1	Moving Average Less Required Flow	WR-34 Make-Up Discharge MWD	WR-34 Make-Up Discharge MWD	Climatic Credits Earned /2	Climatic Credits Earned /2	Input /3	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	6.6	8.6	7.3	7.1	0.2	6.3	12.4	3.3	6.4	1.5	3.0	0.0	0.0	2370.0
2	16.0	16.0	7.5	7.1	0.4	6.4	12.7	3.4	6.7	1.5	3.0	0.0	0.0	2373.0
3	9.4	9.4	6.4	7.1	1.3	6.4	12.7	3.4	6.7	1.5	3.0	0.0	0.0	2376.0
4	8.8	8.8	8.8	7.1	1.5	6.3	12.5	3.3	6.5	1.5	3.0	0.0	0.0	2379.0
5	8.6	8.6	8.8	7.1	1.7	6.4	12.7	3.4	6.7	1.5	3.0	0.0	0.0	2382.0
6	8.1	8.1	8.9	7.1	1.8	6.6	13.0	3.6	7.0	1.5	3.0	0.0	0.0	2384.9
7	7.4	7.4	9.0	7.1	1.9	6.0	11.9	3.0	5.9	1.5	3.0	0.0	0.0	2387.9
8	7.2	7.2	8.8	7.1	1.7	5.7	11.3	2.7	5.3	1.5	3.0	0.0	0.0	2390.9
9	7.2	7.2	8.6	7.1	1.7	5.8	11.1	2.6	5.1	1.5	3.0	0.0	0.0	2393.9
10	7.1	7.1	8.8	7.1	1.7	5.8	11.5	2.8	5.5	1.5	3.0	0.0	0.0	2396.8
11	7.0	7.0	8.8	7.1	1.7	5.8	11.5	2.8	5.5	1.5	3.0	0.0	0.0	2399.8
12	7.6	7.6	8.7	7.1	1.6	5.7	11.4	2.7	5.4	1.5	3.0	0.0	0.0	2402.8
13	7.3	7.3	7.8	7.1	0.7	5.7	11.3	2.7	5.3	1.5	3.0	0.0	0.0	2405.8
14	6.7	6.7	7.6	7.1	0.5	4.9	9.8	1.9	3.8	1.5	3.0	0.0	0.0	2408.7
15	7.7	7.7	7.4	7.1	0.3	6.1	12.1	3.1	6.1	1.5	3.0	0.0	0.0	2411.7
16	7.5	7.5	7.3	7.1	0.2	6.1	12.0	3.1	6.0	1.5	3.0	0.0	0.0	2414.7
17	10.0	10.0	7.3	7.1	0.2	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2417.7
18	12.0	12.0	7.5	7.1	0.4	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2420.6
19	8.0	8.0	8.0	7.1	0.9	6.2	12.2	3.2	6.2	1.5	3.0	0.0	0.0	2423.6
20	7.7	7.7	8.1	7.1	1.0	6.1	12.0	3.1	6.0	1.5	3.0	0.0	0.0	2426.6
21	5.6	5.6	8.2	7.1	1.1	4.0	7.9	1.0	1.9	1.5	3.0	0.0	0.0	2429.6
22	5.4	5.4	8.0	7.1	0.9	4.0	7.9	1.0	1.9	1.5	3.0	0.0	0.0	2432.5
23	6.6	6.6	7.8	7.1	0.7	5.3	10.5	2.3	4.5	1.5	3.0	0.0	0.0	2435.5
24	6.2	6.2	7.7	7.1	0.6	4.9	9.8	1.9	3.8	1.5	3.0	0.0	0.0	2438.5
25	6.0	6.0	7.7	7.1	0.6	4.9	9.8	1.9	3.8	1.5	3.0	0.0	0.0	2441.5
26	7.0	7.0	7.5	7.1	0.4	5.6	11.2	2.8	5.2	1.5	3.0	0.0	0.0	2444.4
27	7.4	7.4	7.5	7.1	0.4	5.9	11.6	2.9	5.8	1.5	3.0	0.0	0.0	2447.4
28	7.6	7.6	7.2	7.1	0.1	5.9	11.8	2.9	5.8	1.5	3.0	0.0	0.0	2450.4
29	7.2	7.2	6.8	7.1	-0.4	5.3	10.6	2.3	4.6	1.5	3.0	0.0	0.0	2453.4
30	5.8	5.6	6.7	7.1	-0.4	5.0	9.9	2.0	3.9	1.5	3.0	0.0	0.0	2456.3
31	---	---	---		---	---	---	---	---	---	---	---	---	---
TOTAL SFD	234.5	234.5	238.4	213.0	25.4	171.3		81.3		45.0		0.0		
TOTAL AF	465.1	465.1	472.9	422.5	50.4	339.7	339.7		161.2		89.3		0.0	

1 - Required flow equals 11.5 cfs less 4.4 cfs Cap Credits from 2003
2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3 - Art. 17 - January - April Camp Pendleton rights to groundwater equal the Flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

MAY 2004 -CRITICALLY DRY YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
	USGS Provisional Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement	Moving Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credits Earned /1		Input /2	Input	Output	Output	Cumulative GW Account Balance
DAY	cfs	cfs	cfs	cfs	cfs	MWD cfs	MWD AF	cfs	AF	cfs	AF	cfs	AF	AF
1	3.5	3.2				2.4	4.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.3	2.9				2.4	4.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	4.0	3.8				3.1	6.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	4.5	3.9				3.4	6.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	4.3	3.8				3.5	6.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	4.3	3.8				3.5	7.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	4.5	4.0				3.6	7.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	4.8	4.2				3.7	7.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	4.6	4.0				3.7	7.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	4.6	4.1				3.7	7.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	4.7	4.2	3.8	3.8	0.0	3.8	7.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	4.6	4.1	3.9	3.8	0.1	3.7	7.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	4.5	4.0	4.0	3.8	0.2	3.6	7.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	4.5	4.0	4.0	3.8	0.2	3.4	6.8	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
15	4.6	4.1	4.0	3.8	0.2	3.7	7.4	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
16	4.6	4.0	4.1	3.8	0.3	3.8	7.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	4.4	3.9	4.1	3.8	0.3	3.4	6.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	4.5	3.9	4.1	3.8	0.3	3.3	6.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	4.4	3.9	4.0	3.8	0.2	3.2	6.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	4.4	3.8	4.0	3.8	0.2	3.2	6.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	4.2	3.7	4.0	3.8	0.2	3.2	8.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	4.2	3.7	3.9	3.8	0.1	3.2	6.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	4.3	3.8	3.9	3.8	0.1	3.2	6.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	4.4	3.8	3.9	3.8	0.1	3.2	6.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	4.3	3.6	3.9	3.8	0.1	3.2	6.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	4.2	3.7	3.8	3.8	0.0	3.2	8.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	4.5	4.0	3.8	3.8	0.0	3.3	8.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	4.4	3.9	3.8	3.8	0.0	3.4	6.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	4.4	3.9	3.8	3.8	0.0	3.4	6.7	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
30	4.3	3.8	3.8	3.8	0.0	3.4	6.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	3.9	3.4	3.8	3.8	0.0	3.1	6.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
TOTAL SFD	134.7	118.9	62.3	79.8	2.5	103.7		0.0		0.0		0.0		
TOTAL AF	267.2	235.8	163.2	158.3	4.9	205.6	205.6		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

JUNE 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /1 cfs	Climatic Credits Earned /1 AF	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /2 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	3.6	3.2				2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.8	3.3				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	3.7	3.2				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.6	3.2				3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	3.8	3.4				3.2	6.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	4.0	3.5				3.3	6.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	4.0	3.6				3.1	6.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	3.7	3.3				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	4.0	4.0				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	3.8	3.8				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.7	3.7	3.5	3.3	0.2	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.5	3.5	3.5	3.3	0.2	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.4	3.4	3.5	3.3	0.2	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.7	3.7	3.5	3.3	0.2	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	3.7	3.7	3.6	3.3	0.3	2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
16	3.5	3.5	3.6	3.3	0.3	2.2	4.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	3.6	3.6	3.6	3.3	0.3	2.0	4.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	3.2	3.2	3.6	3.3	0.3	2.0	3.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	3.1	3.1	3.6	3.3	0.3	2.0	3.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	3.0	3.0	3.5	3.3	0.2	2.0	3.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	3.3	3.3	3.4	3.3	0.1	2.0	3.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	2.9	2.9	3.4	3.3	0.1	2.0	3.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	3.4	3.4	3.3	3.3	0.0	2.4	4.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	3.5	3.5	3.3	3.3	0.0	2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	3.5	3.5	3.3	3.3	0.0	2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	3.4	3.4	3.3	3.3	0.0	2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	3.0	3.0	3.3	3.3	0.0	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	4.0	4.0	3.2	3.3	-0.1	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	3.2	3.2	3.3	3.3	0.0	2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	2.8	3.1	3.3	3.3	0.0	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	—	—	—		—	—	—	—	—	—	—	—	—	—
TOTAL SFD	105.4	102.2	68.9	66.0	2.9	78.0		0.0		0.0		0.0		
TOTAL AF	209.1	202.7	136.6	130.9	5.7	154.8	154.8		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

JULY 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /1 cfs	Climatic Credits Earned /1 AF	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /2 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	3.4	3.4				2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.0	3.0				2.4	4.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	3.0	3.0				2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.3	3.3				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	3.3	3.3				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	3.1	3.1				2.4	4.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	2.5	2.5				2.2	4.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	3.1	3.1				2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	2.9	2.9				2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	3.0	3.0				2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.1	3.1	3.1	3.0	0.1	2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.0	3.0	3.0	3.0	0.0	2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.0	3.0	3.0	3.0	0.0	2.8	5.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.3	3.3	3.0	3.0	0.0	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	2.9	2.9	3.0	3.0	0.0	2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
16	2.9	2.9	3.0	3.0	0.0	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	3.1	3.1	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	3.0	3.2	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	3.0	3.2	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	3.1	3.3	3.1	3.0	0.1	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	2.9	3.1	3.1	3.0	0.1	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	3.0	3.1	3.1	3.0	0.1	2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	2.9	3.0	3.1	3.0	0.1	2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	2.8	3.0	3.1	3.0	0.1	2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	2.7	2.9	3.1	3.0	0.1	2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	2.8	3.0	3.1	3.0	0.1	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	2.9	3.0	3.1	3.0	0.1	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	2.8	3.0	3.1	3.0	0.1	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	2.8	3.0	3.1	3.0	0.1	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	2.9	3.0	3.0	3.0	0.0	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	2.9	3.1	3.0	3.0	0.0	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
TOTAL SFD	92.4	94.8	64.1	63.0	1.1	84.0		0.0		0.0		0.0		
TOTAL AF	183.3	188.0	127.2	125.0	2.3	166.7	166.7		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

AUGUST 2004 - CRITICALLY DRY YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Provisional Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement	Moving Average Less Required Flow	WR-34 Make-Up Discharge MWD	WR-34 Make-Up Discharge MWD	Climatic Credits Earned /1	Climatic Credits Earned /1	Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	3.0	3.0				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.1	3.1				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	3.1	3.1				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.0	3.0				2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	3.0	3.0				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	3.0	3.0				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	3.1	2.9				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	3.2	3.0				3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	3.2	3.0				3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	3.4	3.2				3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.2	3.1	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.1	3.0	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.1	2.9	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.2	3.0	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	3.2	3.0	3.0	3.0	0.0	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
16	3.1	2.9	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	3.3	3.1	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	3.2	3.0	3.0	3.0	0.0	3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
TOTAL SFD	98.1	93.3	63.1	63.0	0.1	92.7		0.0		0.0		0.0		
TOTAL AF	194.6	185.1	125.2	125.0	0.2	183.9	183.9		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

SEPTEMBER 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /1 cfs	Climatic Credits Earned /1 AF	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /2 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	3.2	3.0				3.1	6.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.3	3.1				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	3.2	3.0				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.2	3.0				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	3.2	3.0				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	3.1	2.9				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	3.2	3.0				3.1	6.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	3.2	3.0				3.1	6.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	3.2	3.2				3.1	6.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	3.1	3.1				3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.1	3.1	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.0	3.0	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.0	3.0	3.0	3.0	0.0	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
16	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	3.0	3.0	3.0	3.0	0.0	2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	—		—		—	—	—	—	—	—	—	—	—	—
TOTAL SFD	92.0	90.4	80.3	60.0	0.3	89.4		0.0		0.0		0.0		
TOTAL AF	182.5	179.3	119.7	119.0	0.7	177.4	177.4		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

Change required flows

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

OCTOBER 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement	Moving Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credits Earned /1		CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
										Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	MWD cfs	MWD AF	cfs	AF	cfs	AF	cfs	AF	AF
1	3.1	3.1				2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.1	3.1				2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	3.3	3.3				2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.4	3.4				2.9	5.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	3.1	3.1				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	3.1	3.0				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	3.1	3.0				2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	3.0	3.0				2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	3.0	3.0				2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	3.0	3.0				2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.0	3.0	3.1	3.0	0.1	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.0	3.0	3.1	3.0	0.1	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.0	3.0	3.1	3.0	0.1	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.0	3.0	3.1	3.0	0.0	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	3.0	3.0	3.0	3.0	0.0	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
16	3.0	3.0	3.0	3.0	0.0	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	13.0	13.0	3.0	3.0	0.0	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	24.0	24.0	4.0	3.0	1.0	0.8	1.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	45.0	48.0	6.1	3.0	3.1	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	1270.0	1410.0	10.6	3.0	7.6	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	160.0	177.0	151.3	3.0	148.3	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	24.0	24.0	168.7	3.0	165.7	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	4.5	4.5	170.8	3.0	167.8	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	3.0	3.0	171.0	3.0	168.0	1.7	3.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	3.0	3.0	171.0	3.0	168.0	2.2	4.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	3.0	3.0	171.0	3.0	168.0	2.4	4.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	1710.0	1890.0	171.0	3.0	168.0	0.6	1.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	428.0	482.0	358.7	3.0	355.7	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	87.0	95.0	404.5	3.0	401.5	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	27.0	28.0	409.2	3.0	406.2	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	7.5	7.5	271.0	3.0	268.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
TOTAL SFD	3858.2	4261.0	2659.8	63.0	2596.8	56.1		0.0		0.0		0.0		
TOTAL AF	7652.6	8451.6	5275.7	125.0	5150.7	111.2	111.2		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

NOVEMBER 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement	Moving Average Less Required Flow	WR-34 Make-Up Discharge *		Climatic Credits Earned /1		CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
										Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	MWD cfs	MWD AF	cfs	AF	cfs	AF	AF	cfs	AF
1	4.3	4.3				0.4	0.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	2.8	2.8				1.5	3.0	N/A	N/A	0.0	0.0	0.0	0.0	2458.3
3	2.9	2.9				2.1	4.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.1	3.1				2.4	4.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	3.0	3.0				2.4	4.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	3.0	3.0				2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	2.9	2.9				2.5	4.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	6.4	6.4				2.0	4.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	2.2	2.2				2.0	4.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	3.1	3.1				2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.1	3.1	3.4	3.0	0.4	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.1	3.1	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.0	3.0	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.0	3.0	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	3.0	3.0	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
16	3.0	3.0	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	3.0	3.0	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	3.3	3.3	3.3	3.0	0.3	2.5	5.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	2.9	2.9	3.0	3.0	0.0	2.6	5.2	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	3.0	3.0	3.1	3.0	0.0	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	400.0	425.0	3.0	3.0	0.0	1.2	2.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	91.0	93.0	45.2	3.0	42.2	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	27.0	27.0	54.2	3.0	51.2	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	6.7	6.7	56.6	3.0	53.6	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	2.6	2.6	57.0	3.0	54.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	2.4	2.4	57.0	3.0	54.0	1.2	2.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	4.4	4.4	56.9	3.0	53.9	2.0	3.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	27.0	27.0	57.0	3.0	54.0	1.0	2.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	2.0	2.0	59.4	3.0	56.4	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	1.6	1.6	59.3	3.0	56.3	0.9	1.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	---	---	---		---	---	---	N/A	N/A	---	---	---	---	---
TOTAL SFD	628.8	655.6	538.0	60.0	476.0	52.0		0.0		0.0		0.0		
TOTAL AF	1247.2	1300.8	1067.2	119.0	946.2	103.1	103.1		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year
* - WR-34 shut down between Novermber 7 and November 18, 2004; Make-up water provided by Murrieta Creek potable system discharge

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

DECEMBER 2004 - CRITICALLY DRY YEAR

DAY	USGS Provisional Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement /1	Moving Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credits Earned /1		CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
						MWD	MWD			Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	3.2	3.2				2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
2	3.4	3.4				2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
3	3.4	3.4				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
4	3.3	3.3				2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
5	48.0	50.0				1.6	3.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
6	76.0	78.0				0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
7	15.0	15.0				0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
8	13.0	13.0				0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
9	6.6	6.6				0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
10	2.8	2.8				1.2	2.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
11	3.4	3.4	17.9	3.3	14.6	2.6	5.1	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
12	3.5	3.5	17.9	3.3	14.8	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
13	3.3	3.3	17.9	3.3	14.6	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
14	3.3	3.3	17.9	3.3	14.6	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
15	3.4	3.4	17.9	3.3	14.6	2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
16	3.3	3.3	13.2	3.3	9.9	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
17	3.3	3.3	5.8	3.3	2.5	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
18	3.4	3.4	4.6	3.3	1.3	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
19	3.5	3.5	3.6	3.3	0.3	3.0	5.9	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
20	3.3	3.3	3.3	3.3	0.0	2.8	5.6	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
21	3.3	3.3	3.4	3.3	0.1	2.7	5.4	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
22	3.2	3.2	3.4	3.3	0.1	2.7	5.3	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
23	3.3	3.3	3.3	3.3	0.0	2.8	5.5	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
24	3.3	3.3	3.3	3.3	0.0	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
25	3.4	3.4	3.3	3.3	0.0	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
26	3.4	3.4	3.3	3.3	0.0	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
27	3.4	3.4	3.3	3.3	0.0	2.9	5.7	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
28	596.0	596.0	3.4	3.3	0.1	0.9	1.8	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
29	1970.0	1970.0	62.6	3.3	59.3	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
30	187.0	187.0	259.3	3.3	256.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
31	212.0	212.0	277.6	3.3	274.3	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	2456.3
TOTAL SFD	3196.7	3200.7	746.2	69.3	676.9	61.9				0.0				
TOTAL AF	6340.6	6348.5	1480.1	137.5	1342.6	122.8	122.8				0.0			

1 - Art. 7(b) not applicable for months of May through December
2 - Art. 17 - January - April Camp Pendleton rights to groundwater are not applicable in a Critically Dry Year

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2003-04

APPENDIX F

ANNUAL REPORT ISSUES SUBORDINATED DURING EFFECTIVE PERIOD OF THE COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

AUGUST 2005

APPENDIX F

SANTA MARGARITA RIVER WATERSHED

ANNUAL REPORT ISSUES SUBORDINATED DURING EFFECTIVE PERIOD OF THE COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

Introduction

Prior to implementation of the Cooperative Water Resources Management Agreement (CWRMA) entered into by Rancho California Water District (RCWD) and the United States on behalf of Camp Pendleton, there were each year contentions raised by Camp Pendleton with respect to various aspects of the Annual Watermaster Report. These contentions are settled so long as that agreement is in effect. Accordingly, there is no need to raise those particular issues or publish them in the main text of the annual report or in related correspondence.

However, the respective positions on these issues need to be preserved and protected from any finding of waiver, and there is a need to continue to collect related data in the event of need in the future.

Therefore, the applicable textual material in the previous annual reports and related comments and responses have been gathered here for preservation and maintenance of rights, with the understanding that the previous annual exchange of applicable contentions in the process of preparing the annual report is no longer necessary.

Issues Reserved

Section 3, Surface Water Availability and Use: In the absence of CWRMA implementation, Camp Pendleton disputes the method of calculation used in the annual report in Subsection 3.2 (Surface Water Diversions) and Table 3.3 (Surface Water Diversions to Storage) for presentation of the information regarding Vail Lake and further asserts its belief that the Vail Dam impoundment fails to comply with the 1940 Stipulated Judgment.

Section 4, Subsurface Water Availability and Use: In the absence of CWRMA implementation, and with respect to Figure 4.1 (Water Level Elevations – Windmill Well) and to Subsections 4.3 (Water Levels) and 4.4 (Groundwater Storage), Camp Pendleton is concerned about the apparent excessive pumping in the Upper Basin, and further asserts its belief that the lengthy and significant drawdown and concomitant loss in storage adversely affect the water supply for adjacent and downstream users holding senior water rights.

Section 7, Water Production and Use: First, in the absence of CWRMA implementation, and with regard to the local production figures shown in Table 7.1 (Water Production and Use), Camp Pendleton is concerned about the high level of groundwater production from the Upper Basin, a level that Camp Pendleton believes to be substantially greater than the safe yield.

Second, in the absence of CWRMA implementation, and with regard to Footnote 4 of Table 7.1 (distinction between RCWD pumping of older alluvium water and of Vail recovery water), Camp Pendleton has serious reservations as to the accounting system that is being used as well as the legal and technical bases upon which such system has been formulated.

Third, in the absence of CWRMA implementation, and as to the RCWD part of Subsection 7.2 (Water Purveyors), Camp Pendleton has serious reservations as to the accounting system that is being used as well as the legal and technical bases upon which such system has been formulated. These reservations include the following:

1. As to the "Vail Appropriation" part: *Representatives of the United States contend that under the 1940 Stipulated Judgment storage of water in Vail Lake is limited to Rancho California Water District's share of the flood waters of the Santa Margarita River system. However, to date, the parties have not agreed on a definition of "flood waters."*

2. As to the "Division of Local Water" part: *In 1995 well logs and geophysical logs of all Rancho California WD wells were reviewed by representatives of the United States and Rancho California WD to determine the depths of the younger alluvium. There was general agreement between the parties about the depth of the younger alluvium in production wells, except for ten wells shown on Table 7.7 of the 1994-95 report. The remaining disagreements relate to differences about the magnitude of the clay layer needed to define the base of the younger alluvium, the importance of neighboring well logs, and general concepts about overall geologic setting.*

Section 8, Unauthorized Water Use: In the absence of CWRMA implementation, and with respect to water use by RCWD, Camp Pendleton asserts the following:

1. Such use is in violation of the 1940 Stipulated Judgment by reason of, among other things, Vail Lake operations in excess of entitlement and pumping from both younger and older alluvium in excess of entitlement, which contentions RCWD disputes;

2. Rediversion and use of water impounded by Vail Dam are not in accord with terms of Permit 7032;

3. Unauthorized pumping is being done, including pumping from the younger alluvium outside of Pauba Valley without a permit and pumping from the older alluvium in violation of Court adjudications.

Section 9, Threats to Water Supply: In the absence of CWRMA implementation, and with respect to Subsection 9.3 (Potential Overdraft Conditions) and as noted in the foregoing comments to Sections 4 and 7, Camp Pendleton is seriously concerned regarding the apparent excessive pumping in the Upper Basin.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

Major Water Purveyors

Santa Margarita River Watershed Watermaster

Map Produced by:
Rancho California Water District
Planning and Capital Projects
Geographic Information Services
August 2004

1 inch equals 4 miles

0 0.5 1 2 3 4 Miles

N

Legend

- Santa Margarita River Watershed
- Indian Reservation
- Gaging Station
- Township and Range
- EMWD Sewer Service Area

Water Purveyors

- Camp Pendleton
- Eastern Municipal Water District
- Elsinore Valley Municipal Water District
- Fallbrook Public Utility District
- Murrieta County Water District
- Rancho California Water District
- Rainbow Municipal Water District
- Western Municipal Water District

RCWD Divisions

- Rancho California
- Santa Rosa

Note: The Western Municipal Water District Service Area also includes The Elsinore Valley Municipal Water District and portions of the Rancho California Water District and Murrieta County Water District. The Eastern Municipal Water District Service Area also includes portions of Rancho California Water District and Murrieta County Water District.