SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

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

CIVIL NO. 1247 - SD-T

CHARLES W. BINDER
WATERMASTER
P. O. BOX 631
FALLBROOK, CA. 92088
(760) 728-1028
FAX (760) 728-1990

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TABLE OF CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF FIGURES

APPENDICES

Appendix A - Production and Use Water Year 2005-06

Appendix B - Production and Use Water Years 1965-66 To 2005-06

Appendix C - Substantial Water Users 2005-06

Appendix D - Water Quality Data

MAP

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SECTION 1 - SUMMARY

Section 1 - A summary of the Santa Margarita River Watershed Annual Watermaster Report for the 2005-06 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 2005-06. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula, and the Santa Margarita River at Ysidora were 54%, 74% and 68% of their long-term averages respectively. Direct surface diversions to use totaled 901 acre feet compared with 509 acre feet in 2004-05. The total quantity of water in storage in the Watershed on September 30, 2006, was 847,962 acre feet, of which 30,796 acre feet were Santa Margarita River water and 817,166 acre feet were imported water.

Section 4 - Groundwater extractions were 43,252 acre feet compared to 41,303 acre feet in 2004-05. Water purveyors pumped 37,764 acre feet and 5,488 acre feet were pumped by other substantial users. Total annual local production including surface diversions for use for the period 1997-2006 is shown on Figure 1.1.

Section 5 - During 2005-06, 113,441 acre feet of water were imported and distributed in the Santa Margarita River Watershed. This compares with 90,085 acre feet in 2004-05 and represents a 26 percent increase. Net exports, including wastewater, were 19,542 acre feet, compared to 20,282 acre feet in 2005. Annual imports for the period 1997-2006 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 44,313.5 acre feet of active storage rights.

Figure 1.1

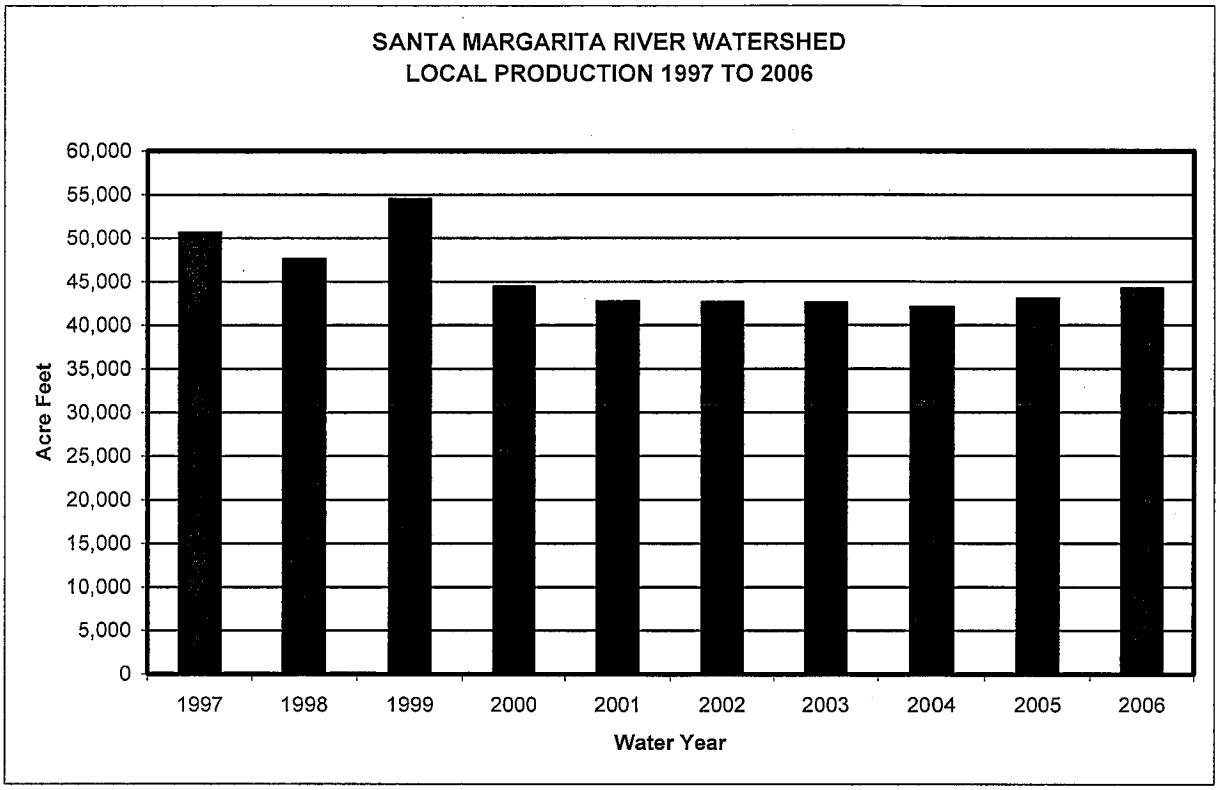
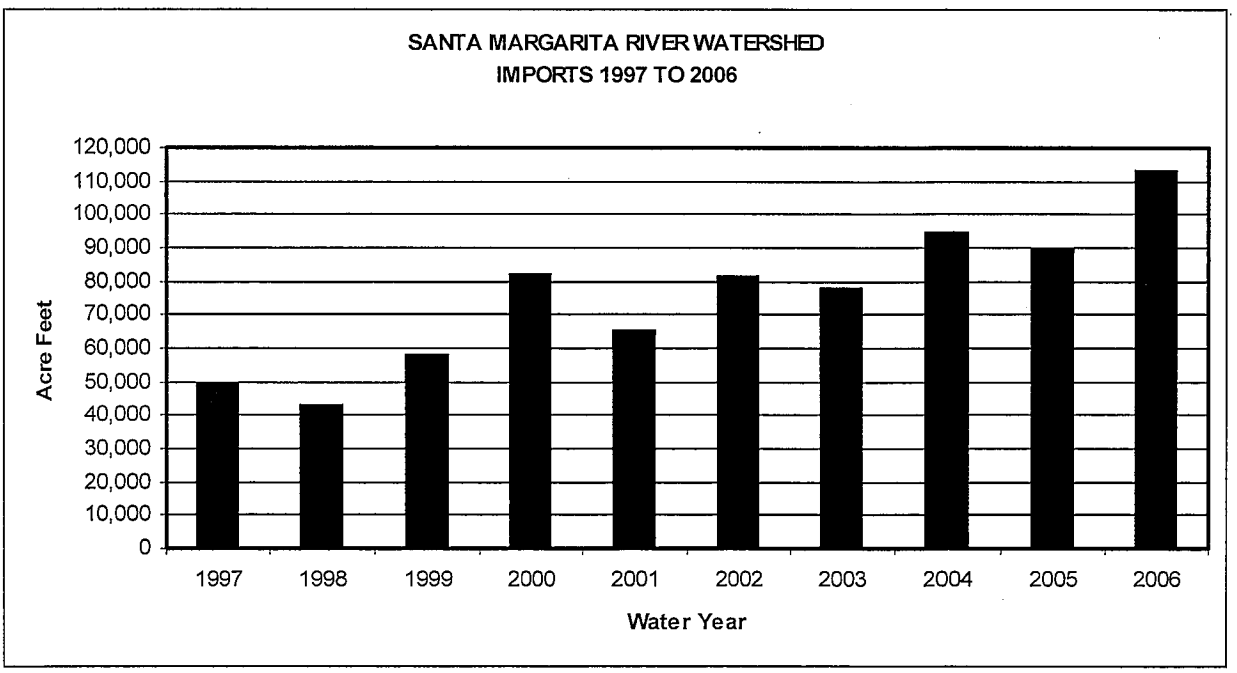


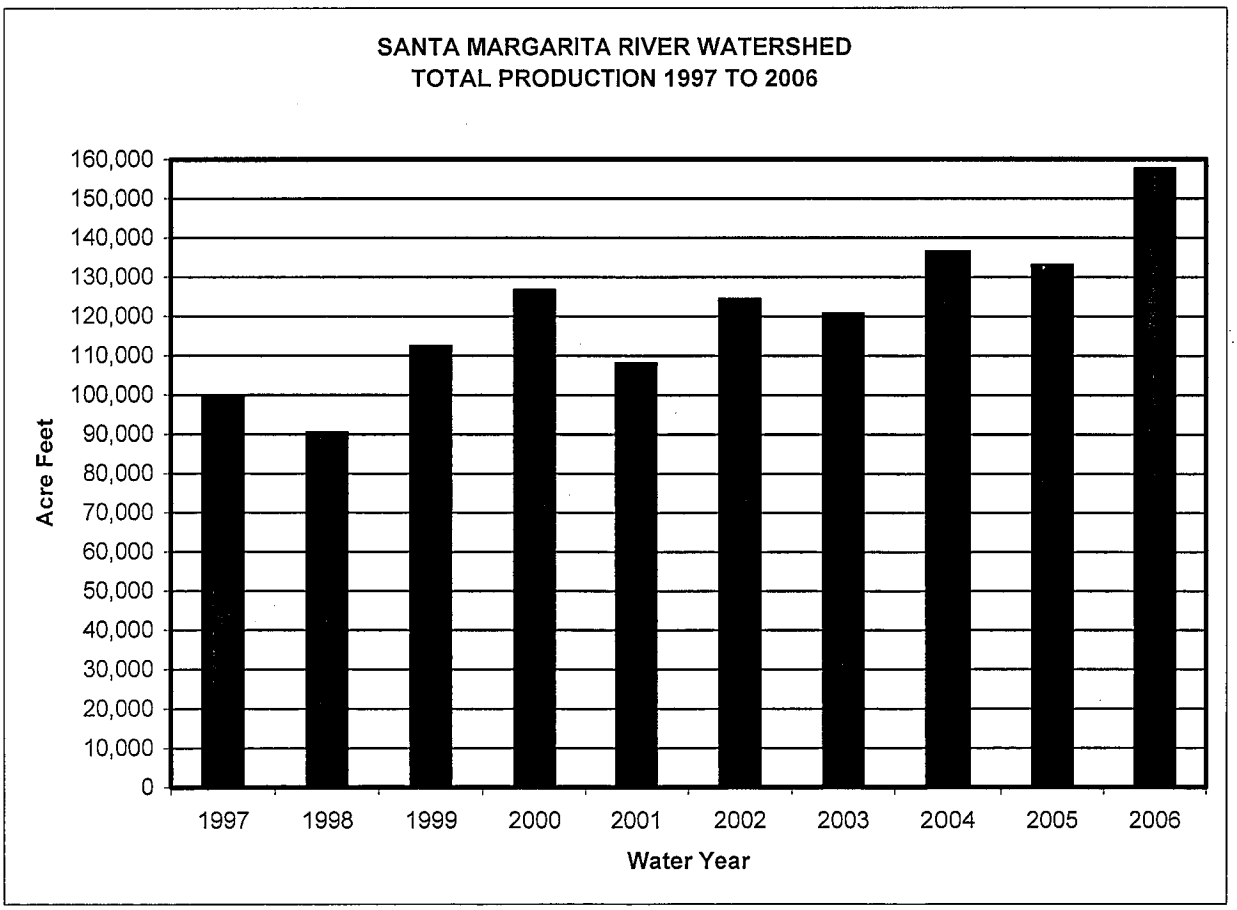
Figure 1.2



Section 7 - Total imported supplies plus local production totaled 157,700 acre feet compared to 132,662 reported in 2004-05. Of that quantity, 52,989 acre feet were used for agriculture; 11,011 acre feet were used for commercial purposes; and 71,693 acre feet were used for domestic purposes; 153 acre feet were discharged to Murrieta Creek; 4 acre feet were discharged to Temecula Creek; 4,766 acre feet were discharged by Rancho California WD during 2005-06 pursuant to the Cooperative Water Resources Management Agreement (CWRMA) (4,714 acre feet to the Santa Margarita River from MWD WR-34 and 52 acre feet to Murrieta Creek from the System River Meter); 3,943 acre feet of fresh water were exported by Camp Pendleton; and 6,163 acre feet were recharged by Rancho California WD to storage. The overall system loss was 6,978 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 1997-2006 is shown on Figure 1.3

Figure 1.3



Section 8 – Use of water from small storage ponds may be unauthorized. During 2004-05 the Cahuilla Band of Indians requested a moratorium on increased water use in the Anza/Cahuilla/Terwilliger Valley area. Camp Pendleton has taken the position that exportation of treated wastewater, the source of which is the native waters of the Santa Margarita River system, without an appropriative right for such exportation, is unauthorized use of water.

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 (USGS) monitored surface water quality at the Temecula gaging station on the Santa Margarita River. Total dissolved solids concentrations ranged from about 310 mg/l to about 1,000 mg/l.

Groundwater samples from wells were analyzed for water quality by Camp Pendleton, Western MWD - Murrieta Division, Rancho California WD, and the USGS (on Indian Reservations) during 2005-06. The two primary constituents of interest are nitrates and total dissolved solids. Two samples showed concentrations exceeding the drinking water standard for nitrates of 45 mg/l as nitrate for one well at Western MWD – Murrieta Division. The Basin Plan Objective for total dissolved solids of 750 mg/l was exceeded in seven of nine wells at Camp Pendleton; and in two of five wells at Western MWD – Murrieta Division.

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 2006 calendar year, Rancho California WD discharged 3,997 acre feet to the Santa Margarita River to meet flow requirements under the Agreement. There were no contributions to Camp Pendleton's groundwater account which remained full at 5,000 acre feet.

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

Section 13 - A total Watermaster budget of $518,000 is proposed for the 2007-08 Water Year. This budget includes $310,225 for the Watermaster Office and $207,775 for operation of gaging stations and groundwater monitoring by the USGS.

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 issued an Order appointing the 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 2005-06 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 2005-06 the USGS operated 13 stations under an agreement with the Watermaster. These include three stations where Riverside County Flood Control and Water Conservation District shares the local costs with the Watermaster. In addition to stream flows, the USGS also measures water elevation at Vail Lake.

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

Monthly flows for stations in Water Year 2005-06 are shown on Table 3.2. Those flows consist of USGS discharge determinations available at the time this report is published. Official USGS discharges for 2005-06 are published by the USGS at the following website: *http://waterdata.usgs.gov/ca/nwis/sw*

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 was published annually by the USGS in hard copy form through Water Year 2003-04. For subsequent years the gaging station descriptions can be found at the website provided above.

TABLE 3.1

SANTA MARGARITA RIVER WATERSHED

STREAM GAGING STATIONS

2005-06

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	13.8	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				2/51 •••••••••	•••••••••	77 ••••••••		9/89-9/90 •	4/02-2/03 •
Santa Margarita River Near DeLuz Station	11045000	705	USGS	10/24 - 9/26 ••								
Fallbrook Creek *3/* Near Fallbrook	11045300	6.97	USGS/ USMC					10/64 •••••	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 February 26, 1999 to September 27, 2001

TABLE 3.2

SANTA MARGARITA RIVER WATERSHED

MEASURED SURFACE WATER FLOW

2005-06

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 2005	YEARS OF RECORD THRU 2005
Temecula Creek Near Aguanga	131	61	80	111	156	180	390	716	143	58	49	58	51	2,053	5,850	48
Pechanga Creek Near Temecula [1/]	13.8	0	1	0	1	0	0	1	0	0	0	0	1	4	562	18
Warm Springs Creek Near Murrieta	55.4	25	0	9	131	219	210	359	15	0	0	0	0	968	3,420	18
Santa Gertrudis Creek Near Temecula	90.2	28	0	0	73	222	270	298	10	27	0	0	0	928	3,270	18
Murrieta Creek Near Murrieta [2/]	30	---	---	---	---	---	---	---	---	---	---	---	---	0 [3/]	4,430	8
Murrieta Creek At Temecula	222	130	2	3	857	1,390	1,320	1,770	23	6	11	3	2	5,517	10,180	81
Santa Margarita River Near Temecula	588	719	521	335	1,400	2,170	2,020	2,650	365	295	277	271	248	11,271	15,210 20,390	57 (1949-2005) 26 (1923-48)
Rainbow Creek Near Fallbrook	10.3	72	46	51	163	164	157	234	52	35	18	14	10	1,016	2,950	16
Sandia Creek Near Fallbrook	21.1	320	284	303	553	413	689	698	378	283	174	173	148	4,416	7,600	16
Santa Margarita River At FPUD Sump	620	1,090	819	596	1,940	2,220	2,780	3,020	567	447	270	259	214	14,222	33,560	16
DeLuz Creek Near DeLuz	33	133	95	95	207	239	876	670	217	64	5	0	0	2,602	10,950	13 (1993-2005)
Santa Margarita River At Ysidora	723	376	625	1,480	3,360	2,800	3,540	4,760	1,040	557	75	5	125	18,743	27,595 [4/] 31,390	57 (1949-2005) 26 (1923-48)
Fallbrook Creek Near Fallbrook	6.97	25	22	22	63	63	97	95	29	13	2	2	0	433	1,426 1,462 [5/]	17 (1989-2005) 12 (1965-76)

1/ In summer 2006 gaging location was moved upstream 0.4 miles from prior location to current location 100 feet upstream of Metropolitan Water District pipe crossing, 0.4 miles upstream of the Rainbow Canyon Road/Old Highway 395 Bridge.

2/ Previously published as Murrieta Creek at Tenaja Road

3/ Continuous record stopped in lieu of bridge installation to be completed in 2007. Only miscellaneous measurements were taken from February 22, 2005.

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

5/ Includes wastewater flows

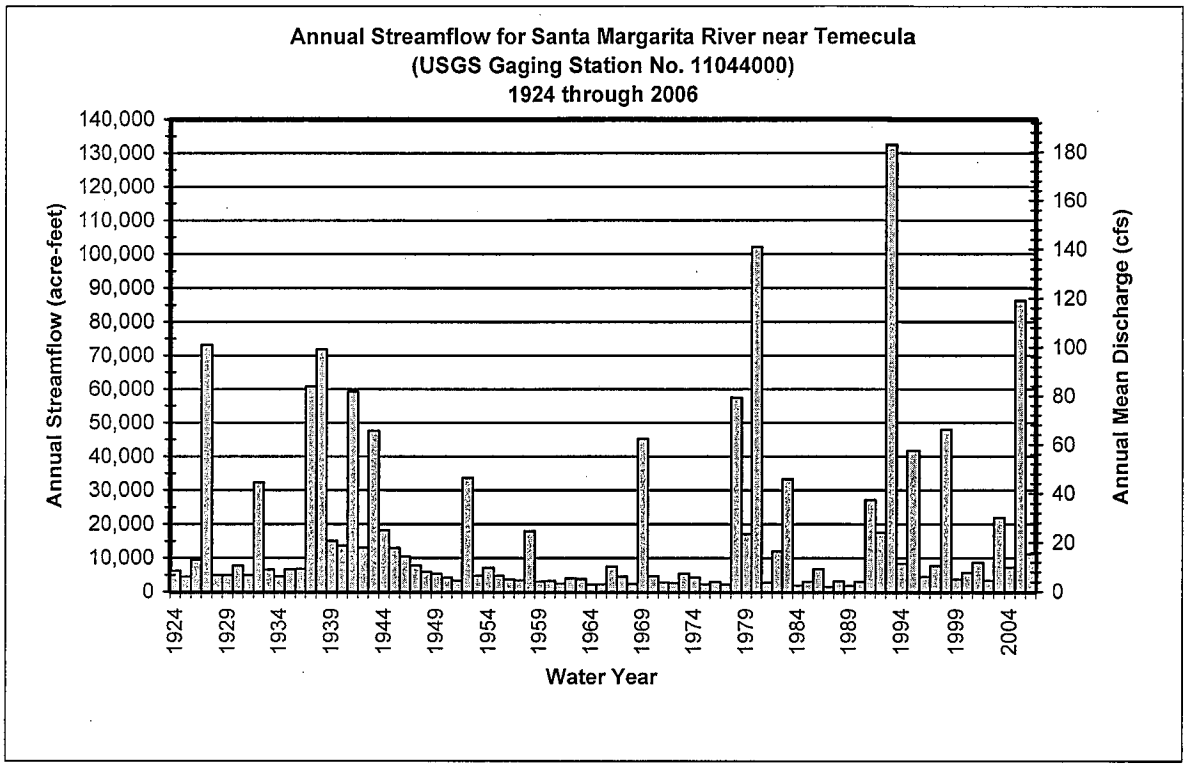
Total flows at four long-term stations for Water Years 2004-05 and 2005-06 are compared with their averages in the tabulation below. Average flows for the Santa Margarita River stations near Temecula and near Ysidora are shown for two periods: before and after Vail Dam was constructed (1923 to 1948, and 1949 to 2005).

	TOTAL FLOW		AVERAGE FLOW
	2004-05 Acre Feet	2005-06 Acre Feet	Through 2005 Acre Feet
Temecula Creek Near Aguanga	18,611	2,053	5,850 (1957-2005)
Murrieta Creek At Temecula	73,678	5,517	10,180 (1925-2005)
Santa Margarita River Near Temecula	86,330	11,271	15,210 (1949-2005) 20,390 (1923-1948)
Santa Margarita River At Ysidora (various locations)	181,543	18,743	27,595 (1949-2005) 31,390 (1923-1948)

The foregoing tabulation indicates the flows for Water Year 2005-06 were well below normal. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula and the Santa Margarita River at Ysidora were 54%, 74% and 68% of their long-term averages respectively. Flows at Temecula Creek near Aguanga were 35% of the long-term average.

The Santa Margarita River near Temecula station is of particular interest relative to discharge requirements specified in the Cooperative Water Resources Management Agreement (CWRMA) between Camp Pendleton and Rancho California WD, as described in Section 11. The long-term time series for annual streamflow for Santa Margarita River near Temecula is provided on Figure 3.1 showing the 2005-06 flows were in the third quartile but dramatically less than the prior year flows for Water Year 2004-05. The flows in 2004-05 were the third highest for the period of record.

Figure 3.1

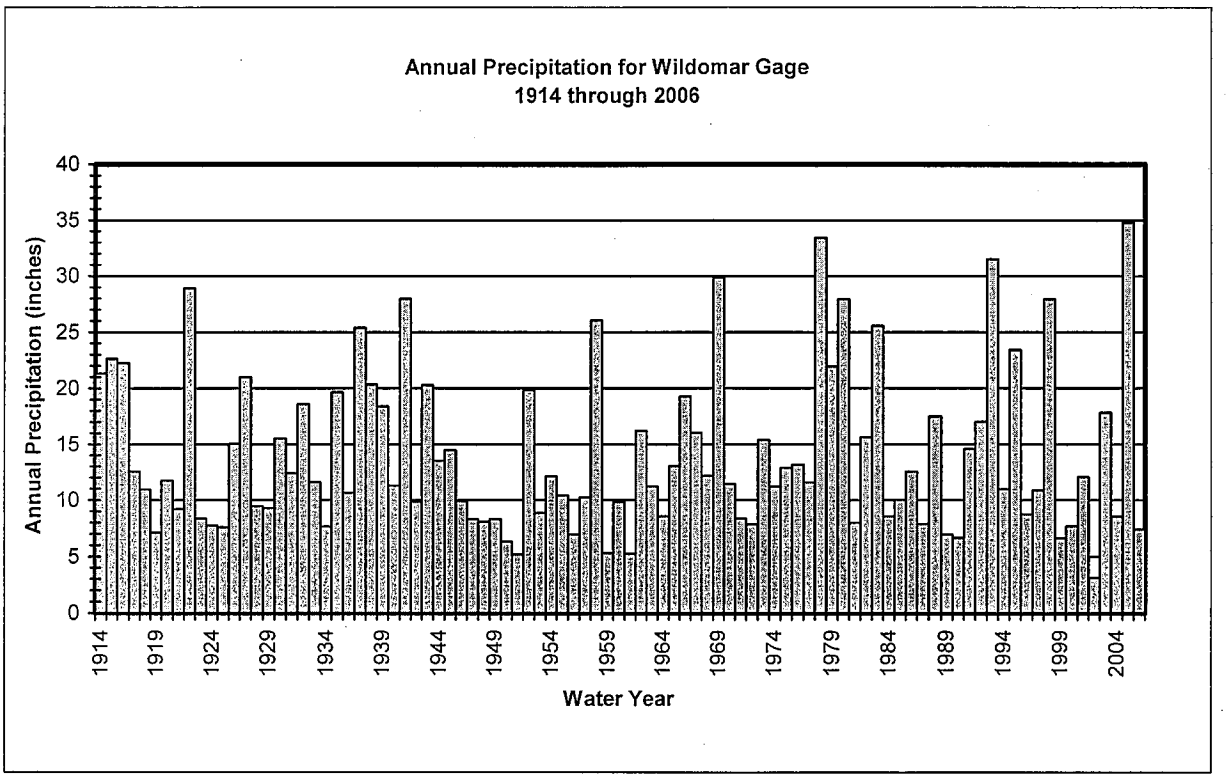


It is also interesting to review long-term precipitation records relative to long-term streamflow. Figure 3.2 shows the long-term time series for annual precipitation for the Wildomar gage maintained by the Riverside County Flood Control and Water Conservation District. The Wildomar gage is specified in the CWRMA for determining water year types in establishing Rancho California WD discharge requirements to meet flows for the Santa Margarita River near Temecula. The long-term average precipitation for the Wildomar Gage for the period 1914 through 2006 is 14.06 inches. The reported precipitation for water year 2005-06 is 7.39 inches.

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 CWRMA. During water year 2005-06 the total CWRMA discharges into the Santa Margarita River and Murrieta Creek equaled 4,766 acre feet.

The discharges into Santa Margarita River totaled 4,714 acre feet from outlet WR-34, located just upstream from the Santa Margarita River near Temecula gaging station. Additional discharges into Murrieta Creek occurred during the period January 9-18, 2006, when the pipeline serving WR-34 was shut down. The discharges to Murrieta Creek totaled 52 acre feet from the potable system at the System River Meter.

Figure 3.2



During 2005-06, Rancho California WD also released: 4 acre feet from wells into Temecula Creek and 153 acre feet from wells into Murrieta Creek.

3.2 Surface Water Diversions

Surface diversions to surface water storage and groundwater storage during 2004-05 and 2005-06 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 2005-06 are shown in Table 3.4. The use is primarily irrigation. Estimated consumptive uses, losses and returns are also shown.

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, 2005, and September 30, 2006. Total Santa Margarita River stream system water in storage at the end of Water Year 2005-06 totaled 30,796 acre feet, compared to 33,967 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 3.3

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE
2005-06
Quantities in Acre Feet

Surface Water Storage

	Vail Lake		Lake O'Neill	
	2004-05	2005-06	2004-05	2005-06
Storage end of prior year	15,860	33,280	822	687
Inflow - Total	21,737	3,361	7,715 [1]	3,138 [2]
Inflow to be Bypassed	1,340	539	0	0
Spill	0	0	2,559	0
Diversions to Surface Storage	20,397[3]	2,822 [3]	5,156 [4]	3,138 [4]
Annual Evaporation	4,246	4,403	342	380
Releases - Total	71	1,938	2,761	1,110
Release to GW Storage	0 [5]	1,399 [5]	2,761	1,110
Apparent Seepage to GW	0	0	2,189 [6]	1,839 [6]
Change of Storage	17,420	(2,980)	(135)	(191)
Storage End of Year	33,280	30,300	687	496
Groundwater Storage				
Recharge Release from Storage Facility	0	1,399	0	0
Direct Recharge	0	0	7,727[7]	6,610 [8]

1 1,913 AF diverted from the Santa Margarita River and 5,802 AF estimated inflow from Fallbrook Creek
2 2,615 AF diverted from the Santa Margarita River and 523 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 6,973 AF of direct recharge and 754 AF of indirect recharge
8 Includes 5,535 AF of direct recharge and 1,075 AF of indirect recharge

TABLE 3.4

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO USE
2005-06
Quantities in Acre Feet

	Surface Diversions	Consumptive Use[1]	Losses[2]	Returns[3]
Blue Bird Ranch	31.0	21.0	3.0	7.0
James Carter	52.0	35.0	5.0	12.0
Chambers	5.0	3.5	0.5	1.0
Cal June, Inc.	132.0	89.0	13.0	30.0
Agri-Empire, Inc. Kohler Canyon	96.0	65.0	10.0	21.0
Papac	38.0	25.0	4.0	9.0
Sage Ranch Nursery	100.0	68.0	10.0	22.0
Daily Family Trust	7.0	5.0	1.0	1.0
Owen Strange	250.0	169.0	25.0	56.0
Wilson Creek Dev. LLC	140.0	94.5	14.0	31.5
San Diego State University Foundation	50.0	34.0	5.0	11.0
TOTAL	901.0	609.0	90.5	201.5

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

TABLE 3.5

SANTA MARGARITA RIVER WATERSHED
WATER IN STORAGE
2005-06
Quantities in Acre Feet

Santa Margarita River Storage	Total Capacity	Water in Storage 9/30/2005	Water in Storage 9/30/2006
Dunn Ranch Dam	90	0	0
Upper Chihuahua Creek Reservoir	± 47	0	0
Vail Lake	49,370	33,280	30,300
Lake O'Neill	1,200	687	496
Subtotal	**50,707**	**33,967**	**30,796**
Imported Water Storage			
Lake Skinner	44,000	41,422	37,465
Diamond Valley Lake	810,000	774,182	779,701
Subtotal	**854,000**	**815,604**	**817,166**
TOTAL STORAGE	**904,707**	**849,571**	**847,962**

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 2005-06, production by purveyors totaled 37,764 acre feet, compared to 37,138 acre feet in 2004-05. Monthly quantities are shown in Appendix A and annual production for water years between 1966 and 2006 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 5,488 acre feet in 2005-06. 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

2005-06

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 Above Aguanga GWA Includes Anza Valley	363 *(Lake Riverside, (Anza MWC, Cahuilla)*	621 [2/]	1,792	2,155	0	2,155	1,616	539
Temecula Creek Above Aguanga GWA	27 *(Butterfield Oaks MHP)*	170	270	297	134	431	313	118
Aguanga GWA	264 *(Outdoor Resorts) (Jojoba Hills)*	552	1,523	1,787	390	2,177	1,604	573
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 -- Includes FPUD Diversion from Lake Skinner)	0	410	43	43	206	249	171	78
Murrieta-Temecula GWA	30,269 *(RCWD *, WMWD (Murrieta Division), EMWD, Pechanga and Hawthorn)*	871	1,254	31,523	52	31,575	23,677	7,898
Santa Margarita River Below the Gorge								
Deluz Creek	0	236	590	590	43	633	472	161
Sandia Creek	0	65	0	0	132	132	89	43
Rainbow Creek	0	0	0	0	0	0	0	0
Santa Margarita River	6,841 *(USMC)*	20	16	6,857	50	6,907	2,219	745
TOTAL	**37,764**	**2,945**	**5,488**	**43,252**	**1,007** [3/]	**44,259**	**30,161**	**10,154**

1/ Estimated consumptive use is equal to 75% of groundwater production plus 75% of surface diversions less 10% except for Camp Pendleton where export of 3,943 acre feet is excluded and return flows include any measured wastewater returns.

2/ Includes lands overlying deep aquifer in Anza Valley.

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

* - RCWD pumped an additional 317 AF that was exported to the San Mateo Watershed

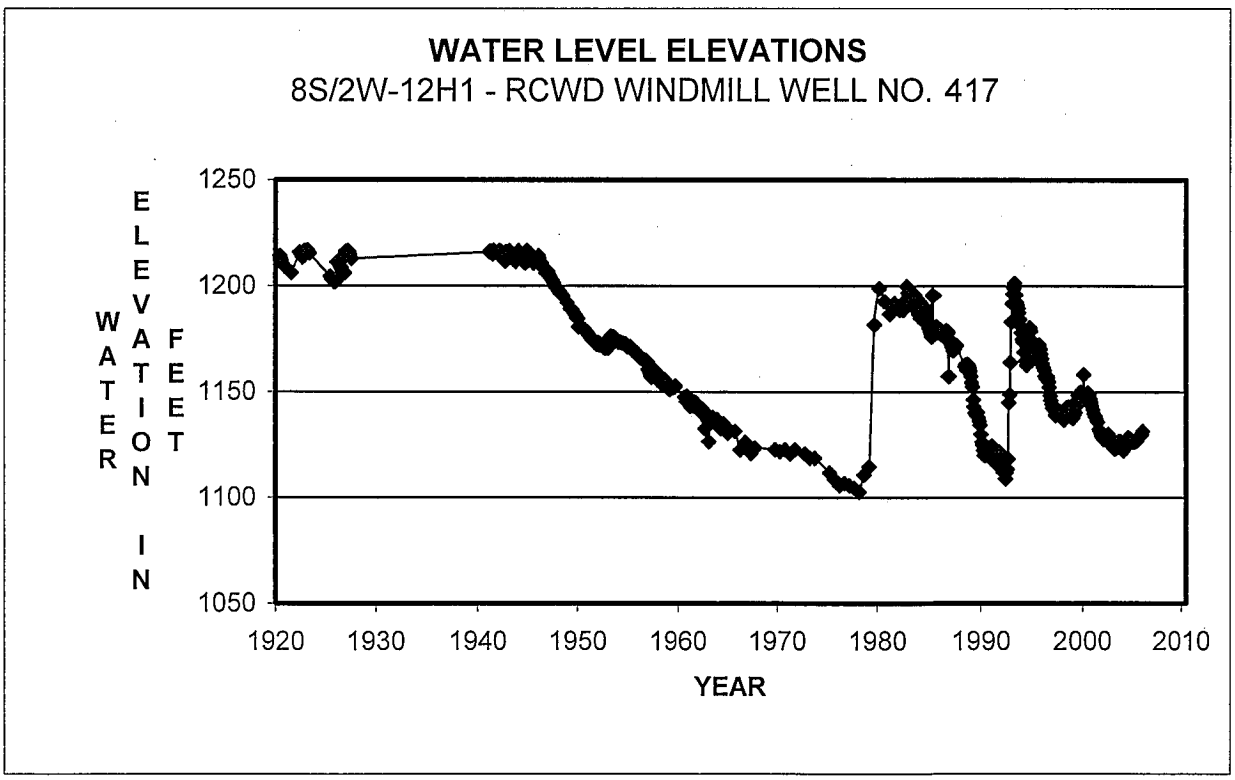
Total production of Santa Margarita River water, surface diversions and groundwater production by water purveyors and private irrigators is listed on Table 4.1.

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.

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 rose 5 feet in 2005-06. 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 2005-06, 18,820 acre feet of imported water were recharged in the VDC of which 67 percent was recovered in the same year.

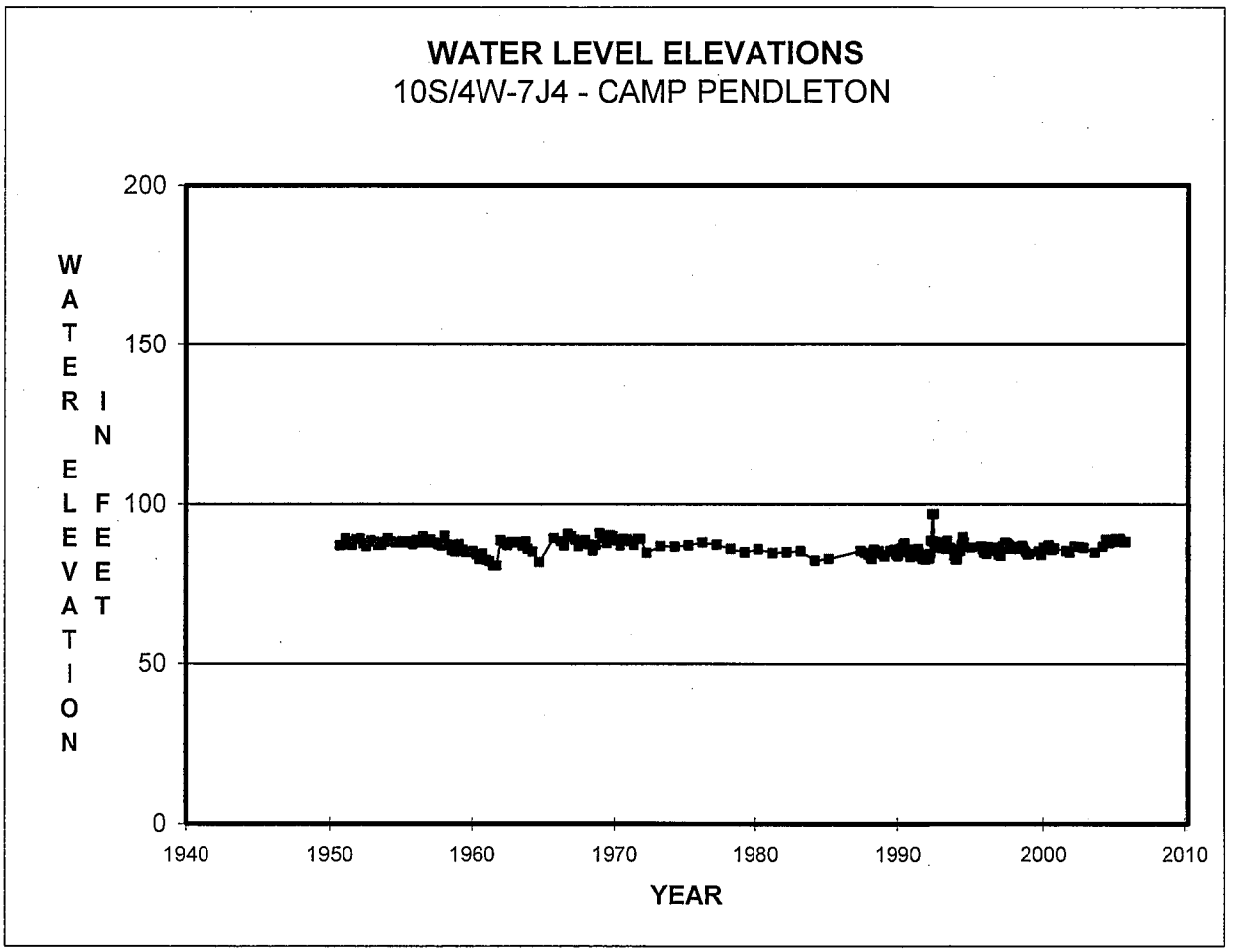
FIGURE 4.1



Collar El. 1216.7 Feet; Depth 515 Feet; Drilled in Alluvium
Ref: RCWD reports (1920-2006)

Figure 4.2 shows water levels at Camp Pendleton in Well No. 10S/4W-7J4, 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 7J4 remained relatively the same between July of 2005 and the end of September 2006.

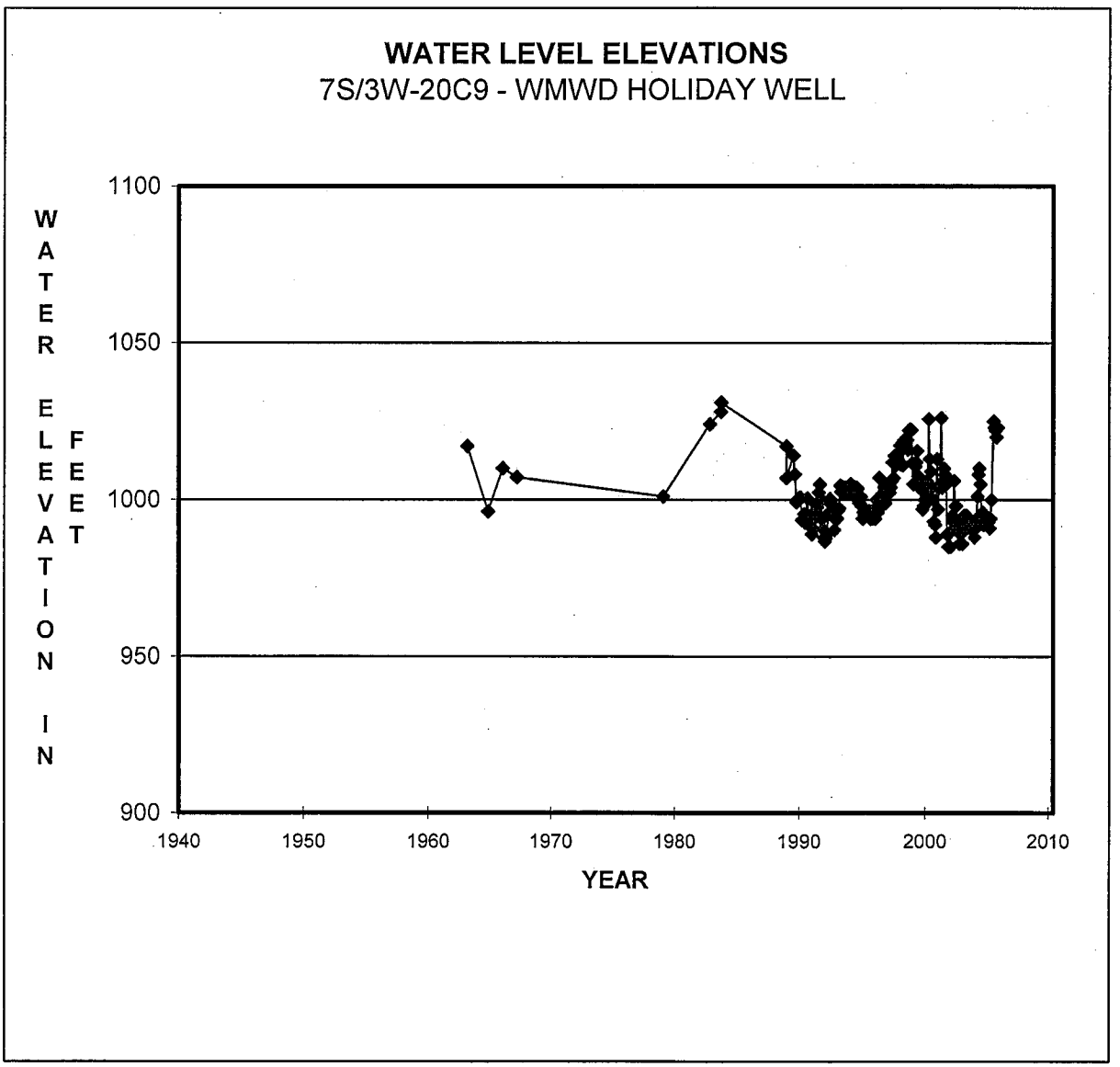
FIGURE 4.2



Ground El. 93 Feet; Depth 138.8 Feet; Perf. Unknown; Drilled in Alluvium
Camp Pendleton Records (1950-72) (1988-2006); 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 Division service area of Western Municipal Water District. Water levels in this well rose 30 feet at the end of 2005-06. Water levels in the Lynch Well, 7S/3W-17R2, which serves as a monitoring well and had no production in 2005-06, increased by 13 feet.

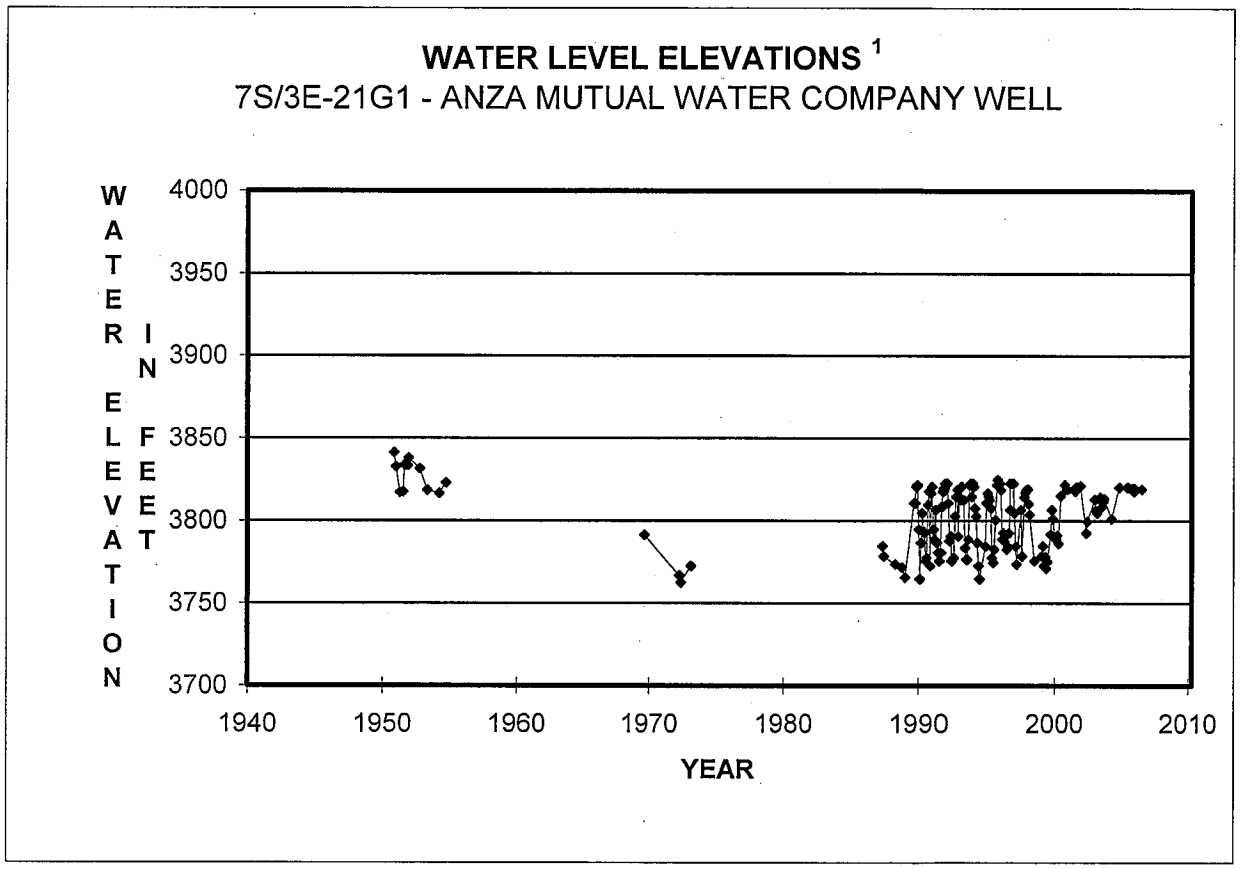
FIGURE 4.3



Ground El. 1090 Feet; Depth 307 Feet; Perf. 60 - 307 Feet
Western Municipal Water District

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 one foot 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.

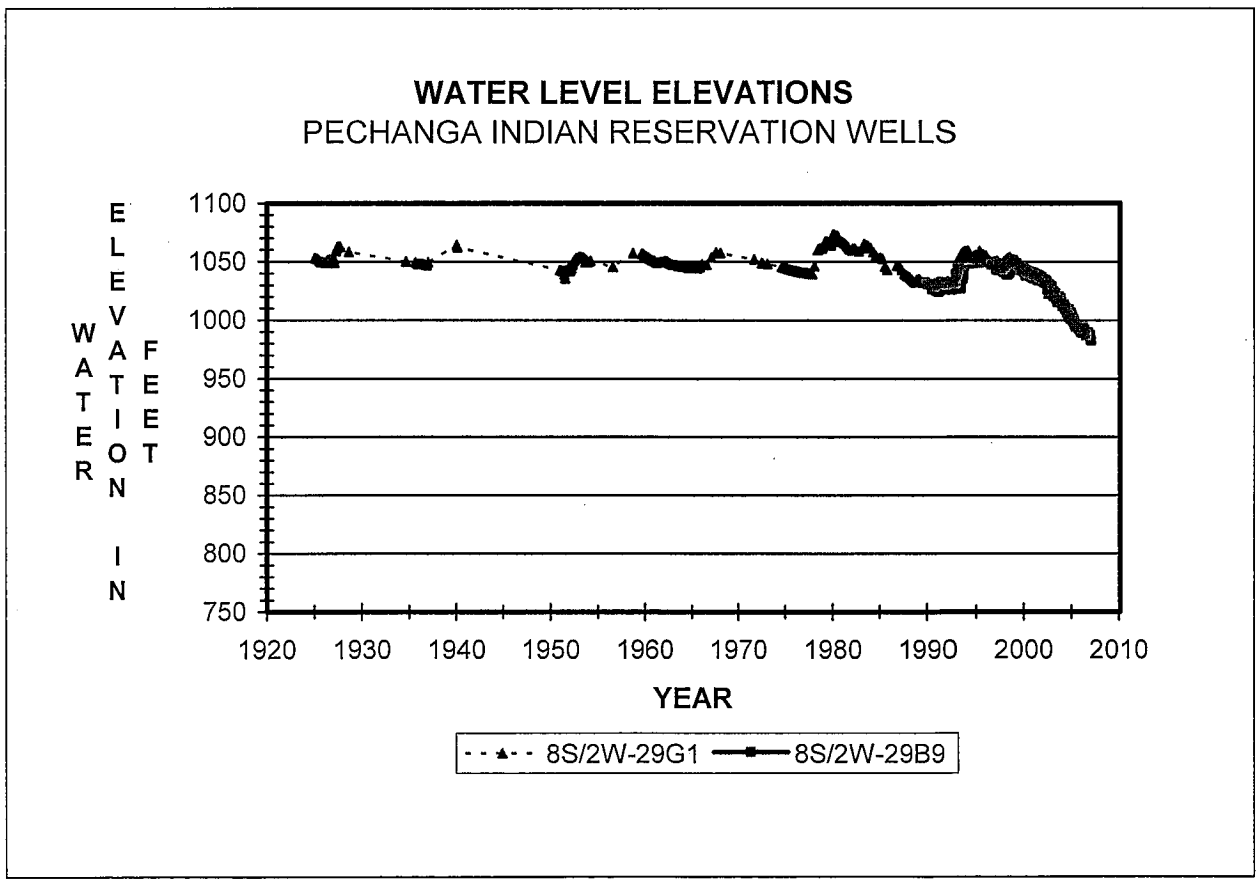
FIGURE 4.4



[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 (1987-2006); 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. In November 2004, this well went dry due to the preceding relatively dry hydrological conditions and pumping of the nearby New Kelsey Well on the Pechanga Reservation. In order to continue to monitor water levels on the Pechanga Indian Reservation, water levels for Well No. 8S/2W-29B9 are also shown on Figure 4.5. Well No. 8S/2W-29B9 is completed in the younger alluvium. As shown on Figure 4.5 water levels for Well No. 8S/2W-29B9 coincide with water levels for the common period of record for Well No. 8S/2W-29G1. Water levels in Well 8S/2W-29B9 declined by 7.1 feet in 2005-06.

FIGURE 4.5



8S/2W-29G1: Ground El. 1091.1 Feet; Depth 159.1 Feet
8S/2W-29B9: Ground El. 1075.93 Feet; Depth 113.0 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 2006 water year are shown below:

Well	Water Elevation 2005 Feet	Water Elevation 2006 Feet	Change in Water Level Feet
RCWD 8S/2W-12H1	1126.5	1131.5	Up 5.0
USMC 10S/4W-7J4	87.9 *	88.3	Up 0 .4
MCWD 7S/3W-20C9	993.0 **	1023.0	Up 30.0
Anza MWC 7S/3E-21G1	3820.1	3819.1	Down 1.0
Pechanga IR 8S/2W-29B9	994.1	987.0	Down 7.1
Pechanga IR 8S/2W-29G1	N/A	N/A	Well Dry

* 7/30//05
** 11/30/05

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 (Cahuilla) 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 acre feet as shown in Table 4.2. In 2005-06 useable groundwater storage in place was computed for all three sub-basins to be 28,462 acre feet. The useable storage in place for the three sub-basins amounted to 28,634 acre feet in 2004-05. Thus there was a decrease in groundwater storage in place of 172 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
2005-06
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-7J4	10S/4W-18L1	11S/5W-11D4	
B. Depth to Water – Feet [4]	4.7	4.3	7.0	
C. Depth below 5 Feet	0	0	2.5	-----
D. Average Area - Acres [5]	840	2,520	1,060	-----
E. Specific Yield [6]	0.216	0.130	0.090	-----
F. Unused Storage below 5 Feet	0	0	238	-----
III. Useable Storage in Place – AF [7]	12,500	15,000	962	28,462
IV. Useable Storage in Place 2004-05	12,482	15,000	1,152	28,634
V. Change in Storage 2005-06	18	0	(190)	(172)

[1] Computed by USGS (Worts, C. F., Jr. and Boss, R. F., *Geology and Ground-Water Resources of Camp Pendleton, CA, July 1954*) 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] Reported by Camp Pendleton.
[5] Average area estimated over depth interval for unused storage.
[6] From Worts and Boss for depth interval of 5 to 50 feet.
[7] Useable storage includes stored water reserved for riparian habitat; however specific amount stored for such purposes not delineated.

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 through 2006. The change in groundwater storage for water year 2006 determined using the water budget method is minus 4,161 acre feet.

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 2006 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 have prevented measurement of water levels in Well 414, the key well in sub-area 13 in 2004 and 2006. 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 for water years 2002 through 2006 are shown in Table 4.4. The change in groundwater storage for water year 2006 is calculated as minus 838 acre feet.

The foregoing two methods are based on independent measurements and estimates, although the resulting approximations of the change of storage are generally comparable except in 2005, a very wet year. 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 through 2004 and 2006 may be in the approximate range of minus 2,000 to minus 6,000 acre feet per year, and that there was a decrease in storage in 2006. The positive change in useable groundwater storage in 2005 was related to the wet hydrologic conditions.

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	2005	2006
Releases from Vail [1]	(314)	(658)	(109)	(1,269)	1,422
Releases from Lake Skinner [2]	146	67	153	2,710	292
Freshwater Releases to Stream [3]	715	4,896	3,146	3,384	4,923
Reclaimed Water Released to Stream [4]	2,180	104	0	0	0
Recharged Imported Water [5]	16,265	15,694	16,088	16,504	19,785
Return Flow from RCWD Groundwater Production [6]	9,132	8,782	8,360	8,958	9,250
Return Flow from Import Direct Use [7]	3,607	3,745	5,149	3,422	4,397
Return Flow from Applied Wastewater [8]	2,153	1,684	1,490	1,598	1,818
Underflow and Tributary Inflow [9]	4,932	24,874	5,727	123,020 *R*	9,212
Subtotal	38,816	59,188	40,004	158,327	51,099
Elements of Outflow					
Riparian Evapotranspiration and Underflow [10]	508	508	508	508	508
Total RCWD Groundwater Production [11]	39,706	38,184	36,347	38,948	40,216
Net Pumping by Others [12]	2,948	3,160	3,139	3,119	3,265
Surface Outflow [13]	3,350	21,931	7,215	86,330	11,271
Subtotal	46,512	63,783	47,209	128,905	55,260
Change in Groundwater Storage	(7,696)	(4,595)	(7,205)	29,422	(4,161)

R - Revision
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 3
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-1, A-5, 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					Change in Depth Feet					Change in Storage in Water Year Acre Feet				
					2002	2003	2004	2005	2006	2001 - 2002	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2002	2003	2004	2005	2006
1	Temecula	0.0036	301 [6]	1371	131.68	182.82	128.08	122.82	116.54	9.68	(51.14)	54.74	5.26	6.28	48	(252)	270	26	31
2	Pauba	0.0398	439	479	40.97	35.92	37.98	25.74	31.17	(4.85)	5.05	(2.06)	12.24	(5.43)	(92)	96	(39)	233	(104)
3	Pauba	0.0309	146	802	33.95	28.51	31.92	24.23	28.96	(4.93)	5.44	(3.41)	7.69	(4.73)	(122)	135	(85)	191	(117)
4	Pauba	0.0350	401	694	77.35	97.21	80.03	69.93	169.80	(36.74)	(19.86)	17.18	10.10	(99.87)	(892)	(482)	417	245	(2,426)
5	Pauba	0.0319	402 [1]	1322	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6	Pauba	0.0698	495	1562	73.07	77.00	86.60	89.10	89.88	(7.60)	(3.93)	(9.60)	(2.50)	(0.78)	(829)	(428)	(1,047)	(273)	(85)
7	Temecula	0.0012	211 [4]	719	166.12	145.89	144.38	134.38	134.75	(2.14)	20.23	1.51	10.00	(0.37)	(2)	17	1	9	(0)
8	Qyal	0.20	492 [5]	339	30.48	28.32	30.27	27.56	29.40	0.12	2.16	(1.95)	2.71	(1.84)	8	146	(132)	184	(125)
	Pauba	0.0891	492 [5]	496	30.48	28.32	30.27	27.56	29.40	0.12	2.16	(1.95)	2.71	(1.84)	5	95	(86)	120	(81)
9	Temecula	0.0036	410	2066	286.85	289.46	282.57	324.13	326.04	20.90	(2.61)	6.89	(41.56)	(1.91)	155	(19)	51	(309)	(14)
10	Qyal	0.20	426	1438	44.95	41.46	41.45	38.96	43.91	(2.53)	3.49	0.01	2.49	(4.95)	(728)	1,004	3	716	(1,424)
	Pauba	0.0746	426	1165	44.95	41.46	41.45	38.96	43.91	(2.53)	3.49	0.01	2.49	(4.95)	(220)	303	1	216	(430)
11	Qyal	0.20	422	1405	53.55	57.86	59.01	60.32	60.54	4.19	(4.31)	(1.15)	(1.31)	(0.22)	1,177	(1,211)	(323)	(368)	(62)
	Pauba	0.0634	422	1413	53.55	57.86	59.01	60.32	60.54	4.19	(4.31)	(1.15)	(1.31)	(0.22)	375	(386)	(103)	(117)	(20)
12	Qyal	0.20	417	1769	89.33	93.17	94.52	90.22	85.21	(12.33)	(3.84)	(1.35)	4.30	5.01	(4,362)	(1,359)	(478)	1,521	1,773
	Pauba	0.0422	417	752	89.33	93.17	94.52	90.22	85.21	(12.33)	(3.84)	(1.35)	4.30	5.01	(391)	(122)	(43)	136	159
13	Qyal	0.20	414 [2]	898	60.71	58.60	---	---	---	1.36	2.11	---	---	---	244	379	---	---	---
	Pauba	0.0198	414 [2]	398	60.71	58.60	---	---	---	1.36	2.11	---	---	---	11	17	---	---	---
14	Temecula	0.0036	462	2084	400.18	423.76	430.42	427.18	409.71	(9.56)	(23.58)	(6.66)	3.24	17.47	(72)	(177)	(50)	24	131
15	Temecula	0.0036	464	1347	314.88	315.33	317.75	319.97	321.97	(1.57)	(0.45)	(2.42)	(2.22)	(2.00)	(8)	(2)	(12)	(11)	(10)
16	Temecula	0.0036	209	1967	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	Temecula	0.0036	139 [3]	2008	451.40	---	452.62	---	---	(0.09)	---	---	---	---	(1)	---	---	---	---
18	Pauba	0.0967	129 [4]	1546	197.33	199.00	200.39	204.12	204.62	0.69	(1.67)	(1.39)	(3.73)	(0.50)	103	(250)	(208)	(558)	(75)
19	Temecula	0.0036	466	1562	277.24	321.37	322.61	323.07	298.35	32.51	(44.13)	(1.24)	(0.46)	24.72	183	(248)	(7)	(3)	139
20	Pauba	0.0738	493	3231	254.00	275.35	275.21	280.13	273.78	4.24	(21.35)	0.14	(4.92)	6.35	1,011	(5,091)	33	(1,173)	1,514
21	Pauba	0.1392	463	2303	56.70	56.42	57.83	54.92	55.04	(1.33)	0.28	(1.41)	2.91	(0.12)	(426)	90	(452)	933	(38)
MCWD	Pauba	0.0325	Lynch	1008	44.00	45.00	45.00	80.00	67.00	0.00	(1.00)	0.00	(35.00)	13.00	0	(33)	0	(1,147)	426
TOTAL															(4,824)	(7,778)	(2,287)	597	(838)

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, 2005 and 2006
3 - For 1999 used reading of September 1999; for 2002 used reading on April 7, 2002; sub area excluded in 2003, 2005 and 2006
4 - For 2003 used reading of July 27, 2003; for 2004 used reading on August 29, 2004
5 - For 2005 used reading of August 28, 2005
6 - For 2006 used reading of July 30, 2006

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.

During 2004-05 and 2005-06 a series of water level measurements were made by the USGS in Anza Valley under contract with the Bureau of Indian Affairs. The data are available at the USGS website: *http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels* .

The wells included in the program can be located by selecting the latitude-longitude box selection criteria and specifying the following bounds:

North Latitude - 33° 37' 00"
South Latitude - 33° 30' 00"
West Longitude - 116° 48' 00"
East Longitude - 116° 38' 00"

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 2005-06 water in storage in the SWP decreased from 4.42 million acre feet on September 30, 2005 to 4.32 million acre feet on September 30, 2006. Storage on September 30, 2006 corresponds to about 81 percent of the total SWP storage capacity.

Water in storage in the Colorado River system decreased 1.4 million acre feet from 34.6 million acre feet in the prior year to 33.2 million acre feet on September 30, 2006. On September 30, 2006 those reservoirs contained 51 percent of their total combined capacity.

The State Department of Water Resources prepares projections of water availability in the SWP for the coming year (2007) on a monthly basis from February through May. The report dated May 1, 2007, indicates that statewide precipitation October 1 through April 30 was 75 percent of average. As of November 29, 2006, the SWP allocation for 2007 will meet 60 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
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 */1*

STATE WATER PROJECT RESERVOIRS

Reservoir	Total Capacity	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Oroville	3,540	2,140	2,832	2,427	1,920	1,488	1,400	2,284	1,753	2,877	2,833
San Luis (State Share)	1,060	462	900	592	388	516	394	653	514	925	911
Pyramid	171	163	161	155	164	162	165	165	161	160	163
Castaic	324	237	306	288	285	287	310	314	298	306	266
Silverwood	73	73	71	72	70	72	72	70	72	72	72
Perris	132	105	124	125	110	122	115	114	116	82	72
Total	5,300	3,180	4,394	3,659	2,937	2,647	2,456	3,600	2,914	4,422	4,317
Percent of Capacity		60%	83%	69%	55%	50%	46%	68%	55%	83%	81%

MAJOR COLORADO RIVER RESERVOIRS

Reservoir	Total Capacity	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Flaming Gorge	3,789	3,599	3,580	3,425	3,010	2,982	2,675	2,635	2,679	3,177	3,130
Blue Mesa	941	761	624	740	560	597	275	387	507	588	667
Navajo	1,709	1,543	1,380	1,558	1,357	1,409	872	729	935	1,516	1,420
Powell	27,000	22,802	22,404	22,997	20,939	19,135	14,468	12,109	9,170	11,939	11,917
Mead	28,537	23,769	25,126	24,592	22,444	19,873	17,093	15,618	13,937	15,219	13,887
Mohave	1,818	1,674	1,729	1,515	1,523	1,610	1,577	1,643	1,605	1,573	1,584
Havasu	648	580	565	584	566	567	565	562	589	554	555
Total	64,442	54,728	55,408	55,411	50,399	46,173	37,525	33,683	29,422	34,566	33,160
Percent of Capacity		85%	86%	86%	78%	72%	58%	52%	46%	54%	51%

1/ Storage reported for end of water year on September 30

FIGURE 5.1

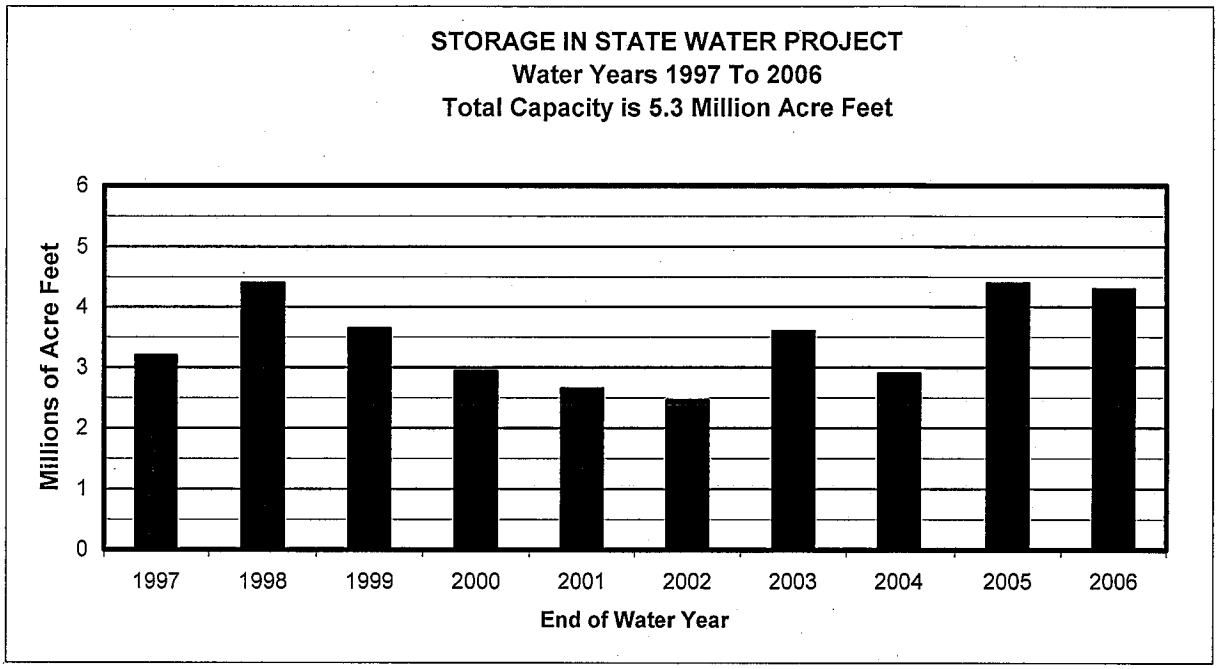
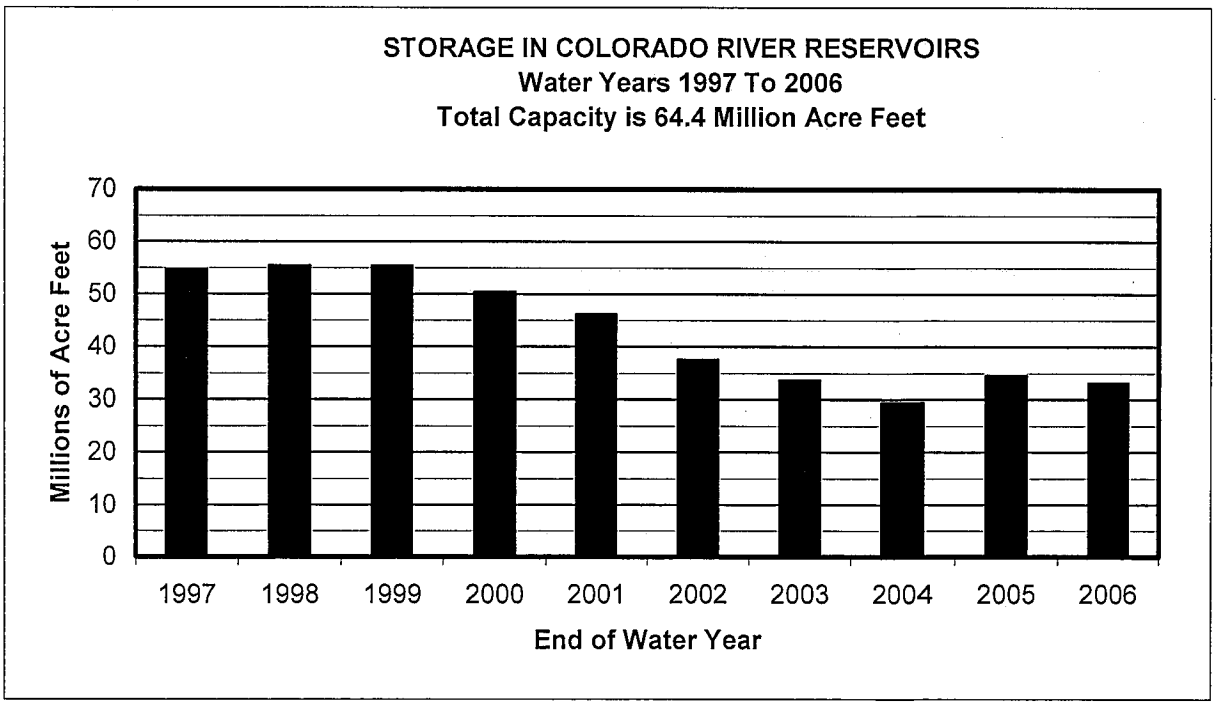


FIGURE 5.2



In addition to net deliveries through member agencies, MWD, pursuant to a Court Order, delivered 506 acre feet of water for irrigation of lands in Domenigoni Valley within the Santa Margarita Watershed during 2005-06.

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. The wastewater that is derived from the exported fresh water is returned to the watershed with the exception of the water used to irrigate the golf course outside the watershed. In prior year the returned wastewater was reclaimed for use within the watershed. However, as a result of the Regional Board's Cease and Desist Order (CDO) No. 94-52 and the Consent Decree in Case No. 02-CV-0499 IEG (AJB) in the Federal District Court for the Southern District of California, Camp Pendleton temporarily exports its wastewater effluent to the Oceanside Outfall under NPDES Permit No. CA0109347. Wastewater from the Fallbrook area and the Naval Weapons Station 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. Eastern MWD uses a second, 48-inch pipeline along Palomar Valley for delivery of reclaimed wastewater for reuse and export from the Watershed. Rancho California WD also uses the Palomar Valley pipeline for exporting wastewater from the Watershed. The exported wastewater can be reused outside the watershed, delivered to storage facilities or discharged to Temescal Creek. In 2005-06, Eastern MWD and Rancho California WD exports of wastewater that were discharged to Temescal Creek were 6,058 and 1,062 acre feet, respectively.

The following paragraphs of this report describe imports and exports during Water Year 2005-06 and during the period 1966-2006. There is also discussion of MWD's Lake Skinner and Diamond Valley Lake operations.

5.2 Water Year 2005-06

During 2005-06 a total of 113,441 acre feet of water were imported and distributed in the Santa Margarita River Watershed. This compares with 90,085 acre feet in 2004-05 and represents an increase of approximately 26 percent. Water quantities imported into and exported from the Santa Margarita River Watershed for months during Water Year 2005-06 are listed on Table 5.2.

The quality of the water supplies imported through the MWD system in 2005-06 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 1966-2006

Water quantities imported by districts into the Santa Margarita River Watershed during Water Years 1966-2006 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 1966-2006 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.

TABLE 5.2

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

2005-06

Quantities in Acre Feet

	NET IMPORTS										WASTEWATER EXPORTS								
											CAMP PENDLETON								
YEAR MONTH	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	MWD 1/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD	U. S. NAVAL WS	WESTERN MWD 2/	TOTAL IMPORTS	EXPORTS 3/	RECLAIMED WASTEWATER IMPORT RECHARGED	NET EXPORT	U.S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD	TOTAL EXPORTS
2005																			
OCT	2,127	956	878	67	4	159	3,958	3	7	8,159	463	0	463	0.9	904	105	136	0	1,609
NOV	2,368	570	885	67	0	136	4,642	1	5	8,674	347	0	347	0.5	984	107	127	0	1,566
DEC	1,757	663	828	26	1	143	3,399	6	5	6,828	330	0	330	0.5	903	70	134	0	1,438
2006																			
JAN	1,490	720	661	12	0	112	2,929	5	4	5,933	291	0	291	0.5	1,047	86	142	0	1,567
FEB	1,900	609	582	25	0	108	3,392	5	4	6,625	280	0	280	0.7	966	77	123	0	1,447
MAR	736	475	231	6	1	109	2,053	3	4	3,618	261	0	261	0.7	1,147	93	148	614	2,264
APR	1,368	453	420	7	0	51	2,230	5	4	4,538	274	0	274	0.7	1,100	82	144	423	2,024
MAY	3,002	882	858	8	0	87	5,040	6	4	9,887	351	0	351	0.7	752	66	162	25	1,357
JUNE	3,631	923	1,139	45	43	179	7,262	7	11	13,240	468	0	468	0.5	818	62	144	0	1,493
JULY	3,978	1,468	1,422	83	77	249	9,863	10	6	17,156	643	0	643	0.6	779	63	180	0	1,666
AUG	3,684	1,002	1,435	74	92	258	8,165	8	6	14,724	627	0	627	0.6	804	64	159	0	1,655
SEPT	3,493	1,098	1,283	86	98	260	7,730	5	6	14,059	577	0	577	0.6	702	63	117	0	1,460
TOTAL	29,534	9,819	10,622	506	316	1,851	60,663	64	66	113,441	4,912	0	4,912	8	10,906	938	1,716	1,062	19,542

1/ Metropolitan Water District direct deliveries in Domenigoni Valley

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

3/ Includes total export of first time use of 3,943 acre feet plus 969 acre feet of wastewater from in-basin use that was exported to Oceanside Outfall as shown on Table A-9

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	
	2004-05	2005-06	2004-05	2005-06
OCT	477	532	38	35
NOV	487	553	38	27
DEC	531	554	32	30
JAN	490	518	42	44
FEB	386	482	69	49
MAR	406	462	60	51
APR	448	416	48	59
MAY	511	420	38	52
JUNE	539	415	31	48
JULY	539	461	29	41
AUG	539	453	33	44
SEPT	511	441	42	47

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

* - Skinner Plant treated a blend of California State Project Water and Colorado River water

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 DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD /3	U.S. NAVAL WS	WESTERN MWD 4/	TOTAL IMPORTS	EXPORTS	WASTEWATER RETURNS	NET EXPORT	U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD	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	23	40,202	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	21	44,134	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	31	27,756	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	2,781	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	50,744 R	88	42	78,264	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	62,408 R	73	50	94,840	4,951 5/	0	4,951	8	9,115	600	1,620		16,294	
2005	22,158	8,215	9,702	556	75	1,610	47,667 R	40	62	90,085	4,625 5/	0	4,625	16	11,676	927	1,782	1,256	20,282 R	
2006	29,534	9,819	10,622	506	316	1,851	60,663	64	66	113,441	4,912	0	4,912	8	10,906	938	1,716	1,062	19,542	

1/ Includes DeLuz Heights MWD prior to 1991
2/ Metropolitan Water District direct deliveries in Domenigoni Valley
3/ Net imports for period 2003-2006
4/ Improvement District A - Rainbow Canyon Only (WR-13)
5 / Includes export for first time use plus wastewater from in-basin use exported to Oceanside Outfall

N/R - Not Reported P - Partial year data
E - Estimate R - Revision

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. At the end of September 30, 2006, the well level was 1357.65 feet.

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.

On February 16, 2005, the Court approved an Order Amending the MOU to provide for diversions from Lake Skinner after specified releases are made. In 2005-06 a total of 106.13 acre feet accumulated in Lake Skinner and diverted to Fallbrook PUD.

Also a total of 291.95 acre feet were released into Tucalota Creek.

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.

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 2005-06 were 0.87 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 2005-06 groundwater elevations in Well MO-6, which is located along the south line of Section 9, decreased 2.17 feet from 1361.23 feet at the beginning of the water year to 1359.06 feet at the end of the water year.

During 2005-06, there were no injections into the Domenigoni Valley groundwater basin pursuant to Agreements for Mitigation of Groundwater. However, pursuant to a Court Order, MWD delivered 506 acre feet of imported water for irrigation of lands in Domenigoni Valley. 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 groundwater, 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 Western Municipal Water District within its Murrieta Division.

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 Changes Point of Diversion and Place of Use for Permit No. 11356

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 allows Fallbrook PUD to store and divert up to 10,000 acre feet per year from Lake Skinner. The Court approved an Order Amending the Memorandum of Understanding and Agreement on Operation of Lake Skinner on February 16, 2006. The Amendment provides for diversions from Lake Skinner after specified releases are made. During 2005-06 a total amount of 106 acre feet were delivered to Fallbrook PUD from 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 2005-06 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
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, Pechanga and Ramona Indian Reservations.

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 2005-06 Water Year are summarized on Table 7.1. Total imported supplies plus local production totaled 157,700 acre feet compared to 132,322 reported in 2004-05. Of that quantity, 52,989 acre feet were used for agriculture; 11,011 acre feet were used for commercial purposes; 71,693 acre feet were used for domestic purposes; 153 acre feet were discharged to Murrieta Creek; 4 acre feet were discharged to Temecula Creek; 4,766 acre feet were discharged by Rancho California WD during 2005-06 pursuant to the Cooperative Water Resources Management Agreement (CWRMA) (4,714 acre feet to the Santa Margarita River from MWD WR-34 and 52 acre feet to Murrieta Creek from the System River Meter); 3,943 acre feet of fresh water were exported by Camp Pendleton; and 6,163 acre feet were recharged by Rancho California WD to storage. The overall system loss was 6,978 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 1966-2006 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 2005-06 was 51.37 acre feet from Well No. 1 as shown in Appendix A, Table A-10. Well No. 2 was not in use for 2005-06. Water levels in Well No. 1 declined about one foot from last year.

TABLE 7.1

SANTA MARGARITA RIVER WATERSHED

WATER PRODUCTION AND USE

2005-06

Quantities in Acre Feet

	PRODUCTION			USE					
	WELL/ SURFACE	IMPORT	TOTAL	AG	COMM	DOM	LOSS	TOTAL	WATER RIGHT
WATER PURVEYORS									
Anza Mutual Water Company	51	0	51	0	0	46	5 1/	51	Appropriative
Eastern MWD	0	29,534	29,534	0	0	28,057	1,477	29,534	Appropriative
Elsinore Valley MWD	0	9,819	9,819 12/	127	4,118	5,574	0	9,819	---------
Fallbrook PUD	106	10,622	10,728	5,958	578	3,441	751	10,728	Appropriative
Lake Riverside Estates	269	0	269	0	269 2/	0	0	269	Appropriative
Metropolitan Water District	0	506	506	481	0 3/	0	25	506	---------
Murrieta Division of Western MW	2,233	316	2,549	338	396	1,696	119	2,549	Appropriative
Rainbow MWD	0	1,851	1,851	1,529	0	154	168	1,851	---------
Rancho California WD	27,242 4/	60,663 5/	87,905	37,336 6/	5,190	30,209	15,170 7/	87,905	Various
U.S.M.C. - Camp Pendleton	6,841	0	6,841	597	------ 8/	2,071	4,173 1/ 9/	6,841	Appropriative/ Riparian
U.S. Naval Weapons Station	0	64	64	0	------ 8/	58	6 1/	64	---------
Western MWD	0	66	66	0	59	0	7 1/	66	---------
INDIAN RESERVATIONS									
Cahuilla	43	0	43	0	------	43	0	43	Overlying/Reserved
Pechanga	754	0	754	159	401	194	0	754	Overlying/Reserved
SMALL WATER SYSTEMS									
Butterfield Oaks	27	0	27	7	0	17	3 1/	27	Riparian/Overlying
Outdoor Resorts	199	0	199	158	0	38	3 1/	199	Overlying
Jojoba Hills SKP Resort	65	0	65	0	0	59	6 1/	65	Overlying
Hawthorn Water System	40	0	40	0	0	36	4 1/	40	Appropriative
OTHER SUBSTANTIAL USERS	6,389 10/	0	6,389	6,299	0	0	90 11/	6,389	
TOTAL	**44,259**	**113,441**	**157,700**	**52,989**	**11,011**	**71,693**	**22,007** 13/	**157,700**	

1/ Assumes 10% system loss
2/ Recreation Use
3/ Construction use at Diamond Valley Lake
4/ 26,297 AF production from Old Alluvium and 1,262 AF of Vail Recovery less 317 AF exported to the San Mateo Watershed
5/ Includes 37,802 AF direct use; 18,820 AF direct recharge; 4,714 AF from MWD WR-34; 52 AF from System River Meter; and minus 725 AF export
6/ 30,888 AF Ag, and 6,448 Ag/Domestic
7/ 153 AF discharged into Murrieta Creek; 4 AF discharged into Temecula Creek; 4,714 AF discharged into Santa Margarita River from MWD WR-34; 52 AF from System River Meter; and 6,163 AF of import remaining in storage; and a system loss of 4,084 AF
8/ Listed with Domestic uses
9/ Includes exports of 3,943 acre feet
10/ 901 AF for surface diversion plus 6,285 AF from groundwater as shown in Appendix C minus 43 AF on the Cahuilla Reservation and minus 754 AF on the Pechanga Reservation
11/ 10% of surface diversions
12/ Sales figures
13/ Includes an overall system loss of 6,978 AF

TABLE 7.2

SANTA MARGARITA RIVER WATERSHED
DEFINITIONS OF WATER USE
BY MUNICIPAL WATER PURVEYORS
2005-06

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	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
	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		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 DIVISION OF WESTERN MUNICIPAL 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

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 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. Data for Water Years 1989 -2006 are shown in Appendix Table B-11.

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 the Murrieta Division of Western MWD. Within the Watershed, the District wholesales water to those districts and also retails water directly to consumers. Water sold to Rancho California WD and the Murrieta Division of Western MWD is not listed in this report as imported water to Eastern MWD.

Eastern MWD's service area outside Rancho California WD and the Murrieta Division of Western MWD is located in the northern part of the Watershed. Water for the Eastern MWD retail service area is all imported with no groundwater production during 2005-06.

Imports, not including water wholesaled to Rancho California WD or the Murrieta Division of Western MWD or delivered to Elsinore Valley MWD, totaled 36,407 acre feet. A portion of that import amounting to 6,873 acre feet was exported from the Santa Margarita River Watershed resulting in net import to the watershed of 29,534 acre feet. These data are shown in Appendix A.

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 2004-05 and 2005-06 is shown below:

Use	2004-05 Quantity AF	2004-05 Percent %	2005-06 Quantity AF	2005-06 Percent %
Reuse in Santa Margarita	2,664	19	3,108	22
Reuse outside Santa Margarita	2,690	19	3,510	25
Subtotal	5,354	38	6,618	47
Discharge to Dissipater at Temescal Creek	3,988	28	6,058	43
Other	4,998	34	1,338	10
TOTAL	14,340	100	14,014	100

It can be noted that the quantities of reclaimed wastewater used within the Santa Margarita River Watershed increased from 2,664 acre feet in 2004-05 to 3,108 acre feet in 2005-06. During the same period reuse outside the Santa Margarita River Watershed increased from 2,690 acre feet to 3,510 acre feet. From the foregoing it may be concluded that 22 percent of the wastewater is reused in the watershed and 25 percent is used outside the watershed. The quantity of wastewater discharged to the dissipater at Temescal Creek increased from 3,988 acre feet to 6,058 acre feet. The Other use decreased from 4,998 acre feet to 1,338 acre feet. This Other use includes changes of storage in Winchester and Sun City storage ponds, as well as evaporation and percolation losses.

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 2005-06, 16 percent of the supply to the service area was groundwater. Thus, the percent of groundwater supply was less than the percentage of wastewater reused within the Santa Margarita Watershed, and on a proportional basis there was no export of native waters. It is noted that Rancho California WD does not agree with this method for calculating export of native waters. Furthermore, Rancho California WD does not agree with the conclusion regarding native water export as a result of this calculation.

Estimates of water production and use for the period 1966-2006 are shown in Appendix B.

TABLE 7.3

SANTA MARGARITA RIVER WATERSHED

WATER DELIVERIES TO TEMECULA VALLEY

REGIONAL WATER RECLAMATION FACILITY SERVICE AREA

	2002		2003		2004		2005		2006	
Eastern MWD	AF	%	AF	%	AF	%	AF	%	AF	%
TVRWRF Service Area										
1. Groundwater	13		0		0		0		0	
2. Import 1/	8,117		9,062		9,138		22,158		29,534	
3. Total	8,130		9,062		9,138		22,158		29,534	
Rancho California WD										
TVRWRF Service Area										
1. Groundwater 2/	6,427		6,697		6,879		8,486		8,150	
2. Import 3/	11,791		11,231		13,341		10,696		12,753	
3. Total 4/	18,218		17,928		20,220		19,182		20,903	
Total Deliveries to TVRWRF Service Area										
1. Groundwater	6,440	24.4%	6,697	24.8%	6,879	23.4%	8,486	20.5%	8,150	16.2%
2. Import	19,908	75.6%	20,293	75.2%	22,479	76.6%	32,854	79.5%	42,287	83.8%
3. Total	26,348	100.0%	26,990	100.0%	29,358	100.0%	41,340	100.0%	50,437	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 Elsinore Valley MWD reports that 9,819 acre feet of imported water was delivered in the portion of their service area that is inside the Santa Margarita River Watershed in 2005-06. Also during 2005-06, approximately 938 acre feet of wastewater were exported from that same area.

Production and use during the period 1966 to 2006 are shown in Appendix B.

Fallbrook Public Utility District

In 2005-06, Fallbrook PUD imported 18,403 acre feet through its contract with the San Diego County Water Authority as shown in Appendix A. Of this quantity, 3,994 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 6,628 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 10,622 acre feet in 2005-06. In addition, Fallbrook PUD received 106 acre feet of water by exchange for water diverted at Lake Skinner for a total production of 10,728 acre feet.

In addition, the District has three wells; however, in 2005-06, there was no pumpage from these wells. In 2005-06 Fallbrook PUD treated 1,750 acre feet of wastewater from areas served within the Watershed, of which 26 acre feet were reused in the Watershed, and the remainder was exported.

Production during the period 1966 to 2006 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 2005-06 was 269 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 well was drilled to a 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. Data for 1989 – 2006 are shown on Appendix Table B-11.

Metropolitan Water District of Southern California

Pursuant to a Court Order, MWD delivered 506 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 1966-2006 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 2005-06 amounted to 1,851 acre feet.

Total imports to the District for years between 1966 and 2006 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 47 wells in 2005-06 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 2005-06, well production of native water included 27,559 acre feet from the Murrieta-Temecula Groundwater Area. This quantity included 26,297 acre feet from the older alluvium, and 1,262 acre feet of recovered Vail recharge. A portion of the groundwater amounting to 317 acre feet was exported for use in the San Mateo Watershed, resulting in a net well production of 27,242 acre feet.

Import supplies totaled 61,388 acre feet of which 37,802 acre feet were used for direct use, 18,820 acre feet were recharged, and 4,766 acre feet were discharged by Rancho California WD during 2005-06 pursuant to the CWRMA (4,714 acre feet to the Santa Margarita River from MWD WR-34 and 52 acre feet to Murrieta Creek from the System River Meter). A portion of that import amounting to 725 acre feet were exported from the Santa Margarita River Watershed resulting in net import to the Watershed of 60,663 acre feet.

During 2005-06, use totaled 87,905 acre feet including 30,888 acre feet by agriculture; 6,448 acre feet by ag/domestic; 5,190 acre feet by commercial; 30,209 acre feet by domestic; 4,923 acre feet were released into Murrieta Creek, Temecula Creek, and the Santa Margarita River; 6,163 acre feet of import were recharged to storage; and 4,084 acre feet were system loss.

Rancho California WD also exported from the Watershed an additional 1,062 acre feet of wastewater discharged to the dissipater at Temescal Creek in the Santa Ana Watershed.

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.

A total of 1,399 acre feet were was released from Vail during 2005-06 for groundwater recharge. Releases from Vail for groundwater recharge for the period 1980 to 2006 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.

Imported Water Return Flows

Return flows for 2005-06 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 and three hydrogeologic areas in the Santa Rosa Division service area. This allocation is the proportion of the total deliveries to each use that is made up of imported water. In 2005-06, 60.52 percent of the supply to the Rancho Division was imported and 68.81 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.

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 2005-06 is computed to be 5,635.50 acre feet for the Rancho Division and 413.38 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

TABLE 7.4

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
PERMIT 7032 AREA WATER USE
2005-06

Quantities in Acre Feet

MONTH YEAR	AG	COMM	AG/DOM	DOM	TOTAL
2005					
OCT	42	30	109	126	307
NOV	29	20	49	94	192
DEC	23	20	61	84	188
2006					
JAN	16	14	43	66	139
FEB	20	19	44	66	149
MAR	9	11	27	57	104
APR	11	12	19	61	103
MAY	21	22	38	79	160
JUNE	31	29	110	127	297
JULY	36	36	139	150	361
AUG	44	35	142	157	378
SEPT	47	35	152	147	381
TOTAL	329	283	933	1,214	2,759

TABLE 7.5

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2005-06
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	1,074.09	690.11	648.58	2,689.21	340.06	912.47	861.31	874.41	8,090.25
% Import	60.52	60.52	60.52	60.52	60.52	60.52	60.52	60.52	
Import Use	650.08	417.68	392.54	1,627.61	205.82	552.26	521.30	529.23	4,896.50
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	162.52	104.42	98.14	406.90	51.45	138.07	130.32	132.31	1,224.13
AG/DOMESTIC									
Total Use	700.21	45.06	0.00	38.04	729.43	41.49	505.59	196.99	2,256.81
% Import	60.52	60.52	60.52	60.52	60.52	60.52	60.52	60.52	
Import Use	423.79	27.27	0.00	23.02	441.47	25.11	306.00	119.23	1,365.90
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	105.95	6.82	0.00	5.76	110.37	6.28	76.50	29.81	341.47
COMMERCIAL									
Total Use	302.66	1,472.61	928.90	957.28	240.35	137.54	162.36	9.81	4,211.52
% Import	60.52	60.52	60.52	60.52	60.52	60.52	60.52	60.52	
Import Use	183.18	891.28	562.20	579.38	145.47	83.25	98.27	5.94	2,548.96
% Credit	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Credit	18.32	89.13	56.22	57.94	14.55	8.32	9.83	0.59	254.90
DOMESTIC									
Total Use	1,315.82	2,180.60	2,375.93	12,511.99	688.36	3,841.90	1,763.95	534.82	25,213.37
% Import	60.52	60.52	60.52	60.52	60.52	60.52	60.52	60.52	
Import Use	796.38	1,319.78	1,437.99	7,572.69	416.62	2,325.25	1,067.60	323.69	15,260.01
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	199.09	329.94	359.50	1,893.17	104.15	581.31	266.90	80.92	3,815.00
TOTAL USE	3,392.78	4,388.39	3,953.41	16,196.52	1,998.19	4,933.41	3,293.21	1,616.04	39,771.95
TOTAL									
Total Import Use	2,053.43	2,656.01	2,392.74	9,802.70	1,209.38	2,985.87	1,993.17	978.09	24,071.38
Total Credit	485.88 **	530.31	513.85	2,363.77	280.52	733.98	483.55	243.63	5,635.50
Total Credit Qyal		265.16	513.85		280.52				1,059.53
Total Credit Qtoal		265.16		2,363.77		733.98	483.55	243.63	4,090.09

* 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
2005-06
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	613.95	613.95
% Import	67.99	67.99	67.99	
Import Use	0.00	0.00	417.45	417.45
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	104.36	104.36
AG/DOMESTIC				
Total Use	0.00	0.00	0.00	0.00
% Import	67.99	67.99	67.99	
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	0.42	0.00	738.79	739.21
% Import	67.99	67.99	67.99	
Import Use	0.29	0.00	502.33	502.62
% Credit	10.00	10.00	10.00	
Credit	0.03	0.00	50.23	50.26
DOMESTIC				
Total Use	0.00	0.00	1,522.19	1,522.19
% Import	67.99	67.99	67.99	
Import Use	0.00	0.00	1,035.00	1,035.00
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	258.75	258.75
TOTAL USE	0.42	0.00	2,874.93	2,875.35
TOTAL				
Total Import Use	0.29	0.00	1,954.79	1,955.08
Total Credit	0.03	0.00	413.35	413.38
Total Credit Qyal	0.01		103.34	103.35
Total Credit Qtoal	0.01	0.00	310.01	310.02

* Includes golf course and landscape irrigation

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 2005-06 are 1,059.53 acre feet for the Rancho Division and 103.35 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Rancho California WD imported an additional 18,820 acre feet of water for groundwater recharge in 2005-06, of which 12,657 acre feet were recovered.

Division of Local Water

During 2005-06, Rancho California WD pumped 40,216 acre feet of groundwater, comprised of 26,297 acre feet of local water and 12,657 acre feet of recovered imported water. 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 pumping 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 2005-06 using the percentages noted in Table 7.7 is presented in Table 7.8. It may be noted that 13,919 acre feet were pumped from the younger alluvium and 26,297 acre feet were pumped from the older alluvium in 2005-06.

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
106	7S/3W-26R1	55	130-210; 250-310; 340-440; 700-740; 780-980	0	0.0%	Murrieta	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%	Murrieta 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
466	8S/3W-1P2	Unknown	106-822	49	0.0%	Long Canyon	Old 219, Cantarini, hard clay 49'-60'
220	7S/3W-26Q1	34	114-450	58	0.0%		Clay 58' - 73'
467	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
2005-06
Quantities in Acre Feet

WELL NO.	QYAL	QTOAL	TOTAL
101	0.00	703.00	703.00
102	0.00	263.00	263.00
106	0.00	201.00	201.00
108	0.00	267.00	267.00
109	605.64	115.36	721.00
110	1,511.26	46.74	1,558.00
113	0.00	620.00	620.00
118	0.00	882.00	882.00
119	0.00	1,523.00	1,523.00
120	0.00	1,348.00	1,348.00
121	0.00	0.00	0.00
122	0.00	836.00	836.00
123	105.30	56.70	162.00
124	0.00	217.00	217.00
125	0.00	1,093.00	1,093.00
126	0.00	1,408.00	1,408.00
128	0.00	370.00	370.00
129	0.00	0.00	0.00
130	0.00	505.00	505.00
131	0.00	785.00	785.00
132	1,024.18	224.82	1,249.00
133	0.00	654.00	654.00
135	0.00	47.00	47.00
138	0.00	2,417.00	2,417.00
139	0.00	783.00	783.00
140	0.00	527.00	527.00
141	0.00	512.00	512.00
143	0.00	427.00	427.00
144	0.00	450.00	450.00
145	0.00	617.00	617.00
146	0.00	32.00	32.00
149	0.00	383.00	383.00
151	0.00	0.00	0.00
152	2,793.01	282.99	3,076.00
153	2,333.43	23.57	2,357.00
155	0.00	191.00	191.00
157	1,955.36	64.64	2,020.00
158	1,604.80	58.21	1,663.00
201	0.00	0.00	0.00
203	0.00	28.00	28.00
205	0.00	1,564.00	1,564.00
207	0.00	0.00	0.00
208	0.00	0.00	0.00
209	0.00	0.00	0.00
210	544.26	34.74	579.00
211	0.00	0.00	0.00
215	0.00	350.00	350.00
216	0.00	544.00	544.00
217	0.00	739.00	739.00
231	0.00	506.00	506.00
232	536.36	46.64	583.00
233	539.44	73.56	613.00
234	365.56	128.44	494.00
235	0.00	638.00	638.00
301	0.00	0.00	0.00
302	0.00	0.00	0.00
309	0.00	2,711.00	2,711.00
TOTAL	13,918.59	26,297.41	40,216.00

The production of 13,919 acre feet from the younger alluvium, as shown on Table 7.8 includes recovery of 1,262 acre feet of Vail recharge and 12,657 acre 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. Releases from Vail for recharge were 1,399 acre feet resulting in 137 acre feet of unrecovered recharge. Rancho California WD imported 18,820 acre feet of water in 2005-06 for direct recharge of which 12,657 acre feet were recovered leaving 6,163 acre feet as unrecovered direct recharge.

Imported water carryover to 2006-07 includes the following:

		AF
1.	Carryover from 2004-05	33,359 R
2.	Unrecovered direct recharge in 2005-06	6,163
3.	Import Return Flow Credit for 2005-06	1,163
4.	Total Carryover to 2006-07	40,685

Thus, there was no unauthorized use under Permit 7032 in 2005-06 and 40,685 acre feet of imported supplies remain available to offset younger alluvium production in future years.

Western Municipal Water District

Western MWD operations within the Watershed are comprised of three categories. First, Western MWD wholesales imported water to Rancho California WD. Deliveries to Rancho California WD are included under Rancho California WD. Second, Western MWD serves water to its Murrieta Division in the vicinity of the City of Murrieta. Third, Western MWD serves imported water to its Improvement District A near the southern boundary of Riverside County along the I-15 freeway.

Murrieta Division

In November 2005, Western MWD merged with the Murrieta County Water District assuming their operations in an area in the vicinity of the City of Murrieta. Prior Watermaster Reports present information under Murrieta County Water District.

In Water Year 2005-06, the Murrieta Division of Western MWD produced 2,233 acre feet of water from five wells as shown in the following tabulation and imported 316 acre feet as shown in Appendix Table A-5.

Well Designation	Well Name	2005-06 Production Acre Feet	Casing Depth Feet	Water Depth Feet	Well Depth Feet	Perforated Interval Feet
7S/3W-20	Clay	936	101	270 – 355	940	330 – 350 370 – 470 680 – 790 830 – 900
7S/3W-20C9	Holiday	134	25	69 – 99	307	60 – 307
7S/3W-20G5	House	0	50	Dry *	298	120 – 252
7S/3W-17R2	Lynch	0	26	46 – 85	212	172 – 212
7S/3W-18J2	North	502	50	210 – 287	650	240 - 260 500 – 640
7S/3W-20D	South	563	50	170 – 178	446	120 – 446
7S/3W-7M	Alson	98	50	310 – 373	416	106 – 416
TOTAL		2,233				

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, the Court did retain continuing jurisdiction so that subsequent findings could be made, if needed. Older alluvial deposits are found below the younger alluvium.

Six of the seven Murrieta Division wells are perforated at depths of 106 feet or more. The Holiday Well 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 69 to 99 feet in 2005-06. Accordingly all of Murrieta Division well production is from the older alluvium under a groundwater appropriative right.

Production for the period between 1966 and 2006 is shown in Appendix Table B-6.

Improvement District A

In Water Year 2005-06, imports to Improvement District A amounted to approximately 66 acre feet as shown in Appendix Table A-10. Deliveries to Improvement District A through turnout WR-13 for the period 1966 to 2006 are shown in Table 5.4 and Appendix Table B-11.

U. S. Marine Corps - Camp Pendleton

Camp Pendleton is located on the coastal side of the Santa Margarita River Watershed. Water was provided by 11 wells that produced 6,556 acre feet in Water Year 2005-06. This production is from the younger alluvium and is based on riparian and appropriative rights. Of this quantity, 3,783 acre feet were exported to areas of the Base outside the Watershed as shown in Appendix A.

As a result of the Regional Board's Cease and Desist Order (CDO) No. 94-52 and the Consent Decree in Case No. 02-CV-0499 IEG (AJB) in the Federal District Court for the Southern District of California, Camp Pendleton temporarily exports its wastewater effluent to the Oceanside Outfall under NPDES Permit No. CA0109347. This will continue until completion of its new wastewater treatment facilities and receipt of all necessary approvals. Accordingly, 2,527 acre feet of wastewater were exported by Camp Pendleton to the Oceanside Outfall in water year 2005-06.

Production and estimated use inside and outside the Watershed, as well as wastewater returns, are shown in Appendix B for the period 1966-2006.

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 2005-06, 64 acre feet were imported of which 8 acre feet of wastewater were exported, as shown in Appendix A. Imports and use between 1966 and 2006 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 309 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 43 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 were 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 2005-06, water well production by the Pechanga Water System amounted to 754 acre feet, as shown in Appendix A, Table A-10 and Appendix C. Information about system wells is shown in the following tabulation:

Well Designation 8S/2W	Name	Water Depth Feet	Well Depth Feet	Perf. Interval Feet
28R1	Ball Park	71.97	1,000	126 - 996
29A2	New Kelsey	107.47	425	105 - 415
29B10	Eduardo	189.27	697	437 - 687
29B11	Eagle III	86.40	645	275 - 635
29F3	New Stevenson	65.36	247	100 – 240
29J3	South Boundary	113.08	350	150 - 340

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.*

Production for the Pechanga Water System for Water Years 1991- 2006 is shown on Appendix Table B-11.

Ramona Indian Reservation

The Ramona Indian Reservation occupies 560 acres of land of which 321 acres are inside the Watershed. The domestic water use on the Ramona Indian Reservation has been estimated based on the reported seven persons residing on the Reservation. Based on 125 gallons per capita per day, the annual domestic water use is estimated to be approximately one acre foot. The water supply is provided by two individual wells. It has not been determined whether the groundwater production is under Court jurisdiction and thus the estimated water use is not included in the various water use tabulations provided throughout the report.

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. Data for previous water years is shown on Appendix Table B-11.

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 6,389 acre feet. This quantity includes 5,488 acre feet of well production and 901 acre feet of surface diversion as shown in Appendix C.

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 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 re-diversion facilities in Permit 7032, protests by U. S. Fish and Wildlife Service and the California Sportfishing Alliance have not been resolved.

8.4 Cahuilla Band Request for Moratorium

On April 20, 2005, the Cahuilla Band of Indians published the following notice requesting a moratorium on increased water use in the Anza/Cahuilla/Terwilliger Valley area:

> To whom it may concern:
>
> Notice is hereby given to all water users, potential water users, and other interested parties in the Anza/Cahuilla/Tewilliger (sic) Valley that the Cahuilla Band of Indians possesses an Aboriginal and Senior reserved water right in the above mentioned valley. The Cahuilla Band has determined that increasing water use by non-Indians threatens the Cahuilla Band's reserved water rights. Therefore, the Cahuilla Band is notifying all interested parties and all present and potential water users that any increased use above present amounts or uses infringes on the Band's reserved right.
>
> The Cahuilla Band further requests a moratorium on increased use until this issue can be resolved with all water users and interested parties in the above mentioned valley. The Cahuilla Band is fully prepared to take all necessary steps to enforce this moratorium and its reserved water rights.
>
> Nothing in this notice shall be deemed or construed as a waiver of any of the rights of the Cahuilla Band of Indians, including the right to take alternate or different positions in the future as to any matter. Should you require more information please contact the Cahuilla Band of Indians through its Chairperson, Jerome Salgado, Sr.

The notice was published in the local newspapers as well as sent to County officials, local water districts and businesses, nearby Indian Bands, the California State Department of Water Resources and the Watermaster.

Following receipt of the notice, a meeting was held with representatives of the Cahuilla Band to discuss the request. On July 20, 2005, a letter was sent to the Cahuilla Band suggesting that certain information would be useful for the Court to consider the request, including:

1. The basis for the Band's determination that increasing water use threatens the Cahuilla Band's reserved rights;
2. A description of lands to be included in the requested moratorium;
3. A description of the existing users, uses and amounts not impacted by the moratorium;
4. A plan for enforcing the moratorium;
5. The current status of discussions with non-Indian water users to resolve this issue.

Cahuilla Band representatives have indicated they are developing the suggested information and may pursue the moratorium in the future.

As an alternative to proceeding with the moratorium, on October 6, 2006, the Cahuilla Band filed a Motion to Intervene as Plaintiff-Intervenor in *United States v. Fallbrook Public Utility District, et al.* The Cahuilla Band also filed a Complaint asking the Court to quantify its federal reserved water rights by confirming elements of the water rights as declared and decreed by the Court in Interlocutory Judgment No. 41. On October 16, 2006, the Ramona Band of Cahuilla filed a similar motion and Complaint. On January 22, 2007, the Court issued an Order granting the Motions to Intervene and filing the Complaints in intervention. The Cahuilla and Ramona Bands are proceeding with quantification of each Band's federal reserved water rights and the request for moratorium will be resolved as part of the quantification proceeding.

8.5 Exportation of Treated Wastewater Derived from Native Waters

Camp Pendleton continues to assert that the exportation of treated wastewater, the source of which is the native waters of the Santa Margarita River System, without an appropriative right as the legal basis for such exportation is unauthorized water use. The exporters of treated wastewater do not agree with this assertion. At the request of Camp Pendleton, the Watermaster will review this issue with particular emphasis on reviewing the methodology on pages 54 and 55 whereby the percentage supply of groundwater for the exported wastewater is compared to the percentage of wastewater reused within the watershed.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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. Additional water quality data for Anza Valley are being collected by the Riverside County Department of Health Services and the USGS. These data will be reported in future Watermaster Reports.

As described in prior Watermaster Reports, in 1999 the Regional Water Quality Control Board, San Diego Region (Regional Board) began preparation of a plan for Total Maximum Daily Loads (TMDLs) for Total Nitrogen and Total Phosphorus on Rainbow Creek. On February 9, 2005, the Regional Board adopted an amendment to the Basin Plan to include the Total Nitrogen and Total Phosphorus TMDLs and implementation plan. The State Water Resources Control Board, on November 16, 2005, and Office of Administrative Law, on February 1, 2006, subsequently approved the Basin Plan amendment. The U.S. Environmental Protection Agency granted final approval of the TMDLs on March 22, 2006.

The full plan and amendment are presented on the Regional Board's website. Key findings related to the TMDLs are summarized below:

1. The TMDL Numeric Targets for nitrate (as nitrogen) is 10 mg/L, total nitrogen is 1.0 mg/L, and total phosphorous is 0.1 mg/L.

2. The TMDLs for total nitrogen and total phosphorous discharges into Rainbow Creek are calculated to be 1,658 kilograms of nitrogen per year and 165 kilograms of phosphorous per year. The TMDLs are defined as the maximum loads that Rainbow Creek can receive and will attain water quality objectives and protection of designated beneficial uses.

3. A 74 percent overall reduction of total nitrogen loading and an 85 percent overall reduction of total phosphorous loading to Rainbow Creek from point sources (Caltrans) and nonpoint sources (commercial nurseries, agricultural lands, residential land uses, and septic tanks) are required to meet the TMDLs.

4. Nutrient wasteload and load reductions are required over a 16-year phased compliance schedule.

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 the fall of 2006 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. In September 2006 the USGS began drilling and constructing the Pala Community Park Monitoring Well as part of this network. The monitoring well was completed with six piezometers and continuous water level recording devices. Groundwater levels and water quality data for the monitoring well will be reported in the annual Watermaster Report beginning in year 2006-07.

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 rose 5 feet in 2005-06. Water levels in Well 7S/3W-20C9 in the Murrieta Division of Western MWD area rose 30 feet from last year. Well 8S/2W-29G1 on the Pechanga Indian Reservation in Wolf Valley became dry at the end of 2003-04. The declining water levels in Well 8S/2W-29G1 appear to be attributed to recent relatively dry hydrologic conditions and pumping of the nearby New Kelsey Well. To allow continued monitoring of water levels on the Reservation, Well No. 29G1 is being replaced with Well No. 8S/2W-29B9 which declined 7.1 feet. As can be seen from the long-term hydrographs groundwater levels in the Rancho California WD and Pechanga Reservation areas are at the low end of the broad range of groundwater levels experienced in recent years. Groundwater levels in Western MWD - Murrieta Division area recovered in 2005-06 to the high end of the range of reported groundwater levels.

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 2005-06, Eastern MWD exported 3,510 acre feet of treated wastewater from the watershed for reuse and 6,058 acre feet were exported for operational reasons for discharge to Temescal Creek. Additional treated wastewater may have been exported from the watershed through recirculation in the system but such additional amounts have not been determined. In addition, Rancho California WD exported 1,062 acre feet of treated wastewater 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 2005-06, approximately 9,397 tons of salt were exported by Eastern MWD and Rancho California WD through the export of 10,630 acre feet of wastewater.

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, Temecula Creek and Santa Gertrudis Creek. In 2005-06 wells discharged 157 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	8	440	8/09/05
102	20	700	6/20/95
106	2	310	5/11/04
108	6	360	5/12/06
118	117	590	11/03/05
231	4	1490	5/24/01
Total	157		

SECTION 10 - WATER QUALITY

10.1 Surface Water Quality

The USGS collected continuous water quality measurements for dissolved oxygen, pH, specific conductance and temperature at the Santa Margarita River near Temecula gaging station during 2005-06. Data collected at the station are published by the USGS. 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 2006.

Surface water quality data collected by the USGS in 2004-05 for Cahuilla Creek are shown in Appendix Table D-12. No surface water quality data for Cahuilla Creek were collected in 2005-06.

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 2005-06 water quality data were collected from wells at Western MWD – Murrieta Division, Rancho California WD, Pechanga Indian Reservation, and Camp Pendleton.

Western MWD – Murrieta Division sampled five wells in 2005-06. Concentrations of dissolved solids ranged from 310 to 1000 mg/l as shown in Appendix D-3. Total dissolved solids in two wells exceeded the Basin Plan Objective of 750 mg/l. Concentrations of nitrates were generally far below the drinking water standard of 45 mg/l as nitrate for samples in four wells ranging from less than 1 mg/l to 21 mg/l. However, the nitrate concentration for the Holiday Well sampled in January 2006 exceeded the drinking water standard. Groundwater production from the Holiday Well ceased in March 2006.

Water quality data for Rancho California WD wells are shown in Appendix Table D-4. Samples were collected from 40 wells during 2005-06. Of the 40 wells, 26 wells were analyzed for nitrates only. In these wells, nitrate concentrations ranged up to 25 mg/l as nitrate, with the drinking water standard being 45 mg/l as nitrate. Samples from the remaining 14 wells were subjected to standard chemical analysis.

TABLE 10.1

SANTA MARGARITA RIVER WATERSHED

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

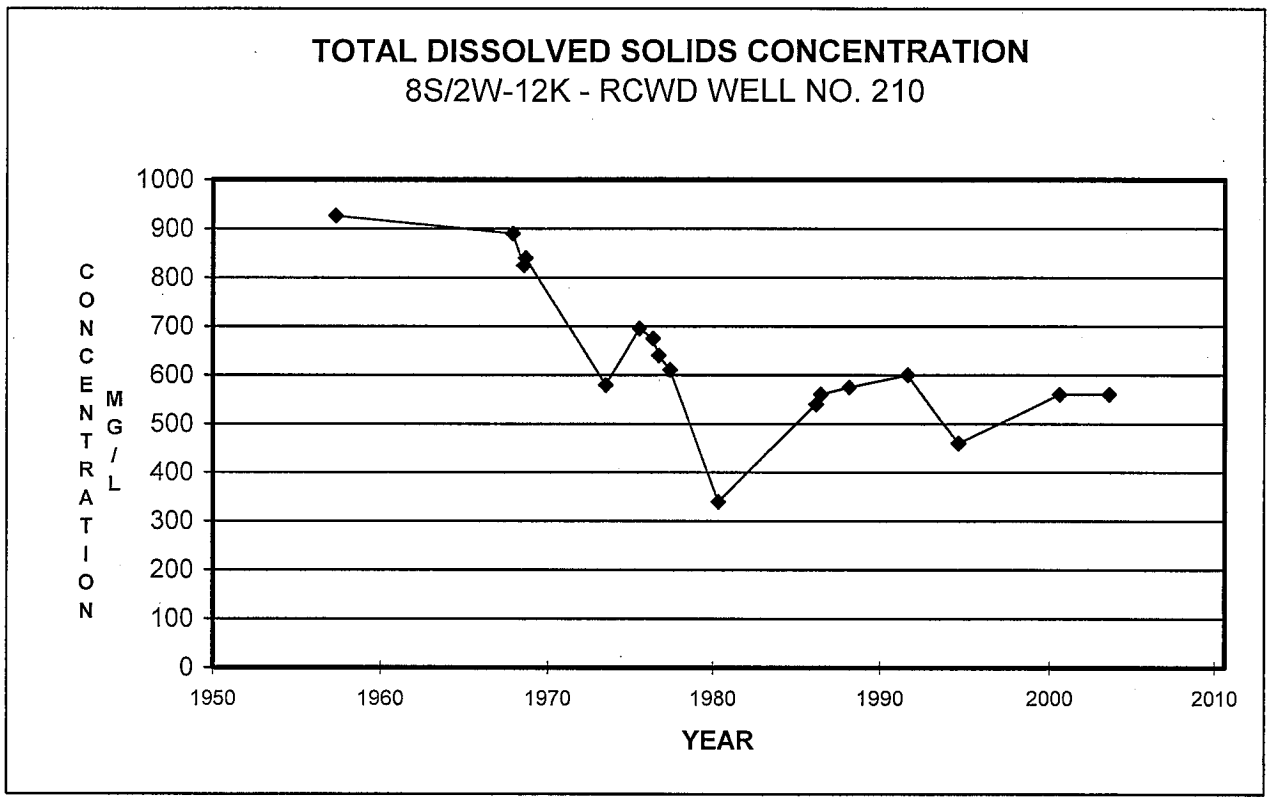
Water Year 2005-06

COLLECTION MONTH/YEAR	DISSOLVED OXYGEN mg/l		pH		SPECIFIC CONDUCTANCE microsiemens/cm		TEMPERATURE Deg C	
	High	Low	High	Low	High	Low	High	Low
2005								
October	11.2	7.4	8.2	7.4	1280	498	23.0	14.4
November	13.6	7.3	8.0	7.7	1450	883	20.4	8.2
December	10.4	7.8	8.1	7.7	1440	886	16.3	9.2
2006								
January	11.1 (P/R)	6.6 (P/R)	8.3 (P/R)	7.2 (P/R)	1150 (P/R)	239 (P/R)	16.6 (P/R)	10.2 (P/R)
February	N/R	N/R	8.5 (P/R)	7.8 (P/R)	866 (P/R)	707 (P/R)	13.1 (P/R)	10.9 (P/R)
March	N/R	N/R	8.4 (P/R)	7.5 (P/R)	1150 (P/R)	682 P/R)	19.4 (P/R)	9.6 (P/R)
April	8.9 (P/R)	7.7 (P/R)	8.6 (P/R)	8.0 (P/R)	785 (P/R)	636 P/R)	18.1 (P/R)	13.0 (P/R)
May	9.3 (P/R)	8.6 (P/R)	8.4 (P/R)	8.2 (P/R)	739 (P/R)	519 (P/R)	19.1 (P/R)	17.4 (P/R)
June	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
July	7.3 (P/R)	4.9 (P/R)	8.6 (P/R)	7.7 (P/R)	816 (P/R)	470 (P/R)	30.1 (P/R)	26.2 (P/R)
August	9.8	6.8	8.5	7.9	829	678	27.3	25.2
September	9.3 (P/R)	5.2 (P/R)	8.3 (P/R)	7.7 (P/R)	842 (P/R)	633 (P/R)	27.1 (P/R)	20.2 (P/R)

N/R - No Record
P/R - Partial Record - Indicates months with interruptions in record at times due to malfunction of recording equipment. High and low values indicated for days with reported data. Daily data and number of days with no record can be viewed at the following website: *http://web10capp.er.usgs.gov/adr06_lookup/search.jsp* searching by site number 11044000

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



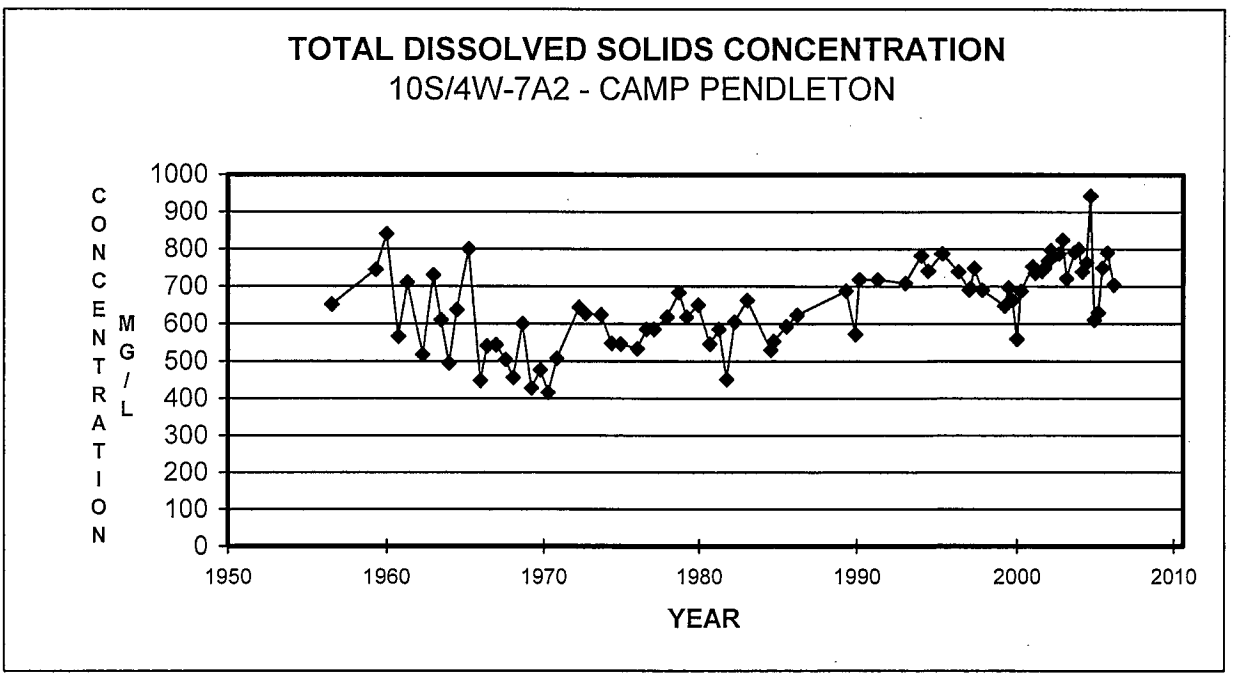
Appendix Table D-5 shows water quality data collected by the USGS from wells on Indian Reservations. In 2005-06 samples were collected from six wells on the Pechanga Indian Reservation. For the Pechanga wells total dissolved solids concentrations ranged from 222 to 413 mg/l showing moderate declines from the prior year. Nitrate concentrations ranged from <0.06 to 8.48 mg/l as nitrogen.

In 2005-06 samples were collected from three wells on the Cahuilla Indian Reservation. Total dissolved solids concentrations ranged from 160 to 441 mg/l and nitrate concentrations ranged from 1.07 to 8.26 mg/l as nitrogen.

During 2005-06 samples of groundwater were collected from nine 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 nine wells sampled, seven provided one or more samples where total dissolved solids concentrations exceeded 750 mg/l, the Basin Plan Objective. In five of the nine wells, one or more of the samples taken had total dissolved solids concentration that exceeded those in the prior year.

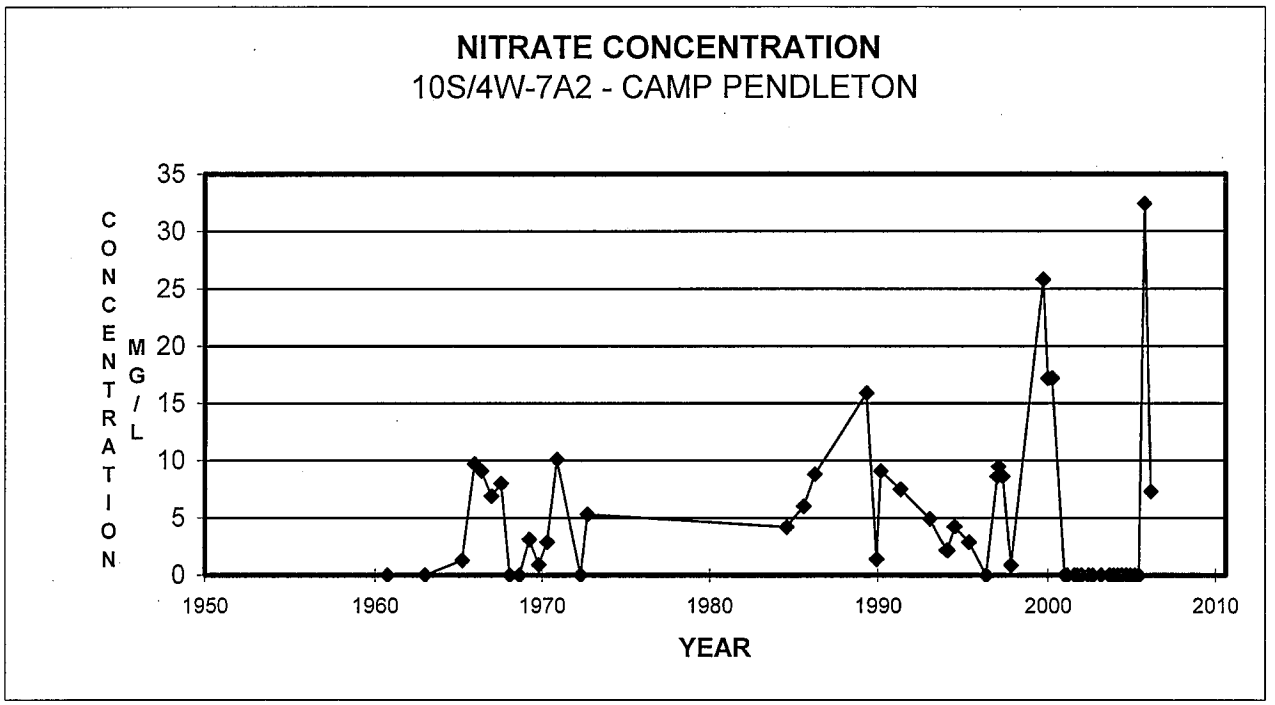
Historical total dissolved solids concentrations for Camp Pendleton Well 7A2 are shown on Figure 10.2 for samples collected since mid-1950. The figure shows a decline between mid-1950 and 1970, then a period of increasing concentration to levels in the 550-950 mg/l range. Analysis of samples collected in 2005-06 indicated total dissolved solids concentrations of 704 and 790 mg/l.

FIGURE 10.2



Historical nitrate concentrations for the same well (7A2) are shown on Figure 10.3. The eight samples collected in 2003-04 and 2004-05 indicated there were no detected concentrations of nitrate. However, the two samples collected in 2005-06 show nitrate concentrations ranging from 7.3 to 32.4 mg/l. The nitrate concentration of 33.3 mg/l is the highest value for data reported since 1960.

FIGURE 10.3



WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 2006 the hydrologic index was determined and the year classified as a "Below Normal" hydrologic year. The hydrologic year establishes the required flows at the Santa Margarita River near Temecula gaging station for the calendar year. Required flows for 2005-06, a "Below Normal" 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 issues 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 near Temecula gaging station 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 from MWD's Outlet WR-34 into the river immediately upstream from the USGS gaging station.

Flow requirements are based on two-thirds of the median natural flow of the Santa Margarita River at the Gorge for a given hydrologic year type. 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, but not less than 3.0 cfs. The District may earn Climatic Credits if it has provided Make-Up Water in excess of the Actual Requirement. The Climatic Credit is equal to the Make-Up Water released less the Actual Requirement less Credits. 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
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT**

2006 - BELOW NORMAL YEAR

Month	USGS Official 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 /3	Discharge from WR-34 Per MWD AF	Climatic Credits Earned AF /4	Camp Pendleton Groundwater Account /5 Input AF	Camp Pendleton Groundwater Account /5 Cumulative Balance AF
Jan	1,400.0	1,415.2	10.7	8.0	14	450.3 **	42.3	0.0	5,000.0
Feb	2,166.0	2,120.3	10.7	8.0	4	607.0	205.9	0.0	5,000.0
Mar	2,023.1	2,058.4	10.7	8.0	0	423.3	94.5	0.0	5,000.0
Apr	2,646.9	2,534.7	10.7	8.0	0	510.3	133.8	0.0	5,000.0
May	364.6	357.2	5.7	5.7	0	320.6	0.0	0.0	5,000.0
June	294.5	293.2	4.9	4.9	0	274.9	0.0	0.0	5,000.0
July	276.9	266.4	4.3	4.3	0	260.5	0.0	0.0	5,000.0
Aug	271.1	276.1	4.4	4.4	0	256.0	0.0	0.0	5,000.0
Sept	248.1	244.8	4.1	4.1	0	241.1	0.0	0.0	5,000.0
Oct	246.5	245.0	3.9	3.9	0	232.7	0.0	0.0	5,000.0
Nov	272.9	272.9	4.5	4.5	1	235.5	0.0	0.0	5,000.0
Dec	255.7	289.0	5.3/3.3 *	5.3	0	185.0	0.0	0.0	5,000.0
TOTAL	**10,466.4**	**10,373.1**			**19**	**3,997.2**	**476.5**	**0.0**	**FULL**

* On November 30, 2006, Camp Pendleton requested to forego Make-Up Water from December 4 through December 31, 2006, by reducing the required flow to simulate Critically Dry Hydrologic Conditions.

** - Includes 52 acre feet from System River Meter

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.8 cfs CAP Credit less 0 Climatic 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 - The 14 days in January when the 10-day moving average was less than the required flow were due to an MWD Barrell 5 shutdown from January 9 - 18, 2006.

4 - 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.

5 - 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.

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 USGS official discharge and the USGS 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 official discharge is a more refined estimate developed later by the USGS for publication.

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 19 days during the year. However, the 14 days that occurred in January were due to a Metropolitan Water District Barrel 5 operational shutdown. During the remaining five days the ten-day average flow dropped below the required flow by 0.1 to 0.2 cfs.

During 2006, the total releases by Rancho California WD from WR-34 were 3,997 acre feet. In addition, Cap Credits in the amount of 191 acre feet were used resulting in 206 acre feet of Cap Credits remaining for use by Rancho California WD in 2007. Also, in December 2006, Camp Pendleton requested to forego make-up water in the amount of 111 acre feet to reduce the impact of accumulating additional Cap Credits.

Also in 2006, Climatic Credits of 476 acre feet were accumulated for use in subsequent years to meet required releases by Rancho California WD.

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. The maximum cumulative balance for the Camp Pendleton groundwater account is 5,000 acre feet. During 2006, Camp Pendleton's groundwater account was maintained at the maximum balance of 5,000 acre feet.

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, 2006.

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 2005-06, Camp Pendleton continued to develop a monitoring plan for the Santa Margarita River.

Also in 2005-06, Camp Pendleton and Rancho California WD contracted with the USGS to construct a multi-level monitoring well for the Murrieta-Temecula groundwater basin. The Pala Park Groundwater Monitoring Well is located near the confluence of Pechanga and Temecula creeks and was completed at a total depth of 1,499 feet. Six piezometers were installed for continuous water level recording and the Technical Advisory Committee is developing an ongoing water quality monitoring program. The USGS monitoring program for the Pala Park Groundwater Monitoring Well will be included in the ongoing Watermaster budget beginning in year 2007-08. It is anticipated that groundwater level and water quality data from the monitoring well will be reported in the Watermaster Report beginning in 2006-07. Additional information concerning the construction of the monitoring well and groundwater levels can be found at the following website: http://ca.water.usgs.gov/temecula/.

11.5 CWRMA Accounting Agreement

On February 21, 2006, Camp Pendleton and Rancho California WD entered into the accounting agreement that is provided in Appendix E. The agreement documents agreed-upon accounting methods under CWRMA and memorializes credits earned and used by each party in calendar years 2003, 2004, and 2005. The accounting agreement does not modify or replace the language or intentions of the CWRMA.

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:

	Water Year	Watermaster Office $	USGS Pala Park Well $	USGS Gaging Stations $	Total $
Current Year	2006-07	281,700	------	168,300	450,000
Projected Years	2007-08	310,225	20,500	187,275	518,000
	2008-09	325,700	21,500	196,600	543,800
	2009-10	342,000	22,600	206,400	571,000
	2010-11	359,100	23,700	216,700	599,500
	2011-12	377,100	24,900	227,500	629,500

SECTION 13 - WATERMASTER OFFICE BUDGET 2007-2008

A total Watermaster Budget of $518,000 for the Water Year ending September 30, 2008, is shown below.

This budget includes $310,225 for the Watermaster Office and $207,775 for USGS gaging station operations and groundwater monitoring. The budgeted cost for services provided by the U. S. Geological Survey is based on the annual renewal of a cooperative agreement with the Watermaster.

	APPROVED BUDGET CURRENT YEAR 2006-07 $	PROPOSED BUDGET 2007-08 $
Watermaster Office		
Rent	12,000	13,800
Accounting Services	3,800	5,800
Supplies	1,000	1,100
General Liability & Professional Insurance	400	500
Printing	2,300	2,400
Audit	3,000	5,000
Publications	2,400	2,500
Clerical/Data Management	68,700	73,000
Telephone/Internet	3,000	2,500
Miscellaneous Operating/Maintenance	1,600	1,625
Mileage/Travel	500	700
Office Equipment and Software	2,000	4,000
Internet/Network/Website	----------	11,300
Watermaster		
Consulting Services	161,000	166,000
Travel Reimbursement	20,000	20,000
SUBTOTAL WATERMASTER OFFICE	**$ 281,700**	**$ 310,225**
USGS		
Gaging Station Operation and Maintenance	$ 141,650	$ 161,625
Water Quality Operation and Maintenance	26,650	25,650
Pala Community Park Well Water Levels	----------	10,500
Pala Community Park Well Water Quality	----------	10,000
SUBTOTAL USGS	**$ 168,300**	**$ 207,775**
TOTAL	**$ 450,000**	**$ 518,000**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

APPENDIX A

WATER PRODUCTION AND USE

WATER YEAR 2005-06

August 2007

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-1

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT

2005-06

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/	REUSE OUTSIDE SMRW	OTHER REUSE 5/	TOTAL
2005															
OCT	0	2,405	278	2,127	2,127	0	0	2,021	2,021	106	2,127	318	253	651	1,222
NOV	0	2,497	129	2,368	2,368	0	0	2,249	2,249	119	2,368	204	228	756	1,188
DEC	0	2,289	532	1,757	1,757	0	0	1,669	1,669	88	1,757	226	139	764	1,129
2006															
JAN	0	2,010	520	1,490	1,490	0	0	1,415	1,415	75	1,490	167	50	997	1,214
FEB	0	2,093	193	1,900	1,900	0	0	1,805	1,805	95	1,900	173	283	683	1,139
MAR	0	1,267	531	736	736	0	0	699	699	37	736	101	58	1,089	1,248
APR	0	1,586	218	1,368	1,368	0	0	1,300	1,300	68	1,368	96	170	930	1,196
MAY	0	3,318	316	3,002	3,002	0	0	2,853	2,853	149	3,002	271	357	395	1,023
JUNE	0	4,518	887	3,631	3,631	0	0	3,449	3,449	182	3,631	362	380	438	1,180
JULY	0	5,178	1,200	3,978	3,978	0	0	3,779	3,779	199	3,978	375	529	250	1,154
AUG	0	4,672	988	3,684	3,684	0	0	3,500	3,500	184	3,684	405	551	253	1,209
SEPT	0	4,574	1,081	3,493	3,493	0	0	3,318	3,318	175	3,493	410	512	190	1,112
TOTAL	0	36,407	6,873	29,534	29,534	0	0	28,057	28,057	1,477	29,534	3,108	3,510	7,396	14,014

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 910 AF of sewage diverted to RCWD

5/ Other Reuse includes changes of storage in Winchester and Sun City storage ponds, evaporation and percolation losses, and discharges to Temescal Creek in the Santa Ana Watershed of 6,058 AF.

TABLE A-2

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

2005-06

Quantities in Acre Feet

	PRODUCTION			USE						
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE	WASTEWATER EXPORTED
2005										
OCT	0	956	956	14	365	577	956	0	956	105
NOV	0	570	570	7	223	340	570	0	570	107
DEC	0	663	663	10	286	367	663	0	663	70
2006										
JAN	0	720	720	11	334	375	720	0	720	86
FEB	0	609	609	9	261	339	609	0	609	77
MAR	0	475	475	3	206	266	475	0	475	93
APR	0	453	453	3	208	242	453	0	453	82
MAY	0	882	882	8	383	491	882	0	882	66
JUNE	0	923	923	13	368	542	923	0	923	62
JULY	0	1,468	1,468	23	625	820	1,468	0	1,468	63
AUG	0	1,002	1,002	12	394	596	1,002	0	1,002	64
SEPT	0	1,098	1,098	14	465	619	1,098	0	1,098	63
TOTAL	0	9,819	9,819	127	4,118	5,574	9,819	0	9,819	938

* Assumes no loss

TABLE A-3

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

2005-06

Quantities in Acre Feet

	PRODUCTION								USE						WASTEWATER			
MONTH YEAR	TOTAL LAKE SKINNER DIVERSIONS	LAKE SKINNER DIVERSIONS DELIVERED	TOTAL DISTRICT IMPORT 1/	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	SMRW IMPORT 2/	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
2005																		
OCT	0	0	1,509	340	1,169	538	878	878	549	53	416	1,018	(140)	878	139	2.00	0.85	136
NOV	0	0	1,548	321	1,227	564	885	885	468	44	240	752	133	885	130	2.20	0.54	127
DEC	0	0	1,442	305	1,136	523	828	828	488	41	309	838	(10)	828	136	1.40	0.58	134
2006																		
JAN	0	0	1,141	252	890	409	661	661	385	40	208	633	28	661	144	1.50	0.54	142
FEB	0	0	984	240	744	342	582	582	378	37	264	679	(97)	582	126	1.50	0.66	123
MAR	13	13	459	36	423	195	231	244	113	27	151	291	(47)	244	149	0.30	0.69	148
APR	2	2	773	120	652	300	420	422	138	29	175	342	80	422	145	0.90	0.68	144
MAY	91	91	1,580	243	1,337	615	858	949	344	42	179	565	384	949	165	2.40	0.74	162
JUNE	0	0	2,028	381	1,648	758	1,139	1,139	556	53	340	949	190	1,139	148	2.90	0.46	144
JULY	0	0	2,494	508	1,986	914	1,422	1,422	746	71	317	1,134	288	1,422	185	4.30	0.58	180
AUG	0	0	2,286	710	1,576	725	1,435	1,435	973	68	494	1,535	(100)	1,435	163	3.40	0.59	159
SEPT	0	0	2,159	538	1,621	745	1,283	1,283	820	73	348	1,241	42	1,283	120	3.00	0.59	117
TOTAL	106	106	18,403	3,994	14,409	6,628	10,622	10,728	5,958	578	3,441	9,977	751	10,728	1,750	26	8	1,716

1/ Includes deliveries from Lake Skinner Diversion

2/ 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
2005-06
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
2005									
OCT	0	67	67	64	0	0	64	3	67
NOV	0	67	67	64	0	0	64	3	67
DEC	0	26	26	25	0	0	25	1	26
2006									
JAN	0	12	12	11	0	0	11	1	12
FEB	0	25	25	24	0	0	24	1	25
MAR	0	6	6	6	0	0	6	0	6
APR	0	7	7	6	0	0	6	1	7
MAY	0	8	8	7	0	0	7	1	8
JUNE	0	45	45	43	0	0	43	2	45
JULY	0	83	83	79	0	0	79	4	83
AUG	0	74	74	70	0	0	70	4	74
SEPT	0	86	86	82	0	0	82	4	86
TOTAL	0	506	506	481	0	0	481	25	506

* Construction water
** Loss = 5%

TABLE A-5

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION
2005-06
Quantities in Acre Feet

	PRODUCTION			USE					
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE
2005									
OCT	208	4	212	36	53	168	257	(45)	212
NOV	179	0	179	19	47	127	193	(14)	179
DEC	168	1	169	23	23	112	158	11	169
2006									
JAN	156	0	156	18	24	101	143	13	156
FEB	162	0	162	21	22	101	144	18	162
MAR	120	1	121	14	19	86	119	2	121
APR	125	0	125	16	29	79	124	1	125
MAY	218	0	218	19	21	112	152	66	218
JUNE	226	43	269	33	28	172	233	36	269
JULY	229	77	306	40	32	205	277	29	306
AUG	230	92	322	52	55	242	349	(27)	322
SEPT	212	98	310	47	43	191	281	29	310
TOTAL	2,233	316	2,549	338	396	1,696	2,430	119	2,549

* Loss = Total production less total delivered

TABLE A-6

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT

2005-06

Quantities in Acre Feet

	PRODUCTION			USE				
MONTH YEAR	LOCAL	IMPORT TO WATERSHED	TOTAL IN WATERSHED	AG	COMMERCIAL/ DOMESTIC	TOTAL DELIVERIES	LOSS*	TOTAL USE
2005								
OCT	0	159	159	128	17	145	14	159
NOV	0	136	136	113	11	124	12	136
DEC	0	143	143	118	12	130	13	143
2006								
JAN	0	112	112	90	12	102	10	112
FEB	0	108	108	89	9	98	10	108
MAR	0	109	109	89	10	99	10	109
APR	0	51	51	40	6	46	5	51
MAY	0	87	87	72	7	79	8	87
JUNE	0	179	179	150	13	163	16	179
JULY	0	249	249	207	19	226	23	249
AUG	0	258	258	216	19	235	23	258
SEPT	0	260	260	217	19	236	24	260
TOTAL	0	1,851	1,851	1,529	154	1,683	168	1,851

*Loss = 10% of use

TABLE A-7

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

2005-2006
Quantities in Acre Feet

	PRODUCTION							USE									VAIL	RECLAIMED WASTEWATER
MONTH YEAR	WELLS 1/	EXPORT 2/	NET WELLS	IMPORT 3/	EXPORT 4/	NET IMPORT	TOTAL	AG	AG/ DOM	COMM	DOM	SMR RELEASE 5/	IMPORT RECHARGE TO STORAGE 6/	TOTAL USE	LOSS 7/	TOTAL	RELEASE AND RECHARGE 8/	REUSED IN SMRW 9/
2005																		
OCT	2,432	41	2,391	4,027	69	3,958	6,349	3,543	742	568	3,123	558	49	8,583	(2,234)	6,349	273	402
NOV	2,463	24	2,439	4,685	43	4,642	7,081	2,521	539	515	2,410	520	326	6,831	250	7,081	25	368
DEC	2,598	34	2,564	3,439	40	3,399	5,963	2,691	547	379	2,205	376	411	6,609	(646)	5,963	0	375
2006																		
JAN	2,112	24	2,088	2,957	28	2,929	5,017	1,891	399	350	1,775	465	327	5,207	(190)	5,017	215	361
FEB	2,307	28	2,279	3,423	31	3,392	5,671	1,937	379	355	1,775	616	602	5,664	7	5,671	205	322
MAR	1,071	14	1,057	2,074	21	2,053	3,110	1,517	323	359	1,629	430	438	4,696	(1,586)	3,110	0	453
APR	1,836	13	1,823	2,241	11	2,230	4,053	303	90	268	1,280	529	404	2,874	1,179	4,053	0	418
MAY	2,689	20	2,669	5,078	38	5,040	7,709	1,305	266	312	1,851	334	347	4,415	3,294	7,709	(223)	409
JUNE	1,609	16	1,593	7,353	91	7,262	8,855	2,926	614	463	2,983	289	462	7,737	1,118	8,855	(29)	383
JULY	3,193	37	3,156	9,983	120	9,863	13,019	3,846	794	559	3,658	289	1,460	10,606	2,413	13,019	577	447
AUG	2,593	32	2,561	8,278	113	8,165	10,726	4,333	919	533	3,829	264	955	10,833	(107)	10,726	384	433
SEPT	2,656	34	2,622	7,850	120	7,730	10,352	4,075	836	529	3,691	253	382	9,766	586	10,352	(28)	425
TOTAL	27,559	317	27,242	61,388	725	60,663	87,905	30,888	6,448	5,190	30,209	4,923	6,163	83,821	4,084	87,905	1,399	4,796

1/ Wells recovered 26,297 AF from older alluvium and 1,262 AF from Vail recharge
2/ Groundwater used in San Mateo Watershed
3/ Includes 37,802 AF direct use; 18,820 AF direct recharge; and 4,714 AF from MWD WR-34; and 52 AF from System River Meter
4/ Import used in San Mateo Watershed
5/ 4 AF into Temecula Creek from Well 231; 153 AF into Murrieta Creek from Wells 101, 102, 106, 108 and 118, and 52 AF from System River Meter; and 4,714 AF from MWD WR-34
6/ 18,820 AF of direct recharge less 12,657 AF of import recovery
7/ Loss = Total production less total use and includes 342 acre feet pumped from wells 102, 135 and 146 directly into reclaimed water system
8/ Vail releases and the related Vail recharge are computed as Total Release less Inflow to be bypassed
9/ Does not include EMWD reclaimed wastewater production

TABLE A-8

U.S.M.C. - CAMP PENDLETON

2005-06

Quantities in Acre Feet

	PRODUCTION			USE						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	FROM INSIDE SMRW 4/	FROM OUTSIDE SMRW 5/	TOTAL EXPORTED TO OCEANSIDE OUTFALL	USED ON GOLF COURSE OUTSIDE SMRW
2005													
OCT	210	438	648	82	128	191	247	375	273	88	146	234	44
NOV	88	374	462	34	54	164	210	264	198	83	124	207	29
DEC	9	423	432	4	5	183	240	245	187	85	124	209	24
2006													
JAN	0	359	359	0	0	155	204	204	155	87	132	219	19
FEB	0	357	357	0	0	154	203	203	154	77	116	193	14
MAR	0	320	320	0	0	139	181	181	139	80	124	204	23
APR	6	330	336	2	4	142	188	192	144	82	117	199	31
MAY	72	432	504	28	44	187	245	289	215	62	122	184	42
JUNE	164	501	665	64	100	217	284	384	281	84	122	206	49
JULY	346	615	961	135	211	265	350	561	400	82	138	220	55
AUG	328	602	930	128	200	260	342	542	388	85	143	228	61
SEPT	307	560	867	120	187	244	316	503	364	74	150	224	58
TOTAL	1,530	5,311	6,841	597	933	2,301	3,010	3,943	2,898	969	1,558	2,527	449 E

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

E - Estimate

TABLE A-9

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

2005-06

Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
MONTH YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL/ DOMESTIC	LOSS 2/	TOTAL USE	EXPORTED
2005								
OCT	0.0	3.2	3.2	0.0	2.9	0.3	3.2	0.9
NOV	0.0	1.6	1.6	0.0	1.5	0.1	1.6	0.5
DEC	0.0	5.7	5.7	0.0	5.2	0.5	5.7	0.6
2006								
JAN	0.0	4.8	4.8	0.0	4.4	0.4	4.8	0.5
FEB	0.0	4.8	4.8	0.0	4.4	0.4	4.8	0.7
MAR	0.0	2.9	2.9	0.0	2.6	0.3	2.9	0.7
APR	0.0	4.7	4.7	0.0	4.3	0.4	4.7	0.7
MAY	0.0	6.0	6.0	0.0	5.5	0.5	6.0	0.7
JUNE	0.0	6.7	6.7	0.0	6.1	0.6	6.7	0.5
JULY	0.0	10.2	10.2	0.0	9.3	0.9	10.2	0.6
AUG	0.0	7.9	7.9	0.0	7.2	0.7	7.9	0.6
SEPT	0.0	5.6	5.6	0.0	5.1	0.5	5.6	0.6
TOTAL	0.0	64.1	64.1	0.0	58.3	5.8	64.1	7.5

1/ - Import via Fallbrook Public Utility District

2/ - Loss = 10% of Use

TABLE A-10

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

2005-06

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
2005								
OCT	6.40	2.83	2.03	0.55	13.43	73.10	5.34	5.87
NOV	5.40	1.94	2.16	0.34	27.10	53.40	2.92	5.75
DEC	4.60	2.54 [1]	1.87	0.65	2.61	48.80	3.02	5.32
2006								
JAN	4.30	2.54 [1]	2.55	0.64	3.45	42.50	2.27	5.62
FEB	4.40	2.54 [1]	0.76	1.29	1.39	45.80	1.56	4.81
MAR	4.00	10.82	0.09	1.80	0.41	45.20	1.73	3.20
APR	3.90	2.70 [2]	1.68	2.13	27.47	41.70	1.67	2.64
MAY	4.20	2.70 [2]	4.17	1.96	33.96	62.50	2.39	5.51
JUNE	10.90	6.52 [3]	4.46	2.61	48.23	74.50	2.85	6.80
JULY	5.60	6.52 [3]	6.40	2.61	44.24	103.10	2.94	6.60
AUG	6.20	4.86 [4]	8.86	2.61	42.88	87.20	6.76	6.92
SEPT	5.90	4.86 [4]	5.89	2.61	23.43	75.70	6.80	5.64
SUBTOTAL			40.92	19.80		753.50		
			158.00 *	7.50 *		0.00 **		
TOTAL	65.80 0.00	51.37	198.92	27.30	268.60	753.50	40.25	64.68

1/ Average for December, January, and February
2/ Average for April and May
3/ Average for June and July
4/ Average for August and September
* Estimated non-metered use
** Surface Diversion

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

APPENDIX B

WATER PRODUCTION AND USE

WATER YEAR 1965-66 TO WATER YEAR 2005-06

August 2007

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	REUSE OUTSIDE SMRW	OTHER REUSE 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	1,386	0	5	1,391	73	1,464	0	0		0	100	100
1969	0	1,741	0	1,741	1,741	1,648	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	2,638	134	0		0	155	289
1977	431	2,947	0	2,947	3,378	2,723	64	423	3,209	169	3,378	244	0		0	70	314
1978	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	1,894	2,183	1,784	0	290	2,074	109	2,183	350	0		0	147	497
1980	281	1,192	0	1,192	1,473	1,116	0	283	1,399	74	1,473	375	0		0	220	595
1981	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	236	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	600	0		0	509	1,109
1987	89	1,155	0	1,155	1,244	638	0	543	1,182	62	1,244	650	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	8,578	2,977	5,601	6,093	978	0	4,810	5,788	305	6,093	1,567	0		0	2,160	3,727
1991	456	16,621	7,142	9,479	9,935	851	0	8,587	9,438	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	1,894	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	2,687	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	3,284	3,692	0	0	5,226	5,226	(1,534)	3,692	3,126	2,319	882	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	4,746	250	4,996	3,741 6/	3,070	1,063	0	0	7,874
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
2005	0	27,636	5,518	22,158	22,158	0	0	21,050 R	21,050	1,108	22,158	2,664 12/	2,690	8,986	0	0	14,340
2006	0	36,407	6,873	29,534	29,534	0	0	28,057	28,057	1,477	29,534	3,108 13/	3,510	7,396	0	0	14,014

1/ Does not include deliveries to Rancho California WD or Elsinore Valley MWD
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/ Other Reuse includes changes in storage in Winchester and Sun City storage ponds, evaporation and percolation losses, and discharges to the Santa Ana Watershed
5/ Includes 905 AF of sewage 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 sewage 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
12/ Includes 574 AF of sewage diverted to RCWD
13/ Includes 910 AF of sewage diverted to RCWD

R - Revision

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
2005	0	8,215	8,215	104	3,044	5,067	8,215	0	8,215	927
2006	0	9,819	9,819	127	4,118	5,574	9,819	0	9,819	938

* 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	TOTAL LAKE SKINNER DIVERSIONS	LAKE SKINNER DIVERSIONS DELIVERED	WELLS	TOTAL DISTRICT IMPORT 1/	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	SMRW IMPORT 2/	TOTAL SMRW IMPORT	TOTAL PRODUCTION	AG	COMM/ DOM	TOTAL IN SMRW	LOSS 3/	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
2005	1,261	1,261	0	17,452	3,101	14,351	6,601	9,702	10,963	4,654	4,213	8,867	2,096	10,963
2006	106	106	0	18,403	3,994	14,409	6,628	10,622	10,728	5,958	4,019	9,977	751	10,728

1/ Includes deliveries from Lake Skinner Diversion beginning 2005
2/ Total SMRW production equals SMRW Import plus 30% local (1966-1971)
3/ 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
2005	2,505	73	1,822	24	16	1,782	0	0
2006	2,479	71	1,750	26	8	1,716	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
2005	0	556	556	528	0	0	528	28	556
2006	0	506	506	481	0	0	481	25	506

* Construction Water
** Loss = 5%

TABLE B-6

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION
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	99	321	432	89	521
1996	629	0	629	88	113	384	585	44	629
1997	638	0	638	76	99	392	567	71	638
1998	603	0	603	79	90	362	531	72	603
1999	827	0	827	79	125	548	752	75	827
2000	1,123	0	1,123	199	365	519	1,083	40	1,123
2001	1,389	0	1,389	163	414	740	1,317	72	1,389
2002	1,679	0	1,679	230	348	1,115	1,693	(14)	1,679
2003	1,748	102	1,850	272	275	1,340	1,887	(37)	1,850
2004	1,979	330	2,309	282	407	1,479	2,168	141	2,309
2005	2,098	75	2,173	262	274	1,539	2,075	98	2,173
2006	2,233	316	2,549	338	396	1,696	2,430	119	2,549

* 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
2005	0	25,135	1,610	1,331	133	1,464	146	1,610
2006	0	29,797	1,851	1,529	154	1,683	168	1,851

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	EXPORT 1/	NET WELLS	IMPORT	EXPORT 2/	NET IMPORT	TOTAL	AG	AG/ DOM	COMM	DOM	SMR RELEASE	IMPORT RECHARGE TO STORAGE	TOTAL USE	LOSS 3/	TOTAL	RELEASE AND RECHARGE	IRRIGATION 4/	REUSE IN SMRW	MURRIETA CREEK DISCHARGE 5/
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 6/			5,752	0	5,752	22,427						0				12,113	715	0	0
1984	25,660			6,716	0	6,716	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	26,997			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 6/	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 7/	47,253	488	47,741	6,253	0	352	0
1992	29,968			16,931	0	16,931	46,899	30,651		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			16,386	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 8/	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 8/	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 8/	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 8/	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 8/	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 8/	2,180
2003 R	25,240	64	25,176	50,927	247	50,680	75,856	30,277	4,645	4,457	26,044	4,896	2,750	73,069	2,787	75,856	(658)	0	3,780 8/	104
2004 R	25,353	312	25,041	63,170	762	62,408	87,449	33,467	5,549	4,883	29,314	3,201	5,094	81,508	5,941	87,449	(101)	0	3,257 8/	0
2005 R	27,606	318	27,288	48,245	579	47,666	74,954	25,138	4,961	4,748	26,395	3,384	5,162	69,788	5,166	74,954	(1,269)	0	4,284 8/	0
2006	27,559	317	27,242	61,388	725	60,663	87,905	30,888	6,448	5,190	30,209	4,923	6,163	83,821	4,084	87,905	1,399	0	4,796 8/	0

1/ Groundwater used in San Mateo Watershed
2/ Import used in San Mateo Watershed
3/ Loss = Total production less total use
4/ Irrigation 1966 to 1976 by pumping from Vail Lake.
Figures from 1966 to 1972 supplied by USGS; 1972 to 2006 supplied by RCWD.
5/ Discharge from 2MGD Demonstration project

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

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 SUPPLY	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	TOTAL EXPORTED 6/	USED ON GOLF COURSE OUTSIDE 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	2,306	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		362
1992	898	3,254	4,152	350	548	1,376	1,878	2,426	1,726	933	1,548	2,481		279
1993	1,067	2,879	3,946	416	651	1,201	1,678	2,329	1,617	1,049	1,926	2,975		205
1994	1,471	3,150	4,621	574	897	1,345	1,805	2,702	1,919	1,034	1,501	2,535		279
1995	985	3,768	4,753	384	601	1,588	2,180	2,781	1,972	980	1,473	2,453		280
1996	1,000	5,199	6,199	390	610	2,232	2,967	3,577	2,622	951	1,493	2,444		330
1997	1,066	5,238	6,304	416	650	2,244	2,994	3,644	2,660	988	1,932	2,920		509
1998	1,026	5,468	6,494	400	626	2,352	3,116	3,742	2,752	935	2,073	3,008		222
1999	1,064	5,054	6,118	415	649	2,145	2,909	3,558	2,560	893	2,130	3,023		205
2000	1,296	5,765	7,061	506	790	2,483	3,282	4,072	2,989	1,036	2,116	3,152		411
2001	1,025	5,341	6,366	399	626	2,314	3,027	3,653	2,713	1,065	2,075	3,140		454
2002	1,184	5,269	6,453	462	722	2,290	2,979	3,701	2,752	950	1,950	2,900		469
2003	1,270	5,210	6,480	495	775	2,218	2,992	3,767	2,713	999	1,688	2,687		415
2004	1,227	5,538	6,765	479	748	2,396	3,142	3,890	2,875	0	0	0	2,776	444
2005	1,317	4,902	6,219	514	803	2,134	2,768	3,571	2,648	0	0	0	2,758	489
2006	1,530	5,026	6,556	597	933	2,176	2,850	3,783	2,773	0	0	0	2,527	449

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/ For years 1966 - 2003 Wastewater Recharged in SMR equals effluent from Plants 3, 8 and 13 (partial).

5/ For years 1966 - 2003 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.

6/ Beginning January 2003, all wastewater (except water used on Golf Course in San Luis Rey Waterhshed) was exported to Oceanside Outfall during construction of new wastewater treatment plant

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
2005	0	40	40	0	36	4	40	16
2006	0	64	64	0	58	6	64	8

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

E - Estimate
P - Partial year data

TABLE B-11

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

Quantities in Acre Feet

	IMPORT	PRODUCTION						
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
1966	23.50							
1967	20.40							
1968	27.00							
1969	24.60							
1970	30.60							
1971	34.40							
1972	34.10							
1973	30.20							
1974	36.40							
1975	34.20							
1976	35.00							
1977	24.20							
1978	26.00							
1979	24.00							
1980	24.70							
1981	34.30							
1982	34.20							
1983	26.00							
1984	26.00							
1985	27.00							
1986	34.40							
1987	35.50							
1988	35.70							
1989	22.80	33.00	42.00	23.50	249.52			
1990	21.90	37.00	50.69	23.50	247.42			
1991	20.70	35.06	50.59	12.21	339.77	57.60		
1992	24.60	31.21	42.86	12.24	279.04	66.48		
1993	31.40	32.16	42.44	12.20	192.09	90.97		
1994	36.60	37.32	38.04	23.82 R	262.69	69.98		
1995	29.10	45.69	69.54	22.60 R	130.06	63.00		
1996	35.10	45.53	58.59	21.96 R	219.73	145.00		
1997	30.40	43.87	83.42	30.25 R	233.56	170.99		
1998	31.00	39.54	87.42	24.41 R	134.96	179.18		
1999	40.70	33.30	70.74	25.70 R	209.55	245.03		
2000	41.90	44.67	90.10	24.58 R	316.57	374.24		53.28
2001	58.70	45.00	208.64	23.21 R	274.25	295.00		74.87
2002	64.40	41.10	216.13	24.43 R	323.65	464.00	82.87	91.83
2003	42.40	44.04	201.63	34.56 R	255.93	604.40	81.61	74.70
2004	50.30	40.44	216.77	32.20 R	350.80	725.10	94.19	74.89
2005	62.20	38.26	187.06	18.09 R	208.08	608.00	55.87	66.95
2006	65.80	51.36	198.92	27.30	268.60	754.00	40.25	64.68

R - Revised

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

APPENDIX C

SUBSTANTIAL USERS OUTSIDE

ORGANIZED WATER SERVICE AREAS

AUGUST 2007

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 2005-2006	IRRIGATED CROP 2005-2006	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA								
Clawson, Gary A.	43425 Sage Road Aguanga, Ca. 92536	917-050-009 917-050-007 581-070-013 581-150-013 581-150-016 581-070-014	309.74 82.19 43.10 120.56 25.37 158.08	Total | of | | 30.00	Alfalfa	8S/1E-7N(1) 8S/1E-7N(2) 8S/1E-7Q(1) 8S/1E-7Q(2)	Total of | 90.00	
Strange, Owen W. and Elizabeth G. Val Verde Partners	m/t P.O. Box 1974 Rancho Santa Fe, Ca. 92067 43023 Hwy 79 Aguanga, CA 92536	583-040-022 583-040-021 583-130-001-3 583-120-001-2 583-060-003-9	97.78 13.45 80.00 120.00 41.60	Total | of | 90.00	Oats and Pasture	8S/1E-19Q(1) 8S/1E-19Q(2) 8S/1E-29L Diversion	0.00 150.00 	 250.00
Twin Creek Ranch/ Chester M. Mason Family Trust	c/o Jim Holden P. O. Box 519 Corona, Ca. 91718 44201 Hwy 79 Aguanga 44735 Hwy 79 Aguanga	583-120-081 583-120-083 583-120-084 583-150-001 583-140-014 583-140-015 583-140-016 583-140-018 583-140-020 583-140-019	17.29 68.09 179.39 80.00 48.03 40.00 40.00 10.09 10.15 10.00	65.00 30.00 15.00 15.00 35.00 38.00	Row Crops Row Crops Row Crops Row Crops Row Crops Row Crops	8S/1E-28N1 8S/1E-28N(2) 8S/1E-29H 8S/1E-33F 8S/1E-33G1 8S/1E-33B	Total | | of | | | | 792.00	

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2005-2006	IRRIGATED CROP 2005-2006	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 20.50	Citrus & Grass	8S/1E-18J(1)		
						8S/1E-18J(2)		
		581-160-015	7.42	6.00	Fruit and			
		581-150-009	7.00	10.00	Walnuts	8S/1E-18H(1)	30.60	
						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	61.18	
		581-180-021	2.15			8S/1E-17E	25.40	
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	
Wilson Creek Farms	Sage Road Aguanga, CA 92536 m/t P. O. Box 2921 Hemet, CA 92546	581-170-012	190.40	Total of 84.00	Potatoes	8S/1E-17B	350.00	
		581-170-013	99.63					
		581-180-005	2.76					
		581-180-009	120.00	20.00	Row Crops			
		581-190-013	280.00	80.00	Potatoes			
		581-190-014	40.00					
Wilson Creek Development LLC	Sage Road Aguanga, CA 92536 m/t P. O. Box 2921 Hemet, CA 92546	581-070-002	160.00					
		581-070-005	640.00			8S/1E-9Q		140.00
		581-100-013	80.00					
		581-100-019	30.00					
		581-100-020	10.00					
		581-100-022	20.00					
		581-100-038	9.53					
		581-100-039	9.23					
		581-100-040	8.91					
California Golf Academy	43590 Sage Road Aguanga, CA 92536 m/t 44535 Bedford Court Temecula, CA 92592	581-120-006	200.00	6.00	Grapes	8S/1E-8K2	24.00	
TOTAL AGUANGA GROUNDWATER AREA				**552.32**			**1,523.38**	**390.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2005-2006	IRRIGATED CROP 2005-2006	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	150.00	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	10.00	
						9S/2E-16M	77.00	
						9S/2E-16F1	49.00	
						9S/2E-16N1	18.00	
						9S/2E-16F2	0.00	
						9S/2E-16K - Diversion		96.00
		113-140-04	503.24					
		113-140-05	45.09					
		113-140-06	93.94					
		114-020-09	37.16	0.00				
		114-030-08	331.79			9S/2E-22	0.00	
		114-030-26	42.87					
Bergman, Arlie W. anc Coral R. (Water used on Agri-Empire, Inc.'s Fields)	37126 Hwy 79 Warner Springs, CA 92086	113-140-01	358.62	0.00			78.00	
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				**170.00**			**270.00**	**134.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2005-2006	IRRIGATED CROP 2005-2006	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	14.36	0.00				
		575-060-002	133.93	0.00		7S/3E-11N4	201.00	
						7S/3E-11P3	149.00	
	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	337.00	
		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	0.00				
		575-080-022	20.00	0.00				
		575-080-024	20.00	0.00				
		575-080-027	20.00	0.00				
		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 2005-2006	IRRIGATED CROP 2005-2006	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	210.00	Potatoes			
		576-060-031	16.09	0.00				
		576-060-033	79.45	0.00				
		576-060-038	5.41	0.00				
		576-070-003	80.00	0.00				
		576-070-005	116.57	0.00				
	Section 22	576-100-061	37.71	0.00				
		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	158.00	
		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	75.00	Potatoes			
		575-130-003	19.55	0.00				
		575-130-006	40.89	0.00				
		575-130-008	18.56	0.00				
		575-130-009	20.06	0.00				
		575-130-010	20.07	0.00				
		575-130-011	19.19	0.00				
		575-130-012	18.18	0.00				
		575-130-013	19.02	0.00				
		575-130-014	19.00	0.00				
		575-130-015	17.58	0.00				
		575-120-018	20.45	0.00				
		575-120-019	20.45	0.00				
		575-120-032	4.69	0.00				
		575-120-033	4.68	0.00				
		575-120-034	4.68	0.00				
		575-120-035	4.28	0.00				
	Section 23	575-140-019	105.04	60.00	Potatoes			

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2005-2006	IRRIGATED CROP 2005-2006	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-26B3	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-29C1	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-32D2		7S/2E-26E1	7S/3E-3OR2					
8S/3E-6B1		7S/2E-26L1	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					
							43.00	
SUBTOTAL ANZA VALLEY				**571.38**			**1,779.52**	**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				**621.38**			**1,834.52**	**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 2005-2006	IRRIGATED CROP 2005-2006	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	249.00	
Louidar	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				
Selina J Cavaletto	29379 Rancho Cal. Rd	942-240-003	40.83	of				
Lassalette Enterprise	#201	942-240-004	40.83	|				
	Temecula, CA 92390	942-240-005	39.31	155.00	Citrus	7S/2W-26B1	129.00	
A Peel Citrus	c/o Stage Ranch Farm Mgr	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)	275.00	
	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	75.00	Grapes			
Maggie Carter	Temecula, CA	917-250-004	80.00	Total		8S/1W-25Q	0.00	
Living Trust	m/t P. O. Box 28739	917-250-005	80.00	of		8S/1W-25P	22.00	
	Santa Ana, CA 92799-8739			|		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)	54.00	
						8S/1W-36K(2)	53.00	
						8S/1W-36K(3)	96.00	
						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 2005-2006	IRRIGATED CROP 2005-2006	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)	275.83	
		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 Pechanga Band

Wells in Basement Complex	Wells out of Watershed	Wells with QYAL and/or QTOAL			
		8S/2W-28R1		Total	
		8S/2W-29A2*		|	
		8S/2W-29B10*		|	
		8S/2W-29B11*		of	
		8S/2W-29F3		|	
		8S/2W-29J3*		|	
		* - Total production attributed to these four wells for 2005-06		|	
			Domestic Use	194.00	
			Commercial Use	401.00	
			Irrigation	159.00	
			TOTAL USE	754.00	0.00
TOTAL MURRIETA-TEMECULA GROUNDWATER AREA		**870.50**		**2,007.73**	**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 2005-2006	IRRIGATED CROP 2005-2006	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	101-271-17	47.79	12.00	Avocados	8S/4W-29D(1)	36.80	
	Fallbrook, CA 92028			2.00	Vegetables	8S/4W-29D(2)	Total	
Prestininzi, Pete	2525 E. Mission Road	101-220-12	31.63	6.00	Pasture & Flowers			
and Dorothy N.	Fallbrook, CA 92028	101-210-53	50.44	12.00	Avocados	8S/4W-20A(1)	16.00	
	Richmond Truck Trail				and Citrus	8S/4W-20H(1)	16.00	
	and DeLuz Murrieta Road					8S/4W-20H(2)	14.00	
						8S/4W-20A(2)		
						8S/4W-20H(3)		
						8S/4W-20A - Diversion		0.00
Varela, Alfred	41125 DeLuz Rd	101-210-11	15.23	8.50	Avocados	8S/4W-20Q(1)	21.60	
	Fallbrook, CA 92028			0.50	Citrus	8S/4W-20Q(2)	Total	
Lake Forest LLC	41257 DeLuz Rd	101-210-12	30.28	10.00	Avocados	8S/4W-20Q(1)	Total	
	Fallbrook, CA 92028			18.00	Citrus	8S/4W-20Q(2)	of	
	m/t 26051 Glen Canyon Dr.					8S/4W-20Q(3)	66.20	
	Laguna Hills, CA 92653			2.00	Row crops			
Wagner Family Trust	41128 DeLuz	101-210-23	17.19	15.00	Avocados			
	Fallbrook, CA 92028	101-210-22	4.55	3.00	Persimmons	8S/4W-20P(1)	0.00	
						8S/4W-20P(2)	0.00	
						8S/4W-20P(3)	36.00	
Chambers, Robert R.	m/t 11439 Laurelcrest Dr.	101-571-03	41.72	20.00	Flowers	8S/4W-28A	30.00	
and Clytia M.	Studio City, CA 91604					8S/4W-28A - Diversion		5.00
	40888 DeLuz-Murrieta Rd.	102-130-42	73.14	5.00	Fruit	9S/4W-9B(1)	51.00	
				20.00	Flowers	9S/4W-9B(2)	1.00	
						9S/4W-9B(3)	30.00	
Welburn, Douglas J.	40787 DeLuz Murrieta Rd.	101-571-08	26.98	8.50	Gourds/Melons	8S/4W-28G1	35.00	
and Sue	Fallbrook, CA 92028			1.50	Fruit Trees			
	40751 DeLuz Murrieta Rd							
Nezami, Mohammed	2193 Calle Rociada	101-312-02	58.17	45.00	Flowers	8S/4W-31K(1)	Total	
Bluebird Ranch	Fallbrook, CA			5.00	Avocados	8S/4W-31K(2)	of	
	m/t P. O. Box 1089					8S/4W-31K(3)		
	Fallbrook, CA 92088	101-312-01	82.29	42.00	Flowers	8S/4W-31L	162.18	
						8S/4W-31L - Diversion		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 2005-2006	IRRIGATED CROP 2005-2006	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 Deborah	39452 DeLuz Road Fallbrook, CA 92028 m/t 20664 Calle De La Ladera Yorba Linda, CA 92887	101-312-03	80.00	25.00	Nursery Stock	8S/4W-31J(2) 8S/4W-31J(3) 8S/4W-31J(4) 8S/4W-31J(5)	16.00 4.00 40.00 14.00	
		102-052-04 102-731-02	22.04 4.26	10.00	Avocados			
Daily Family Trust	40555 Ross Road Fallbrook, CA 92028	101-430-27 101-430-30 101-500-01 101-480-14	2.73 16.39 16.62 13.20	Total of 7.00 7.00 6.00	 Avocados Limes Persimmons	 8S/4W-34- Lake Diversion		7.00
SUBTOTAL DELUZ CREEK				**236.00**			**589.78**	**43.48**
SANDIA CREEK								
Cal June, Inc.	m/t P. O. Box 9551 No. Hollywood, CA 91609 40376 Sandia Creek Fallbrook, CA 92028	101-360-40	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 Foundation	47981 Willow Glen Rd. Temecula, CA m/t Matt Rahn, Director SDSU Foundation 5500 Campanile Dr. San Diego, CA 92182-4614	918-040-10 918-060-17	120.00 40.00	Total of 20.00	Citrus and Avocados	8S/3W-33Q1 8S/3W-33Q(2) 8S/3W-33Q - Diversion	8.00 8.00	50.00
SUBTOTAL SANTA MARGARITA RIVER				**20.00**			**16.00**	**50.00**
TOTAL SANTA MARGARITA RIVER BELOW GORGE				321.00			605.78	225.48

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2005-2006	IRRIGATED CROP 2005-2006	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
LOWER MURRIETA								
Ronnenberg Family Trust	c/o Cliff Ronnenberg 11292 Western Avenue Stanton, CA 90680	571-020-046 571-020-047 571-020-048	81.09 40.80 36.75	0.00 0.00 0.00				
(Sage Ranch Nursery)	42522 E. Benton Rd. Aguanga, CA	571-020-049 571-020-004 571-520-007 571-520-008 571-520-009 571-520-010 915-140-003 915-140-008 470-210-007	148.86 1.50 109.50 99.43 80.23 78.20 101.65 21.39 53.62	0.00 0.00 Total | of | | | |		7S/1E-7D	5.50	
		470-220-004	121.00	400.00	Olive trees	7S/1E-7E - Diversion		100.00
EG High Desert Properties LLC	39800 E. Benton Rd. Temecula, CA 92390 m/t 12979 Arroyo Street San Fernando, CA 91340	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) 7S/1W-10R(7)	Total of | 38.00 Domestic	
TOTAL LOWER MURRIETA				**410.00**			**43.50**	**100.00**
GRAND TOTAL				**2,945.20**			**6,284.91**	**901.48**
GRAND TOTAL	Not including Pechanga Indian Reservation (754 AF) and Cahuilla Indian Reservation (43 AF)			**2,945.20**			**5,487.91**	**901.48**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

APPENDIX D

WATER QUALITY DATA

AUGUST 2007

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
	01/27/05	---	980	160	47	---	---	---	---	440	---
	03/30/05	---	---	---	---	---	---	---	---	---	35
	01/26/06	1700	1000	160	48	130	1.6	240	130	---	46
	01/30/06	---	---	---	---	---	---	---	---	---	49

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
	01/27/05	---	610	110	28	---	---	---	---	300	---
	03/30/05	---	---	---	---	---	---	---	---	---	5
	01/26/06	800	440	42	9.1	110	1.2	120	65	---	1.2
	04/12/06	---	---	---	---	---	---	---	---	---	6.1
	05/10/06	---	---	---	---	---	---	---	---	---	1.6
	06/14/06	---	---	---	---	---	---	---	---	---	1.4
	07/12/06	---	---	---	---	---	---	---	---	---	<1
	08/09/06	---	---	---	---	---	---	---	---	---	1.4
	09/13/06	---	---	---	---	---	---	---	---	---	1.5

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
	01/27/05	---	440	59	10	---	---	---	---	230	---
	03/30/05	---	---	---	---	---	---	---	---	---	<2
	01/26/06	820	450	60	11	96	2	120	52	---	1
	05/10/06	---	---	---	---	---	---	---	---	---	<1
	07/19/06	---	---	---	---	---	---	---	---	---	<1
	08/16/06	---	---	---	---	---	---	---	---	---	<1
	09/20/06	---	---	---	---	---	---	---	---	---	<1

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
	01/27/05	1100	640	100	32	110	---	150	81	320	---
	01/26/06	1500	870	120	41	120	1.2	230	120	---	18
	04/12/06	---	---	---	---	---	---	---	---	---	19
	05/10/06	---	---	---	---	---	---	---	---	---	18
	06/28/06	---	---	---	---	---	---	---	---	---	20
	07/26/06	---	---	---	---	---	---	---	---	---	20
	08/23/06	---	---	---	---	---	---	---	---	---	18
	09/27/06	---	---	---	---	---	---	---	---	---	21
New Clay Well 7S/3W-20	03/09/04	480	340	23	1	87	1	79	64	98	<2
	01/26/06	590	310	20	1.2	93	1.2	85	57	---	<1
	01/31/06	---	---	---	---	---	---	---	---	---	7.2
	01/31/06	---	---	---	---	---	---	---	---	---	6.9
	04/04/06	---	---	---	---	---	---	---	---	---	<1
	04/12/06	---	---	---	---	---	---	---	---	---	<1
	05/10/06	---	---	---	---	---	---	---	---	---	<1
	06/07/06	---	---	---	---	---	---	---	---	---	<1
	07/05/06	---	---	---	---	---	---	---	---	---	<1
	08/02/06	---	---	---	---	---	---	---	---	---	<1
	09/06/06	---	---	---	---	---	---	---	---	---	<1

ND - None Detected

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
	06/14/05	---	---	---	---	---	---	---	---	---	<1
	08/09/05	880	440	75	15	87	2.5	140	22	300	<1
	06/07/06	---	---	---	---	---	---	---	---	---	<1
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
	07/07/05	---	---	---	---	---	---	---	---	---	6.5
	07/19/06	---	---	---	---	---	---	---	---	---	6.1

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. 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
	04/14/05	---	---	---	---	---	---	---	---	---	2
	04/18/06	---	---	---	---	---	---	---	---	---	1
	05/12/06	750	360	8.2	<1	140	<1	190	7.9	50	1.1
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
	01/11/05	---	---	---	---	---	---	---	---	---	13
	01/04/06	---	---	---	---	---	---	---	---	---	12
	07/12/06	1300	930	130	30	130	4.8	130	280	280	12
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
	03/02/05	810	510	56	21	79	4.9	76	170	150	<2
	09/07/05	---	---	---	---	---	---	---	---	---	1.8

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	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
	10/06/00	---	---	---	---	---	---	---	---	---	21
	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
	11/17/04	---	---	---	---	---	---	---	---	---	25
	02/09/05	---	---	---	---	---	---	---	---	---	25
	05/12/05	---	---	---	---	---	---	---	---	---	23
	11/02/05	---	---	---	---	---	---	---	---	---	25
	02/14/06	---	---	---	---	---	---	---	---	---	24
	03/08/06	880	540	54	15	100	2.3	140	31	210	24
	05/11/06	---	---	---	---	---	---	---	---	---	24
	08/03/06	---	---	---	---	---	---	---	---	---	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. 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
	12/30/04	---	---	---	---	---	---	---	---	---	<2
	01/25/05	---	---	---	---	---	---	---	---	---	<2
	09/07/05	---	---	---	---	---	---	---	---	---	<1
	11/03/05	980	590	55	5.1	150	1.7	140	110	240	<1
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
	10/26/99	---	---	---	---	---	---	---	---	---	24
	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
	05/23/02	---	480	---	---	---	---	---	---	---	18
	07/24/02	770	490	81	15	49	1.1	51	90	240	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. 119 (cont'd)	11/08/02	---	---	---	---	---	---	---	---	---	15
8S/2W-19J	02/19/03	---	---	---	---	---	---	---	---	---	17
	02/10/04	---	---	---	---	---	---	---	---	---	15
	02/28/05	---	---	---	---	---	---	---	---	---	10
	07/06/05	820	600	95	20	63	1.4	64	140	260	13
	02/07/06	---	---	---	---	---	---	---	---	---	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
	06/15/05	720	410	11	<1	140	1.3	90	62	140	12
	06/07/06	---	---	---	---	---	---	---	---	---	11
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
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

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 (cont'd)	06/28/00	780	470	79	16	62	1	73	100	210	11
8S/2W-20P1	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
	03/17/05	---	---	---	---	---	---	---	---	---	9
	03/21/06	---	---	---	---	---	---	---	---	---	9.4
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
	02/14/05	---	---	---	---	---	---	---	---	---	2
	02/14/06	---	---	---	---	---	---	---	---	---	3.6
	03/14/06	890	530	65	22	88	5	91	180	180	2.3
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
	07/06/05	---	---	---	---	---	---	---	---	---	8.4
	10/05/05	580	360	19	2.4	96	1.6	74	35	140	7.8
	09/26/06	---	---	---	---	---	---	---	---	---	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. 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
	06/14/05	650	350	8.3	2.1	130	1.6	82	52	180	1.8
	06/13/06	---	---	---	---	---	---	---	---	---	2.8
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
	07/20/98	520	330	2	<1	120	<1	56	11	130	<2
	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
	11/03/04	---	---	---	---	---	---	---	---	---	<2
	11/02/05	---	---	---	---	---	---	---	---	---	<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. 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
	01/11/05	---	---	---	---	---	---	---	---	---	6
	01/10/06	---	---	---	---	---	---	---	---	---	7.9
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
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

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 (cont'd)	02/10/00	750	440	4	<1	170	<1	76	77	170	5
8S/2W-11R	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
	05/12/05	---	---	---	---	---	---	---	---	---	5
	02/14/06	800	450	4.1	<1	170	<1	83	91	200	5.1
	05/12/06	---	---	---	---	---	---	---	---	---	4.5
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
	06/15/05	---	---	---	---	---	---	---	---	---	2
	03/07/06	710	420	9.1	<1	140	1.5	93	93	130	3
	06/07/06	---	---	---	---	---	---	---	---	---	1.7
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

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 (cont'd)	07/27/99	---	---	---	---	---	---	---	---	---	5
8S/1W-07D	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
	05/03/05	---	---	---	---	---	---	---	---	---	<2
	05/12/06	---	---	---	---	---	---	---	---	---	3.2
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
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

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 (cont'd)	05/06/97	1930	1050	97	48	220	2	340	190	360	3.3 as N
7S/3W-27M	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
	12/30/04	---	---	---	---	---	---	---	---	---	5
	01/27/05	---	---	---	---	---	---	---	---	---	12
	10/18/05	430	280	11	<1	72	1.3	65	8.3	110	18
	01/06/06	---	---	---	---	---	---	---	---	---	17
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
	03/09/05	520	310	21	7.7	72	1.3	78	13	150	6
	03/09/06	---	---	---	---	---	---	---	---	---	9.9

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. 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
	04/05/05	680	390	37	16	69	2.3	140	18	150	4
	04/06/06	---	---	---	---	---	---	---	---	---	4.4
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
	01/06/05	---	---	---	---	---	---	---	---	---	18
	01/06/06	---	---	---	---	---	---	---	---	---	16
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

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 (cont'd)	09/17/97	---	---	---	---	---	---	---	---	---	2.0 as N
8S/2W-17J	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
	01/18/05	---	---	---	---	---	---	---	---	---	10
	01/06/06	---	---	---	---	---	---	---	---	---	8.7
	06/08/06	560	270	9.5	1.3	100	1	86	<0.5	100	7.2
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
	10/11/05	---	---	---	---	---	---	---	---	---	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
	01/13/05	---	---	---	---	---	---	---	---	---	<2
	10/11/05	680	430	33	2.7	120	1.4	100	54	180	<1
	10/18/05	700	440	34	2.8	120	1.5	100	59	180	<1
	04/13/06	---	---	---	---	---	---	---	---	---	<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. 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
	01/11/06	---	---	---	---	---	---	---	---	---	2.5
	03/09/06	940	580	56	21	110	3.8	87	160	220	2.7
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
	01/06/05	---	---	---	---	---	---	---	---	---	<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
	01/24/05	850	510	71	25	77	4.6	85	190	160	<2
	01/04/06	---	---	---	---	---	---	---	---	---	1.1

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. 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
	04/14/05	700	410	44	17	65	3	76	110	140	3
	04/04/06	---	---	---	---	---	---	---	---	---	2.3
No. 154	01/28/94	930	530	46	20	106	6	89	130	214	3
8S/1W-5L2											
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
	10/11/05	---	---	---	---	---	---	---	---	---	2
	02/16/05	---	---	---	---	---	---	---	---	---	5
	02/07/06	---	---	---	---	---	---	---	---	---	4.9
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
	04/14/05	720	420	47	18	69	3.2	74	120	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
	04/14/05	800	450	51	19	79	4.6	83	150	160	2
	04/04/06	---	---	---	---	---	---	---	---	---	3.9

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. 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	12/11/88	740	440	47	18	84	3	97	48	223	17
7S/2W-36J1											
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
	11/18/04	---	---	---	---	---	---	---	---	---	7
	06/08/06	940	540	39	32	110	3	100	130	220	5.5
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

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. 205 (cont'd)	11/20/02	---	---	---	---	---	---	---	---	---	18
7S/3W-35A	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
	12/07/04	---	---	---	---	---	---	---	---	---	20
	03/08/05	---	---	---	---	---	---	---	---	---	21
	06/07/05	---	---	---	---	---	---	---	---	---	17
	09/13/05	---	---	---	---	---	---	---	---	---	16
	12/05/05	---	---	---	---	---	---	---	---	---	15
	03/09/06	---	---	---	---	---	---	---	---	---	17
	06/07/06	---	---	---	---	---	---	---	---	---	17
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

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. 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
	09/16/96	---	---	---	---	---	---	---	---	---	3
	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
	08/02/05	---	---	---	---	---	---	---	---	---	5.4
	08/15/06	---	---	---	---	---	---	---	---	---	6.7

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. 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
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
	06/26/06	---	---	---	---	---	---	---	---	---	6.6
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
	09/21/04	540	320	31	5.6	53	2.1	74	10	130	14
	10/26/04	---	---	---	---	---	---	---	---	---	15
	11/02/04	---	---	---	---	---	---	---	---	---	15
	11/10/04	---	---	---	---	---	---	---	---	---	16
	10/18/05	---	---	---	---	---	---	---	---	---	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. 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
	05/11/06	---	---	---	---	---	---	---	---	---	15
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
	07/12/05	---	---	---	---	---	---	---	---	---	2.2
	07/20/06	---	---	---	---	---	---	---	---	---	3.7
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
	11/04/97	1000	660	76	20	110	4	97	130	230	29
	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

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)	07/08/99	---	---	---	---	---	---	---	---	---	36
8S/2W-11J3	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
	10/14/03	---	---	---	---	---	---	---	---	---	31
	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

* 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)	10/26/04	---	---	---	---	---	---	---	---	---	15
8S/2W-11J3	11/18/04	---	---	---	---	---	---	---	---	---	26
	12/07/04	---	---	---	---	---	---	---	---	---	16
	01/10/05	---	---	---	---	---	---	---	---	---	20
	02/14/05	---	---	---	---	---	---	---	---	---	14
	03/11/05	---	---	---	---	---	---	---	---	---	11
	04/13/05	---	---	---	---	---	---	---	---	---	25
	06/08/05	---	---	---	---	---	---	---	---	---	24
	07/12/05	---	---	---	---	---	---	---	---	---	22
	08/02/05	---	---	---	---	---	---	---	---	---	18
	09/20/05	---	---	---	---	---	---	---	---	---	19
	10/18/05	---	---	---	---	---	---	---	---	---	18
	11/08/05	---	---	---	---	---	---	---	---	---	18
	12/06/05	---	---	---	---	---	---	---	---	---	19
	01/04/06	---	---	---	---	---	---	---	---	---	15
	02/14/06	---	---	---	---	---	---	---	---	---	18
	03/13/06	---	---	---	---	---	---	---	---	---	8.3
	04/18/06	---	---	---	---	---	---	---	---	---	12
	05/12/06	---	---	---	---	---	---	---	---	---	15
	06/22/06	---	---	---	---	---	---	---	---	---	11
	07/19/06	---	---	---	---	---	---	---	---	---	13
	08/15/06	---	---	---	---	---	---	---	---	---	14
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

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. 233 (Old 112)	10/06/00	---	---	---	---	---	---	---	---	---	3
8S/2W-12K2	10/10/01	---	---	---	---	---	---	---	---	---	4
(Cont'd)	08/06/02	---	---	---	---	---	---	---	---	---	26*
	01/13/03	---	---	---	---	---	---	---	---	---	1 as N
	07/07/03	---	---	---	---	---	---	---	---	---	2.7
	07/13/04	---	---	---	---	---	---	---	---	---	3
	07/12/05	---	---	---	---	---	---	---	---	---	2.8
	04/04/06	960	600	75	20	87	4.5	93	180	180	7.3
	08/04/06	---	---	---	---	---	---	---	---	---	11
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
	01/19/99	---	---	---	---	---	---	---	---	---	12
	02/12/99	---	---	---	---	---	---	---	---	---	16
	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
	11/05/04	---	---	---	---	---	---	---	---	---	10
	11/03/05	---	---	---	---	---	---	---	---	---	12
	12/06/05	890	620	70	19	89	4.1	85	180	200	12

* 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. 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
	11/18/05	---	---	---	---	---	---	---	---	---	18
	06/22/05	380	230	9.4	<1	68	1.1	49	7.3	96	16
	11/08/05	---	---	---	---	---	---	---	---	---	17
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
	05/16/95	---	---	---	---	---	---	---	---	---	<1
	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

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. 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
	11/11/05	---	---	---	---	---	---	---	---	---	6
	01/04/06	---	---	---	---	---	---	---	---	---	5.4

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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-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-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	51	0.93	87.6	52	---	6.16 as N
	08/02/05	746	459	69.7	26.9	44.3	1.01	87.8	61.8	---	5.09 as N
	08/02/06	678	413	55.9	21	42.6	0.85	74.9	43.1	153	8.25 as N
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	516	317	56.8	6.2	47.9	1.4	42.6	14.2	---	1.64 as N
	08/03/05	541	333	60.5	6.5	45.3	1.2	40.2	14.1	---	2.23 as N

* - Alkalinity as CaC03
** - Wells located off reservation. Data collected under cooperative program between USGS and Pechanga Band.

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	45.6	0.86	78.8	16.5	---	4.03 as N
	08/02/05	822	514	76.8	30.2	54	0.84	93.7	30.9	---	14.7 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	61.3	0.93	29.5	10.9	---	1.29 as N
	08/02/05	380	233	20.8	2.3	59.5	0.88	27.8	10.8	---	.97 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
	08/02/05	382	243	38.7	11.6	27.1	0.53	27.6	7.7	---	2.79 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-29A2	08/02/06	392	242	36.2	10.9	26.6	0.43	29.4	7.94	139	2.64 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
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	75.1	0.57	47.2	18.4	---	2.41as N
	08/18/04	390	232	11.2	0.64	72.6	0.64	48	20.8	---	<.06 as N
	08/02/05	404	242	12.5	0.67	69.9	0.65	47.2	23.2	---	<.06 as N
	08/03/06	381	222	12.3	0.77	62.8	0.54	40.3	17.3	110	<.06 as N
8S/2W-29B11	08/02/06	483	285	30.1	7.84	51.5	0.93	57.1	11.8	138	1.44 as N
8S/2W-29F3	08/03/06	378	251	21.9	7.67	38.9	1.9	47.2	10.4	104	0.46 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-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
8S/2W-29J03	08/02/06	532	337	40.3	13.2	43.1	1.34	44.8	17.5	152	8.48 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
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

* - 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											
7S/2E14M01	12/14/83	1220	708	130	40	45	11	53	390	98	0.04 as N
7S/2E-23H01	05/18/06	428	288	39.6	5.7	33.7	3.08	31	14	---	8.26 as N
7S/2E-23Q01	05/18/06	245	160	15.6	2.55	26.6	2.45	29.5	5.4	---	1.07 as N
7S/2E-33N1	08/02/89	355	206	16	2.1	53	3.5	48	15	78	.73 as N
7S/2E-36J01	02/03/84	---	252	43	4.4	36	4.8	32	5.4	---	3.40 as N
7S-3E-14P03	08/10/05	1080	741	113	42.4	70	9.7	66.8	296	---	.15 as N
7S/3E-21L01	05/27/53	750	---	66	20	70		67	76	---	---
	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/3E-31L02	02/03/84	---	184	23	4.8	24	2.9	24	0	---	2.0 as N
7S/3E-31N01	07/27/84	684	412	69	12	37	---	75	12	---	---
7S/3E-34E01	07/07/76	---	---	25	4.6	21	4.2	26	7.3	---	4.0 as N
	09/22/77	---	---	25	4.9	23	4.4	25	6.9	---	---
	07/19/78	---	---	26	5.1	22	4.5	24	6.5	---	3.7 as N
	06/28/79	---	190	26	5	22	4.3	24	6	---	---
	07/02/80	---	---	26	4.9	23	4.7	28	6.9	---	3.7 as N
	07/08/81	309	---	27	5	23	4.7	26	7.7	81	4.1 as N
	06/29/82	311	---	27	5.3	27	4.9	27	10	88	4.0 as N
	08/10/83	306	---	27	5	23	4.8	29	7.7	90	3.8 as N
	08/21/84	319	---	30	5.3	24	4.3	29	7.2	92	3.7 as N
	08/01/85	321	---	28	5.2	24	4.6	29	7.0	86	3.5 as N
	08/14/87	332	207	29	5.6	25	4.8	28	8.0	96	3.5 as N
	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-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 (Continued)											
8S/2E-4P01	01/21/86	1870	---	190	54	64	7.9	480	13	136	4.0 as N
	05/18/06	794	441	59.8	19.3	44.1	4.44	101	10.4	---	5.45 as N
8S/3E-2A01	02/05/86	591	---	54	11	43	3.2	93	21	103	3.4 as N
8S/3E-2D01	07/08/81	293	---	17	2.2	39	1.7	30	8.8	68	2.5 as N
	07/24/85	279	---	11	1.2	42	1.5	28	8	71	2.1 as N
8S/3E-2E01	12/07/50	---	---	30	10	53	---	50	14	---	---
	11/15/51	---	---	38	8	43	---	50	6	---	---
	05/27/76	---	---	39	9.4	32	2.2	49	12		4.9 as N
	09/22/77	---	280	39	9.6	33	2.6	42	8.4	---	---
	07/19/78	---	---	42	10	36	2.4	57	13		5.7 as N
	06/28/79	---	284	40	9	32	2.8	42	9	---	---
	07/02/80	---	---	34	6.5	22	2.4	27	7.4	---	0
	07/08/81	296	---	33	4.8	19	1.9	36	1	61	2.0as N
	06/29/82	494	---	43	9.7	41	3	54	14	127	5.7 as N
	07/26/83	427	---	40	9.6	32	3	42	9.7	131	4.8 as N
	08/21/84	428	---	42	9.3	32	2.9	39	9.6	129	4.7 as N
	08/13/87	428	276	39	9.4	32	3.2	37	9.6	129	4.6 as N
	08/10/05	424	283	42.4	10.2	33.6	3.4	39.9	9.14	---	4.88 as N
8S/3E-2K01	09/22/77	---	---	43	10	48	3.2	65	18	---	---
	07/19/78	---	---	42	9.8	48	3.4	68	17	---	3.7 as N
	06/28/79	---	342	46	10	46	3.1	69	19	---	---
	07/02/80	---	---	64	12	92	2.7	140	48	---	4.1 as N
	06/29/82	454	---	41	10	38	3.7	46	13	129	3.6 as N
	08/10/83	435	---	39	9.5	32	3.6	43	13	133	3.6 as N
	08/21/84	561	---	50	11	48	3.1	68	27	139	4.0 as N
	08/01/85	472	---	41	9.7	34	3.4	48	15	125	3.7 as N
	08/13/87	451	282	40	9.9	31	3.4	41	16	133	3.6 as N
	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

* - 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-26C1)	10/60	1060	639	66.5	24.0	116.0	4.5	160	110.0	264.0	trace
(Bldg 220001)	06/62	1190	718	60.0	33.2	123.0	3.8	190	124.0	232.0	1.4
	07/64	1217	734	79.2	27.8	144.0	1.6	180	150.0	248.9	---
	05/65	1485	896	75.2	30.3	158.0	2.4	180	120.0	253.8	0
	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-26C1	06/95	1330	806	97.7	37.4	142.0	---	207	166.0	---	<0.04
(Bldg 220001)	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
10S/4W-18M5	06/89	1156	688	74.6	24.4	67.9	---	130	138.0	197.0	8.9
(Bldg 230073)	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 230073)	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 as N
10S/4W-18M4)	01/04	1230	717	93.0	38.0	111.0	6	159	194.0	173.0	0 as N
(Continued)	04/04	1280	722	82.0	36.0	112.0	6	168	213.0	180.0	0 as N
	07/04	1080	739	88.0	37.0	92.0	7	156	198.0	190.0	0 as N
	11/04	1230	563	91.0	38.0	124.0	4.8	172	215.0	175.0	0 as N
	01/05	1240	687	96.0	39.0	124.0	4	172	215.0	190.0	0 as N
10S/5W-23J1	05/56	1090	685	61.5	24.3	142.0	---	142	110.0	293.0	0.06
(Bldg 230001)	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

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	01/78	1100	691	70.0	23.0	147.0	3	140	135.0	259.0	4.4 as N
(Bldg 230001)	10/78	1150	723	74.0	22.0	120.0	2.9	134	149.0	248.9	<1 as N
(Continued)	04/79	1000	628	70.4	22.4	118.0	2.6	122	138.0	239.1	<1 as N
	10/80	1150	745	74.0	22.5	128.0	3	152	138.0	239.1	0.2 as N
	05/81	1020	580	67.2	17.3	116.0	3.1	132	111.0	205.0	<0.5 as N
	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

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	10/01	1380	757	88.0	33.0	133.0	3	152	159.0	311.0	ND
(Bldg 230001)	02/02	1220	724	86.0	31.0	124.0	2	146	156.0	293.0	ND
(Continued)	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 as N
	01/04	1170	678	87.0	31.0	121.0	4	151	175.0	227.0	0 as N
	04/04	1270	697	82.0	31.0	120.0	4	155	171.0	250.0	0 as N
	07/04	1030	702	87.0	31.0	98.0	5	138	151.0	245.0	0 as N
	10/04	1230	879	89.0	31.0	102.0	5	158	176.0	225.0	0 as N
	02/05	1170	704	88.0	31.0	134.0	3.1	157	171.0	235.0	0 as N
	04/05	1220	755	88.0	30.0	121.0	2.7	132	167.0	213.0	0 as N
	07/05	1190	725	83.0	29.0	117.0	2.8	153	ND	206.0	0 as N
10S/4W-18E3	06/89	1166	758	80.5	28.1	67.4	---	132	157	198.0	9.5
(Bldg 230093)	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

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	10/02	1360	763	97.0	41.0	126.0	4	180	207	214.0	ND
(Bldg 230093)	01/03	1290	749	96.0	40.0	116.0	3.7	172	200	200.0	ND
(Continued)	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 as N
	01/04	1270	763	101.0	42.0	106.0	6	162	220	180.0	0 as N
	04/04	1320	781	96.0	43.0	105.0	6	179	250	195.0	0 as N
	07/04	1370	784	100.0	43.0	89.0	6	169	219	203.0	0 as N
	10/04	1300	857	99.0	42.0	88.0	6	188	245	210.0	0 as N
	01/05	1270	760	99.0	42.0	115.0	4.3	170	234	185.0	0 as N
	04/05	ND	805	ND	ND	88.0	3.2	ND	ND	ND	0 as N
	07/05	1120	724	89.0	36.0	91.0	3.5	133	ND	203.0	0 as N
	11/05	1230	815	101.0	40.0	113.0	4.1	153	213	174.0	0 as N
	04/06	1350	832	110.0	44.0	120.0	3.8	180	250	220.0	0 as N
10S/4W-7R2	06/89	1281	765	76.5	25.1	82.4	---	149	153	209.0	10.3
(Bldg 260003)	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
	06/95	1290	897	93.6	35.2	129.0	---	202	164	---	0.69
	02/97	1200	720	84.0	36.0	130.0	---	150	152	240.0	<1 as N
	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	---	---

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	10/03	1250	737	81	37	130	5	163.0	201.0	192	0 as N
(Bldg 260003)	01/04	1240	694	86	39	107	6	153.0	182.0	185	0 as N
(Continued)	04/04	1320	750	84	40	108	6	170.0	210.0	220	0 as N
	07/04	1100	761	92	41	88	7	172.0	204.0	205	0 as N
	10/04	1280	893	93	41	88	6	179.0	222.0	195	0 as N
	02/05	1270	839	99	44	121	5.2	180.0	215.0	198	0 as N
	04/05	1300	880	98	41	109	3.8	158.0	216.0	183	0 as N
	07/05	1380	870	101	43	109	4	ND	ND	176	0 as N
	11/05	1310	865	104	43	115	3.8	164	221	181	0 as N
	04/06	1220	810	100	43	110	3.8	170	240	206	0 as N
10S/4W-7H2	08/56	1060	882	78.0	30.0	112	---	150	82	326.0	---
(Bldg 260071)	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
	01/67	---	768	72.0	29.3	128.0	3.1	174	72	324.5	6.9
	08/67	---	608	57.6	24.4	116.0	2.4	132	70	251.3	10.2
	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

* 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	01/78	1000	610	66.0	23.0	100.0	2.7	128	123	205.0	4.4 as N
(Bldg 260071)	10/78	1300	793	82.0	31.0	134.0	2.7	160	157	258.6	<1 as N
(Continued)	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
	12/97	1200	670	91.0	36.0	120.0	3	150	169	220.0	ND
	12/97	1200	710	87.0	35.0	120.0	2	152	182	220.0	1.5
	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

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	10/02	1250	722	91.0	38.0	99.0	2.6	150	197	177	ND
(Bldg 260071)	01/03	1260	781	---	---	---	---	144	204	---	ND
(Continued)	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 as N
	07/04	1460	785	98.0	38.0	109.0	4.0	186	191	275	0 as N
	05/06	1380	870	100.0	41.0	110.0	2.3	180	240	210	0.69 as N
10S/4W-7A2	05/56	920	651	59.0	22.0	100	---	104	94	213.0	---
(Bldg 260073)	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
	08/67	---	504	54.4	20.0	79.0	2.1	96	58	214.7	8
	02/68	---	456	60.8	17.6	86.0	2.7	94	78	222.0	0
	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

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	10/78	1050	683	74.0	20.0	80.0	3	113	128	205.0	<1 as N
(Bldg 260073)	04/79	950	618	65.6	19.5	98.0	3.1	109	118	190.3	<1 as N
(Continued)	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
	06/96	1129	739	91.0	37.0	90.0	---	188	312	206	<0.0
	02/97	1100	690	82.0	35.0	140.0	---	127	131	180	<2 as N
	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

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	10/02	1370	788	102.0	45.0	104.0	4.3	175	241	167	ND
(Bldg 260073)	01/03	1330	825	104.0	---	---	---	---	---	---	---
(Continued)	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 as N
	01/04	1390	800	99.0	46.0	105.0	7	173	264	136	0 as N
	04/04	1270	739	86.0	42.0	98.0	6	160	252	160	0 as N
	07/04	1390	764	97.0	45.0	87.0	7	176	262	163	0 as N
	10/04	1290	943	95.0	44.0	84.0	7	178	267	145	0 as N
	01/05	1030	610	76.0	35.0	93.0	3.8	136	194	155	0 as N
	04/05	1060	630	77.0	34.0	82.0	3.2	125	174	139	0 as N
	07/05	1120	750	81.0	35.0	84.0	3.4	129	ND	129	0 as N
	11/05	1170	790	94.7	41.2	97.9	3.7	138	199	156	7.53 as N
	04/06	1140	704	91.0	39.0	98.0	4.5	150	220	180.0	1.7 as N
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 330924)	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
	03/92	1130	705	76.7	26.0	126.0	---	149	125	279	<0.4
	06/92	1130	717	66.8	26.7	124.0	---	146	140	232	<0.4
	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

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	10/99	1150	721	80.0	28.0	131.0	3	110	150	281	ND
(Bldg 330924)	02/00	1050	619	82.0	28.0	108.0	3	100	140	293	ND
(Continued)	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 as N
	04/04	1320	713	85.0	32.0	121.0	5	165	167	228	0 as N
	07/04	1070	703	89.0	32.0	101.0	5	147	173	230	0 as N
	10/04	1230	806	91.0	33.0	102.0	5	166	183	248	0 as N
	02/05	1310	837	104.0	37.0	136.0	4.2	175	191	253	0 as N
	07/05	1170	750	83.0	29.0	114.0	2.7	139	ND	210	0 as N
	11/05	1260	750	91.9	29.6	119.0	3.1	144	171	225	0 as N
	04/06	1220	774	92.0	32.0	120.0	2.8	160	180	284	0 as N
10S/5W-13R2	01/90	1030	540	*96	26.6	94.8	---	141	130	200	0.7
(Bldg 230063)	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
	04/01	1100	612	83.0	29.0	106.0	3	131	146	238	ND
	09/01	1150	679	89.0	31.0	156.0	2	142	156	241	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	11/01	1130	658	87.0	30.0	104.0	2	148	169	262	ND
(Bldg 230063)	02/02	1120	674	85.0	30.0	112.0	3.2	140	160	257	ND
(Continued)	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 as N
	04/04	1200	731	177.0	34.0	104.0	4	151	177	177	0 as N
	07/04	1270	701	220.0	32.0	103.0	4	163	186	220	0 as N
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
(Bldg 260072)	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 as N
	01/04	1350	747	97.0	42.0	114.0	6	168	226	184	0 as N
	04/04	1400	766	92.0	42.0	112.0	6	162	228	198	0 as N
	07/04	1410	784	98.0	43.0	92.0	6	171	231	200	0 as N
	11/04	1290	831	100.0	43.0	134.0	4.2	176	224	203	0 as N
	01/05	1310	804	102.0	44.0	125.0	3.7	184	241	200	0 as N
	04/05	1100	690	ND	ND	84.0	3.2	128	177	162	0 as N
	07/05	1160	716	84.0	35.0	96.0	3	136	ND	166	0 as N
	11/05	1180	790	92.5	40.4	97.1	3.8	138	202	174	5.93 as N
	04/06	1280	786	98.0	43.0	110.0	3.3	160	220	233	1.3 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-23G4	06/99	1070	668	69.0	23.0	106.0	1.7	163	144	305	ND
(Bldg 330925)	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 as N
	04/04	1140	640	66.0	24.0	117.0	3	147	133	215	0 as N
	07/04	1180	657	68.0	24.0	99.0	4	140	114	245	0 as N
	10/04	1170	712	85.0	29.0	97.0	5	160	172	225	0 as N
	02/05	1070	661	84.0	29.0	125.0	3.3	154	148	185	0 as N
	07/05	1050	655	72.0	23.0	118.0	2	127	ND	202	0 as N
	11/05	1080	665	75.9	23.2	121.0	2	135	125	227	0 as N
	05/06	1110	650	71.0	24.0	120.0	1.9	140	130	217	0 as N
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

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-23K3	10/02	1270	716	85.0	30.0	137.0	2.9	---	182	221	ND
(Bldg 330923)	01/03	1340	626	---	---	141.0	2.6	---	185	252	ND
(Continued)	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 as N
	02/04	1250	698	83.0	29.0	120.0	4	154	172	233	0 as N
	04/04	1240	706	76.0	28.0	121.0	4	153	170	220	0 as N
	07/04	1040	729	84.0	30.0	99.0	5	158	169	240	0 as N
	10/04	1180	857	86.0	30.0	97.0	5	159	172	235	0 as N
	02/05	1160	685	87.0	31.0	125.0	3.7	159	168	210	0 as N
	04/05	1230	760	91.0	30.0	122.0	2.6	149	148	213	0 as N
	04/05	1090	625	74.0	23.0	120.0	1.9	129	109	243	0 as N
	07/05	1170	755	83.0	29.0	115.0	2.6	135	ND	210	0 as N
	11/05	1230	735	92.8	29.5	123.0	3	141	165	332	0 as N
	04/06	958	720	89.0	31.0	120.0	2.7	160	170	233	0 as N
10S/5W-26C3	09/01	1410	804	101.0	38.0	138.0	3	173	175	296	ND
(Bldg 220002)	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
	10/03	1340	761	90.0	31.0	---	4	162	188.0	210.0	0 as N
	01/04	1320	743	94.0	32.0	---	5	182	212.0	203.0	0 as N
	04/04	1350	731	90.0	32.0	---	5	184	197.0	235.0	0 as N
	07/04	1100	773	91.0	32.0	---	5	167	197.0	215.0	0 as N
	10/04	1290	826	93.0	32.0	106.0	5	187	185	225	0 as N
	02/05	1260	735	101.0	35.0	127.0	3.7	175	188	215	0 as N
	04/05	1300	760	98.0	33.0	122.0	2.8	160	184	200	0 as N
	07/05	1450	1260	97.0	33.0	119.0	2.9	154	ND	200	0 as N
	11/05	1240	795	99.0	32.0	122.0	2.9	159	169	202	0 as N
	04/06	1300	796	95.0	34.0	140.0	2.9	180	170	250	0 as N

ND - None Detected

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE D-12

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

SURFACE STREAMS SAMPLED BY USGS ON CAHUILLA CREEK

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 Creek	02/28/05	644	446	41.9	11.2	76.9	10.1	---	---	---	.23 @N
Cahuilla Creek Below Highway 371	02/28/05	476	337	34.2	10.1	51.9	3.69	36.9	---	---	.64 @N
Unnamed Tributary to Cahuilla Creek	02/14/05	783	529	64	17.5	80.7	8.94	35.2	---	---	3.05@N

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

APPENDIX E

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS CALENDAR YEAR 2006

AUGUST 2007

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

JANUARY 2006 -BELOW NORMAL YEAR

DAY	USGS Official 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 /2		CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
						MWD	MWD				Input /3	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs		cfs	AF		cfs	AF	cfs	AF	cfs	AF	AF
1	13.0	13.0				7.1	14.1		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	370.0	370.0				7.2	14.2		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	81.0	81.0				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	14.0	14.0				3.4	6.8		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	13.0	12.0				10.5	20.8		3.3	6.5	0.0	0.0	0.0	0.0	5,000.0
6	12.0	12.0				10.4	20.6		3.2	6.3	0.0	0.0	0.0	0.0	5,000.0
7	12.0	12.0				10.4	20.6		3.2	6.3	0.0	0.0	0.0	0.0	5,000.0
8	10.0	10.0				5.0	9.9		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	0.6	0.7				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	1.8	2.0				2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.4	3.5	51.7	10.7	41.0	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.5	3.5	15.1	10.7	4.4	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.5	3.5	7.3	10.7	(3.4)	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.6	3.6	6.3	10.7	(4.4)	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.4	3.4	5.4	10.7	(5.3)	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.5	3.5	4.6	10.7	(6.1)	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.6	3.6	3.7	10.7	(7.0)	2.9	5.78	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	6.9	7.2	3.4	10.7	(7.3)	7.5	14.88	*	(37.0)	(73.4)	0.0	0.0	0.0	0.0	5,000.0
19	11.0	12.0	4.6	10.7	(6.1)	10.6	21.0		3.4	6.7	0.0	0.0	0.0	0.0	5,000.0
20	11.0	11.0	5.5	10.7	(5.2)	10.6	21.0		3.4	6.7	0.0	0.0	0.0	0.0	5,000.0
21	11.0	11.0	6.2	10.7	(4.5)	10.6	21.0		3.4	6.7	0.0	0.0	0.0	0.0	5,000.0
22	11.0	11.0	7.0	10.7	(3.7)	10.6	21.0		3.4	6.7	0.0	0.0	0.0	0.0	5,000.0
23	11.0	11.0	7.7	10.7	(3.0)	10.8	21.5		3.6	7.2	0.0	0.0	0.0	0.0	5,000.0
24	12.0	12.0	8.6	10.7	(2.1)	11.0	21.8		3.8	7.5	0.0	0.0	0.0	0.0	5,000.0
25	11.0	12.0	9.4	10.7	(1.3)	11.1	22.1		3.9	7.8	0.0	0.0	0.0	0.0	5,000.0
26	11.0	12.0	10.3	10.7	(0.4)	11.4	22.7		4.2	8.4	0.0	0.0	0.0	0.0	5,000.0
27	12.0	13.0	11.2	10.7	0.5	11.4	22.7		4.2	8.4	0.0	0.0	0.0	0.0	5,000.0
28	12.0	13.0	11.8	10.7	1.1	11.4	22.7		4.2	8.4	0.0	0.0	0.0	0.0	5,000.0
29	12.0	13.0	11.9	10.7	1.2	11.4	22.7		4.2	8.4	0.0	0.0	0.0	0.0	5,000.0
30	11.0	12.0	12.0	10.7	1.3	10.7	21.3		3.5	7.0	0.0	0.0	0.0	0.0	5,000.0
31	11.0	12.0	12.1	10.7	1.4	10.4	20.7		3.2	6.4	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	705.8	713.5	215.8	224.7	(8.9)	227.0			21.3		0.0		0.0		
TOTAL AF	1,400.0	1,415.2	428.1	445.7	(17.6)	450.3	450.3			42.3		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.8 cfs CAP Credit less 0 Climatic Credit.
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.
* - Water supplied from potable system discharge on Murrieta Creek because of MWD operational shutdown

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS

SANTA MARGARITA RIVER NEAR TEMECULA

FEBRUARY 2006 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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	MWD	Climatic Credits Earned /2		Input /3	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs		cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	11.0	11.0	12.1	10.7	1.4	10.4	20.7	3.2	6.4	0.0	0.0	0.0	0.0	5,000.0
2	11.0	11.0	12.1	10.7	1.4	10.4	20.7	3.2	6.4	0.0	0.0	0.0	0.0	5,000.0
3	10.0	11.0	12.0	10.7	1.3	10.4	20.7	3.2	6.4	0.0	0.0	0.0	0.0	5,000.0
4	10.0	11.0	11.9	10.7	1.2	10.4	20.7	3.2	6.4	0.0	0.0	0.0	0.0	5,000.0
5	10.0	10.0	11.7	10.7	1.0	10.4	20.7	3.2	6.4	0.0	0.0	0.0	0.0	5,000.0
6	10.0	10.0	11.4	10.7	0.7	10.6	21.0	3.4	6.7	0.0	0.0	0.0	0.0	5,000.0
7	10.0	10.0	11.1	10.7	0.4	10.6	21.1	3.4	6.8	0.0	0.0	0.0	0.0	5,000.0
8	10.0	10.0	10.8	10.7	0.1	10.7	21.3	3.5	7.0	0.0	0.0	0.0	0.0	5,000.0
9	10.0	10.0	10.6	10.7	(0.1)	10.9	21.7	3.7	7.4	0.0	0.0	0.0	0.0	5,000.0
10	11.0	11.0	10.5	10.7	(0.2)	11.0	21.8	3.8	7.5	0.0	0.0	0.0	0.0	5,000.0
11	11.0	11.0	10.5	10.7	(0.2)	11.6	23.0	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
12	12.0	12.0	10.6	10.7	(0.1)	11.9	23.7	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
13	12.0	12.0	10.7	10.7	0.0	11.9	23.7	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
14	12.0	12.0	10.8	10.7	0.1	11.9	23.6	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
15	12.0	12.0	11.0	10.7	0.3	12.0	23.8	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
16	12.0	12.0	11.2	10.7	0.5	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
17	12.0	12.0	11.4	10.7	0.7	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
18	29.0	29.0	13.3	10.7	2.6	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
19	36.0	36.0	15.9	10.7	5.2	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
20	18.0	18.0	16.6	10.7	5.9	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
21	12.0	12.0	16.7	10.7	6.0	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
22	12.0	12.0	16.7	10.7	6.0	12.0	23.8	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
23	12.0	12.0	16.7	10.7	6.0	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
24	12.0	12.0	16.7	10.7	6.0	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
25	12.0	12.0	16.7	10.7	6.0	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
26	12.0	12.0	16.7	10.7	6.0	12.0	23.8	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
27	57.0	55.0	21.0	10.7	10.3	8.1	16.1	0.9	1.8	0.0	0.0	0.0	0.0	5,000.0
28	694.0	671.0	85.2	10.7	74.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL SFD	1,092.0	1,069.0	442.6	299.6	143.0	306.0		103.8		0.0		0.0		
TOTAL AF	2,166.0	2,120.3	877.9	594.2	283.6	607.0	607.0		205.9		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.8 cfs CAP Credit less 0 Climatic Credit.

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

MARCH 2006 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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	53.0	54.0	87.0	10.7	76.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	12.0	12.0	86.4	10.7	75.7	1.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	17.0	17.0	86.9	10.7	76.2	9.8	19.4	2.6	5.1	0.0	0.0	0.0	0.0	5,000.0
4	21.0	21.0	87.8	10.7	77.1	8.1	16.0	0.9	1.7	0.0	0.0	0.0	0.0	5,000.0
5	10.0	10.0	87.6	10.7	76.9	8.0	15.8	0.8	1.5	0.0	0.0	0.0	0.0	5,000.0
6	11.0	11.0	87.5	10.7	76.8	10.6	21.1	3.4	6.8	0.0	0.0	0.0	0.0	5,000.0
7	12.0	12.0	87.5	10.7	76.8	11.9	23.6	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
8	12.0	12.0	87.5	10.7	76.8	11.9	23.7	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
9	12.0	12.0	83.2	10.7	72.5	11.9	23.7	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
10	8.2	8.2	16.9	10.7	6.2	7.9	15.6	0.7	1.3	0.0	0.0	0.0	0.0	5,000.0
11	202.0	215.0	33.0	10.7	22.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	47.0	47.0	36.5	10.7	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	16.0	16.0	36.4	10.7	25.7	1.5	2.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	9.8	9.8	35.3	10.7	24.6	8.6	17.1	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
15	11.0	11.0	35.4	10.7	24.7	8.6	17.1	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
16	12.0	12.0	35.5	10.7	24.8	8.6	17.1	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
17	12.0	12.0	35.5	10.7	24.8	8.6	17.1	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
18	13.0	12.0	35.5	10.7	24.8	8.6	17.1	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
19	12.0	11.0	35.4	10.7	24.7	8.6	17.1	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
20	11.0	11.0	35.7	10.7	25.0	7.3	14.5	0.1	0.2	0.0	0.0	0.0	0.0	5,000.0
21	66.0	66.0	20.8	10.7	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	13.0	13.0	17.4	10.7	6.7	1.6	3.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	10.0	9.8	16.8	10.7	6.1	10.1	20.1	2.9	5.8	0.0	0.0	0.0	0.0	5,000.0
24	12.0	11.0	16.9	10.7	6.2	10.1	20.1	2.9	5.8	0.0	0.0	0.0	0.0	5,000.0
25	12.0	12.0	17.0	10.7	6.3	10.1	20.1	2.9	5.8	0.0	0.0	0.0	0.0	5,000.0
26	13.0	13.0	17.1	10.7	6.4	10.1	20.1	2.9	5.8	0.0	0.0	0.0	0.0	5,000.0
27	13.0	12.0	17.1	10.7	6.4	10.1	20.1	2.9	5.8	0.0	0.0	0.0	0.0	5,000.0
28	37.0	37.0	19.6	10.7	8.9	8.5	16.9	1.3	2.6	0.0	0.0	0.0	0.0	5,000.0
29	281.0	291.0	47.6	10.7	36.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	34.0	33.0	49.8	10.7	39.1	1.4	2.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	15.0	14.0	44.6	10.7	33.9	9.0	17.9	1.8	3.6	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	1,020.0	1,037.8	1,437.0	331.7	1,105.3	213.4		47.7		0.0		0.0		
TOTAL AF	2,023.1	2,058.4	2,850.3	657.9	2,192.4	423.3	423.3		94.5		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.8 cfs CAP Credit less 0 Climatic Credit.
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 2006 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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	12.0	11.0	44.4	10.7	33.7	9.0	17.9	1.8	3.6	0.0	0.0	0.0	0.0	5,000.0
2	12.0	11.0	44.5	10.7	33.8	9.0	17.9	1.8	3.6	0.0	0.0	0.0	0.0	5,000.0
3	12.0	11.0	44.5	10.7	33.8	9.0	17.9	1.8	3.6	0.0	0.0	0.0	0.0	5,000.0
4	121.0	121.0	55.4	10.7	44.7	7.6	15.1	0.4	0.8	0.0	0.0	0.0	0.0	5,000.0
5	733.0	717.0	125.8	10.7	115.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	80.0	65.0	131.1	10.7	120.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	28.0	25.0	129.9	10.7	119.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	12.0	12.0	102.0	10.7	91.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	6.5	6.5	99.4	10.7	88.7	6.5	12.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	12.0	12.0	99.2	10.7	88.5	16.0	31.8	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
11	13.0	13.0	99.4	10.7	88.7	12.0	23.9	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
12	11.0	11.0	99.4	10.7	88.7	9.9	19.6	2.7	5.3	0.0	0.0	0.0	0.0	5,000.0
13	12.0	12.0	99.5	10.7	88.8	10.6	21.1	3.4	6.8	0.0	0.0	0.0	0.0	5,000.0
14	20.0	19.0	89.3	10.7	78.6	6.2	12.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	68.0	56.0	23.2	10.7	12.5	6.2	12.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	13.0	13.0	18.0	10.7	7.3	6.2	12.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	12.0	12.0	16.7	10.7	6.0	8.7	17.3	1.5	3.0	0.0	0.0	0.0	0.0	5,000.0
18	11.0	11.0	16.6	10.7	5.9	10.3	20.5	3.1	6.2	0.0	0.0	0.0	0.0	5,000.0
19	11.0	11.0	17.0	10.7	6.3	10.9	21.7	3.7	7.4	0.0	0.0	0.0	0.0	5,000.0
20	12.0	12.0	17.0	10.7	6.3	11.7	23.3	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
21	13.0	13.0	17.0	10.7	6.3	11.8	23.5	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
22	13.0	13.0	17.2	10.7	6.5	11.8	23.5	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
23	14.0	13.0	17.3	10.7	6.6	11.9	23.6	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
24	13.0	13.0	16.7	10.7	6.0	11.5	22.8	4.3	8.5	0.0	0.0	0.0	0.0	5,000.0
25	13.0	12.0	12.3	10.7	1.6	10.9	21.7	3.7	7.4	0.0	0.0	0.0	0.0	5,000.0
26	13.0	12.0	12.2	10.7	1.5	10.9	21.7	3.7	7.4	0.0	0.0	0.0	0.0	5,000.0
27	13.0	12.0	12.2	10.7	1.5	10.9	21.7	3.7	7.4	0.0	0.0	0.0	0.0	5,000.0
28	11.0	10.0	12.1	10.7	1.4	9.5	18.8	2.3	4.5	0.0	0.0	0.0	0.0	5,000.0
29	10.0	9.2	11.9	10.7	1.2	8.9	17.7	1.7	3.4	0.0	0.0	0.0	0.0	5,000.0
30	10.0	9.2	11.6	10.7	0.9	8.9	17.7	1.7	3.4	0.0	0.0	0.0	0.0	5,000.0
31	---	---	---		---	---	---	---	---	---	---	---	---	---
TOTAL SFD	1,334.5	1,277.9	1,512.3	321.0	1,191.3	257.3		67.4		0.0		0.0		
TOTAL AF	2,646.9	2,534.7	2,999.7	636.7	2,363.0	510.3	510.3		133.8		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.8 cfs CAP Credit less 0 Climatic Credit.
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 2006 -BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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		Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs		cfs	cfs	AF	AF	cfs	AF	cfs	AF	cfs	AF
1	7.6	6.6				6.5	12.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	6.6	5.7				5.9	11.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	6.6	5.7				5.9	11.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	6.6	5.7				5.9	11.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	6.6	6.6				5.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	6.0	6.0				5.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	5.5	5.5				5.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	5.8	5.8				5.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	5.8	5.8				5.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	5.6	5.6				5.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	5.6	5.6	5.8	5.7	0.1	5.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	5.7	5.7	5.8	5.7	0.1	5.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	5.6	5.6	5.8	5.7	0.1	5.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	5.7	5.7	5.8	5.7	0.1	5.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	5.8	5.8	5.7	5.7	0.0	5.2	10.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	5.9	5.9	5.7	5.7	0.0	5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	6.3	6.3	5.8	5.7	0.1	5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	5.9	5.9	5.8	5.7	0.1	5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	5.9	5.9	5.8	5.7	0.1	5.2	10.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	5.9	5.9	5.8	5.7	0.1	5.2	10.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	5.9	5.9	5.9	5.7	0.2	5.2	10.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	9.4	9.4	6.2	5.7	0.5	5.3	10.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	5.9	5.9	6.3	5.7	0.6	4.9	9.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	5.1	5.1	6.2	5.7	0.5	4.6	9.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	5.1	5.1	6.1	5.7	0.4	4.6	9.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	5.3	5.3	6.1	5.7	0.4	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	5.3	5.3	6.0	5.7	0.3	4.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	5.2	5.2	5.9	5.7	0.2	4.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	5.2	5.2	5.8	5.7	0.1	4.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	5.2	5.2	5.8	5.7	0.1	4.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	5.2	5.2	5.7	5.7	(0.0)	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	183.8	180.1	123.7	119.7	4.0	161.6			0.0	0.0		0.0		
TOTAL AF	364.6	357.2	245.3	237.4	7.9	320.6	320.6	0.0			0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

JUNE 2006 - BELOW NORMAL YEAR

DAY	USGS Official 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				
						MWD	MWD				Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	AF	cfs		AF	cfs	AF	cfs	AF
1	5.0	5.0				4.7	9.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
2	5.1	5.1				4.8	9.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
3	5.1	5.1				4.7	9.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
4	5.1	5.1				4.7	9.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
5	5.2	5.2				4.7	9.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
6	5.0	5.0				4.5	9.0	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
7	4.9	4.9				4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
8	5.0	5.0				4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
9	4.9	4.9				4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
10	4.9	4.9				4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
11	4.9	4.9	5.0	4.9	0.1	4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
12	4.9	4.9	5.0	4.9	0.1	4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
13	4.9	4.9	5.0	4.9	0.1	4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
14	4.9	4.9	5.0	4.9	0.0	4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
15	4.8	4.8	4.9	4.9	0.0	4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
16	4.9	4.9	4.9	4.9	0.0	4.5	9.0	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
17	4.8	4.8	4.9	4.9	(0.0)	4.5	9.0	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
18	4.7	4.7	4.9	4.9	(0.0)	4.5	9.0	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
19	4.8	4.8	4.9	4.9	(0.1)	4.7	9.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
20	5.1	5.1	4.9	4.9	(0.0)	4.7	9.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
21	4.9	4.9	4.9	4.9	(0.0)	4.8	9.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
22	4.9	4.9	4.9	4.9	(0.0)	4.8	9.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
23	5.0	5.0	4.9	4.9	(0.0)	4.8	9.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
24	5.0	5.0	4.9	4.9	(0.0)	4.8	9.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
25	5.0	5.0	4.9	4.9	0.0	4.8	9.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
26	5.0	5.0	4.9	4.9	0.0	4.8	9.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
27	5.1	5.1	5.0	4.9	0.0	4.8	9.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
28	5.1	4.9	5.0	4.9	0.1	4.7	9.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
29	4.8	4.6	5.0	4.9	0.0	4.5	8.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
30	4.8	4.5	4.9	4.9	(0.0)	4.4	8.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL SFD	148.5	147.8	98.3	98.0	0.3	138.6			0.0		0.0		0.0		
TOTAL AF	294.5	293.2	195.0	194.4	0.6	274.9	274.9	0.0		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

JULY 2006 - BELOW NORMAL YEAR

DAY	USGS Official 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	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	AF	cfs	AF	cfs	AF	cfs	AF
1	4.7	4.4				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.6	4.3				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.6	4.4				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.6	4.3				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.7	4.4				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.6	4.4				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.6	4.4				4.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	4.5	4.3				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.5	4.2				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.5	4.3				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.5	4.3	4.3	4.3	0.0	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.3	4.3	4.3	4.3	0.0	4.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.4	4.4	4.3	4.3	0.0	4.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.4	4.4	4.3	4.3	0.0	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.4	4.4	4.3	4.3	0.0	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.4	4.4	4.3	4.3	0.0	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.4	4.4	4.3	4.3	0.0	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.4	4.4	4.4	4.3	0.0	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.3	4.3	4.4	4.3	0.1	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.3	4.3	4.4	4.3	0.1	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.4	4.4	4.4	4.3	0.1	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	6.7	6.4	4.6	4.3	0.3	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.6	4.4	4.6	4.3	0.3	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.2	3.9	4.5	4.3	0.2	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.1	3.8	4.5	4.3	0.2	3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.3	4.0	4.4	4.3	0.1	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.3	4.0	4.4	4.3	0.1	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.3	4.1	4.4	4.3	0.1	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.3	4.1	4.3	4.3	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.3	4.1	4.3	4.3	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	4.4	4.1	4.3	4.3	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	139.6	134.3	92.1	90.3	1.8	131.3			0.0	0.0		0.0		
TOTAL AF	276.9	266.4	182.6	179.1	3.5	260.5	260.5	0.0			0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

AUGUST 2006 -BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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		Input /2	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	AF	cfs	cfs	AF	cfs	AF	AF
											2			
1	4.7	4.4				4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.6	4.4				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.7	4.7				4.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.8	4.8				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.9	4.9				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.7	4.7				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.7	4.7				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	4.6	4.6				4.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.6	4.6				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.7	4.7				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.6	4.6	4.7	4.4	0.3	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.6	4.6	4.7	4.4	0.3	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.4	4.4	4.7	4.4	0.3	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.5	4.5	4.6	4.4	0.2	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.4	4.4	4.6	4.4	0.2	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.3	4.3	4.5	4.4	0.1	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.3	4.3	4.5	4.4	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.3	4.3	4.5	4.4	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.1	4.3	4.4	4.4	0.0	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.1	4.3	4.4	4.4	0.0	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.2	4.4	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.2	4.5	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.2	4.5	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.2	4.4	4.4	4.4	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.2	4.4	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.2	4.4	4.4	4.4	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.2	4.5	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.2	4.4	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.2	4.4	4.4	4.4	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.2	4.4	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	4.1	4.4	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	136.7	139.2	93.9	92.4	1.5	129.1			0.0	0.0		0.0		
TOTAL AF	271.1	276.1	186.3	183.3	3.0	256.0	256.0				0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

SEPTEMBER 2006 -BELOW NORMAL YEAR

											CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE					
DAY	USGS Official 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	MWD	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			2			
1	4.0	4.2				3.8	7.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
2	3.9	4.1				3.7	7.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
3	3.9	4.1				3.8	7.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
4	3.9	4.1				3.8	7.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
5	3.9	4.2				3.7	7.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
6	4.0	4.3				3.7	7.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
7	3.7	3.9				3.7	7.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
8	4.0	4.0				4.1	8.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
9	4.2	4.2				4.3	8.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
10	4.2	4.2				4.2	8.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
11	4.2	4.2	4.1	4.1	0.0	4.2	8.4	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
12	4.1	4.1	4.1	4.1	0.0	4.2	8.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
13	4.1	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
14	4.2	4.2	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
15	4.2	4.2	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
16	4.2	4.2	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
17	4.1	4.1	4.2	4.1	0.1	4.1	8.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
18	4.2	4.0	4.2	4.1	0.1	4.0	8.0	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
19	4.3	4.1	4.1	4.1	0.0	4.2	8.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
20	4.4	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
21	4.3	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
22	4.3	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
23	4.4	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
24	4.4	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
25	4.4	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
26	4.4	4.1	4.1	4.1	(0.0)	4.2	8.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
27	4.4	4.1	4.1	4.1	(0.0)	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
28	4.4	4.1	4.1	4.1	0.0	4.2	8.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
29	4.3	4.1	4.1	4.1	0.0	4.1	8.2	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
30	4.1	3.9	4.1	4.1	(0.0)	3.9	7.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL SFD	125.1	123.4	82.4	82.0	0.4	121.6			0.0		0.0		0.0		
TOTAL AF	248.1	244.8	163.4	162.6	0.8	241.1	241.1	0.0		0.0		0.0		0.0	

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

OCTOBER 2006 - BELOW NORMAL YEAR

DAY	USGS Official 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				
						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	4.1	3.9				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.1	3.9				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.1	3.9				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.1	3.9				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.0	4.0				3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.9	3.9				3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.9	3.9				3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.9	3.9				3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.9	3.9				3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	3.9	3.9				3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.9	3.9	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.9	3.9	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.8	3.8	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.0	4.0	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.1	4.1	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.0	4.0	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.9	3.9	3.9	3.9	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.1	4.1	4.0	3.9	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.2	4.2	4.0	3.9	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.1	4.1	4.0	3.9	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.3	4.3	4.0	3.9	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.2	4.2	4.1	3.9	0.2	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.9	3.9	4.1	3.9	0.2	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.9	3.9	4.1	3.9	0.2	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.8	3.8	4.0	3.9	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	3.8	3.8	4.0	3.9	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	3.8	3.8	4.0	3.9	0.1	3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.8	3.8	4.0	3.9	0.1	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.9	3.9	4.0	3.9	0.0	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.6	4.6	4.0	3.9	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	4.4	4.4	4.0	3.9	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	124.3	123.5	83.6	81.9	1.7	117.3			0.0	0.0		0.0		
TOTAL AF	246.5	245.0	165.8	162.4	3.4	232.7	232.7	0.0		0.0		0.0		

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

NOVEMBER 2006 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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	4.6	4.6				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.5	4.5				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.6	4.6				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.6	4.6				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.6	4.6				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.7	4.7				4.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.6	4.6				4.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	4.6	4.6				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.6	4.6				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.6	4.6				4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.5	4.5	4.6	4.5	0.1	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.7	4.7	4.6	4.5	0.1	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.6	4.6	4.6	4.5	0.1	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.7	4.7	4.6	4.5	0.1	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	5.0	5.0	4.7	4.5	0.2	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.8	4.8	4.7	4.5	0.2	3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.8	4.8	4.7	4.5	0.2	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.7	4.7	4.7	4.5	0.2	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.6	4.6	4.7	4.5	0.2	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.9	4.9	4.7	4.5	0.2	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.6	4.6	4.7	4.5	0.2	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.5	4.5	4.7	4.5	0.2	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.4	4.4	4.7	4.5	0.2	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.5	4.5	4.7	4.5	0.2	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.5	4.5	4.6	4.5	0.1	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.5	4.5	4.6	4.5	0.1	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	6.9	6.9	4.8	4.5	0.3	1.3	2.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	1.9	1.9	4.5	4.5	0.0	0.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.0	4.0	4.5	4.5	(0.0)	3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.5	4.5	4.4	4.5	(0.1)	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	---	---	---	---	---	---	---			---	---	---	---	---
TOTAL SFD	137.6	137.6	92.9	90.0	2.9	118.7			0.0	0.0		0.0		
TOTAL AF	272.9	272.9	184.2	178.5	5.7	235.5	235.5	0.0		0.0		0.0		

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF

APPENDIX E

SANTA MARGARITA RIVER WATERSHED

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

DECEMBER 2006 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE				
DAY	USGS Official 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	5.5	5.3				4.9	9.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	5.9	5.6				5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	5.8	5.5				5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.3	4.3				4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.3	3.1				3.2	6.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.7	3.5				3.3	6.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.6	3.4				3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.7	3.4				3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.6	3.4				3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	31.0	34.0				1.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	1.8	2.5	6.9	3.3	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	2.1	3.0	6.6	3.3	3.3	2.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	2.6	3.4	6.4	3.3	3.1	3.2	6.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	2.8	3.8	6.4	3.3	3.1	3.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	2.9	4.1	6.5	3.3	3.2	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.2	4.1	6.5	3.3	3.2	2.8	5.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.2	4.4	6.6	3.3	3.3	1.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.0	4.1	6.7	3.3	3.4	2.3	4.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	2.7	3.7	6.7	3.3	3.4	3.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.4	4.5	3.8	3.3	0.5	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	2.4	3.3	3.8	3.3	0.5	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	2.7	3.8	3.9	3.3	0.6	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	2.5	3.5	3.9	3.3	0.6	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	2.3	3.2	3.9	3.3	0.6	3.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	2.4	3.3	3.8	3.3	0.5	3.1	6.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	2.6	3.6	3.7	3.3	0.4	3.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	5.7	5.7	3.9	3.3	0.6	3.1	6.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.2	3.2	3.8	3.3	0.5	2.8	5.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	2.2	2.2	3.6	3.3	0.3	2.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	2.3	2.3	3.4	3.3	0.1	2.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	2.5	2.5	3.3	3.3	0.0	2.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	128.9	145.7	104.1	69.3	34.8	93.3				0.0				
TOTAL AF	255.7	289.0	206.4	137.5	68.9	185.0	185.0	0.0			0.0			

1 - Art. 7(b) not applicable for months of May through December
2 - Groundwater Account balance at 5,000 AF
* On November 30, 2006, Camp Pendleton requested to forego Make-up Water from December 4 through December 31, 2006, by reducing the required flow to simulate Critically Dry Hydrologic Conditions

ACCOUNTING UNDER THE COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

FEBRUARY 21, 2006

The intent of this document is to memorialize the method of accounting under the Cooperative Water Resource Management Agreement (CWRMA) and quantify the credits earned by the Rancho California Water District (District) and the United States Marine Corps Base Camp Pendleton (Camp Pendleton) in calendar years (Year) 2003, 2004, and 2005. Year 2003 represents the first full year in which the CWRMA had been in effect and fully implemented. Year 2004 represents the first year in which credits were both applied and earned by the District. During a January 21, 2004, meeting between both parties, it became apparent that a common method of accounting for flows at the Gorge was required. Subsequent meetings between the technical representatives of both parties on February 17, 2004, March 2, 2004, and July 26, 2005 facilitated a mutual agreement of both accounting terms and methodology.

Three types of credits are recognized in the CWRMA: (1) "CAP Credits" for the Make-Up Water provided in any calendar year in excess of 4,000 acre-feet [§5(e)], (2) "Climatic Credits" earned by the District in Below Normal and Critically Dry years as determined by the Hydrologic Index on May 1st of each year [§5(b)], and (3) "Groundwater Bank Credits" earned by Camp Pendleton when the District's actual flow maintenance requirements are less than the flows in the table in Section 5 [§17]. A more detailed list of terms used throughout technical and legal meetings is provided in Table 1.

District releases at the Gorge have been based upon provisional data posted to the USGS website: http://waterdata.usgs.gov/ca/nwis/dv?format=html&period=10&site_no=11044000. It has been agreed upon by both parties that this data will be used in accounting for flows at the Gorge without regard to any data modifications that may be made later by the USGS. The District releases Make-Up Water from Metropolitan Water District's raw water pipeline #2 at WR-34.

The District and Camp Pendleton have agreed to use a spreadsheet model CWRMA Accounting v2.0.xls (Accounting Model) that was originally developed by the District to account and track the daily flows observed at the Gorge, Make-Up Water released by the District, and credits earned by both parties. The Accounting Model will be maintained by the District, and reviewed periodically by Camp Pendleton. Any future changes to the Accounting Model will be noted by a change in the version number and issuance of an accounting memorandum addendum developed by both parties.

TABLE 1: DEFINITION OF TERMS

Minimum Daily Flow Requirement "The ***Minimum Daily Flow Requirement*** for each winter period shall be 11.5 cfs, less any credit unused in a previous year, and less any credit established by the May 1st accounting of the prior year" **[§5(b)]**. The ***Minimum Daily Flow Requirement*** is a particular flow measured against a 10-day running average **[§5(b)]**. The winter period ***Minimum Daily Flow Requirement*** may be further reduced by the accrual of CAP Credits "when the District is required under this Section to provide ***Make-Up Water*** in any calendar year in excess of 4,000 acre-feet" **[§5(e)]**. For the non-winter period, the "***Minimum Daily Flow Requirements*** (are) based upon the particular hydrologic condition established on May 1st for the prior October-April period" **[§5(c)]**.
Actual Flow Requirement "On May 1st..., the hydrologic condition for the immediately preceding October-April period shall be determined. Such condition, and the ***Daily Flow Requirement*** set forth in this Section 5(b), shall be used to determine the ***Actual Flow Requirement*** for the prior winter period, and whether this requirement was exceeded" **[§5(b)]**. "Camp Pendleton may acquire rights to such 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" **[§17]**. The non-winter ***Actual Flow Requirements*** are equal to the ***Minimum Daily Flow Requirements*** during the non-winter period (once the Hydrologic Condition is known) because no credits are applied in the non-winter period.
Make-Up Water "The District shall provide whatever ***Make-Up Water*** is needed to meet this (the ***Minimum Daily Flow)*** requirement" **[§5(b)]**. "The District shall not be required to provide more than the equivalent of 11.5 cfs ***Make-Up Water*** for any month". **[§5(d)]** "The District guarantees that flows, based upon the 10-day running average, shall at no time be less than 3.0 cfs" **[§5(f)]**. "Make-Up Water ... (is) required ... at the Gorge in order to comply with the requirements of Section 5" **[§6]**. "Any losses of makeup water incurred between the point of discharge by the District and the Gorge shall be borne by the District, and shall not diminish the United States' entitlement, as measured at the Gorge" **[§6]**.
Climatic Credits are those credits earned by the District on Below Normal and Critically Dry years, when the ***Minimum Daily Flow Requirement*** for the winter period is found to be greater than the ***Actual Flow Requirement*** determined on May 1st. "In providing ***Minimum Daily Flows*** ... if the District has provided ***Make-Up Water*** in excess of its ***Actual Requirement***, the District shall be entitled to a credit for such excess. The quantity of the excess flow shall be converted to a cfs equivalent, and applied during the following winter periods to reduce the 11.5 cfs requirement" **[§5(b)]**.
CAP Credits are those credits earned by the District when Make-Up Water is in excess of 4,000 acre-feet per year. "When the District is required under this Section to provide ***Make-Up Water*** in any calendar year in excess of 4,000 acre-feet, measured at the Gorge, it shall be entitled to a credit for the excess, taking into account transmission losses, to be applied during the following two winter periods" **[§5(e)]**.
Groundwater Bank (GW Bank) Credits are those credits earned by Camp Pendleton when the District's ***Actual Flow Maintenance Requirements*** are less than the flows in the table in Section 5. "Camp Pendleton may acquire rights to such 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" **[§17]**. "Camp Pendleton's rights to such groundwater in storage shall not exceed 5,000 acre-feet at any one time; and ... the District's obligation to deliver stored groundwater shall not exceed 2,200 acre-feet per year over any required makeup obligation which the District may have, and in no event at a rate in excess of 11.5 cfs" **[§17]**.
Credits earned by the District serve to reduce the ***Minimum Daily Flow Requirement*** during the winter period. ***Credits*** are applied in the following order (1) Climatic Credits from 2 or more years prior, (2) Climatic Credits earned in the previous year, (3) CAP Credits earned from the previous year, and finally (4) CAP Credits from 2 years prior. "In all years following the first winter period, the same procedure shall be followed, provided that the ***Minimum Daily Flow Requirement*** for each winter period shall be 11.5 cfs, less any ***credit*** unused in a previous year, and less any ***credit*** established by the May 1st accounting of the prior year" **[§5(a)]**.

Calendar Year 2003

The CWRMA states that during the first winter period (January to April 2003) following the effective date of the CWRMA, the Minimum Daily Flow Requirement is 11.5 cfs, calculated on a ten-day running average. This minimum requirement is to be adjusted, if necessary, on May 1st, 2003, based upon the Hydrologic Index for the previous October through April hydrologic period. Accordingly, the hydrologic condition for Year 2003 was determined to be Above Normal, and thus the District was not entitled to earn Climatic Credit in Year 2003.

During Year 2003, the District released 5,485 acre-feet according to releases at WR-34. Since the existing location of releases by the District (WR-34) is essentially at the Gorge, it is agreed that there are no discernable transmission losses incurred between the current point of discharge by the District and the Gorge. Future releases by the District at alternate locations will require development of a methodology to quantify transmission losses incurred between the point of discharge by the District and the Gorge. Any losses "shall be borne by the District, and shall not diminish the United States' entitlement, as measured at the Gorge" **[§6]**.

In 2003, it was agreed that the District was entitled to a CAP Credit for any water provided in excess of 4,000 acre-feet, and accordingly earned a CAP Credit of 1,485 acre-feet for Year 2003. The CWRMA calls for earned CAP Credit to be converted to a cfs equivalent (6.2 cfs) and applied during the following two winter periods to reduce the minimum winter flow requirement of 11.5 cfs. During Year 2003, Camp Pendleton's groundwater bank accumulated 2,096 acre-feet of credit.

Calendar Year 2004

For the period January 1st to January 21st, 2004, the District applied its CAP Credit at a rate of 3.1 cfs, which represents 50% of the cfs equivalent CAP Credit earned in Year 2003, to reduce the 11.5 cfs minimum flow requirement. For the period January 22nd to April 30th, 2004, it was agreed that the District would apply its CAP Credit at a rate of 4.4 cfs, which represents 70% of the cfs equivalent CAP Credit earned in Year 2003. A total of 1,002 acre-feet of CAP Credit was applied by the District during the winter period of 2004. The remaining CAP Credit, 483 acre-feet (2.0 cfs), may be applied to reduce the minimum winter flow requirement in the winter period of 2005. Any remaining CAP Credit earned in Year 2003, not applied to the minimum winter flow requirement during Year 2005, will be forfeited.

On May 1st, 2004, the hydrologic condition was determined to be Critically Dry, thus the District was eligible to earn Climatic Credit in Year 2004. Based on Accounting Model, the

Climatic Credit earned in Year 2004 was 678 acre-feet (2.8 cfs). During the same calendar year, Camp Pendleton's groundwater bank accrued 360 acre-feet of credit, for a cumulative groundwater storage volume equal to 2,456 acre-feet.

Calendar Year 2005

For the winter period of Year 2005, the District applied the Climatic Credits earned in Year 2004 (2.8 cfs) and the remaining CAP Credit from Year 2003 (2.0 cfs), to reduce the 11.5 cfs minimum flow requirement. A total of 687 acre-feet of Climatic Credit and 483 acre-feet of CAP Credit were applied by the District during the winter period of 2005. During the same winter period, Camp Pendleton's groundwater bank accrued 2,544 acre-feet of credit, reaching the maximum storage volume of 5,000 acre-feet on April 12, 2005.

On May 1st, 2005, the hydrologic condition was determined to be Very Wet, thus the District was not eligible to earn Climatic Credit in Year 2005. On November 23, 2005, the Camp Pendleton and the District took action to reduce the accumulation of 2005 CAP Credits earned by reducing the flow releases at the Gorge from Very Wet to Below Normal hydrologic conditions, resulting in 492 acre-feet of foregone Make-Up Water. Since Camp Pendleton's groundwater bank was already at the maximum allowable storage volume, the 492 acre-feet of foregone Make-Up Water does not serve to secure additional rights to groundwater above the Gorge for Camp Pendleton. The 397 acre-feet of CAP Credit earned by the District in Year 2005 translates to an equivalent winter flow rate of 1.7 cfs, which must be used before the end of the 2007 winter period to avoid forfeiture. Based on applying 50% of the available CAP Credits, the 2006 winter Minimum Daily Flow Requirement was calculated to be 10.7 cfs.

Operational Efficiency

The CWRMA states that the District is entitled to a CAP Credit for any Make-Up Water provided in excess of 4,000 acre-feet. During Year 2003, the District released 5,485 acre-feet at WR-34. The releases by the District significantly exceeded the Make-Up Water requirement due to the condition of the groundwater basin and the District's operational goal to meet the 10-day average every day of Year 2003, without going under the Section 5 requirement.

The District and Camp Pendleton agree that it is beneficial to both parties to minimize the occurrence of Make-Up Water in any calendar year in excess of 4, 000 acre-feet, thereby minimizing CAP Credits earned in a given year. The District does not want to release more water than is required or needed. Camp Pendleton does not want the District to accumulate credits during wet

years that may hinder flows during subsequent dry years. Though the difference between Make-Up Water and releases by the District is considered to be operational excess water, which is not required under the CWRMA, an arrangement was made on January 21, 2004 where Camp Pendleton agreed to the District's 2003 CAP Credit calculation of 1,485 acre-feet, on the contingency that an agreed upon method of accounting practices would be defined and set in place. During technical meetings, all parties agreed to monitor the accumulation of operational excess in the Accounting Model. The daily accounting of operational excess will allow each party to identify cumulative accumulations and deficiencies early on in the year, which will help avoid excess releases by the District during the remainder of the year. In Year 2003, there was 443 AF of operational inefficiency, which resulted from the District trying to meet or exceed the Section 5 flow requirements on every day. Releases by the District did not exceed 4,000 acre-feet during Year 2004, thus eliminating the need to calculate CAP Credits and operational inefficiencies. During Year 2005, the District released 94 acre-feet of operational excess, again representing the quantity of water released at the Gorge greater than required under CWRMA. Camp Pendleton and the District recognize that the operational excess that occurred in 2003 is unlikely to occur again in the future. Furthermore, it appears that the District is improving upon their ability to meet the flow requirements at the Gorge using the available instrumentation and technology.

Both parties explored various methodologies during technical meetings in Years 2004 and 2005 to accurately account for operational inefficiency in the Accounting Model. Review of the various methodologies suggested that the optimal method of accounting for excess water was to improve the efficiency of the releases, thus reducing the possibility of exceeding 4,000 acre-feet in any given year. While this may not be considered to be the optimal solution to account for excess water releases, both the District and Camp Pendleton are in agreement to reduce excess water releases that result in unnecessary expense and CAP Credit accumulation. All provisions of the CWRMA, including those that identify and stipulate the Minimum Daily Flow Requirement at the Gorge, remain in effect to ensure the target flows in the Santa Margarita River are maintained.

Summary

While Camp Pendleton and the District have achieved a consensus regarding the accounting of Climatic, CAP, and Groundwater Bank Credits, there continues to be a disagreement among the two parties regarding the application of Make-Up Water to CAP Credit. While Camp Pendleton believes that not all Make-Up Water should count towards CAP Credit, the District has clearly indicated their disagreement with that methodology. This issue remains outstanding between the two parties, but does not hinder or jeopardize the intent of the CWRMA to continue to facilitate a physical solution to the water rights dispute.

The accounting solution presented in this document outlines operational guidelines agreed upon by the District and Camp Pendleton. The Accounting Model, maintained by the District and reviewed by Camp Pendleton, will be used to track flows and credits on a daily, monthly, and annual basis. This document does not modify or replace the language or intentions of the CWRMA.

A copy of this accounting agreement will be sent to the Watermaster in the *U.S. v. Fallbrook* case for inclusion in the Santa Margarita River Watershed Annual Watermaster Report.

RANCHO CALIFORNIA WATER DISTRICT

By: Bob Lemons

Bob Lemons
Director of Engineering
Rancho California Water District

U.S. MARINE CORPS CAMP PENDLETON

By:

Scott Thomas
Director, Office of Water Resources
U.S. Marine Corps Base Camp Pendleton

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2005-06

APPENDIX F

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

AUGUST 2007

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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
July 2007

1 inch equals 4 miles

0 0.5 1 2 3 4 Miles

W.M.W.D.
E.M.W.D.
E.V.M.W.D.
LAKE ELSINORE
CANYON LAKE
DIAMOND VALLEY LAKE
LAKE SKINNER
HEMET LAKE
SAN JACINTO RIVER
BAUTISTA CREEK F.C. CHANNEL
LITTLE LAKE
Orange County
Riverside County
San Diego County
Murrieta
W.M.W.D. (Murrieta Division)
R.C.W.D.
Temecula
VAIL LAKE
Aguanga
Ramona I.R.
Cahuilla I.R.
Pechanga I.R.
Pauma I.R.
F.P.U.D.
W.M.W.D.
W.M.W.D.
R.M.W.D.
Camp Pendleton
LAKE O'NEILL
Pacific Ocean
Warm Springs Creek
Rawson Creek
Murrieta Creek
Tucalota Creek
Santa Gertrudis Creek
Wilson Creek
Cahuilla Creek
Sandia Creek
Temecula Creek
Santa Margarita River
Rainbow Creek
De Luz Creek
Tenaja Creek
Chihuahua Creek

Legend

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

Water Purveyors

- Camp Pendleton
- E.M.W.D.
- E.V.M.W.D.
- F.P.U.D.
- R.C.W.D.
- R.M.W.D.
- W.M.W.D.
- W.M.W.D. (Murrieta Division)
- 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.
The Eastern Municipal Water District Service Area also includes portions of Rancho California Water District and Murrieta Division of the Western Municipal Water District.