SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

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

August 2008

TABLE OF CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF FIGURES

APPENDICES

Appendix A - Production and Use Water Year 2006-07

Appendix B - Production and Use Water Years 1965-66 To 2006-07

Appendix C - Substantial Water Users 2006-07

Appendix D - Water Quality Data

SECTION 1 - SUMMARY

Section 1 - A summary of the Santa Margarita River Watershed Annual Watermaster Report for the 2006-07 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 2006-07. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula, and the Santa Margarita River at Ysidora were 5%, 26% and 12% of their long-term averages respectively. Direct surface diversions to use totaled 711 acre feet compared with 901 acre feet in 2005-06. The total quantity of water in storage in the Watershed on September 30, 2007, was 757,293 acre feet, of which 27,065 acre feet were Santa Margarita River water and 730,228 acre feet were imported water.

Section 4 - Groundwater extractions were 44,276 acre feet compared to 43,252 acre feet in 2005-06. Water purveyors pumped 38,676 acre feet and 5,600 acre feet were pumped by other substantial users. Total annual local production including surface diversions for use for the period 1998-2007 is shown on Figure 1.1.

Section 5 - During 2006-07, 106,209 acre feet of net imports were distributed for use within the Santa Margarita River Watershed. This compares with 98,068 acre feet in 2005-06 and represents an increase of eight percent. Annual imports for the period 1998-2007 are shown on Figure 1.2. Exports of wastewater and native water for use outside the watershed in 2006-07 were 18,060 acre feet. This compares with 19,859 acre feet in 2005-06 and represents a decrease of 9 percent.

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

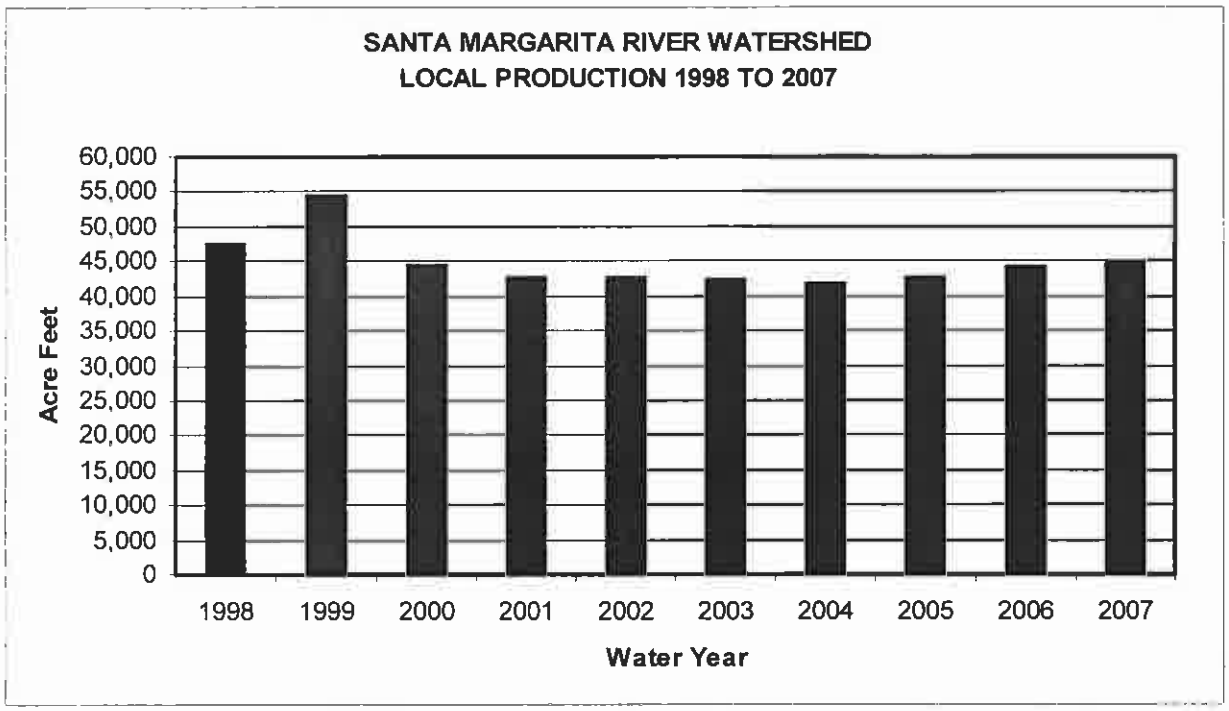
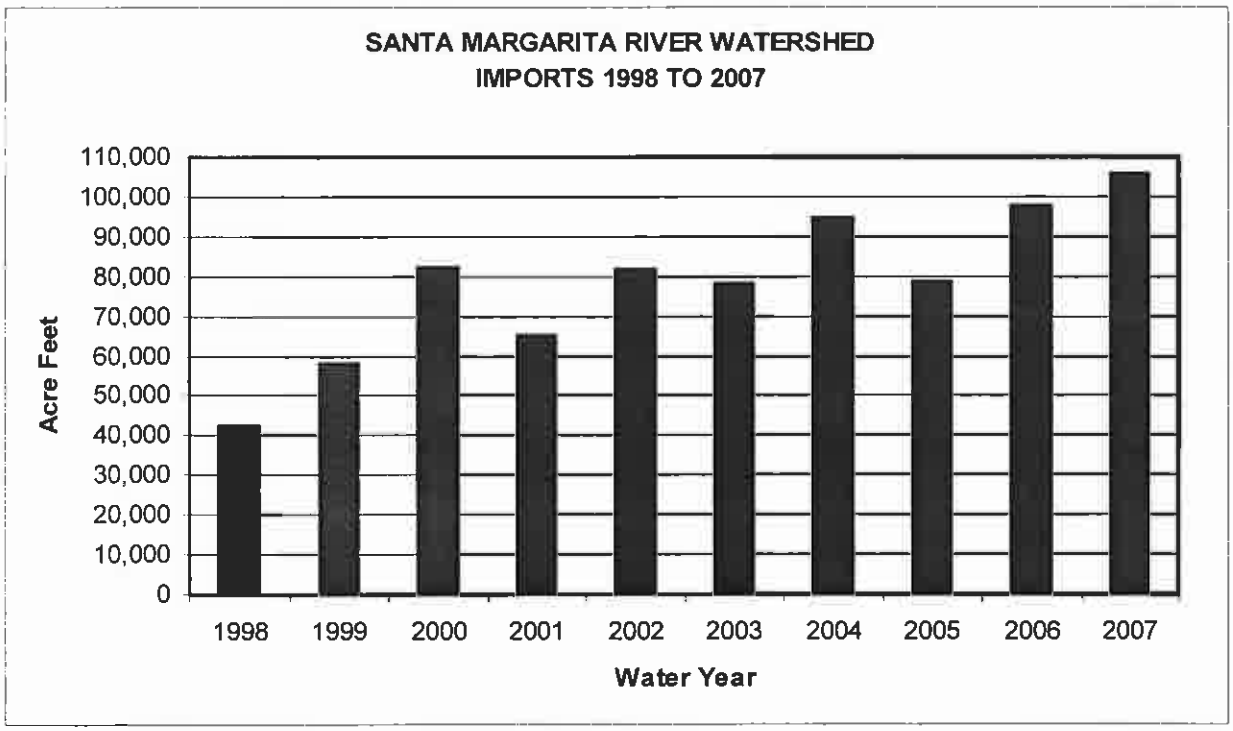


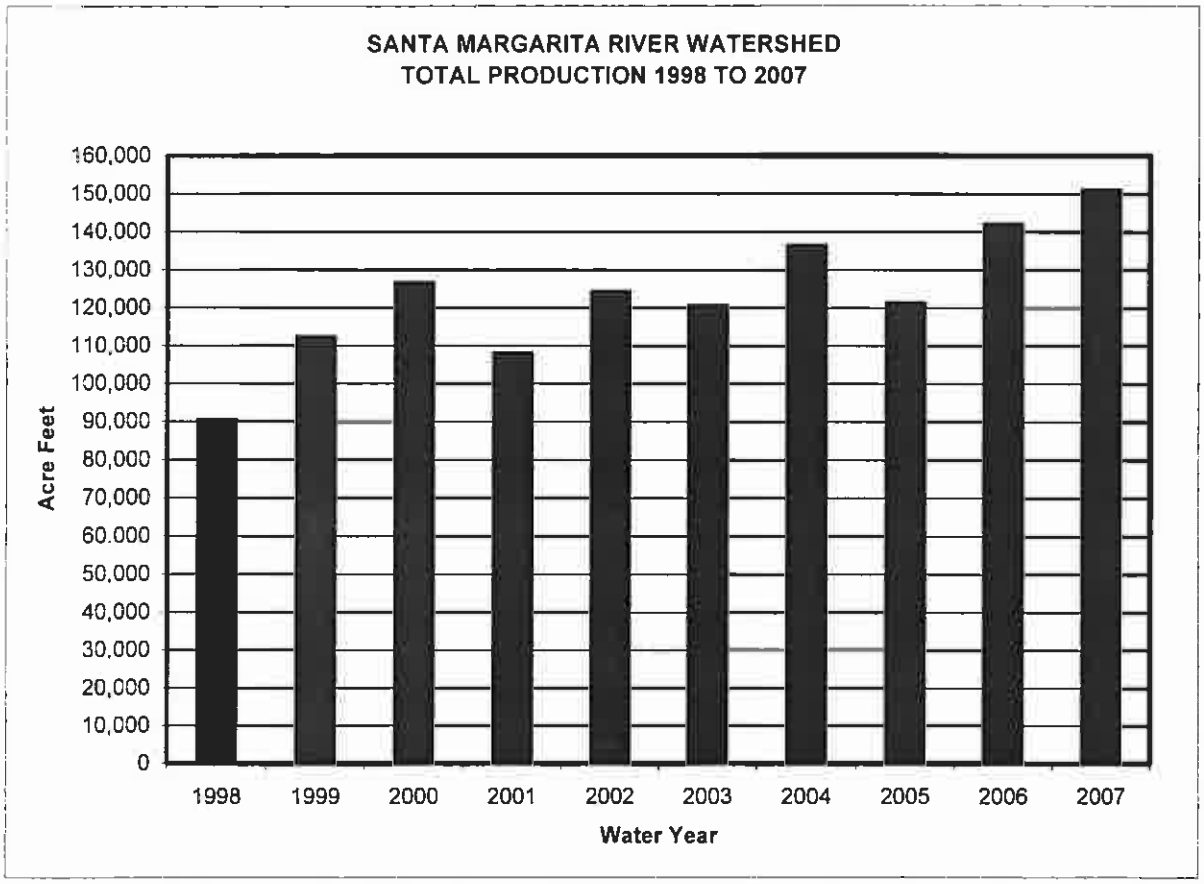
Figure 1.2



Section 7 - Total imported supplies plus local production totaled 151,197 acre feet compared to 142,327 reported in 2005-06. Of that quantity, 59,696 acre feet were used for agriculture; 11,494 acre feet were used for commercial purposes; and 61,401 acre feet were used for domestic purposes; 141 acre feet were discharged to Murrieta Creek; 2 acre feet were discharged to Temecula Creek, and 10 acre feet were discharged to Santa Gertrudis Creek; 3,706 acre feet were discharged by Rancho California WD during 2006-07 pursuant to the Cooperative Water Resources Management Agreement (CWRMA) (3,576 acre feet to the Santa Margarita River from MWD WR-34 and 130 acre feet to Murrieta Creek from the System River Meter); 4,160 acre feet of fresh water were exported by Camp Pendleton; and 2,247 acre feet were recharged by Rancho California WD to storage. The overall system loss was 8,340 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 1998-2007 is shown on Figure 1.3

Figure 1.3



Section 8 – Use of water from small storage ponds may be unauthorized. 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. Additional threats have been recently identified including high concentrations of nitrates, arsenic and fluoride in the Murrieta-Temecula area as well as the discovery of the quagga mussel in imported supplies.

Section 10 – The U. S. Geological Survey (USGS) monitored surface water quality at the Temecula gaging station on the Santa Margarita River.

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 2006-07. The two primary constituents of interest are nitrates and total dissolved solids (TDS). The Basin Plan Objective for TDS of 750 mg/l was exceeded in six of eleven wells at Camp Pendleton. Two of the seven wells sampled by Rancho California WD for TDS showed concentrations exceeding the Basin Plan Objective.

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 2007 calendar year, Rancho California WD discharged 3,609 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 for the Water Year 2008-09 is proposed to be $545,300. This budget includes $327,425 for the Watermaster Office and $217,875 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 2006-07 was comprised of representatives from the United States, Eastern Municipal Water District, Fallbrook Public Utility District, Metropolitan Water District of Southern California, Pechanga Tribe, Western Municipal Water District, 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.

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 2006-07 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 2006-07 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 2006-07 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

2006-07

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							10/88	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

2006-07

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 2006	YEARS OF RECORD THRU 2006
Temecula Creek Near Aguanga	131	77	76	100	118	128	109	92	70	45	35	36	41	927	5,770	49
Pechanga Creek Near Temecula [1/]	13.8	0	0	0	0	0	0	0	0	0	0	0	0	0	531	19
Warm Springs Creek Near Murrieta	55 4	0	0	19	0	9	0	16	0	0	0	2	0	47	3,290	19
Santa Gertrudis Creek Near Temecula	90.2	0	11	34	0	34	1	20	0	0	0	0	0	100	3,140	19
Murrieta Creek Near Murrieta [2/]	30	---	---	---	---	---	---	---	---	---	---	---	---	0 [3/]	4,430	8 (1998-2005)
Murrieta Creek At Temecula	222	2	18	60	9	140	95	83	2	58	0	2	0	470	10,121	82
Santa Margarita River Near Temecula	588	247	279	256	489	601	511	512	239	200	193	187	180	3,894	15,145 20,390	58 (1949-2006) 26 (1923-48)
Rainbow Creek Near Fallbrook	10.3	47	26	33	35	53	45	29	15	7	21	5	4	320	2,830	17
Sandia Creek Near Fallbrook	21 1	232	231	290	281	313	301	272	214	206	188	163	196	2,887	7,410	17
Santa Margarita River At FPUD Sump	620	351	380	434	734	950	801	833	377	269	218	204	188	5,739	32,420	17
DeLuz Creek Near DeLuz	33	16	20	39	51	87	45	5	0	0	0	0	0	263	10,350	14 (1993-2006)
Santa Margarita River At Ysidora	723	395	236	151	231	843	932	746	316	102	0	0	0	3,952	32,250 [4/] 31,390	58 (1949-2006) 26 (1923-48)
Fallbrook Creek Near Fallbrook	6.97	4	18	26	33	65	31	21	11	2	0	0	0	211	1,372 1,462 [5/]	18 (1989-2006) 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

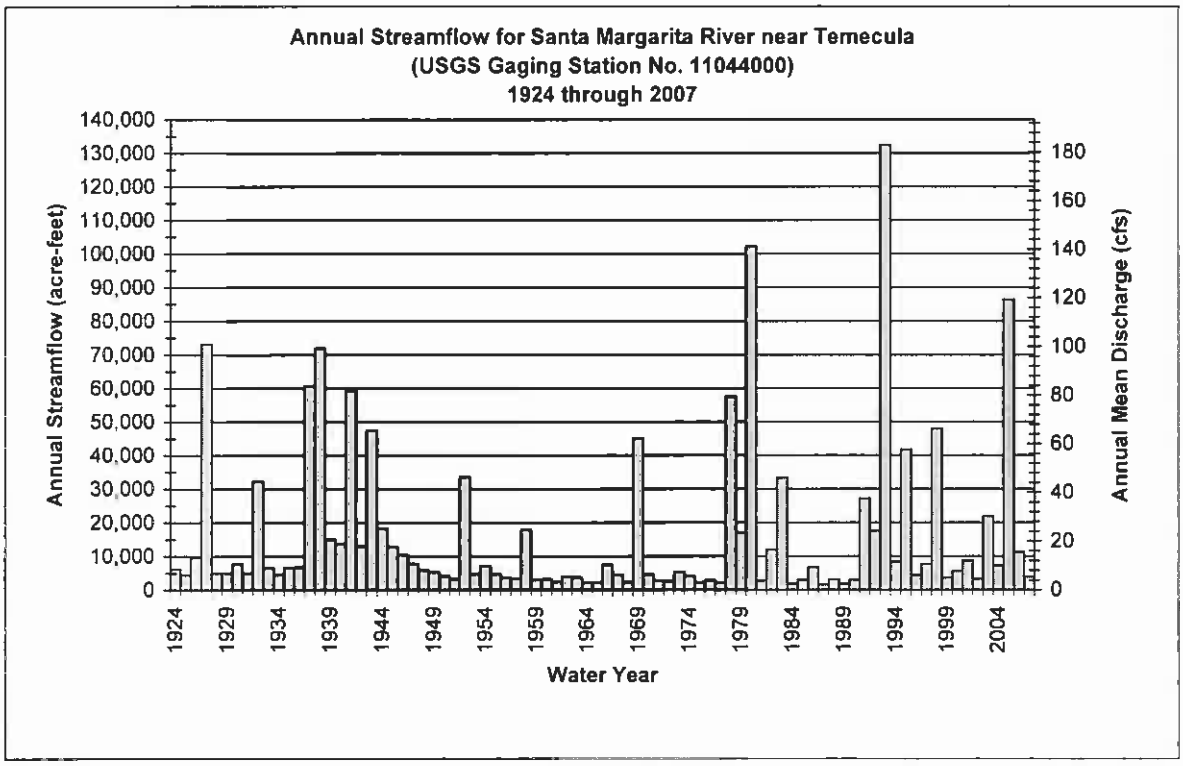
Total flows at four long-term stations for Water Years 2005-06 and 2006-07 are compared with their averages in the tabulation below. Average flows for the Santa Margarita River stations near Temecula and near Ysidora are shown for two periods: before and after Vail Dam was constructed (1923 to 1948, and 1949 to 2006).

	TOTAL FLOW		AVERAGE FLOW
	2005-06 Acre Feet	2006-07 Acre Feet	Through 2006 Acre Feet
Temecula Creek Near Aguanga	2,053	927	5,770 (1957-2006)
Murrieta Creek At Temecula	5,517	470	10,121 (1925-2006)
Santa Margarita River Near Temecula	11,271	3,894	15,145 (1949-2006) 20,390 (1923-1948)
Santa Margarita River At Ysidora (various locations)	18,743	3,952	32,250 (1949-2006) 31,390 (1923-1948)

The foregoing tabulation indicates the flows for Water Year 2006-07 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 5%, 26% and 12% of their long-term averages respectively. Flows at Temecula Creek near Aguanga were 16% 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 2006-07 flows were in the second quartile and significantly less than the flows for most of the years since 1990.

Figure 3.1

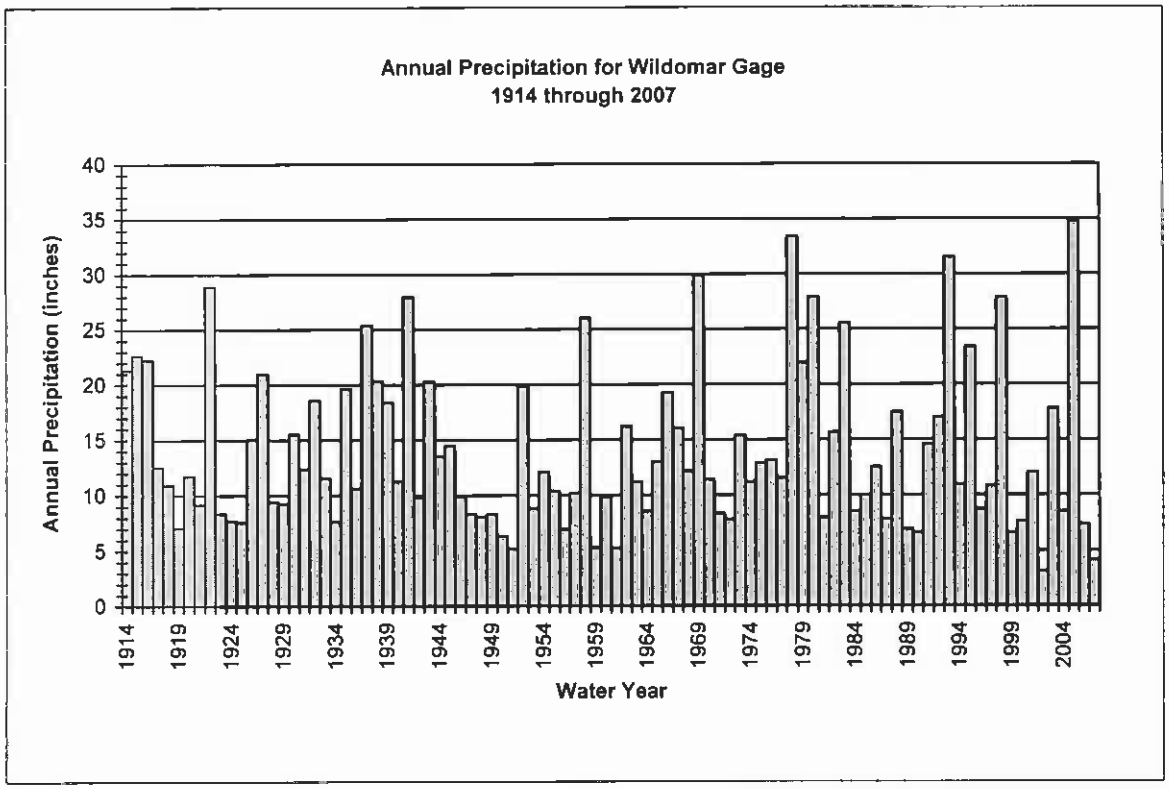


It is also interesting to review long-term precipitation records relative to long-term streamflow. Figure 3.2 shows the long-term time series for annual precipitation for the Wildomar gage maintained by the Riverside County Flood Control and Water Conservation District. The Wildomar gage is specified 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 2007 is 13.96 inches. The reported precipitation for Water Year 2006-07 is 4.14 inches, which is the second lowest amount for the period of record.

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 2006-07 the total CWRMA discharges into the Santa Margarita River and Murrieta Creek equaled 3,706 acre feet.

The discharges into Santa Margarita River totaled 3,576 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 March 2 – 10 and June 4 – 12, 2007, when the pipeline serving WR-34 was shut down. The discharges to Murrieta Creek totaled 130 acre feet from the potable system at the System River Meter.

Figure 3.2



During 2006-07, Rancho California WD also released: 2 acre feet from wells into Temecula Creek, 141 acre feet from wells into Murrieta Creek, and 10 acre feet from wells into Santa Gertrudis Creek.

3.2 Surface Water Diversions

Surface diversions to surface water storage and groundwater storage during 2005-06 and 2006-07 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 2006-07 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, 2006, and September 30, 2007. Total Santa Margarita River stream system water in storage at the end of Water Year 2006-07 totaled 27,065 acre feet, compared to 30,796 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
2006-07
Quantities in Acre Feet

	Surface Water Storage			
	Vail Lake		Lake O'Neill	
	2005-06	2006-07	2005-06	2006-07
Storage end of prior year	33,280	30,300	687	496
Inflow - Total	3,361	1,145	3,138 [1]	1,484 [2]
Inflow to be Bypassed	539	209	0	0
Spill	0	0	0	0
Diversions to Surface Storage	2,822 [3]	936 [3]	3,138 [4]	1,484 [4]
Annual Evaporation	4,403	4,082	380	353
Releases - Total	1,938	913	1,110	334
Release to GW Storage	1,399 [5]	704 [5]	1,110	334
Apparent Seepage to GW	0	0	1,839 [6]	678 [6]
Change of Storage	(2,980)	(3,850)	(191)	119
Storage End of Year	30,300	26,450	496	615
	Groundwater Storage			
Recharge Release from Storage Facility	1,399	704	2,949 [7]	1,012 [7]
Direct Recharge	0	0	6,610 [8]	4,706 [9]

1/ 2,615 AF diverted from the Santa Margarita River, 433 AF estimated inflow from Fallbrook Creek, and 90 AF from local runoff
2/ 1,230 AF diverted from the Santa Margarita River, 211 estimated inflow from Fallbrook Creek, and 43 AF from local runoff
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 Release to GW Storage and Apparent Seepage to GW from Lake O'Neill
8/ Includes 5,535 AF of direct recharge and 1,075 AF of indirect recharge
9/ Includes 3,886 AF of direct recharge and 820 AF of indirect recharge

TABLE 3.4

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO USE
2006-07
Quantities in Acre Feet

DIVERTOR	Surface Diversions	Consumptive Use[1]	Consumptive Loss[2]	Return
Blue Bird Ranch	31.5	21.3	3.2	7.1
James Carter	52	35.1	5.2	11.7
Chambers	6	4.1	0.6	1.4
Cal June, Inc.	97	65.5	9.7	21.8
Papac	38	25.7	3.8	8.6
Sage Ranch Nursery	100	67.5	10.0	22.5
Daily Family Trust	7	4.7	0.7	1.6
Owen Strange	250	168.8	25.0	56.3
Wilson Creek Dev. LLC	80	54.0	8.0	18.0
San Diego State University	50	33.8	5.0	11.3
TOTAL	711.5	480.3	71.2	160.1

[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
2006-07
Quantities in Acre Feet

Santa Margarita River Storage	Total Capacity	Water in Storage 9/30/2006	Water in Storage 9/30/2007
Dunn Ranch Dam	90	0	0
Upper Chihuahua Creek Reservoir	47	0	0
Vail Lake	49,370	30,300	26,450
Lake O'Neill	1,200	496	615
SUBTOTAL	**50,707**	**30,796**	**27,065**
Imported Water Storage			
Lake Skinner	44,000	37,465	38,621
Diamond Valley Lake	810,000	779,701	691,607
SUBTOTAL	**854,000**	**817,166**	**730,228**
TOTAL STORAGE	**904,707**	**847,962**	**757,293**

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 2006-07, production by purveyors totaled 38,676 acre feet, compared to 37,764 acre feet in 2005-06. Monthly quantities are shown in Appendix A and annual production for water years between 1966 and 2007 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 5,600 acre feet in 2006-07. 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

2006-07

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	504	566 [2/]	1,952	2,456	0	2,456	1,842	614
Above Aguanga GWA *(Lake Riverside,*								
Includes Anza Valley *(Anza MWC. Cahuilla)*								
Temecula Creek	20	216	556	576	38	614	458	156
Above Aguanga GWA *(Butterfield Oaks MHP)*								
Aguanga GWA	548	439	1,352	1,900	330	2,230	1,648	582
(Outdoor Resorts)								
(Jojoba Hills)								
Upper Murrieta Creek	0	0	0	0	0	0	0	0
(Warm Springs Creek above 7S/3W-14)								
Lower Murrieta Creek	0	410	44	44	100	144	101	44
(Santa Gertrudis/Tucalota Creek above 7S/2W-18 -- Includes FPUD Diversion from Lake Skinner)								
Murrieta-Temecula GWA	30,369	856	1,085	31,454	52	31,506	23,626	7,880
*(RCWD *, WMWD (Murrieta Division),*								
EMWD, Pechanga and Hawthorn)								
Santa Margarita River Below the Gorge								
Deluz Creek	0	236	595	595	45	640	477	163
Sandia Creek	0	55	0	0	97	97	65	32
Rainbow Creek	0	0	0	0	0	0	0	0
Santa Margarita River	7,235	20	16	7,251	50	7,301	2,352	789
(USMC)								
TOTAL	**38,676**	**2,798**	**5,600**	**44,276**	**712** [3/]	**44,988**	**30,568**	**10,260**

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 4,160 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 364 AF that was exported to the San Mateo Watershed

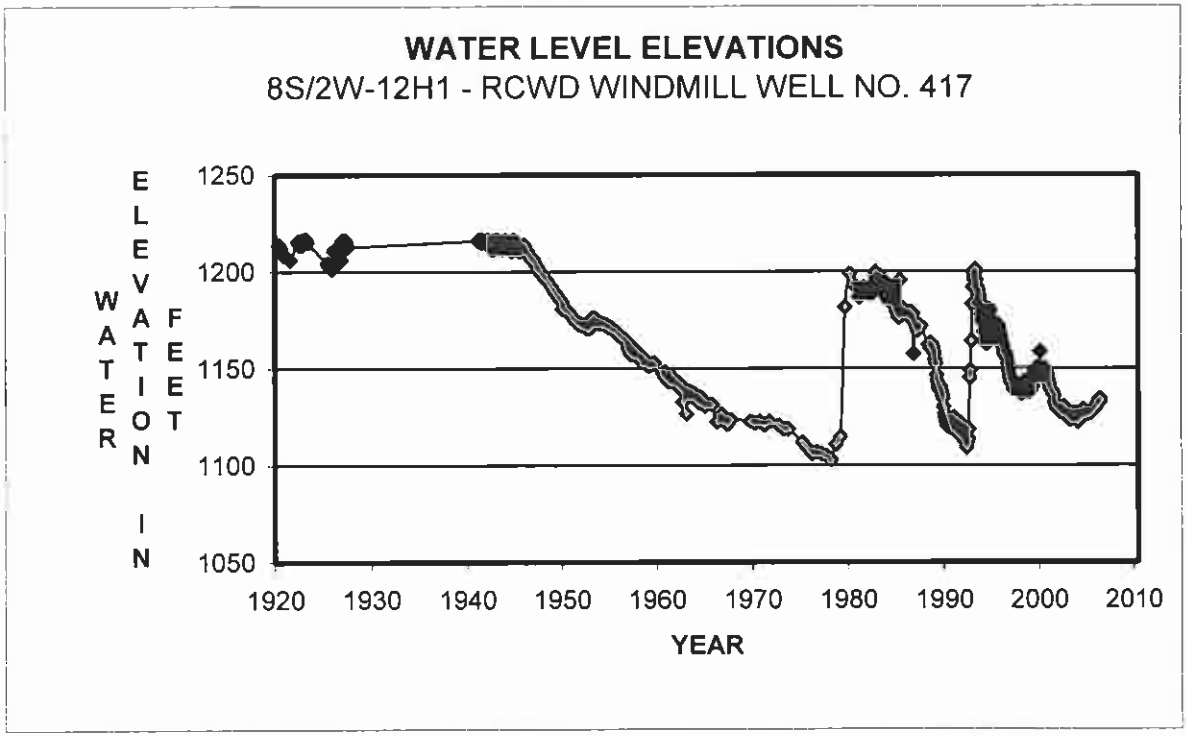
Total production of Santa Margarita River water, surface diversions and groundwater production by water purveyors and private irrigators is listed on Table 4.1.

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 2.4 feet between October 2006 and March 2007, when the below-noted reading was taken. 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 2006-07, 14,175 acre feet of imported water were recharged in the VDC of which 84 percent was recovered in the same year.

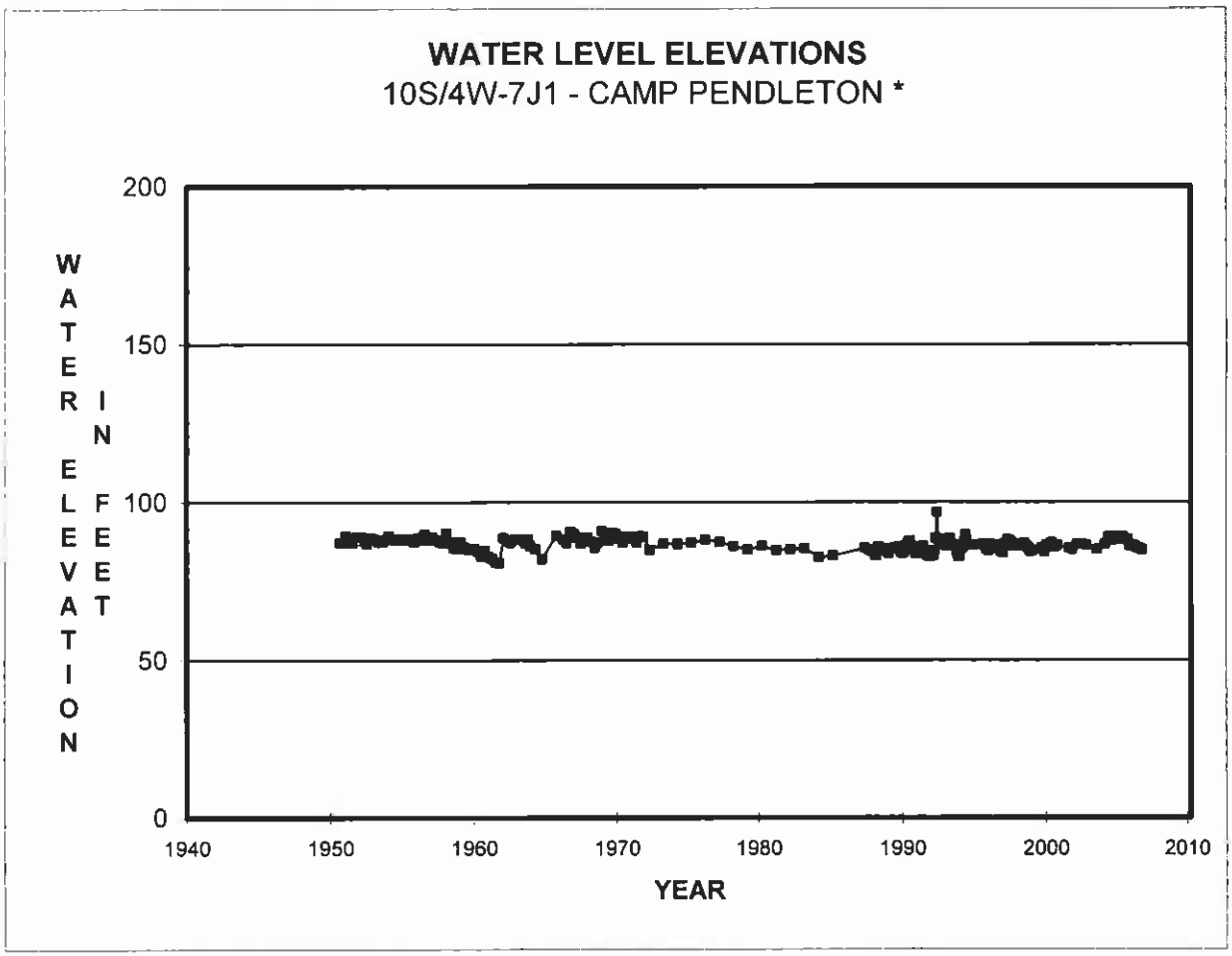
FIGURE 4.1



Collar El. 1216.7 Feet; Depth 515 Feet; Drilled in Alluvium
Ref: RCWD reports (1920-2007)

Figure 4.2 shows water levels at Camp Pendleton in Well No. 10S/4W-7J1 (previously referred to as 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 7J1 declined 3.4 feet in the period between September 2006 and September 2007.

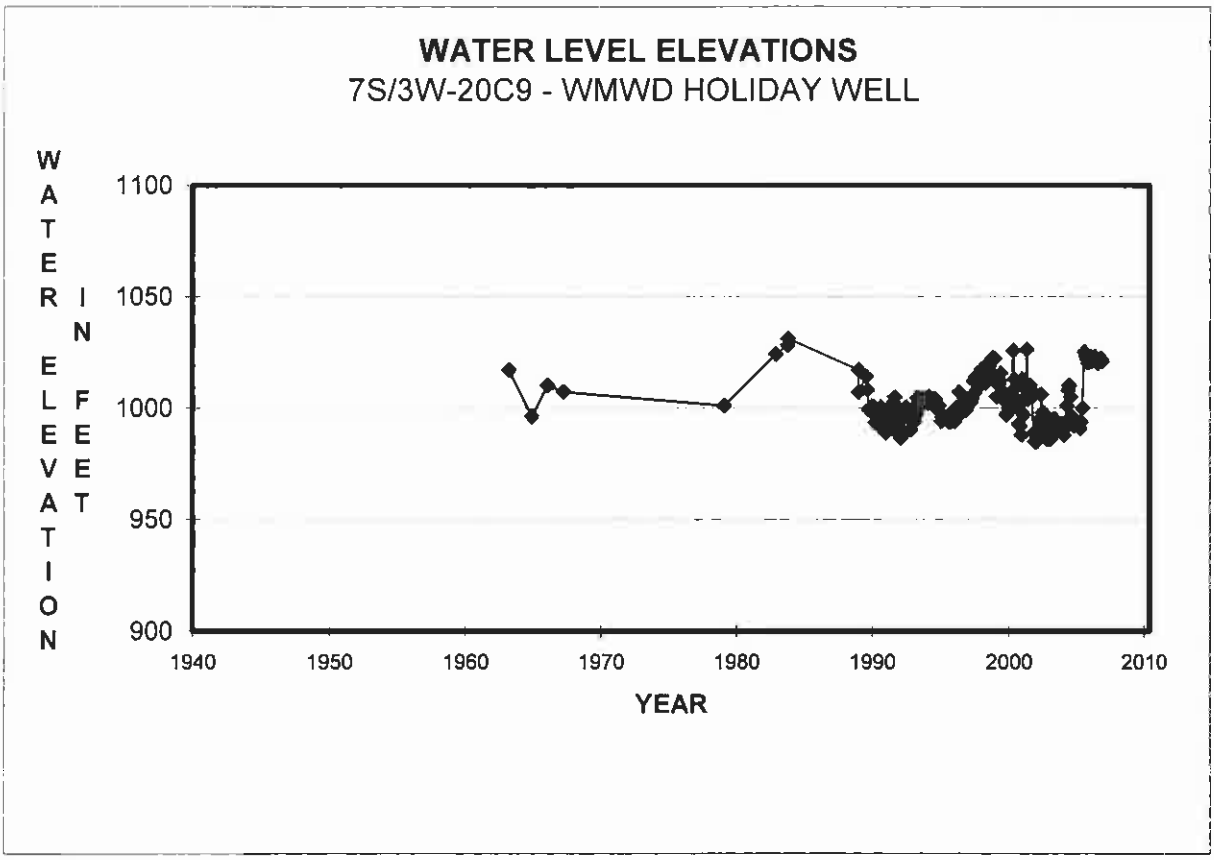
FIGURE 4.2



Ground El. 92 Feet; Depth 141 Feet; Perf. Unknown; Drilled in Alluvium
Camp Pendleton Records (1950-72) (1988-2007); Leeds Hill Study (1973-85) Dates Estimated
Well previously referred to as 10S/4W-7J4

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 declined 2 feet by the end of 2006-07. Water levels in the Lynch Well, 7S/3W-17R2, which serves as a monitoring well and had no production in 2006-07, increased by 4 feet.

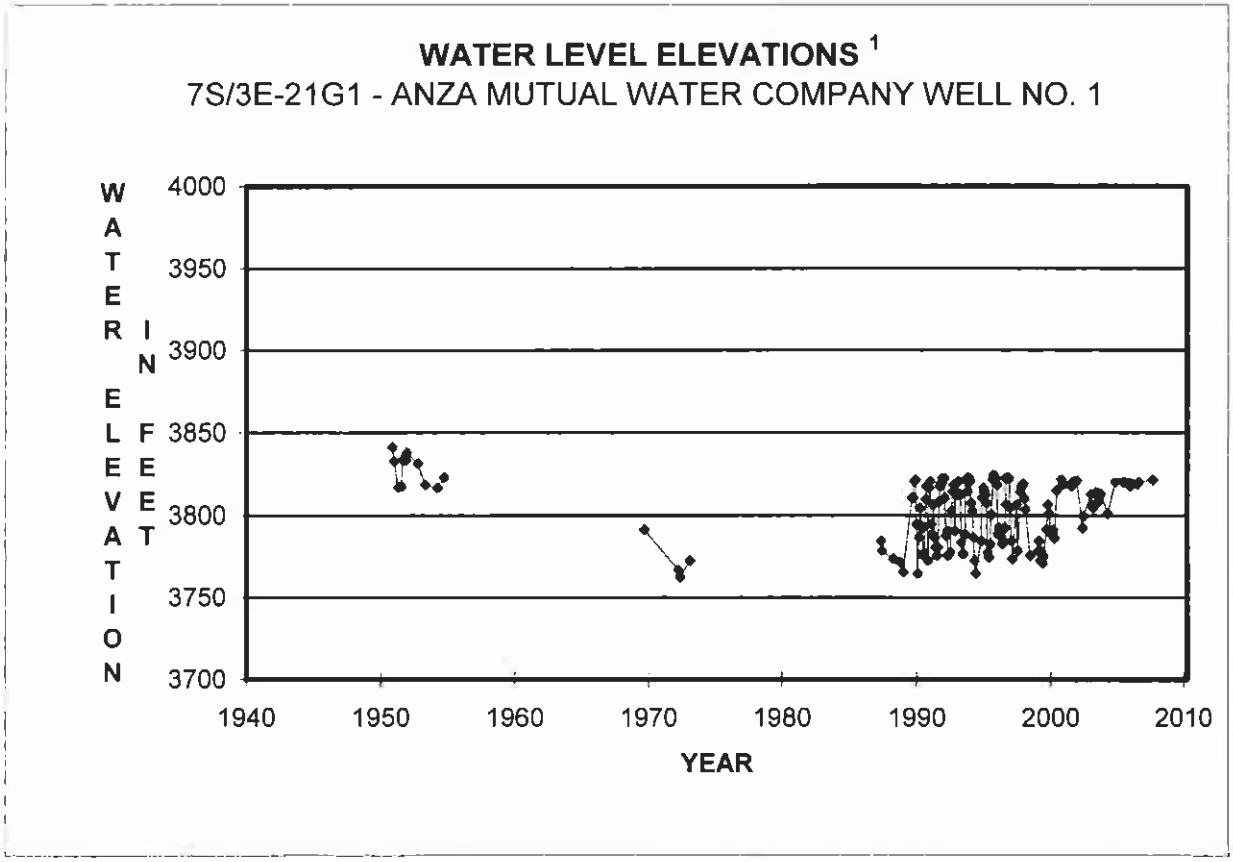
FIGURE 4.3



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 Well No. 1, a production well located in the Anza Valley. Water levels in this well rose 2.5 feet between October 2006 and January 2008. 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.

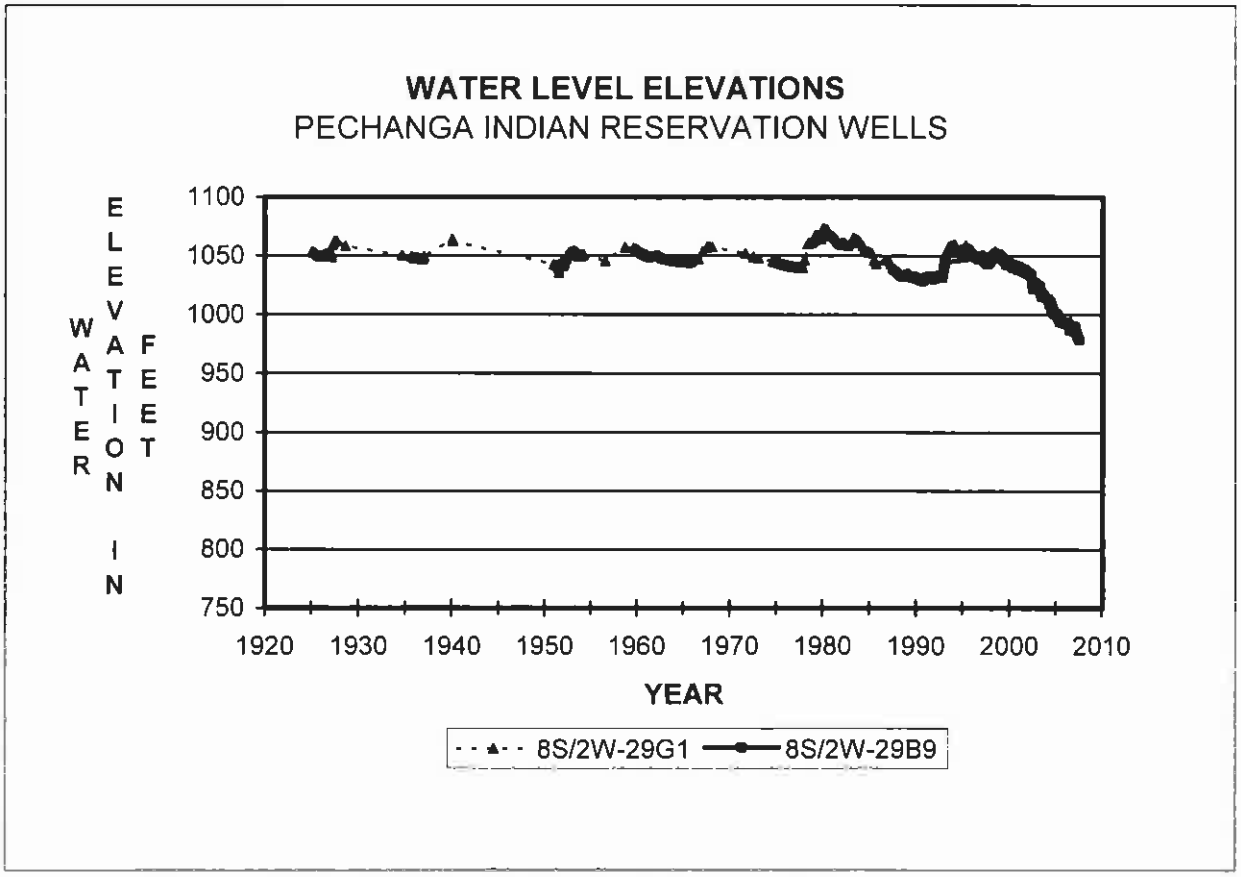
FIGURE 4.4



[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 (1987-2007); 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 8.4 feet in 2006-07.

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 2007 Water Year are shown below:

Well	Water Elevation 2006 Feet	Water Elevation 2007 Feet	Change in Water Level Feet
RCWD 8S/2W-12H1	1131.5	1133.9	Up 2.4
USMC 10S/4W-7J1*	88.3	84.9	Down 3.4
WMWD 7S/3W-20C9	1023.0	1021.0	Down 2.0
Anza MWC 7S/3E-21G1	3819.1	3821.6**	Up 2.5
Pechanga IR 8S/2W-29B9	987.0	978.6	Down 8.4
Pechanga IR 8S/2W-29G1	N/A	N/A	Well Dry

* Well previously referred to as 10S/4W-7J4
** Reading taken 1/11/08

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 2006-07 useable groundwater storage in place was computed for all three sub-basins to be 25,798 acre feet. The useable storage in place for the three sub-basins amounted to 28,147 acre feet in 2005-06. Thus there was a decrease in groundwater storage in place of 2,349 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

2006-07

Quantities in Acre Feet

	Sub-basin			
I. Available Storage	Upper	Chappo	Ysidora	Total
A. Total Storage [1]	12,500	27,000	8,600	48,100
B. Useable Storage	12,500	15,000 [2]	1,200 [3]	28,700
II. Unused Storage				
A. Wells used for Depth	10S/4W-7J1*	10S/4W-18L1	11S/5W-11D4	
B. Land Surface Elevation - Feet	92.0	73.6	18.8	
C. Depth to Water - Feet [4]	7.1	10.1	13.7	
D. Depth below 5 Feet	2.1	5.1	8.7	----
E. Average Area - Acres [5]	840	2,550	1,060	----
F. Specific Yield [6]	0.216	0.130	0.090	----
G. Unused Storage below 5 Feet	381	1,691	830	----
III. Useable Storage in Place [7]	12,119	13,309	370	25,798
IV. Useable Storage in Place 2005-06	12,500	15,000	647 R	28,147 R
V. Change in Storage 2006-07	(381)	(1,691)	(277)	(2,349)

1 Computed by USGS (Worts, F. C , 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 as end of September values unless noted otherwise
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.
* Previously referred to as Well 10S/4W-7J4
R Revised

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 2003 through 2007. The change in groundwater storage for Water Year 2007 determined using the water budget method is minus 11,149 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 2007 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 since 2003. 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 2003 through 2007 are shown in Table 4.4. The change in groundwater storage for Water Year 2007 is calculated as a gain of 3,411 acre feet.

The foregoing two methods are based on independent measurements and estimates. The estimates from the two methods are generally comparable for 2003 and 2004 as well as 2002 as reported in prior Watermaster reports. The estimates from the two methods for 2005 through 2007 indicate differences in the results. It will take testing over a number of years under varying hydrologic conditions to refine these approaches. These values will be compared with those computed with the groundwater model when the model is updated, which is expected to be completed in 2008 or 2009.

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	2007
Releases from Vail [1]	(314)	(658)	(109)	(1,269)	1,399 *R*	704
Releases from Lake Skinner [2]	146	67	153	2,710	292	54
Freshwater Releases to Stream [3]	715	4,896	3,146	3,384	4,923	3,859
Reclaimed Water Released to Stream [4]	2,180	104	0	0	0	0
Recharged Imported Water [5]	16,265	15,694	16,088	16,504	18,820 *R*	14,175
Return Flow from RCWD Groundwater Production [6]	9,132	8,782	8,360	8,958	9,250	9,137
Return Flow from Import Direct Use [7]	3,607	3,745	5,149	3,422	4,397	5,428
Return Flow from Applied Wastewater [8]	2,153	1,684	1,490	1,598	1,818	1,904
Underflow and Tributary Inflow [9]	4,932	24,874	5,727	123,020	9,212	785
Subtotal	38,816	59,188	40,004	158,327	50,111 *R*	36,046
Elements of Outflow						
Riparian Evapotranspiration and Underflow [10]	508	508	508	508	508	508
Total RCWD Groundwater Production [11]	39,706	38,184	36,347	38,948	40,216	39,727
Net Pumping by Others [12]	2,948	3,160	3,139	3,119	3,265	3,066
Surface Outflow [13]	3,350	21,931	7,215	86,330	11,271	3,894
Subtotal	46,512	63,783	47,209	128,905	55,260	47,195
Change in Groundwater Storage	(7,696)	(4,595)	(7,205)	29,422	(5,149)	(11,149)

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 Direct Use Imports, Section 7.2 RCWD, 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 (EMWD), A-5 (Pechanga IR), A-10 (WMWD Murieta Division, previously 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				
					2003	2004	2005	2006	2007	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2003	2004	2005	2006	2007
1	Temecula	0.0036	301 [6]	1371	182.82	128.08	122.82	116.54	129.00	(51.14)	54.74	5.26	6.28	(12.46)	(252)	270	26	31	(61)
2	Pauba	0.0398	439	479	35.92	37.98	25.74	31.17	37.10	5.05	(2.06)	12.24	(5.43)	(5.93)	96	(39)	233	(104)	(113)
3	Pauba	0.0309	146	802	28.51	31.92	24.23	28.96	33.36	5.44	(3.41)	7.69	(4.73)	(4.40)	135	(85)	191	(117)	(109)
4	Pauba	0.0350	401	694	97.21	80.03	69.93	169.80	82.71	(19.86)	17.18	10.10	(99.87)	87.09	(482)	417	245	(2,426)	2,115
5	Pauba	0.0319	402 [1]	1322	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Pauba	0.0698	495	1562	77.00	86.60	89.10	89.88	101.24	(3.93)	(9.60)	(2.50)	(0.78)	(11.36)	(428)	(1,047)	(273)	(85)	(1,239)
7	Temecula	0.0012	211 [4]	719	145.89	144.38	134.38	134.75	88.17	20.23	1.51	10.00	(0.37)	46.58	17	1	9	(0)	40
8	Qyal	0.20	492 [5]	339	28.32	30.27	27.56	29.40	18.72	2.16	(1.95)	2.71	(1.84)	10.68	146	(132)	184	(125)	724
	Pauba	0.0891	492 [5]	496	28.32	30.27	27.56	29.40	18.72	2.16	(1.95)	2.71	(1.84)	10.68	95	(86)	120	(81)	472
9	Temecula	0.0036	410	2066	289.46	282.57	324.13	326.04	329.51	(2.61)	6.89	(41.56)	(1.91)	(3.47)	(19)	51	(309)	(14)	(26)
10	Qyal	0.20	426	1438	41.46	41.45	38.96	43.91	44.20	3.49	0.01	2.49	(4.95)	(0.29)	1,004	3	716	(1,424)	(83)
	Pauba	0.0746	426	1165	41.46	41.45	38.96	43.91	44.20	3.49	0.01	2.49	(4.95)	(0.29)	303	1	216	(430)	(25)
11	Qyal	0.20	422	1405	57.86	59.01	60.32	60.54	61.49	(4.31)	(1.15)	(1.31)	(0.22)	(0.95)	(1,211)	(323)	(368)	(62)	(267)
	Pauba	0.0634	422	1413	57.86	59.01	60.32	60.54	61.49	(4.31)	(1.15)	(1.31)	(0.22)	(0.95)	(386)	(103)	(117)	(20)	(85)
12	Qyal	0.20	417 [7]	1769	93.17	94.52	90.22	85.21	82.85	(3.84)	(1.35)	4.30	5.01	2.36	(1,359)	(478)	1,521	1,773	835
	Pauba	0.0422	417 [7]	752	93.17	94.52	90.22	85.21	82.85	(3.84)	(1.35)	4.30	5.01	2.36	(122)	(43)	136	159	75
13	Qyal	0.20	414 [2]	898	58.60	—	—	—	—	2.11	—	—	—	—	379	—	—	—	—
	Pauba	0.0198	414 [2]	398	58.60	—	—	—	—	2.11	—	—	—	—	17	—	—	—	—
14	Temecula	0.0036	462	2084	423.76	430.42	427.18	409.71	420.46	(23.58)	(6.66)	3.24	17.47	(10.75)	(177)	(50)	24	131	(81)
15	Temecula	0.0036	464	1347	315.33	317.75	319.97	321.97	324.01	(0.45)	(2.42)	(2.22)	(2.00)	(2.04)	(2)	(12)	(11)	(10)	(10)
16	Temecula	0.0036	209	1967	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17	Temecula	0.0036	139 [3]	2008	—	452.62	—	—	—	—	—	—	—	—	—	—	—	—	—
18	Pauba	0.0967	129 [4]	1546	199.00	200.39	204.12	204.62	205.22	(1.67)	(1.39)	(3.73)	(0.50)	(0.60)	(250)	(208)	(558)	(75)	(90)
19	Temecula	0.0036	466	1562	321.37	322.61	323.07	298.35	287.03	(44.13)	(1.24)	(0.46)	24.72	11.32	(248)	(7)	(3)	139	64
20	Pauba	0.0738	493	3231	275.35	275.21	280.13	273.78	267.95	(21.35)	0.14	(4.92)	6.35	5.83	(5,091)	33	(1,173)	1,514	1,390
21	Pauba	0.1392	463	2303	56.42	57.83	54.92	55.04	55.81	0.28	(1.41)	2.91	(0.12)	(0.77)	90	(452)	933	(38)	(247)
*	Pauba	0.0325	Lynch	1008	45.00	45.00	80.00	67.00	63.00	(1.00)	0.00	(35.00)	13.00	4.00	(33)	0	(1,147)	426	131
TOTAL															**(7,778)**	**(2,287)**	**597**	**(838)**	**3,411**

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, 2006 and 2007
3 - For 1999 used reading of September 1999; for 2002 used reading on April 7, 2002; sub area excluded in 2003, 2005, 2006 and 2007
4 - For 2003 used reading of July 27, 2003; for 2004 used reading on August 29, 2004; for 2007 used reading of April 29, 2007
5 - For 2005 used reading of August 28, 2005
6 - For 2006 used reading of July 30, 2006
7 - For 2007 used reading of March 4, 2007
* A portion of Murrieta Division of Western MWD

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 Water Years 2005 through 2007 a series of water level measurements were made by the USGS in Anza Valley under contract with the Bureau of Indian Affairs. The data from these measurements 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 2006-07 water in storage in the SWP decreased from 4.32 million acre feet on September 30, 2006 to 2.63 million acre feet on September 30, 2007. Storage on September 30, 2007 corresponds to about 50 percent of the total SWP storage capacity.

Water in storage in the Colorado River system decreased 1.4 million acre feet from 33.2 million acre feet in the prior year to 31.8 million acre feet on September 30, 2007. On September 30, 2007 those reservoirs contained 49 percent of their total combined capacity.

The State Department of Water Resources prepares projections of water availability in the SWP for the coming year (2008) on a monthly basis from February through May. The report dated May 1, 2008, indicates that statewide precipitation October 1 through April 30 was 85 percent of average. As of May 1, 2008, the SWP allocation for 2008 will meet 35 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	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oroville	3,540	2,832	2,427	1,920	1,488	1,400	2,284	1,753	2,877	2,833	1,568
San Luis (State Share)	1,060	900	592	388	516	394	653	514	925	911	445
Pyramid	171	161	155	164	162	165	165	161	160	163	166
Castaic	324	306	288	285	287	310	314	298	306	266	313
Silverwood	73	71	72	70	72	72	70	72	72	72	73
Perris	132	124	125	110	122	115	114	116	82	72	66
Total	5,300	4,394	3,659	2,937	2,647	2,456	3,600	2,914	4,422	4,317	2,631
Percent of Capacity		83%	69%	55%	50%	46%	68%	55%	83%	81%	50%

MAJOR COLORADO RIVER RESERVOIRS

Reservoir	Total Capacity	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Flaming Gorge	3,789	3,580	3,425	3,010	2,982	2,675	2,635	2,679	3,177	3,130	3,063
Blue Mesa	941	624	740	560	597	275	387	507	588	667	687
Navajo	1,709	1,380	1,558	1,357	1,409	872	729	935	1,516	1,420	1,510
Powell	27,000	22,404	22,997	20,939	19,135	14,468	12,109	9,170	11,939	11,917	11,929
Mead	28,537	25,126	24,592	22,444	19,873	17,093	15,618	13,937	15,219	13,887	12,505
Mohave	1,818	1,729	1,515	1,523	1,610	1,577	1,643	1,605	1,573	1,584	1,545
Havasu	648	565	584	566	567	565	562	589	554	555	576
Total	64,442	55,408	55,411	50,399	46,173	37,525	33,683	29,422	34,566	33,160	31,815
Percent of Capacity		86%	86%	78%	72%	58%	52%	46%	54%	51%	49%

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

FIGURE 5.1

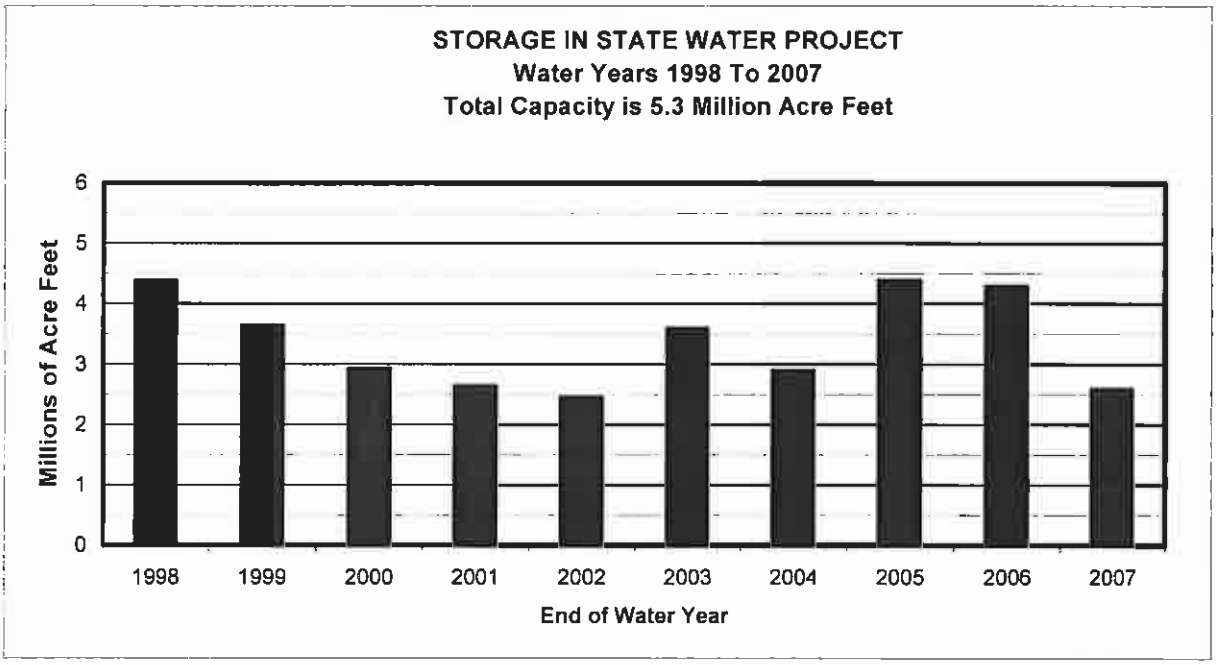
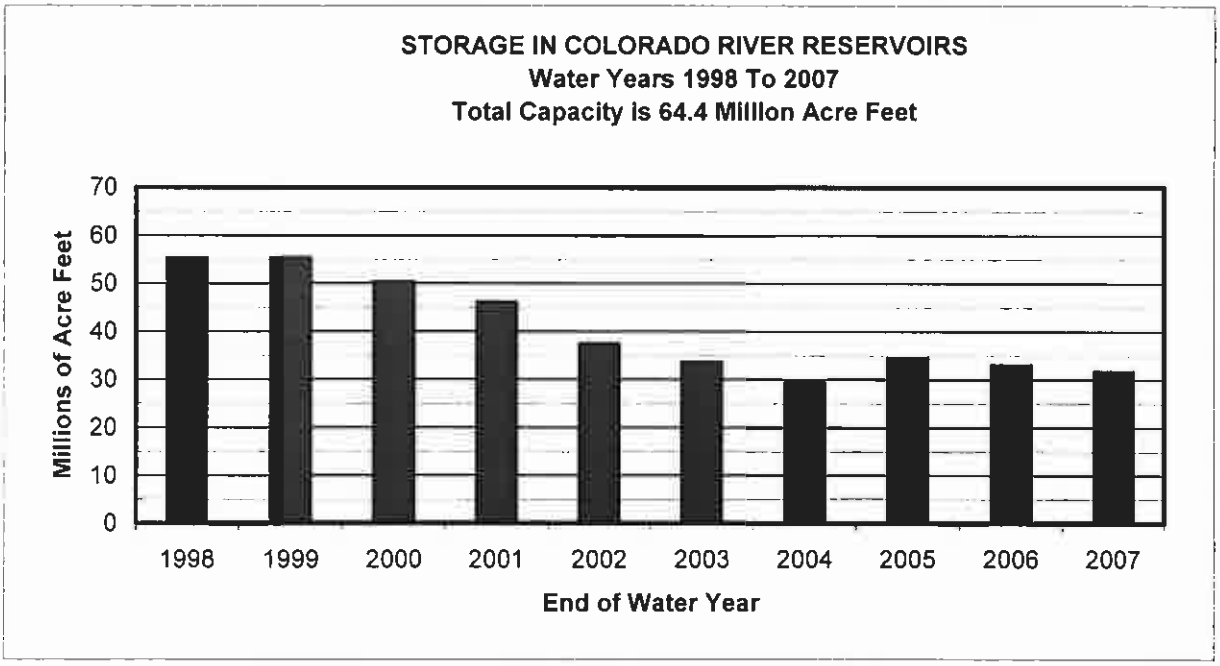


FIGURE 5.2



In addition to net deliveries through member agencies, MWD, pursuant to a Court Order, delivered 660 acre feet of water for irrigation of lands in Domenigoni Valley within the Santa Margarita Watershed during 2006-07.

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 years 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 2006-07, Eastern MWD's export of wastewater that was discharged to Temescal Creek was 5,850 acre feet. Rancho California WD had no export of wastewater for discharge to Temescal Creek in 2007.

The following paragraphs of this report describe imports and exports during Water Year 2006-07 and during the period 1966-2007. There is also discussion of MWD's Lake Skinner and Diamond Valley Lake operations.

5.2 Water Year 2006-07

During 2006-07 a total of 106,209 acre feet of water of net imported supplies were distributed for use in the Santa Margarita River Watershed. This compares with 98,068 acre feet in 2005-06 and represents an increase of approximately eight percent. The term net imports is used because several entities report gross imports into the Santa Margarita River Watershed but due to system configurations and operations a portion of the gross imports may be transported to serve areas outside of the watershed. Thus, the net imports reflect the quantities of imported supplies used within the Santa Margarita River Watershed. Net imports into the Santa Margarita River Watershed are listed on Table 5.2 for Water Year 2006-07.

The water exported from the Santa Margarita River Watershed for 2006-07 primarily includes wastewater except for Camp Pendleton and Rancho California WD. As described in Section 7, Camp Pendleton exports native water for use outside the watershed. Also, Rancho California WD exports groundwater as part of a blended water supply to serve customers in the San Mateo Watershed. Exports from the Santa Margarita River Watershed for 2006-07 were 18,060 acre feet as shown on Table 5.2. This compares to 19,859 acre feet in 2005-06 and represents a decrease of approximately 9 percent.

The quality of the water supplies imported through the MWD system in 2006-07 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 1966-2007

Water quantities imported by districts into the Santa Margarita River Watershed during Water Years 1966-2007 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.

TABLE 5.2

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

2006-07

Quantities in Acre Feet

	NET IMPORTS										EXPORTS 3/								
											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 NET IMPORTS	EXPORTS 4/	RECLAIMED WASTEWATER IMPORT RECHARGED	NET EXPORT	U.S. NAVAL WS	EASTERN MWD 5/	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 6/	TOTAL EXPORTS
2006																			
OCT	1,386	1,187	986	60	9	245	4,836	5	6	8,720	471	0	471	0.9	775	63	108	38	1,456
NOV	767	653	1,059	50	2	190	5,004	5	4	7,734	365	0	365	1.2	829	63	85	33	1,376
DEC	324	614	548	10	0	142	2,224	6	3	3,871	276	0	276	1.0	898	63	94	37	1,369
2007																			
JAN	1,605	777	866	17	0	160	3,549	5	2	6,981	311	0	311	1.2	973	63	100	22	1,470
FEB	228	532	481	25	0	136	2,418	4	2	3,826	283	0	283	0.6	1,037	63	86	31	1,501
MAR	1,824	621	795	48	0	68	3,603	5	2	6,966	321	0	321	0.6	940	62	105	19	1,448
APR	126	956	916	54	20	161	5,451	6	3	7,693	376	0	376	0.8	892	81	99	25	1,474
MAY	1,846	827	1,183	69	40	161	6,631	6	4	10,767	410	0	410	1.1	909	81	106	21	1,528
JUNE	1,907	994	1,259	89	72	234	7,304	6	5	11,870	563	0	563	1.3	792	69	96	22	1,543
JULY	2,269	1,372	1,437	77	212	223	8,066	7	5	13,668	600	0	600	1.6	906	76	91	40	1,715
AUG	1,692	1,180	1,495	84	186	252	8,044	9	5	12,947	583	0	583	1.4	802	82	91	34	1,593
SEPT	1,424	1,098	1,267	77	182	290	6,818	6	4	11,166	593	0	593	0.6	800	71	81	42	1,588
TOTAL	15,398	10,811	12,292	660	723	2,262	63,948	70	45	106,209	5,152	0	5,152	12	10,553	837	1,142	364	18,060

1/ Metropolitan Water District direct deliveries in Domenigoni Valley

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

3/ All exports are wastewater except as noted for Camp Pendleton and Rancho California WD.

4/ Includes total export of native water use of 4,160 acre feet plus 992 acre feet of wastewater from in-basin use that was exported to Oceanside Outfall as shown on Table A-9

5/ Includes Other Reuse shown on Table A-1 which 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 for discharge to Temescal Creek.

6/ Includes groundwater used in San Mateo Watershed and wastewater exported via Palomar Valley pipeline

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	
	2005-06	2006-07	2005-06	2006-07
OCT	532	423	35	54
NOV	553	386	27	57
DEC	554	381	30	59
JAN	518	440	44	51
FEB	482	551	49	32
MAR	462	527	51	42
APR	416	483	59	51
MAY	420	508	52	41
JUNE	415	509	48	39
JULY	461	506	41	42
AUG	453	518	44	32
SEPT	441	530	47	34

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

	NET IMPORTS										EXPORTS 5/									
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	CAMP PENDLETON EXPORTS 6/	CAMP PENDLETON WASTEWATER RETURNS	CAMP PENDLETON NET EXPORT	U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 7/	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	1,501	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	88	42	78,264	3,767	1,688	2,079	10	7,636	483	1,706	64 R	11,978 R
2004	9,138	8,438	11,749	766	330	1,888	62,408	73	50	94,840	4,951 6/	0	4,951	8	9,115	600	1,620	312 R	16,606 R
2005	10,858 R	8,215	9,702	556	75	1,610	47,667	40	62	78,785 R	4,625 6/	0	4,625	16	11,676	927	1,782	1,574 R	20,600 R
2006	14,161 R	9,819	10,622	506	316	1,851	60,663	64	66	98,068 R	4,912 6/	0	4,912	8	10,906	938	1,716	1,379 R	19,859 R
2007	15,398	10,811	12,292	660	723	2,262	63,948	70	45	106,209	5,152 6/	0	5,152	12	10,553	837	1,142	364	18,060

1/ Includes DeLuz Heights MWD prior to 1991

2/ Metropolitan Water District direct deliveries in Domenigoni Valley

3/ For period 2003 to present values shown are net imports excluding imported water delivered to San Mateo Watershed

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

5 / All exports are wastewater except as noted for Camp Pendleton and Rancho Cal WD

6 / Includes export of native water plus wastewater from in-basin use

7 / Includes groundwater used in San Mateo Watershed and wastewater exported to Santa Ana Watershed

N/R - Not Reported

P - Partial year data

R - Revised

E - Estimate

Exports over the 1966-2007 period are also shown on Table 5.4. These include estimated water exports on Camp Pendleton less estimated wastewater returns, as well as an estimate of exports by the Fallbrook Public Utility District and the Naval Weapons Station after 1983, and Elsinore Valley MWD after 1986. Exports by Eastern MWD were initiated in 1992-1993 and Rancho California WD began exporting water in 2002-03. Exports do not include water that naturally flows from the Santa Margarita River into the Pacific Ocean.

5.4 Lake Skinner

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

Protection against a decrease in subsurface flows caused by the dam is afforded by a provision in the MOU that requires that MWD release water from Lake Skinner into Tucalota Creek if groundwater levels in Well AV-28B fall below an elevation of 1356.64 feet. At the end of September 30, 2007, the well level was 1357.62 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 diversion from Lake Skinner on Fallbrook PUD's behalf after specified releases are made, according to State Water Resource Control Board Permit 11356 and the amended Lake Skinner MOU. In 2006-07 no water accumulated in Lake Skinner for diversion to Fallbrook PUD.

Also a total of 54.15 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.

There were no required releases into Warm Springs Creek during 2006-07.

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 2006-07 groundwater elevations in Well MO-6, which is located along the south line of Section 9, increased 0.32 feet from 1359.06 feet at the beginning of the water year to 1359.38 feet at the end of the water year.

During 2006-07, 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 660 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 deadline for exercising these rights is currently set at December 31, 2008. A request has been submitted to the SWRCB to extend the period during which these rights must be exercised.

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, 2005. The Amendment provides for diversions from Lake Skinner after specified releases are made. During 2006-07 no water accumulated for delivery to Fallbrook PUD from Lake Skinner.

6.4 Federal Reserved Water Rights Claims by Cahuilla and Ramona Bands

On October 6, 2006, the Cahuilla Band of Indians 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. On February 25, 2008, the Court ordered the Cahuilla Band and Ramona Band as plaintiffs to serve by April 30, 2008 all water right holders subject to the Court's jurisdiction within the entire watershed. The parties are progressing with negotiations and Court proceedings for quantification of each Band's federal reserved water rights.

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 2006-07 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
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 2006-07 Water Year are summarized on Table 7.1. Total imported supplies plus local production totaled 151,197 acre feet compared to 142,327 reported in 2005-06. Of that quantity, 59,696 acre feet were used for agriculture; 11,494 acre feet were used for commercial purposes; 61,401 acre feet were used for domestic purposes; 141 acre feet were discharged to Murrieta Creek; 2 acre feet were discharged to Temecula Creek; 10 acre feet were discharged to Santa Gertrudis Creek; 3,706 acre feet were discharged by Rancho California WD during 2006-07 pursuant to the Cooperative Water Resources Management Agreement (CWRMA) (3,576 acre feet to the Santa Margarita River from MWD WR-34 and 130 acre feet to Murrieta Creek from the System River Meter); 4,160 acre feet of fresh water were exported by Camp Pendleton; and 2,247 acre feet were recharged by Rancho California WD to storage. The overall system loss was 8,340 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 1966-2007 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 2006-07 was 39.33 acre feet from Well No. 1 as shown in Appendix A, Table A-10. Well No. 2 was not in use for 2006-07. Water levels in Well No. 1 increased about two and a half feet from last year.

TABLE 7.1

SANTA MARGARITA RIVER WATERSHED
WATER PRODUCTION AND USE
2006-07
Quantities in Acre Feet

	PRODUCTION			USE					
	WELL/ SURFACE	IMPORT	TOTAL	AG	COMM	DOM	LOSS	TOTAL	WATER RIGHT
WATER PURVEYORS									
Anza Mutual Water Company	39	0	39	0	0	35	4 1/	39	Appropriative
Eastern MWD	0	15,398	15,398	0	0	14,628	770	15,398	Appropriative
Elsinore Valley MWD	0	10,811	10,811 12/	150	4,509	6,152	0	10,811	———
Fallbrook PUD	0	12,292	12,292	7,271	666	3,834	521	12,292	Appropriative
Lake Riverside Estates	422	0	422	0	422 2/	0	0	422	Appropriative
Metropolitan Water District	0	660	660	627	0 3/	0	33	660	———
Murrieta Division of Western MWD	1,978	723	2,701	467	276	1,980	(22)	2,701	Appropriative
Rainbow MWD	0	2,262	2,262	1,871	0	185	206	2,262	———
Rancho California WD	27,281 4/	63,948 5/	91,229	41,859 6/	5,063	31,820	12,487 7/	91,229	Various
U.S.M.C. - Camp Pendleton	7,235	0	7,235	540	—— 8/	2,282	4,413 1/ 9/	7,235	Appropriative/ Riparian
U.S. Naval Weapons Station	0	70	70	0	—— 8/	64	6 1/	70	———
Western MWD	0	45	45	0	41	0	4 1/	45	———
INDIAN RESERVATIONS									
Cahuilla	43	0	43	0	----	43	0	43	Overlying/Reserved
Pechanga	1,073	0	1,073	275	517	229	52	1,073	Overlying/Reserved
SMALL WATER SYSTEMS									
Butterfield Oaks	20	0	20	8	0	10	2 1/	20	Riparian/Overlying
Outdoor Resorts	481	0	481	387	0	46	48 1/	481	Overlying
Jojoba Hills SKP Resort	67	0	67	0	0	60	7 1/	67	Overlying
Hawthorn Water System	37	0	37	0	0	33	4 1/	37	Appropriative
OTHER SUBSTANTIAL USERS	6,312 10/	0	6,312	6,241	0	0	71 11/	6,312	
TOTAL	**44,988**	**106,209**	**151,197**	**59,696**	**11,494**	**61,401**	**18,606** 13/	**151,197**	

1/ Assumes 10% system loss
2/ Recreation Use
3/ Construction use at Diamond Valley Lake
4/ 26,152 AF production from Old Alluvium and 1,493 AF of Vail Recovery less 364 AF exported to the San Mateo Watershed
5/ Includes 47,041 AF direct use; 14,175 AF direct recharge; 3,576 AF from MWD WR-34;130 AF from System River Meter; and minus 974 AF export
6/ 34,810 AF Ag, and 7,049 Ag/Domestic
7/ 141 AF discharged into Murrieta Creek; 2 AF discharged into Temecula Creek;10 AF discharged into Santa Gertrudis Creek; 3,576 AF discharged into Santa Margarita River from MWD WR-34; 130 AF from System River Meter; and 2,247 AF of import remaining in storage; and a system loss of 6,381 AF
8/ Listed with Domestic uses
9/ Includes exports of 4,160 acre feet
10/ 712 AF for surface diversion plus 5,643 AF from groundwater as shown in Appendix C, minus 43 AF on the Cahuilla Reservation
11/ 10% of surface diversions
12/ Sales figures
13/ Includes an overall system loss of 8,340 AF

TABLE 7.2

SANTA MARGARITA RIVER WATERSHED
DEFINITIONS OF WATER USE
BY MUNICIPAL WATER PURVEYORS
2006-07

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 edualional 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
PECHANGA INDIAN RESERVATION	Irrigation, including water used for golf course, parks, grass areas, and landscaping	Residential	Resort, on-Reservation businesses, tribal facilities
RAINBOW MUNICIPAL WATER DISTRICT	AG- 1 acre or more of plantable, resalable products DOM/AG - Same as Ag with a house on the parcel	DOMESTIC - Homes	Generally no commercial use in district
RANCHO CALIFORNIA WATER DISTRICT	AG - 1 acre or more of plantable, resalable products GOLF - Outside water use at golf courses VINEYARDS - Outside irrigation for vineyards LANDSCAPE - Landscaping around freeways, parking lots, office buildings, median strips, AG/DOM - First 1600 c.f. for each user alloted to domestic, and the balance to agriculture	DOMESTIC - Homes MULTIPLE - Apartments and Condominiums	COMMERCIAL - Office buildings, industrial users other than agri-businesses FLOATING - Fire hydrants used during construction CONSTRUCTION - Other fire hydrants used for grading LAKE SKINNER - Recreational use at Lake Skinner MISCELLANEOUS - Schools, fire departments, parks, government agencies DETECTOR CK. METERS - Only used when there is a fire
MURRIETA 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 commercial use	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 -2007 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 2006-07.

Imports, not including water wholesaled to Rancho California WD or the Murrieta Division of Western MWD or delivered to Elsinore Valley MWD, totaled 21,161 acre feet. A portion of that import amounting to 5,763 acre feet was exported from the Santa Margarita River Watershed for delivery to Eastern MWD's retail customers located outside the watershed, resulting in net import to the watershed of 15,398 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 2005-06 and 2006-07 is shown below:

Use	2005-06 Quantity AF	2005-06 Percent %	2006-07 Quantity AF	2006-07 Percent %
Reuse in Santa Margarita	3,108	22	3,550	25
Reuse outside Santa Margarita	3,510	25	5,960	42
Subtotal	6,618	47	9,510	67
Discharge to Dissipater at Temescal Creek	6,058	43	5,850	42
Other	1,338	10	(1,257)	(9)
TOTAL	14,014	100	14,103	100

It can be noted that the quantities of reclaimed wastewater used within the Santa Margarita River Watershed increased from 3,108 acre feet in 2005-06 to 3,550 acre feet in 2006-07. During the same period reuse outside the Santa Margarita River Watershed increased from 3,510 acre feet to 5,960 acre feet. From the foregoing it may be concluded that 25 percent of the wastewater is reused in the watershed and 42 percent is used outside the watershed. The quantity of wastewater discharged to the dissipater at Temescal Creek decreased from 6,058 acre feet to 5,850 acre feet. The Other use decreased from 1,338 acre feet to negative 1,257 acre feet. This Other use includes changes of storage in Winchester and Sun City storage ponds, as well as evaporation and percolation losses. A negative value reflects reclaimed wastewater supplied from storage, which may be mingled with reclaimed wastewater from Eastern MWD's Perris Valley Regional Water Reclamation Facility. The Perris Valley facility is located outside the Santa Margarita River Watershed.

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 2006-07, 15 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.

Estimates of water production and use for the period 1966-2007 are shown in Appendix B.

TABLE 7.3

SANTA MARGARITA RIVER WATERSHED

WATER DELIVERIES TO TEMECULA VALLEY

REGIONAL WATER RECLAMATION FACILITY SERVICE AREA

	2003		2004		2005		2006		2007	
Eastern MWD	AF	%	AF	%	AF	%	AF	%	AF	%
TVRWRF Service Area										
1. Groundwater	0		0		0		0		0	
2. Import 1/	9,062		9,138		10,858 R		14,161 R		15,398	
3. Total	9,062		9,138		10,858		14,161		15,398	
Rancho California WD										
TVRWRF Service Area										
1. Groundwater 2/	6,697		6,879		8,486		8,150		5,938	
2. Import 3/	11,231		13,341		10,696		12,753		17,215	
3. Total 4/	17,928		20,220		19,182		20,903		23,153	
Total Deliveries to TVRWRF Service Area										
1. Groundwater	6,697	24.8%	6,879	23.4%	8,486	28.2%	8,150	23.2%	5,938	15.4%
2. Import	20,293	75.2%	22,479	76.6%	21,554	71.8%	26,914	76.8%	32,613	84.6%
3. Total	26,990	100.0%	29,358	100.0%	30,040	100.0%	35,064	100.0%	38,551	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

R - Revised

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 10,811 acre feet of imported water was delivered in the portion of its service area that is inside the Santa Margarita River Watershed in 2006-07. Also during 2006-07, approximately 837 acre feet of wastewater were exported from that same area.

Production and use during the period 1966 to 2007 are shown in Appendix B.

Fallbrook Public Utility District

In 2006-07, Fallbrook PUD imported 20,750 acre feet through its contract with the San Diego County Water Authority as shown in Appendix A. Of this quantity, 5,087 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 7,205 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 12,292 acre feet in 2006-07. Fallbrook PUD did not receive any water diverted at Lake Skinner for 2006-07

In addition, the District has three wells; however, in 2006-07, there was no pumpage from these wells. In 2006-07 Fallbrook PUD treated 1,182 acre feet of wastewater from areas served within the Watershed, of which 29 acre feet were reused in the Watershed, and the remainder was exported.

Production during the period 1966 to 2007 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 2006-07 was 422 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 - 2007 are shown on Appendix Table B-12.

Metropolitan Water District of Southern California

Pursuant to a Court Order, MWD delivered 660 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 - 2007 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 2006-07 about seven percent of the District's imported supply was 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 2006-07 amounted to 2,262 acre feet.

Total imports to the District for years between 1966 and 2007 as well as the estimated portion served inside the Santa Margarita River Watershed, are shown in Appendix B.

Rancho California Water District

Rancho California WD serves water to a 99,600 acre service area in the central portion of the Watershed. The District produced water from 46 wells in 2006-07 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 2006-07, well production of native water included 27,645 acre feet from the Murrieta-Temecula Groundwater Area. This quantity included 26,152 acre feet from the older alluvium, and 1,493 acre feet of recovered Vail recharge. A portion of the groundwater amounting to 364 acre feet was exported for use in the San Mateo Watershed, resulting in a net well production of 27,281 acre feet.

Import supplies totaled 64,922 acre feet of which 47,041 acre feet were used for direct use, 14,175 acre feet were recharged, and 3,706 acre feet were discharged by Rancho California WD during 2006-07 pursuant to the CWRMA (3,576 acre feet to the Santa Margarita River from MWD WR-34 and 130 acre feet to Murrieta Creek from the System River Meter). A portion of that import amounting to 974 acre feet were exported from the Santa Margarita River Watershed resulting in net import to the Watershed of 63,948 acre feet.

During 2006-07, use totaled 91,229 acre feet including 34,810 acre feet by agriculture; 7,049 acre feet by ag/domestic; 5,063 acre feet by commercial; 31,820 acre feet by domestic; 3,859 acre feet were released into Murrieta Creek, Temecula Creek, Santa Gertrudis Creek and the Santa Margarita River; 2,247 acre feet of import were recharged to storage; and 6,381 acre feet were system loss.

In 2006-07 Rancho California WD did not export wastewater from the Watershed 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. In 1992, Rancho California WD filed a petition with the State Water Resources Control Board to expand the place of use and add municipal and industrial uses to those allowed under Permit 7032. This change petition is pending.

A total of 704 acre feet were was released from Vail during 2006-07 for groundwater recharge. Releases from Vail for groundwater recharge for the period 1980 to 2007 are shown in Appendix B.

Water use in the Permit 7032 service areas amounted to 3,000 acre feet as 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 2006-07 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 2006-07, 63.49 percent of the supply to the Rancho Division was imported and 72.21 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 2006-07 is computed to be 6,269.52 acre feet for the Rancho Division and 473.62 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
2006-07

Quantities in Acre Feet

MONTH YEAR	AG	COMM	AG/DOM	DOM	TOTAL
2006					
OCT	43	29	131	124	327
NOV	30	28	70	107	235
DEC	25	18	54	89	186
2007					
JAN	18	16	47	65	146
FEB	18	61	46	68	193
MAR	17	27	66	69	179
APR	25	25	90	66	206
MAY	28	26	114	79	247
JUNE	36	30	106	102	274
JULY	36	40	129	118	323
AUG	43	33	141	125	342
SEPT	39	39	141	123	342
TOTAL	358	372	1,135	1,135	3,000

TABLE 7.5

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2006-07
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	1,130.64	938.41	682.47	2,896.24	379.14	947.35	1,117.08	1,103.21	9,194.55
% Import	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	
Import Use	717.83	595.79	433.29	1,838.78	240.71	601.46	709.22	700.41	5,837.50
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	179.46	148.95	108.32	459.70	60.18	150.37	177.31	175.10	1,459.37
AG/DOMESTIC									
Total Use	741.85	50.76	0.00	45.45	803.37	31.88	505.47	206.89	2,385.66
% Import	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	
Import Use	470.99	32.22	0.00	28.86	510.05	20.24	320.92	131.35	1,514.63
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	117.75	8.06	0.00	7.21	127.51	5.06	80.23	32.84	378.66
COMMERCIAL									
Total Use	279.47	1,556.10	959.92	915.14	255.45	91.59	75.80	5.22	4,138.69
% Import	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	
Import Use	177.43	987.95	609.44	581.01	162.18	58.15	48.13	3.31	2,627.60
% Credit	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Credit	17.74	98.80	60.94	58.10	16.22	5.81	4.81	0.33	262.76
DOMESTIC									
Total Use	1,356.79	2,432.81	2,494.02	12,628.99	737.49	4,075.42	1,939.78	599.12	26,264.41
% Import	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	
Import Use	861.41	1,544.56	1,583.42	8,017.98	468.22	2,587.43	1,231.54	380.37	16,674.93
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	215.35	386.14	395.86	2,004.50	117.06	646.86	307.88	95.09	4,168.73
TOTAL USE	3,508.74	4,978.09	4,136.41	16,485.81	2,175.45	5,146.24	3,638.13	1,914.43	41,983.31
TOTAL									
Total Import Use	2,227.65	3,160.52	2,626.16	10,466.63	1,381.17	3,267.28	2,309.80	1,215.45	26,654.66
Total Credit	530.30 **	641.94	565.12	2,529.51	320.96	808.10	570.23	303.37	6,269.52
Total Credit Qyal		320.97	565.12		320.96				1,207.06
Total Credit Qtoal		320.97		2,529.51		808.10	570.23	303.37	4,532.17

* 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
2006-07
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	722.71	722.71
% Import	72.21	72.21	72.21	
Import Use	0.00	0.00	521.89	521.89
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	130.47	130.47
AG/DOMESTIC				
Total Use	0.00	0.00	0.00	0.00
% Import	72.21	72.21	72.21	
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	2.47	0.00	740.22	742.68
% Import	72.21	72.21	72.21	
Import Use	1.78	0.00	534.53	536.31
% Credit	10.00	10.00	10.00	
Credit	0.18	0.00	53.45	53.63
DOMESTIC				
Total Use	0.00	0.00	1,603.66	1,603.66
% Import	72.21	72.21	72.21	
Import Use	0.00	0.00	1,158.05	1,158.05
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	289.51	289.51
TOTAL USE	2.47	0.00	3,066.59	3,069.05
TOTAL				
Total Import Use	1.78	0.00	2,214.48	2,216.26
Total Credit	0.18	0.00	473.44	473.62
Total Credit Qyal	0.09		118.36	118.45
Total Credit Qtoal	0.09	0.00	355.08	355.17

* 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 2006-07 are 1,207.06 acre feet for the Rancho Division and 118.45 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Rancho California WD imported an additional 14,175 acre feet of water for groundwater recharge in 2006-07, of which 11,928 acre feet were recovered.

Division of Local Water

During 2006-07, Rancho California WD pumped 39,727 acre feet of groundwater, comprised of 27,799 acre feet of local water and 11,928 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. Of the 27,799 acre feet of local water, 154 acre feet were delivered to the Pechanga Indian Reservation under the terms of the Wolf Valley Groundwater Management Agreement. This production is shown on Appendix Table A-5.

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 2006-07 using the percentages noted in Table 7.7 is presented in Table 7.8. It may be noted that 13,421 acre feet were pumped from the younger alluvium and 26,306 acre feet were pumped from the older alluvium in 2006-07.

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
2006-07
Quantities in Acre Feet

WELL NO.	QYAL	QTOAL	TOTAL
101	0.00	463 00	463.00
102	0.00	309.00	309.00
106	0.00	238 00	238.00
108	0.00	0 00	0 00
109	671 16	127 84	799.00
110	1,147.51	35 49	1,183.00
113	0 00	585 00	585.00
118	0 00	959 00	959.00
119 *	0.00	1,561 00	1,561.00
120	0 00	1,585 00	1,585.00
121	0 00	1 00	1 00
122 *	0 00	1,357.00	1,357 00
123	99.45	53 55	153.00
124	0.00	731 00	731.00
125	0.00	961 00	961 00
126	0.00	1,438 00	1,438.00
128	0.00	0.00	0.00
129	0.00	0.00	0.00
130	0.00	571.00	571.00
131	0.00	850.00	850.00
132	1,070.92	235.08	1,306.00
133	0.00	715.00	715.00
135	0 00	43.00	43 00
136	0 00	1,614.00	1,614 00
139	0.00	851 00	851 00
140	0.00	509.00	509.00
141	0.00	441.00	441 00
143	0.00	549 00	549 00
144	0 00	444 00	444 00
145	0.00	643.00	643.00
146	0.00	51 00	51.00
149	0 00	464.00	464 00
151	0 00	0 00	0.00
152	2,186 46	221.54	2,408.00
153	1,826 55	18.45	1,845.00
155	0.00	139.00	139.00
157	2,002.79	66.21	2,069.00
158	1,378.99	50 02	1,429.00
201	0 00	0.00	0.00
203	0.00	262.00	262 00
205	0.00	236 00	236 00
207	0.00	0.00	0 00
208	0.00	0.00	0 00
209	0 00	0.00	0 00
210	540 50	34.50	575 00
211	0.00	0.00	0.00
215	0 00	815.00	815 00
216	0.00	641.00	641 00
217	0.00	593.00	593 00
231	0 00	407 00	407 00
232	687 24	59 76	747 00
233	1,419 44	193.56	1,613 00
234	389.98	137.02	527.00
235	0.00	962.00	962 00
301	0.00	0.00	0 00
302	0.00	0.00	0.00
309	0.00	3,085.00	3,085.00
TOTAL	**13,420.99**	**26,306.01**	**39,727.00**

* - A total of 154 AF of water from Wells 119 and 122 was delivered to Pechanga Indian Reservation for their use

The production of 13,421 acre feet from the younger alluvium, as shown on Table 7.8 includes recovery of 1,493 acre feet of Vail recharge and 11,928 acre feet of import recharge. The 1,493 acre feet of recovered Vail recharge is determined as the sum of agricultural and agricultural/domestic uses in Table 7.4. The recovered Vail recharge was used for authorized uses in the Permit 7032 service area. Releases from Vail for recharge were 704 acre feet resulting in 789 acre feet of recovered recharge being derived from unrecovered recharge from prior years accumulated in the Vail recharge account. Rancho California WD imported 14,175 acre feet of water in 2006-07 for direct recharge of which 11,928 acre feet were recovered leaving 2,247 acre feet as unrecovered direct recharge.

Imported water carryover to 2007-08 includes the following:

		AF
1.	Carryover from 2005-06	40,685
2.	Unrecovered direct recharge in 2006-07	2,247
3.	Import Return Flow Credit for 2006-07	1,325
4.	Total Carryover to 2007-08	44,257

Thus, there was no unauthorized use under Permit 7032 in 2006-07 and 44,257 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 2006-07, the Murrieta Division of Western MWD produced 1,978 acre feet of water from four wells as shown in the following tabulation and imported 723 acre feet as shown in Appendix Table A-10.

Well Designation	Well Name	2006-07 Production Acre Feet	Casing Depth Feet	Water Depth Feet	Well Depth Feet	Perforated Interval Feet
7S/3W-20	Clay	948	101	295 – 453	940	330 – 350 370 – 470 680 – 790 830 – 900
7S/3W-20C9	Holiday	0	25	67 – 70	307	60 – 307
7S/3W-20G5	House	0	50	Dry	298	120 – 252
7S/3W-17R2	Lynch	0	26	63 – 67	212	172 – 212
7S/3W-18J2	North	429	50	274 – 303	650	240 - 260 500 – 640
7S/3W-20D	South	583	50	172 – 275	446	120 – 446
7S/3W-7M	Alson	18	50	265 – 356	416	106 – 416
TOTAL		1,978				

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 67 to 70 feet in 2006-07, and there was no production from the Holiday Well in 2006-07. Accordingly all of Murrieta Division well production is from the older alluvium under a groundwater appropriative right.

Production for the period between 1966 and 2007 is shown in Appendix Table B-11.

Improvement District A

In Water Year 2006-07, imports to Improvement District A amounted to approximately 45 acre feet as shown in Appendix Table A-11. Deliveries to Improvement District A through turnout WR-13 for the period 1966 to 2007 are shown in Table 5.4 and Appendix Table B-12.

U. S. Marine Corps - Camp Pendleton

Camp Pendleton is located on the coastal side of the Santa Margarita River Watershed. Water was provided by 12 wells that produced 7,235 acre feet in Water Year 2006-07. This production is from the younger alluvium and is based on riparian and appropriative rights. Of this quantity, 4,160 acre feet were exported to areas of the Base outside the Watershed as shown in Appendix A. A total of 416 acre feet of wastewater were used on the golf course as shown on Appendix Table A-8.

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, 2,309 acre feet of wastewater were exported by Camp Pendleton to the Oceanside Outfall in Water Year 2006-07.

Production and estimated use inside and outside the Watershed, as well as wastewater returns, are shown in Appendix B for the period 1966-2007.

U. S. Naval Weapons Station, Fallbrook Annex

The U. S. Naval Weapons Station (NWS) occupies about 9,148 acres northeast 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 2006-07, 70 acre feet were imported of which 12 acre feet of wastewater were exported, as shown in Appendix A. Imports and use between 1966 and 2007 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

On December 21, 2006 the Pechanga Band of Luiseño Mission Indians and Rancho California WD entered into a Groundwater Management Agreement for the Wolf Valley Groundwater Basin. The Pechanga Band and Rancho California WD agreed to manage jointly groundwater pumping from the basin and to manage the basin to protect groundwater resources. Among other things the agreement provides for Rancho California WD to deliver pumped groundwater from its wells to Pechanga.

During 2006-07, Pechanga received 154 acre feet of delivered groundwater from Rancho California WD. In addition the Pechanga Water System produced 919 acre feet from wells, resulting in a total production for Pechanga of 1,073 acre feet. The monthly production and uses for the Pechanga Indian Reservation are shown in Appendix A, Table A-5. Information about Pechanga Water System wells is shown below:

Well Designation 8S/2W	Name	2006 Water Depth Feet	2007 Water Depth Feet	Well Depth Feet	Perforated Interval Feet
28R1	Ball Park	72	72	1,000	126 - 996
29A2	New Kelsey	107	162 P	425	105 - 415
29B10	Eduardo	189	415 P	697	437 - 687
29B11	Eagle III	86	194 P	645	275 - 635
29F3	New Stevenson	65	95	247	100 - 240
29J3	South Boundary	113	158	350	150 - 340

P – Pumping Level

Except for the Ball Park Well, depths to groundwater increased significantly in 2006-07 for all Pechanga Water System wells. It is noted that measured depths in 2007 for three wells are pumping water levels, which must be considered for comparison to static water levels for the prior year. The increased depths may be explained by a combination of increased pumping in Wolf Valley and reduced recharge. The total production for the Pechanga Water System (including groundwater deliveries from Rancho California WD) increased from 754 acre feet in 2005-06 to 1,073 acre feet in 2006-07. In addition, pumping in Wolf Valley by Rancho California WD Well Nos. 119 and 122 for the district's use increased from 2,359 acre feet in 2005-06 to 2,764 acre feet in 2006-07. The total increased pumping in Wolf Valley for 2006-07 was 724 acre feet.

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. 495 (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 and uses for the Pechanga Indian Reservation for Water Years 1991- 2007 are shown on Appendix Table B-6.

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 small water systems for 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-11 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-12.

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 6,312 acre feet. This quantity includes 5,600 acre feet of well production and 712 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 petition 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 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.

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.

Additional threats to the long-term water supply have been recently identified and are described in the following sections. These additional threats include: (1) high nitrate concentrations in the Murrieta-Temecula area, (2) high concentrations of arsenic and fluoride in the Murrieta-Temecula area, and (3) discovery of the quagga mussel in imported supplies from the Colorado River system.

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: http://www.waterboards.ca.gov/sandiego/tmdls/rainbow%20creek.html.

Key elements of the Rainbow Creek TMDL program 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.

In December 2006 the Regional Board approved its internal Transfer Plan to transfer work on the TMDL program from the development team to the watershed branch for implementation of the program. The implementation tasks and schedule are described in the final technical report for the TMDL program. Implementation is proceeding including the Regional Board awarding grants for San Diego County to conduct a nutrient study and monitoring program as well as working with Caltrans to renew its Statewide Storm Water Permit to incorporate objectives of the Rainbow Creek TMDL program.

Recent data show high concentrations of nitrate pose a risk to water supplies in the Murrieta-Temecula area. In January 2006, Western MWD ceased production from the Holiday Well because nitrate concentrations exceeded the Maximum Contaminant Level (MCL) of 45 mg/l. The depth to the top of the perforated interval for the Holiday Well is only 60 feet and the high nitrate concentrations appear to be a result of nearby septic systems and agricultural practices. Concentrations of nitrate for some of the other Western MWD and Rancho California WD wells in the Murrieta-Temecula area have been detected in the range of 20 to 25 mg/l, which is below the MCL. The other Western MWD and Rancho California WD wells have deeper perforated intervals than the Holiday Well.

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 2007 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 are reported in Appendix E.

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 2.5 feet in 2006-07. Water levels in Well 7S/3W-20C9 in the Murrieta Division of Western MWD area declined 2 feet from last year. Groundwater levels in Western MWD - Murrieta Division area recovered in 2006-07 to the high end of the range of reported groundwater levels.

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 8.4 feet. Water levels for the production wells for the Pechanga Water System show a significant decline apparently resulting from the increased combined pumping in the Wolf Valley by Rancho California WD and Pechanga as well as reduced recharge due to dry hydrologic conditions. 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.

9.4 Salt Balance

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

During 2006-07, Eastern MWD exported 5,960 acre feet of treated wastewater from the watershed for reuse and 5,850 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. At an average Total Dissolved Solids (TDS) concentration of 650 mg/l there is approximately 1,768 pounds of salt in every acre foot of wastewater. Thus in 2006-07, approximately 10,440 tons of salt were exported by Eastern MWD through the export of 11,810 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 2006-07 wells discharged 153 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	10	440	8/09/05
102	3	700	6/20/95
106	3	310	5/11/04
118	128	590	11/03/05
121	7	640	7/24/97
231	2	830	5/02/07
Total	153		

The salt balance for the Murrieta-Temecula groundwater area is affected by the use of reclaimed wastewater for irrigation. The total use of reclaimed wastewater by Eastern Municipal WD and Rancho California WD within the Santa Margarita River Watershed for 2006-07 was 8,280 acre feet compared to 690 acre feet in 1986-87. Assuming an average TDS concentration of wastewater of 650 mg/l, the salt loading for 8,280 acre feet of reclaimed wastewater is approximately 7,300 tons. It is expected that the use of reclaimed wastewater within the watershed will increase in the future including possible use of reclaimed wastewater by the Pechanga Band for golf course irrigation and expanded use by agricultural customers of Rancho California WD.

Trend analyses of TDS levels from groundwater samples throughout the Murrieta-Temecula groundwater area show a mix of increasing and decreasing trends depending upon location and aquifer. A more detailed study should be conducted to analyze available data and develop a comprehensive regional salinity management plan.

9.5 High Arsenic Concentrations

The maximum contaminant level (MCL) for arsenic is 10 ug/l. High concentrations of arsenic have been detected in groundwater wells for both the Murrieta Division of Western MWD and Rancho California WD posing a risk to water supplies in the Murrieta-Temecula area. In November 2007 Western MWD ceased pumping from the New Clay Well due to arsenic levels exceeding the MCL.

The elevated arsenic levels have significantly impacted groundwater pumping and distribution system operations for Rancho California WD. Two wells have been taken out of production due to arsenic levels exceeding the MCL and two other wells currently show levels exceeding the MCL but are still in operation under approved blending plans. Sampling from four additional wells show concentrations of arsenic on the borderline of exceeding the MCL. In addition, six wells show arsenic concentrations on the order of 5 ug/l.

9.6 High Fluoride Concentrations

The MCL for fluoride is 2 mg/l and samples exhibiting high concentrations of arsenic often show high concentrations of fluoride in the Murrieta-Temecula area. High levels of fluoride are impacting operations for Rancho California WD. One of the wells operating by Rancho California WD under an approved blending plan for arsenic was originally approved for blending due to fluoride levels exceeding the MCL. Two additional wells, including one of the wells with elevated arsenic concentrations, show fluoride levels on the borderline of exceeding the MCL.

9.7 Quagga Mussel

In early January 2007 the invasive, non-native quagga mussel was discovered in Lake Mead. Subsequently MWD discovered the mussel throughout the Colorado River Aqueduct system including in August 2007 finding the mussels in Lake Skinner. To date no mussels have been found in Diamond Valley Lake.

The quagga mussel is indigenous to the Ukraine and was discovered in the United States in September 1989 with the first sighting in the Great Lakes. The quagga mussel is a small freshwater mollusk ranging in size from microscopic in the embryonic stage to about two inches in length at the adult stage. The mussels can be transported during the larval stage with currents or running water and at the adult stage by attaching to hard surfaces such as boats.

The quagga mussel is a filter feeder removing food and nutrients from the water column decreasing the food source for zooplankton and therefore altering the food web. The filtration of the water also alters water clarity impacting aquatic plants and water chemistry. The economic impact is also significant because these species can rapidly colonize hard surfaces, clogging water intake structures, pipes, and screens and reducing pumping and distribution capacities. Costs are also associated with maintenance of facilities and control of the species.

Since the discovery of the quagga mussels in the Colorado River Aqueduct and Lake Skinner, MWD has implemented various control activities. In July 2007, the aqueduct was shut down for ten days for inspection, chlorination, and removal of adult populations. Also in July 2007, MWD initiated continuous chlorination in the Colorado Aqueduct to control the spread of quagga mussels. Releases from Lake Skinner are being chlorinated at the outlet tower prior to distribution through the raw water delivery system.

Effective October 10, 2007, Assembly Bill 1683 added Section 2301(a)(1) to the California Fish and Game Code prohibiting the release of quagga mussels into the waters of the state. Assembly Bill 1683 also requires development of a quagga mussel control plan. On December 8, 2007 MWD temporarily suspended required releases of water to Tucalota Creek from Lake Skinner and Warm Springs Creek from the San Diego Canal near Diamond Valley Lake. These required releases would have been made in accordance with memoranda of agreement for releasing native inflows from the reservoirs. On March 6, 2008 MWD provided notice to the parties in *United States v. Fallbrook Public Utility District, et al.* regarding the temporary suspension of required releases of native water inflows from Lake Skinner and Diamond Valley Lake. In June 2008, MWD provided notice to the parties in *United States v. Fallbrook Public Utility District, et al.* regarding the resumption of required releases of native water inflows from Lake Skinner and Diamond Valley Lake, according to MWD's Action Plan submitted to California Department of Fish and Game on May 30, 2008.

Infestation by the quagga mussel has also altered Rancho California WD operations in accordance with the Cooperative Water Resource Management Agreement. On April 10, 2008 Rancho California WD ceased making releases of raw water from Turnout WR-34 on the MWD Pipeline No. 5 to meet make-up flow requirements for the Santa Margarita River. Alternatively Rancho California WD commenced making releases of make-up flows from its treated water distribution system at the System River Meter located just upstream of the Murrieta Creek at Temecula gaging station. The treated water is de-chlorinated prior to release to Murrieta Creek.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 2006-07. 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 2007.

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 2006-07.

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 2006-07 water quality data were collected from wells at Western MWD – Murrieta Division, Rancho California WD, Cahuilla Indian Reservation, Pechanga Indian Reservation, and Camp Pendleton.

Western MWD – Murrieta Division sampled four wells in 2006-07. Concentrations of total dissolved solids (TDS) ranged from 270 to 540 mg/l as shown in Appendix D-3. Concentrations of nitrates were generally below the drinking water standard of 45 mg/l as nitrate for samples in four wells ranging from less than 1 mg/l to 23 mg/l.

Water quality data for Rancho California WD wells are shown in Appendix Table D-4. Samples were collected from 39 wells during 2006-07. Of the 39 wells, 32 wells were analyzed for nitrates only. In these wells, nitrate concentrations ranged up to 24 mg/l as nitrate, with the drinking water standard being 45 mg/l as nitrate. Samples from the remaining 7 wells were subjected to standard chemical analysis. Two of the wells (Wells 135 and 231) show TDS concentrations exceeding 750 mg/l, the Basin Plan objective.

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 2006-07

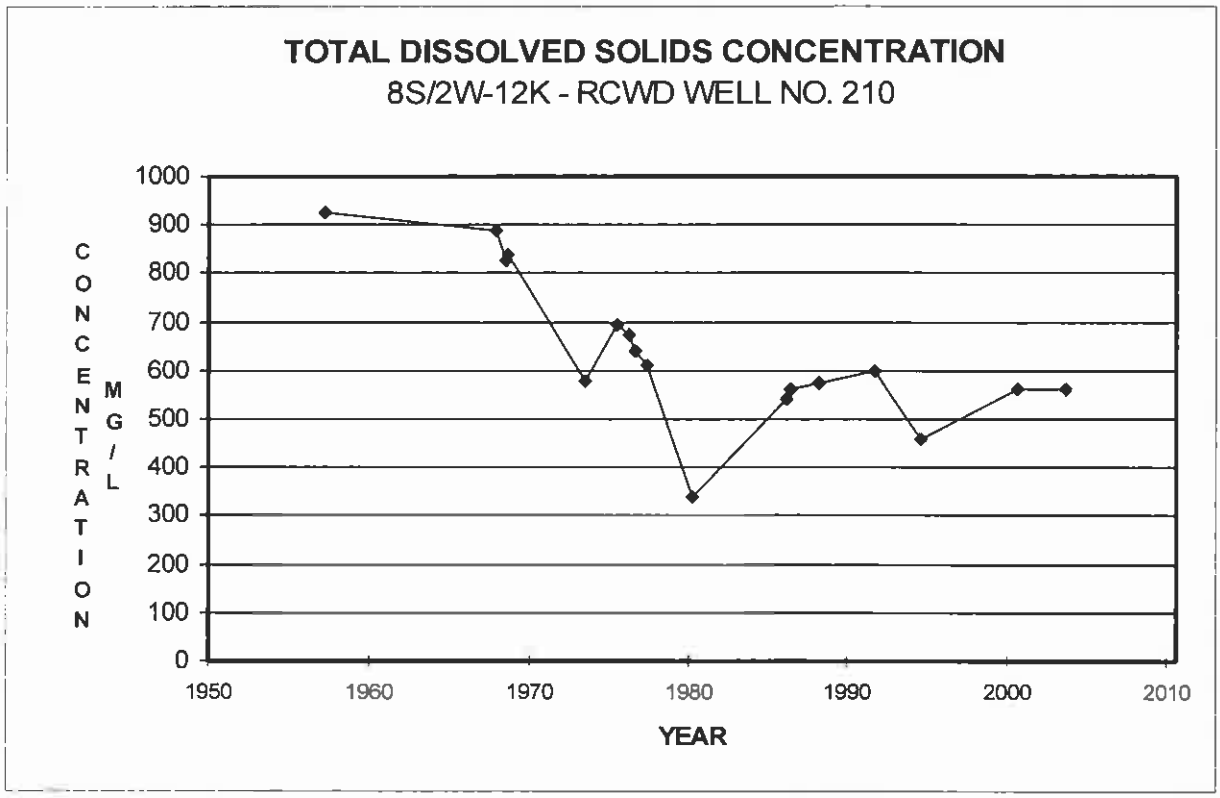
COLLECTION MONTH/YEAR	DISSOLVED OXYGEN mg/l		pH		SPECIFIC CONDUCTANCE microsiemens/cm		TEMPERATURE Deg C	
	High	Low	High	Low	High	Low	High	Low
2006								
October	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
November	9.4 *	6.9 *	8.1 *	7.6 *	1,140 *	610 *	17.7 *	12.3 *
December	10.3 *	8.6 *	7.9	7.0	965	445	15.2	11.2
2007								
January	12.5 *	9.1 *	8.4	7.0	864	562	11.9	9.2
February	12.2	7.5	8.3	7.3	973	507	15.2	8.9
March	12.2	5.6	8.1	7.3	940	695	21.8	8.8
April	8.4 *	5.7 *	8.6	7.6	885	381	20.3	12.6
May	9.9 *	0.6 *	8.8	6.6	985	837	22.6	18.3
June	12.2	1.8	8.4	7.3	1,360	844	26.1	18.2
July	9.9 *	1.2 *	8.6	7.3	879	783	27.1	23.1
August	8.3	5.5	7.9	7.2	1,310	797	28.1	23.4
September	8.6	5.6	8.1	7.3	914	799	29.2	20.4

N/R - No Record

* - 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. As described in Section 9, trend analyses for other wells throughout the Murrieta-Temecula area show a mix of increasing and decreasing trends in TDS levels depending upon location and aquifer.

FIGURE 10.1



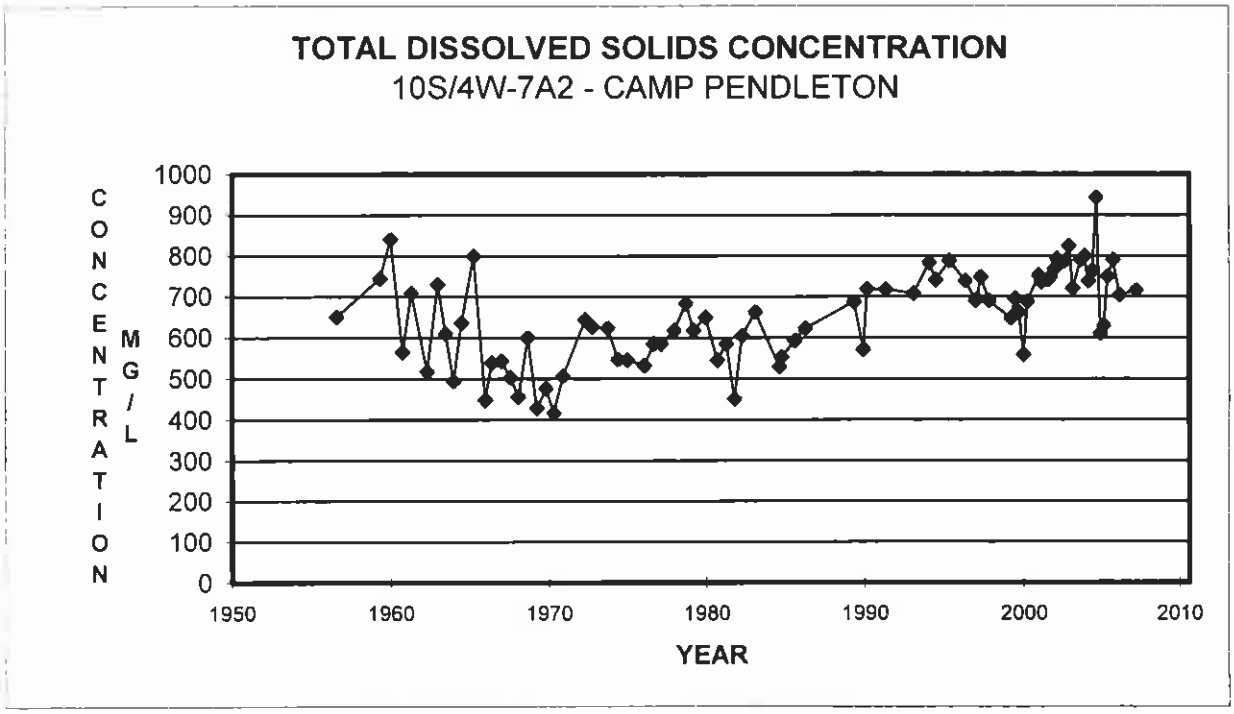
Appendix Table D-5 shows water quality data collected by the USGS from wells on Indian Reservations. In 2006-07 samples were collected from two wells on the Pechanga Indian Reservation. For the Pechanga wells TDS concentrations ranged from 237 to 392 mg/l, similar to concentrations from the prior years. Nitrate concentrations ranged from <0.06 to 8.32 mg/l as nitrogen.

In 2006-07 samples were collected from three wells on the Cahuilla Indian Reservation. Total dissolved solids concentrations ranged from 197 to 677 mg/l and nitrate concentrations ranged from 1.79 to 6.88 mg/l as nitrogen.

During 2006-07 samples of groundwater were collected from eleven 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 eleven wells sampled, six provided a sample where TDS concentrations exceeded 750 mg/l, the Basin Plan Objective. Three of the eleven wells had samples with TDS concentrations that exceeded those in the prior year, and eight wells showed a decline of TDS concentrations over the previous year.

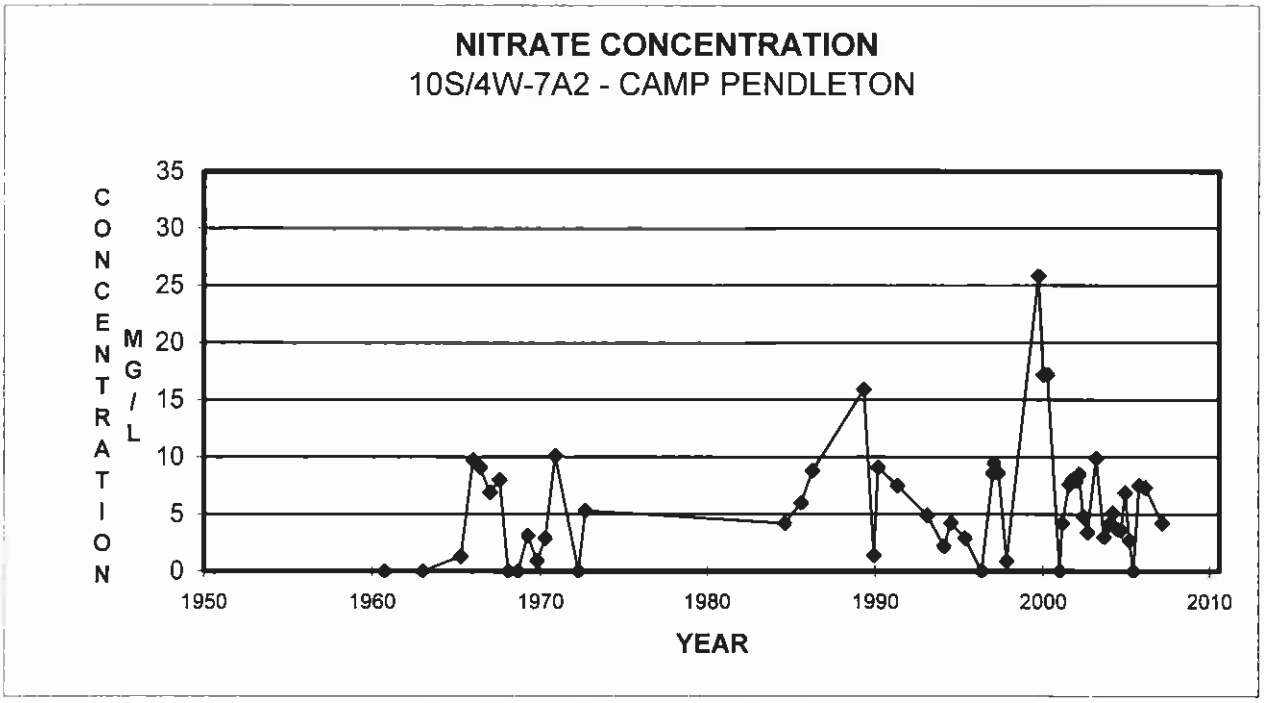
Historical TDS concentrations for Camp Pendleton Well 7A2 are shown on Figure 10.2 for samples collected since mid-1950. The figure shows a decline between mid-1950 and 1970, then a period of increasing concentrations to levels in the 550-950 mg/l range. Analysis of the sample collected in 2006-07 indicated TDS concentrations of 716 mg/l, an increase over the sample taken last year.

FIGURE 10.2



Historical nitrate concentrations for the same well (7A2) are shown on Figure 10.3. The one sample collected in 2006-07 shows a nitrate concentration of 4.2 mg/l, a decline from last year.

FIGURE 10.3



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 2007 the hydrologic index was determined and the year classified as a "Critically Dry" 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 2006-07, a "Critically Dry" year, are listed in Section 5 of the CWRMA and are shown on Table 11.1.

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

2007 - CRITICALLY DRY 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	488.5	525.4	8.6	4.5	8	543.5	359.0	0.0	5,000.0
Feb	601.0	582.1	8.6	4.5	6	505.4	344.7	0.0	5,000.0
Mar	511.1	491.3	8.6	4.5	10	480.9 *	262.3	0.0	5,000.0
Apr	512.1	549.2	8.6	4.5	0	422.8	246.0	0.0	5,000.0
May	239.0	235.8	3.8	3.8	0	249.0	0.0	0.0	5,000.0
June	200.2	200.1	3.3	3.3	0	219.2 **	0.0	0.0	5,000.0
July	193.2	186.0	3.0	3.0	0	218.6	0.0	0.0	5,000.0
Aug	186.8	186.0	3.0	3.0	0	208.5	0.0	0.0	5,000.0
Sept	179.5	179.5	3.0	3.0	0	203.6	0.0	0.0	5,000.0
Oct	190.6	185.5	3.0	3.0	0	207.5	0.0	0.0	5,000.0
Nov	2,998.0	2,990.7	3.0	3.0	0	196.4	0.0	0.0	5,000.0
Dec	2,241.3	2,241.3	3.3	3.3	0	153.8	0.0	0.0	5,000.0
TOTAL	8,541.5	**8,553.1**			**24**	**3,609.2**	**1,212.1**	**0.0**	**FULL**

1 - Minimum Flow Maintenance Requirement for January thru April equals 11.5 cfs less 0.9 cfs CAP Credit less 2.0 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 10 days in March when the 10-day moving average was less than the required flow were due to an MWD Barrell 5 shutdown from March 3 - 10, 2007.

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.

* Includes 70 AF from System River Meter during March 2 - 10, 2007

** Includes 60 AF from System River Meter during June 4 - 12, 2007

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-1. Two listings of daily discharges are shown in the tables in Appendix E-1: 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 24 days during the year. However, the 10 days that occurred in March were due to a Metropolitan Water District Barrel 5 operational shutdown. During the remaining 14 days the ten-day average flow dropped below the required flow by 0.1 cfs. Barrel 5 was also shut down for operational purposes for nine days in June. During the Barrel 5 shutdown Rancho California WD released water from the System River Meter to meet the required flows under CWRMA.

During 2007, the total releases by Rancho California WD from WR-34, including releases from the System River Meter, were 3,609 acre feet. In addition, Cap Credits in the amount of 206 acre feet were used by Rancho California WD in 2007. Also, Climatic Credits in the amount of 477 acre feet were used by Rancho California WD.

Climatic Credits of 1,212 acre feet were accumulated in 2007 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 2007, 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, 2007.

11.4 Monitoring Programs

The CWRMA provides for the establishment of two monitoring programs: (1) Section 5(g) provides for a program to assess the impacts of operations on water supply, water quality and riparian habitat within Camp Pendleton and (2) Section 7(d) provides for a program to assess safe yield operations of Rancho California WD through the use of a multi-level groundwater monitoring network and periodic updates of the CWRMA Groundwater Model.

During 2006-07, Camp Pendleton initiated the Section 5(g) program named as the Lower Santa Margarita River Watershed Monitoring Program (Program) to evaluate whether the increased flows under CWRMA influence threatened and endangered species, riparian and wetland habitats, or water quality downstream. The Program will also support other water quality monitoring and watershed management activities in the Santa Margarita River Watershed. The monitoring is funded for a two-year period with the final report expected in early 2010. A copy of the Statement of Work for the Lower Santa Margarita River Watershed Monitoring Program is provided in Appendix E-2.

In September 2006 the USGS under contract with Camp Pendleton and Rancho California WD constructed a multi-level monitoring well for the Murrieta-Temecula groundwater basin in accordance with Section 7(d) of CWRMA. The Pala Park Groundwater Monitoring Well is located near the confluence of Pechanga and Temecula creeks and was completed to a total depth of 1,499 feet. Six piezometers were installed for continuous water level recording in the saturated zone for the lower five screened intervals and a temperature probe for the upper-most screened interval to detect moisture in the unsaturated zone. The Technical Advisory Committee is developing an ongoing water quality monitoring program. The USGS monitoring program for the Pala Park Groundwater Monitoring Well is included in the ongoing Watermaster budget beginning in year 2007-08. Information concerning the construction of the monitoring well, groundwater levels, and water quality data can be found at the following website: http://ca.water.usgs.gov/temecula/. Information obtained from the website as well as supplemental information is provided in Appendix E-3 including water level data for the lower five screened intervals and water quality data from samples collected in November 2006 and September 2007.

Also during 2007 Camp Pendleton and Rancho California WD initiated an effort to update the CWRMA Groundwater Model in accordance with Section 7(d). The update will incorporate data collected from the Pala Park Groundwater Monitoring Well and other wells in the Murrieta-Temecula groundwater basin as well as take advantage of recent software and computing advancements.

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	2007-08	310,225	20,500	187,275	518,000
Projected Years	2008-09	327,425	21,500	196,375	545,300
	2009-10	343,800	22,600	206,200	572,600
	2010-11	361,000	23,700	216,500	601,200
	2011-12	379,100	24,900	227,300	631,300
	2012-13	398,100	26,100	238,700	662,900

SECTION 13 - WATERMASTER OFFICE BUDGET 2008-2009

A total Watermaster Budget of $545,300 for the Water Year ending September 30, 2009, is shown below.

This budget includes $327,425 for the Watermaster Office and $217,875 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 2007-08 $	PROPOSED BUDGET 2008-09 $
Watermaster Office		
Rent	13,800	14,100
Accounting Services	5,800	5,900
Supplies	1,100	1,200
General Liability & Professional Insurance	500	500
Printing	2,400	7,900
Audit	5,000	6,000
Publications	2,500	2,600
Clerical/Data Management	73,000	76,800
Telephone/Internet	2,500	2,600
Miscellaneous Operating/Maintenance	1,625	2,025
Mileage/Travel	700	800
Office Equipment and Software	4,000	4,000
Internet/Network/Website	11,300	10,000
Watermaster		
Consulting Services	166,000	173,000
Travel Reimbursement	20,000	20,000
SUBTOTAL WATERMASTER OFFICE	**$ 310,225**	**$ 327,425**
USGS		
Gaging Station Operation and Maintenance	$ 161,625	$ 169,475
Water Quality Operation and Maintenance	25,650	26,900
Pala Community Park Well Water Levels	10,500	11,000
Pala Community Park Well Water Quality	10,000	10,500
SUBTOTAL USGS	**$ 207,775**	**$ 217,875**
TOTAL	**$ 518,000**	**$ 545,300**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX A

WATER PRODUCTION AND USE

WATER YEAR 2006-07

August 2008

TABLE A-1

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT

2006-07

Quantities in Acre Feet

	PRODUCTION					USE						RECLAIMED WASTEWATER			
MONTH YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW 2/	NET IMPORT	TOTAL	AG 3/	COMM	DOM 4/	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW 5/	REUSE OUTSIDE SMRW	OTHER REUSE 6/	TOTAL
2006															
OCT	0	1,978	592	1,386	1,386	0	0	1,317	1,317	69	1,386	404	437	338	1,179
NOV	0	1,064	297	767	767	0	0	729	729	38	767	322	407	422	1,151
DEC	0	532	208	324	324	0	0	308	308	16	324	257	356	542	1,155
2007															
JAN	0	1,632	27	1,605	1,605	0	0	1,525	1,525	80	1,605	236	151	822	1,209
FEB	0	643	415	228	228	0	0	217	217	11	228	223	221	816	1,260
MAR	0	1,854	30	1,824	1,824	0	0	1,733	1,733	91	1,824	227	309	631	1,167
APR	0	1,239	1,113	126	126	0	0	120	120	6	126	246	584	308	1,138
MAY	0	2,190	344	1,846	1,846	0	0	1,754	1,754	92	1,846	294	672	237	1,203
JUNE	0	2,402	495	1,907	1,907	0	0	1,812	1,812	95	1,907	339	656	136	1,131
JULY	0	3,136	867	2,269	2,269	0	0	2,156	2,156	113	2,269	265	519	387	1,171
AUG	0	2,450	758	1,692	1,692	0	0	1,607	1,607	85	1,692	394	884	(82)	1,196
SEPT	0	2,041	617	1,424	1,424	0	0	1,353	1,353	71	1,424	343	764	36	1,143
TOTAL	0	21,161	5,763	15,398	15,398	0	0	14,628	14,628	770	15,398	3,550	5,960	4,593	14,103

1/ Does not include deliveries to Rancho California WD, Elsinore Valley MWD or Western MWD

2/ Portion of imported supplies exported for delivery to Eastern MWD's retail customers located outside the watershed

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

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

5/ Includes 797 AF of sewage diverted to RCWD

6/ 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 5,850 AF. The remaining other reuse (4,593 less 5,850) results in a negative value of 1,257 AF. A negative value reflects reclaimed wastewater supplied from storage which may be mingled with reclaimed wastewater from Eastern MWD's Perris Valley Revional Water Reclamation Facility

TABLE A-2

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT
2006-07
Quantities in Acre Feet

	PRODUCTION			USE							
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE	WASTEWATER EXPORTED	
2006											
OCT	0	1,187	1,187	15	482	690	1,187	0	1,187	63	E
NOV	0	653	653	11	252	390	653	0	653	63	E
DEC	0	614	614	9	261	344	614	0	614	63	E
2007											
JAN	0	777	777	13	314	450	777	0	777	63	E
FEB	0	532	532	9	212	311	532	0	532	63	E
MAR	0	621	621	9	252	360	621	0	621	62	
APR	0	956	956	21	402	533	956	0	956	81	
MAY	0	827	827	8	356	463	827	0	827	81	
JUNE	0	994	994	10	446	538	994	0	994	69	
JULY	0	1,372	1,372	15	567	790	1,372	0	1,372	76	
AUG	0	1,180	1,180	15	516	649	1,180	0	1,180	82	
SEPT	0	1,098	1,098	15	449	634	1,098	0	1,098	71	
TOTAL	0	10,811	10,811	150	4,509	6,152	10,811	0	10,811	837	

* Assumes no loss
E - Estimate

TABLE A-3

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT
2006-07
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
2006																		
OCT	0	0	1,709	370	1,339	616	986	986	596	58	415	1,069	(83)	986	112	2.60	0.91	108
NOV	0	0	1,675	534	1,141	525	1,059	1,059	718	51	268	1,037	22	1,059	88	2.40	1.24	85
DEC	0	0	1,009	155	855	393	548	548	307	37	298	642	(94)	548	96	1.20	1.02	94
2007																		
JAN	0	0	1,426	390	1,036	476	866	866	508	36	190	734	132	866	103	1.80	1.15	100
FEB	0	0	750	251	499	230	481	481	395	41	267	703	(222)	481	87	1.00	0.58	86
MAR	0	0	1,412	269	1,143	526	795	795	316	37	174	527	268	795	106	0.30	0.57	105
APR	0	0	1,550	376	1,175	540	916	916	544	50	305	899	17	916	102	2.20	0.84	99
MAY	0	0	2,111	392	1,719	791	1,183	1,183	633	62	259	954	229	1,183	110	3.10	1.14	106
JUNE	0	0	2,164	489	1,675	770	1,259	1,259	710	71	435	1,216	43	1,259	101	3.30	1.35	96
JULY	0	0	2,393	624	1,768	813	1,437	1,437	833	72	350	1,255	182	1,437	96	3.90	1.64	91
AUG	0	0	2,451	680	1,771	815	1,495	1,495	931	75	507	1,513	(18)	1,495	97	3.90	1.45	91
SEPT	0	0	2,100	557	1,543	710	1,267	1,267	780	76	366	1,222	45	1,267	85	3.30	0.58	81
TOTAL	0	0	20,750	5,087	15,664	7,205	12,292	12,292	7,271	666	3,834	11,771	521	12,292	1,183	29	12	1,142

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
2006-07
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
2006									
OCT	0	60	60	57	0	0	57	3	60
NOV	0	50	50	47	0	0	47	3	50
DEC	0	10	10	9	0	0	9	1	10
2007									
JAN	0	17	17	16	0	0	16	1	17
FEB	0	25	25	24	0	0	24	1	25
MAR	0	48	48	46	0	0	46	2	48
APR	0	54	54	51	0	0	51	3	54
MAY	0	69	69	66	0	0	66	3	69
JUNE	0	89	89	85	0	0	85	4	89
JULY	0	77	77	73	0	0	73	4	77
AUG	0	84	84	80	0	0	80	4	84
SEPT	0	77	77	73	0	0	73	4	77
TOTAL	0	660	660	627	0	0	627	33	660

* Construction water
** Loss = 5%

TABLE A-5

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION
2006-07
Quantities in Acre Feet

	PRODUCTION			USE					
MONTH YEAR	WELLS ON RESERVATION 1/	DELIVERED GROUNDWATER FROM RCWD 2/	TOTAL	AG 3/	COMM 3/	DOM 3/	TOTAL DELIVERED	LOSS 4/	TOTAL USE
2006									
OCT	69	0	69	10	28	28	66	3	69
NOV	68	0	68	7	42	16	65	3	68
DEC	65	0	65	4	38	20	62	3	65
2007									
JAN	72	0	72	5	49	14	68	4	72
FEB	59	0	59	7	32	17	56	3	59
MAR	63	5	68	14	41	10	65	3	68
APR	74	23	97	33	47	12	92	5	97
MAY	83	4	87	17	54	12	83	4	87
JUNE	82	11	93	26	39	23	88	5	93
JULY	105	20	125	36	62	21	119	6	125
AUG	99	45	144	59	45	33	137	7	144
SEPT	80	46	126	57	40	23	120	6	126
TOTAL	919	154	1,073	275	517	229	1,021	52	1,073

1/ Total production attributed to Eduardo, Eagle III, New Kelsey and South Boundary wells.
2/ Water provided from Rancho California WD Well Nos. 119 and 122.
3/ Monthly use estimated based on annual values reported to Watermaster.
4/ Loss assumed to be 5% for all use types.

TABLE A-6

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT

2006-07

Quantities in Acre Feet

	PRODUCTION			USE				
MONTH YEAR	LOCAL	IMPORT TO WATERSHED	TOTAL IN WATERSHED	AG	COMMERCIAL/ DOMESTIC	TOTAL DELIVERIES	LOSS*	TOTAL USE
2006								
OCT	0	245	245	203	20	223	22	245
NOV	0	190	190	158	15	173	17	190
DEC	0	142	142	114	15	129	13	142
2007								
JAN	0	160	160	134	11	145	15	160
FEB	0	136	136	113	11	124	12	136
MAR	0	68	68	55	7	62	6	68
APR	0	160	160	133	12	145	15	160
MAY	0	161	161	133	13	146	15	161
JUNE	0	234	234	195	18	213	21	234
JULY	0	223	223	185	18	203	20	223
AUG	0	252	252	209	20	229	23	252
SEPT	0	290	290	239	25	264	26	290
TOTAL	0	2,262	2,262	1,871	185	2,056	206	2,262

*Loss = 10% of use

TABLE A-7

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT
2006-2007
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/
2006																		
OCT	2,305	38	2,267	4,929	93	4,836	7,103	3,759	782	523	3,299	248	307	8,918	(1,815)	7,103	(32)	392
NOV	2,353	33	2,320	5,074	70	5,004	7,324	2,891	575	477	2,712	262	686	7,603	(279)	7,324	403	397
DEC	2,358	37	2,321	2,270	46	2,224	4,545	2,734	537	441	2,405	202	(519)	5,800	(1,255)	4,545	96	394
2007																		
JAN	1,808	22	1,786	3,593	44	3,549	5,335	1,689	343	357	1,778	556	(148)	4,575	760	5,335	414	407
FEB	1,898	31	1,867	2,458	40	2,418	4,285	2,267	441	384	1,876	516	(148)	5,336	(1,051)	4,285	0	358
MAR	2,001	19	1,982	3,644	41	3,603	5,585	1,463	331	313	1,855	494	(569)	3,887	1,698	5,585	0	369
APR	2,302	25	2,277	5,515	64	5,451	7,728	2,622	533	330	2,277	437	360	6,559	1,169	7,728	0	405
MAY	2,146	21	2,125	6,711	80	6,631	8,756	2,533	528	387	2,495	263	584	6,790	1,966	8,756	(52)	408
JUNE	2,049	22	2,027	7,407	103	7,304	9,331	3,501	679	462	3,278	225	712	8,857	474	9,331	(2)	457
JULY	3,025	40	2,985	8,196	130	8,066	11,051	3,876	792	508	3,735	227	376	9,514	1,537	11,051	(51)	387
AUG	2,647	34	2,613	8,173	129	8,044	10,657	4,134	860	567	3,914	214	318	10,007	650	10,657	(76)	366
SEPT	2,753	42	2,711	6,952	134	6,818	9,529	3,341	648	314	2,196	215	288	7,002	2,527	9,529	4	390
TOTAL	27,645	364	27,281	64,922	974	63,948	91,229	34,810	7,049	5,063	31,820	3,859	2,247	84,848	6,381	91,229	704	4,730

1/ Wells recovered 26,152 AF from older alluvium and 1,493 AF from Vail recharge. An additional 154 AF was delivered to Pechanga Indian Reservation and is shown on Table A-5
2/ Groundwater used in San Mateo Watershed
3/ Includes 47,041 AF direct use; 14,175 AF direct recharge; and 3,576 AF from MWD WR-34; and 130 AF from System River Meter
4/ Import used in San Mateo Watershed
5/ 2 AF into Temecula Creek from Well 231; 141 AF into Murrieta Creek from Wells 101, 102, and 118; 10 AF into Santa Gertrudis Creek from Wells 106 and 121; 130 AF from System River Meter; and 3,576 AF from MWD WR-34
6/ 14,175 AF of direct recharge less 11,928 AF of import recovery
7/ Loss = Total production less total use and includes 404 acre feet pumped from wells 102, 121, 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

SANTA MARGARITA RIVER WATERSHED

U.S.M.C. - CAMP PENDLETON

2006-07

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER			
MONTH YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE IN SMRW 2/	AGRICULTURE OUT SMRW 2/	CAMP SUPPLY IN SMRW 3/	CAMP SUPPLY OUT SMRW 3/	TOTAL EXPORT	TOTAL IN SMRW 4/	FROM INSIDE SMRW 5/	FROM OUTSIDE SMRW 6/	TOTAL EXPORTED TO OCEANSIDE OUTFALL	USED ON GOLF COURSE OUTSIDE SMRW
2006													
OCT	199	481	680	77	122	209	272	394	286	77	171	190	58
NOV	46	461	507	18	28	200	261	289	218	76	153	185	44
DEC	0	354	354	0	0	153	201	201	153	75	144	182	37
2007													
JAN	0	408	408	0	0	177	232	232	177	79	142	217	5
FEB	0	363	363	0	0	157	206	206	157	77	131	203	4
MAR	0	424	424	0	0	184	240	240	184	81	143	208	16
APR	30	480	510	12	18	208	272	290	220	86	134	196	24
MAY	48	508	556	19	29	220	288	317	239	93	139	193	39
JUNE	187	645	832	73	114	280	365	479	353	84	136	178	43
JULY	238	653	891	93	145	283	369	514	376	86	143	177	51
AUG	282	568	850	110	172	245	323	495	355	88	152	192	48
SEPT	355	505	860	138	217	219	286	503	357	90	145	188	47
TOTAL	1,385	5,850	7,235	540	845	2,535	3,315	4,160	3,075	992	1,733	2,309	416

1/ Camp Pendleton notified the Watermaster in 2006 that the proportion of water use (for both agricultural use and camp supply) within and outside the Santa Margarita River Watershed is different than the proportion historically reported by the Watermaster. However, Camp Pendleton has not provided revised numbers and thus the historical proportion is continued to be reported by the Watermaster.

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

3/ 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.)

4/ Assumes no losses

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

6/ Discharge from Plant Nos. 1 and 2, plus excess of Plant No. 13 over 29.17 acre feet per month

TABLE A-9

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

2006-07
Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
MONTH YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL/ DOMESTIC	LOSS 2/	TOTAL USE	EXPORTED
2006								
OCT	0.0	5.4	5.4	0.0	4.9	0.5	5.4	0.9
NOV	0.0	5.1	5.1	0.0	4.6	0.5	5.1	1.2
DEC	0.0	5.4	5.4	0.0	4.9	0.5	5.4	1.0
2007								
JAN	0.0	5.2	5.2	0.0	4.7	0.5	5.2	1.2
FEB	0.0	4.3	4.3	0.0	3.9	0.4	4.3	0.6
MAR	0.0	4.6	4.6	0.0	4.2	0.4	4.6	0.6
APR	0.0	6.1	6.1	0.0	5.5	0.6	6.1	0.8
MAY	0.0	6.3	6.3	0.0	5.7	0.6	6.3	1.1
JUNE	0.0	6.1	6.1	0.0	5.5	0.6	6.1	1.3
JULY	0.0	6.6	6.6	0.0	6.0	0.6	6.6	1.6
AUG	0.0	9.3	9.3	0.0	8.5	0.8	9.3	1.4
SEPT	0.0	5.8	5.8	0.0	5.3	0.5	5.8	0.6
TOTAL	0.0	70.2	70.2	0.0	63.8	6.4	70.2	12.5

1/ - Import via Fallbrook Public Utility District

2/ - Loss = 10% of Use

TABLE A-10

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION
2006-07
Quantities in Acre Feet

	PRODUCTION			USE					
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE
2006									
OCT	174	9	183	42	41	197	280	(97)	183
NOV	195	2	197	48	25	194	267	(70)	197
DEC	179	0	179	29	21	127	177	2	179
2007									
JAN	153	0	153	20	6	110	136	17	153
FEB	173	0	173	20	17	109	146	27	173
MAR	149	0	149	28	19	129	176	(27)	149
APR	220	20	240	37	19	136	192	48	240
MAY	189	40	229	33	23	144	200	29	229
JUNE	198	72	270	46	27	182	255	15	270
JULY	90	212	302	56	30	234	320	(18)	302
AUG	121	186	307	54	24	212	290	17	307
SEPT	137	182	319	54	24	206	284	35	319
TOTAL	1,978	723	2,701	467	276	1,980	2,723	(22)	2,701

* Loss = Total production less total delivered

TABLE A-11

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

2006-07

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	HAWTHORN WATER SYSTEM	JOJOBA HILLS SKP RESORT
2006							
OCT	5.60	2.44	4.72	0.70	47.44	2.14	5.24
NOV	4.30	2.43	3.63 A	0.40	36.67	2.08	5.69
DEC	3.10	1.88	3.63 A	1.04 A	9.94	2.14	4.48
2007							
JAN	2.40	3.62 A	2.67	1.04 A	3.04	2.68	5.11
FEB	2.20	3.62 A	0.69	1.04 A	3.39	2.42	4.46
MAR	2.20	3.62 A	3.45	1.04 A	31.03	2.67	5.33
APR	3.10	3.62 A	4.88	1.04 A	21.96	3.68	5.68
MAY	4.30	3.62 A	7.71	1.04 A	74.15	3.99	6.28
JUNE	5.10	3.62 A	5.64	1.04 A	56.12	3.99	5.91
JULY	4.60	3.62 A	5.71	1.04 A	61.87	3.85	6.35
AUG	4.60	3.62 A	4.55	1.04 A	33.60	4.14	6.64
SEPT	3.80	3.62 A	4.02	1.04 A	42.35	3.44	5.81
SUBTOTAL			51.30	11.50			
			429.40 *	8.30 *			
TOTAL	45.30	39.33	480.70	19.80	421.56	37.22	66.98

A - Average
* Estimated non-metered use

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX B

WATER PRODUCTION AND USE

WATER YEAR 1965-66 TO WATER YEAR 2006-07

August 2008

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 R	0	16,336	5,478	10,858	10,858	0	0	10,749	10,749	109	10,858	2,664 12/	2,690	8,986	0	0	14,340
2006 R	0	21,034	6,873	14,161	14,161	0	0	13,453	13,453	708	14,161	3,108 13/	3,510	7,396	0	0	14,014
2007	0	21,161	5,763	15,398	15,398	0	0	14,628	14,628	770	15,398	3,550 14/	5,960	4,593	0	0	14,103

1/ Does not include deliveries to RCWD, Elsinore Valley MWD, Western 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

14/ Includes 797 AF of sewage diverted to RCWD

R - Revised

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	150
1994	0	3,232	3,232	687	93	2,452	3,232	0	3,232	170
1995	0	3,127	3,127	520	100	2,507	3,127	0	3,127	185
1996	0	4,197	4,197	871	109	3,217	4,197	0	4,197	213
1997	0	4,296	4,296	848	118	3,330	4,296	0	4,296	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	254
2000	0	7,174	7,174	1,089	1,971	4,114	7,174	0	7,174	279
2001	0	6,215	6,215	925	1,815	3,475	6,215	0	6,215	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
2007	0	10,811	10,811	150	4,509	6,152	10,811	0	10,811	837

* 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
2007	0	0	0	20,750	5,087	15,664	7,205	12,292	12,292	7,271	4,500	11,771	521	12,292

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
2007	1,951	61	1,182	29	12	1,141	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
2007	0	660	660	627	0	0	627	33	660

* Construction Water
** Loss = 5%

TABLE B-6

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION
2006-07
Quantities in Acre Feet

	PRODUCTION 1/				USE 2/					
WATER YEAR	SURFACE DIVERSION	WELLS ON RESERVATION	DELIVERED GROUNDWATER FROM RCWD	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 3/	TOTAL USE
1966										
1967										
1968										
1969										
1970										
1971										
1972										
1973										
1974										
1975										
1976										
1977										
1978										
1979										
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991	0	58	0	58	0	0	58	N/R	N/R	58
1992	0	66	0	66	0	0	66	N/R	N/R	66
1993	0	91	0	91	0	0	91	N/R	N/R	91
1994	0	70	0	70	0	0	70	N/R	N/R	70
1995	0	63	0	63	0	4	59	N/R	N/R	63
1996	0	145	0	145	0	45	100	N/R	N/R	145
1997	4	167	0	171	0	25	146	N/R	N/R	171
1998	4	175	0	179	0	62	117	N/R	N/R	179
1999	4	241	0	245	33	84	128	N/R	N/R	245
2000	4	370	0	374	51	182	141	N/R	N/R	374
2001	4	291	0	295	56	85	154	N/R	N/R	295
2002	4	460	0	464	73	194	174	441	23	464
2003	4	600	0	604	78	354	148	580	24	604
2004	4	721	0	725	81	537	71	689	36	725
2005	0	608	0	608	140	401	61	602	6	608
2006	0	754	0	754	159	401	194	N/R	N/R	754
2007	0	919	154	1,073	275	517	229	1,021	52	1,073

1/ Records prior to 1991 not available.
2/ For period 1991 through 2006 uses shown as reported to Watermaster and published in prior Watermaster reports.
3/ For 2007 loss assumed to be 5% for all use types; for prior years any losses shown as reported to Watermaster.
N/R--Not reported.

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
2007	0	32,939	2,262	1,871	185	2,056	206	2,262

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	7/ 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	8/ 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 9/	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 9/	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 9/	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 9/	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 9/	2,015
2002	24,895			54,148	0	54,148	79,043	35,747	5,345	5,265	26,573	715	1,454	75,119	3,924	79,043	(314)	0	4,519 9/	2,180
2003 R	25,238	64	25,174	50,927	163	50,744	75,918	30,277	4,645	4,457	26,044	4,896	2,750	73,069	2,849	75,918	(658)	0	3,780 9/	104
2004	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 9/	0
2005 R	27,606	319	27,287	46,245	578	47,667	74,954	25,819	5,083	4,790	26,656	3,384	5,162	70,894	4,060	74,954	(1,269)	0	4,284 9/	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 9/	0
2007	27,645	364	27,281	64,922	974	63,948	91,229	34,810	7,049	5,063	31,820	3,859	2,247	84,848	6,381	91,229	704	0	4,730 9/	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 2002 supplied by RCWD
5/ Discharge from 2MGD Demonstration project

6/ Includes 98 acre feet from wells out of groundwater area
7/ Import recharge was 2,294 AF but portion remaining in storage was not computed due to lack of data
8/ Import recharge was 701 AF but portion remaining in storage was not computed due to lack of data
9/ Does not include EMWD reclaimed wastewater production
R - Revised

TABLE B-9

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

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

Quantities in Acre Feet

	PRODUCTION			USE						RECLAIMED WASTEWATER				
WATER YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE IN SMRW 1/	AGRICULTURE OUT SMRW 1/	CAMP SUPPLY IN SMRW 2/	CAMP SUPPLY OUT SMRW 2/	TOTAL EXPORT	TOTAL IN SMRW 3/	RECHARGED IN-SMRW 4/	IMPORT RECHARGED IN SMRW 5/	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	2,308	942	1,416	2,358		
1978	176	5,177	5,353	69	107	2,213	2,964	3,071	2,282	1,164	1,283	2,446		
1979	1,070	7,213	8,283	417	653	3,109	4,104	4,756	3,527	1,065	1,427	2,493		
1980	835	5,495	6,330	326	509	2,353	3,142	3,651	2,679	1,101	1,405	2,506		
1981	1,464	5,240	6,704	571	893	2,241	2,999	3,892	2,812	1,119	1,249	2,368		
1982	1,447	5,024	6,471	564	883	2,146	2,878	3,761	2,710	982	1,273	2,254		
1983	942	4,215	5,157	367	575	1,790	2,425	3,000	2,157	1,252	1,242	2,494		
1984	1,078	4,501	5,579	420	658	1,916	2,585	3,243	2,336	1,323	1,120	2,443		
1985	1,069	4,764	5,833	417	652	2,039	2,725	3,377	2,456	1,419	1,200	2,619		
1986	953	4,807	5,760	372	581	2,062	2,745	3,326	2,434	1,259	981	2,240		
1987	1,098	4,838	5,936	428	670	2,064	2,774	3,444	2,492	1,367	1,799	3,166		
1988	1,223	4,721	5,944	477	746	2,010	2,711	3,457	2,487	1,523	1,872	3,396		
1989	856	5,044	5,900	334	522	2,148	2,896	3,418	2,482	1,301	1,446	2,747		
1990	855	4,228	5,083	333	522	1,779	2,449	2,971	2,112	1,277	1,451	2,728		
1991	554	3,159	3,713	216	338	1,329	1,830	2,168	1,545	1,070	1,219	2,289		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	2,554 R	444
2005	1,317	4,902	6,219	514	803	2,134	2,768	3,571	2,648	0	0	0	2,526 R	489
2006 R	1,530	5,311	6,841	597	933	2,301	3,010	3,943	2,898	0	0	0	2,298 R	449
2007	1,385	5,850	7,235	540	845	2,535	3,315	4,160	3,075	0	0	0	2,309	416

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 Watershed) was exported to Oceanside Outfall during construction of new wastewater treatment plant

R - Revised

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
2007	0	70	70	0	64	6	70	12

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
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
2007	1,978	723	2,701	467	276	1,980	2,723	(22)	2,701

* Loss = Total production less total delivered

TABLE B-12

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	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		
1992	24.60	31.21	42.86	12.24	279.04		
1993	31.40	32.16	42.44	12.20	192.09		
1994	36.60	37.32	38.04	23.82	262.69		
1995	29.10	45.69	69.54	22.60	130.06		
1996	35.10	45.53	58.59	21.96	219.73		
1997	30.40	43.87	83.42	30.25	233.56		
1998	31.00	39.54	87.42	24.41	134.96		
1999	40.70	33.30	70.74	25.70	209.55		
2000	41.90	44.67	90.10	24.58	316.57		53.28
2001	58.70	45.00	208.64	23.21	274.25		74.87
2002	64.40	41.10	216.13	24.43	323.65	82.87	91.83
2003	42.40	44.04	201.63	34.56	255.93	81.61	74.70
2004	50.30	40.44	216.77	32.20	350.80	94.19	74.89
2005	62.20	38.26	187.06	18.09	208.08	55.87	66.95
2006	65.80	51.36	198.92	27.30	268.60	40.25	64.68
2007	45.30	39.33	480.70	19.80	421.56	37.22	66.98

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX C

SUBSTANTIAL USERS OUTSIDE

ORGANIZED WATER SERVICE AREAS

August 2008

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 2006-2007	IRRIGATED CROP 2006-2007	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	
Robert Yanick	41750 Highway 79 Aguanga, CA 92536	917-050-006 917-170-003 917-290-001 917-290-002	233.57 80.81 126.26 82.25	Total of 5.00 and 55.00	 Row Crops Alfalfa	8S/1W-13Q1 8S/1W-13Q2	Total of 240.00	

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA (Cont)								
Harris, Homer N.	44444 Sage Road	581-160-014	17.73	Total Of		8S/1E-18J(1)		
and Dolores G.	Aguanga, CA 92536			17.00	Citrus & Grass	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)	19.11	
						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	38.22	
		581-180-021	2.15			8S/1E-17E	20.40	
Valeywide Recreation	901 W Esplanade Ave	581-170-009	7.82	7.82	Grass	Used 8S/1E-17E	owned by Harris	
and Parks District	San Jacinto, CA 92582							
Wilson Creek Farms	Sage Road	581-170-012	190.40			8S/1E-17B	2.00	
	Aguanga, CA 92536	581-170-013	99.63					
	m/t P O Box 2921	581-180-005	2.76					
	Hemet, CA 92546	581-180-009	120.00	20.00	Row Crops			
		581-190-013	280.00					
		581-190-014	40.00					
Wilson Creek	Sage Road	581-070-002	160.00					
Development LLC	Aguanga, CA 92536	581-070-005	640.00			8S/1E-9Q		80.00
	m/t P O. Box 2921	581-100-013	80.00					
	Hemet, CA 92546	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					
TOTAL AGUANGA GROUNDWATER AREA				**438.82**			**1,351.93**	**330.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	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 San Jacinto, CA 92383	113-090-01	377 07	36 00	Potatoes			
		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	40 00	
						9S/2E-16M	146 00	
						9S/2E-16F1	18.00	
						9S/2E-16N1	67 00	
						9S/2E-16F2	0.00	
						9S/2E-16K - Diversion		0.00
		113-140-04	503.24					
		113-140-05	45 09					
		113-140-06	93.94					
		114-020-09	37 16					
		114-030-08	331.79			9S/2E-22	0.00	
		114-030-26	42.87					
* Land Leased from Bergman, Arlie and Coral Bergman	37126 Hwy 79 Warner Springs, CA 92086	113-140-01*	358 62	116 00	Potatoes		206.00	
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
Lovingier Family Trust	35490 Highway 79 Warner Springs, CA 92086	114-120-042	78.41	Total		9S/2E-35D1		
				|		9S/2E-35D1		
		114-070-007	76 42	|		9S/2E-27R1	Total	
				of		9S/2E-27R2	of	
				|		9S/2E-27J	41 54	
		114-080-014	42.51	|				
		114-080-013	21.30	43.73	Pasture (3 months use)			
TOTAL TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA				**215.73**			**556.54**	**38.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	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	652.52	
	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 10	575-050-044	14.36	0.00				
		575-060-002	133.93	0.00		7S/3E-11N4	241.00	
						7S/3E-11P3	127.00	
	Section 13	575-100-037	57.80	0.00				
	Section 14	575-110-021	143.75	0.00		7S/3E-14D1	71.00	
		575-110-027	54.45	0.00				
		575-310-002	39.09	0.00		7S/3E-14C2	293.00	
		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	575-080-021*	20.00	Total				
Leased from Dyson Development		575-080-022*	20.00	of				
437 S. Highway 101, #220		575-080-024*	20.00	|				
Solana Beach, CA 92075		575-080-027*	20.00	36.00	Potatoes			
		575-090-010	38.80	0.00				
	Section 17	573-180-011	39.74	0.00				

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont)								
Agri-Empire, Inc (Cont)								
	Section 20	576-060-009	8 26	0.00				
		576-060-031	16 09	0 00				
		576-060-033	79 45	0 00				
		576-060-038	5 41	0.00				
		576-070-003	80 00	0 00				
		576-070-005	116 57	0.00				
	Section 21	576-080-017*	133 72	Total of				
		576-100-061	37 71	140 00	Potatoes			
* Leased from Dyson Development, LLC								
437 S Highway 101, Solana Beach, CA 92075								
	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	247 00	
		576-110-007	17 85	0 00				
		576-110-008	17 00	0 00				
		576-110-009	18 41	0 00				
		575-120-012	88.03	0 00				
		575-130-003	19 55	0 00				
		575-130-006	40.89	0 00				
		575-130-008	18 56	Total				
		575-130-009	20.06	of				
		575-130-010	20 07	|				
		575-130-011	19.19	|				
		575-130-012	18 18	|				
		575-130-013	19.02	|				
		575-130-014	19 00	|				
		575-130-015	17.58	40 00	Potatoes			
		575-120-018	20 45	Total				
		575-120-019	20.45	of				
		575-120-032	4 69	|				
		575-120-033	4.68	|				
		575-120-034	4 68	|				
		575-120-035	4 28	56 00	Potatoes			
*Leased from Dionisios & Inni Argyros		575-120-028*	4 68	Total				
2813 Monogram Ave, Long Beach, CA 90815		575-120-029*	4 68	of				
		575-120-030*	4 68	|				
		575-120-031*	4.23	18 00	Potatoes			
	Section 23	575-140-019	105 04	0 00				

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	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			**516.38**				**1,940.52**	**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				**566.38**			**1,995.52**	**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 2006-2007	IRRIGATED CROP 2006-2007	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	258.00	
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	28.00	
A Peel Citrus	c/o Stage Ranch Farm Mgm	917-240-019	54.13	0.00				
Giddings, Richard W	P. O. Box 1371	917-240-015	20.00	0.00				
Mendoza, Bertha	Temecula, CA 92593	917-150-006	120.00	110.00		8S/1W-21K(1)	245.00	
Vail Lake USA LLC	38695 Highway 79	917-150-002	117.76	0.00	Citrus	8S/1W-21K(2)		
	Warner Springs, CA 92086					8S/1W-21P(1)		
						8S/1W-21P(2)		
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 2006-2007	IRRIGATED CROP 2006-2007	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.	922-220-002	86.11	Total		8S/2W-19(D)	289.28	
Temecula Creek Golf	Temecula, CA 92592	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	25471 Hayes Ave	909-260-036	8.87	7.00	Pasture	7S/3W-29G	39.90	
and Carol J	Murrieta, CA 92362	909-260-042	4.31	3.50	Pasture			
TOTAL MURRIETA-TEMECULA GROUNDWATER AREA				**856.50**			**1,085.18**	**52.00**
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	

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE (Cont)								
DE LUZ CREEK (Cont)								
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/l 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)	6 00	
						8S/4W-20P(3)	30.00	
Chambers, Robert R and Clytia M	m/l 11439 Laurelcrest Dr	101-571-03	41 72	20 00	Flowers	8S/4W-28A	52.00	
	Studio City, CA 91604					8S/4W-28A - Diversion		6.00
	40888 DeLuz-Murrieta Rd.	102-130-42	73 14	5 00	Fruit	9S/4W-9B(1)	30.00	
				20.00	Flowers	9S/4W-9B(2)	1.00	
						9S/4W-9B(3)	30.00	
Welburn, Douglas J and Sue	40767 DeLuz Murrieta Rd	101-571-08	26.98	8.50	Gourds/Melons	8S/4W-28G1	35.00	
	Fallbrook, CA 92028			1.50	Fruit Trees			
	40751 DeLuz Murrieta Rd							
Nezami, Mohammed Bluebird Ranch	2193 Calle Rociada	101-312-02	58.17	45.00	Flowers	8S/4W-31K(1)	Total	
	Fallbrook, CA			5 00	Avocados	8S/4W-31K(2)	of	
	m/l 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
Vanginkel Norman and Deborah	39452 DeLuz Road	101-312-03	80.00	25 00	Nursery Stock	8S/4W-31J(2)	18.00	
	Fallbrook, CA 92028					8S/4W-31J(3)	5.00	
	m/l 20664 Calle De La Ladera					8S/4W-31J(4)	45.00	
	Yorba Linda, CA 92887					8S/4W-31J(5)	10 00	
		102-052-04	22 04	10.00	Avocados			
		102-731-02	4 26					
Daily Family Trust	40555 Ross Road	101-430-27	2.73	Total of				
	Fallbrook, CA 92028	101-430-30	16.39	7 00	Avocados			
		101-500-01	16.62	7.00	Limes			
		101-480-14	13.20	6.00	Persimmons	8S/4W-34- Lake Diversion		7.00
SUBTOTAL DELUZ CREEK				**236.00**			**594.78**	**44.48**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE (Cont)								
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	55.00	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		97.00
SUBTOTAL SANDIA CREEK				**55.00**			**0.00**	**97.00**
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				**311.00**			**610.78**	**191.48**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2006-2007	IRRIGATED CROP 2006-2007	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
LOWER MURRIETA								
Ronnenberg Family Trust	c/o Cliff Ronnenberg	571-020-046	81.09	0.00				
	11292 Western Avenue	571-020-047	40.80	0.00				
	Stanton, CA 90680	571-020-048	36.75	0.00				
(Sage Ranch Nursery)	42522 E. Benton Rd.	571-020-049	148.86	0.00		7S/1E-7D	5.50	
	Aguanga, CA	571-020-004	1.50	0.00				
		571-520-007	109.50	Total				
		571-520-008	99.43	|				
		571-520-009	80.23	of				
		571-520-010	78.20	|				
		915-140-003	101.65	|				
		915-140-008	21.39	|				
		470-210-007	53.62	|				
		470-220-004	121.00	400.00	Olive trees	7S/1E-7E - Diversion		100.00
EG High Desert Properties LLC	39800 E. Benton Rd.	915-120-18	37.74	10.00	Pasture	7S/1W-10R(1)	Total	
	Temecula, CA 92390					7S/1W-10R(2)	of	
	m/l 12979 Arroyo Street					7S/1W-10R(3)	|	
	San Fernando, CA 91340					7S/1W-10R(4)	38.00	
						7S/1W-10R(5)	Domestic	
						7S/1W-10R(6)		
						7S/1W-10R(7)		
TOTAL LOWER MURRIETA				**410.00**			**43.50**	**100.00**
GRAND TOTAL				**2,798.43**			**5,643.45**	**711.48**
GRAND TOTAL Not including Cahuilla Indian Reservation (43 AF)				**2,798.43**			**5,600.45**	**711.48**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX D

WATER QUALITY DATA

August 2008

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

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

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

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 (Cont)	12/03/99	---	---	---	---	---	---	---	---	---	32
7S/3W-20C09	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
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

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

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 (Cont)	12/30/97	---	---	---	---	---	---	---	---	---	<2
7S/3W-20G06	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
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

ND - None Detected

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

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 (Cont)	03/11/98	---	---	---	---	---	---	---	---	---	<2
7S/3W-20D	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
	10/11/06	---	---	---	---	---	---	---	---	---	1.4
	11/08/06	---	---	---	---	---	---	---	---	---	1.3
	12/13/06	---	---	---	---	---	---	---	---	---	1.3
	01/10/07	---	---	---	---	---	---	---	---	---	1.4
	02/13/07	---	---	---	---	---	---	---	---	---	5.3
	03/14/07	---	---	---	---	---	---	---	---	---	1.2
	04/11/07	---	---	---	---	---	---	---	---	---	<2
	05/09/07	---	---	---	---	---	---	---	---	---	<2
	06/13/07	---	---	---	---	---	---	---	---	---	1.2
	07/11/07	---	---	---	---	---	---	---	---	---	4.7
	08/15/07	800	480	40	8.5	100	<1	110	61	200	1.1
	09/12/07	---	---	---	---	---	---	---	---	---	5.6

ND - None Detected

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

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

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

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 (Cont)	01/26/06	820	450	60	11	96	2	120	52	—	1
7S/3W-18J02	05/10/06	—	—	—	—	—	—	—	—	—	<1
	07/19/06	—	—	—	—	—	—	—	—	—	<1
	08/16/06	—	—	—	—	—	—	—	—	—	<1
	09/20/06	—	—	—	—	—	—	—	—	—	<1
	10/18/06	—	—	—	—	—	—	—	—	—	<1
	11/15/06	—	—	—	—	—	—	—	—	—	<1
	01/17/07	—	—	—	—	—	—	—	—	—	<1
	02/21/07	—	—	—	—	—	—	—	—	—	<2
	03/21/07	—	—	—	—	—	—	—	—	—	<2
	04/18/07	—	—	—	—	—	—	—	—	—	<2
	05/16/07	—	—	—	—	—	—	—	—	—	<2
	07/23/07	—	500	—	—	—	—	—	—	—	—
	07/26/07	—	540	—	—	—	—	—	—	—	—
	08/15/07	830	520	59	11	89	1.2	110	54	230	<2
	09/19/07	—	—	—	—	—	—	—	—	—	<2
New Clay Well	03/09/04	480	340	23	1	87	1	79	64	98	<2
7S/3W-20	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
	10/04/06	—	—	—	—	—	—	—	—	—	<1
	11/01/06	—	—	—	—	—	—	—	—	—	<1
	12/06/06	—	—	—	—	—	—	—	—	—	<1
	01/04/07	—	—	—	—	—	—	—	—	—	<1
	02/07/07	—	—	—	—	—	—	—	—	—	<1
	03/07/07	—	—	—	—	—	—	—	—	—	<2
	04/04/07	—	—	—	—	—	—	—	—	—	<2
	05/02/07	—	—	—	—	—	—	—	—	—	<2
	06/06/07	—	—	—	—	—	—	—	—	—	<2

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
New Clay Well	07/05/07	---	---	---	---	---	---	---	---	---	<2
(Cont)	08/01/07	---	---	---	---	---	---	---	---	---	<2
7S/3W-21	08/15/07	510	270	13	<1	91	1	65	50	83	<2
	09/05/07	---	---	---	---	---	---	---	---	---	<2
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	06/06/90	1520	915	138	46	110	1	250	81	433	31
7S/3W-7M	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
	10/25/06	---	---	---	---	---	---	---	---	---	22
	11/22/06	---	---	---	---	---	---	---	---	---	22
	12/27/06	---	---	---	---	---	---	---	---	---	21
	01/24/07	---	---	---	---	---	---	---	---	---	22
	02/28/07	---	---	---	---	---	---	---	---	---	22
	03/29/07	---	---	---	---	---	---	---	---	---	23
	04/25/07	---	---	---	---	---	---	---	---	---	19

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
	06/01/07	---	---	---	---	---	---	---	---	---	<2
No. 102	01/04/89	695	370	9	2	134	1	101	25	195	<1
8S/3W-2Q1	01/15/92	930	615	38	4	160	3	160	55	250	<1
	05/17/95	850	475	21	1	144	1	120	130	98	<1
	06/20/95	1190	700	26	2	207	2	150	220	131	<1
	06/09/97	---	---	---	---	---	---	---	---	---	<2
No. 105	07/06/89	500	280	30	6	66	2	71	22	134	14
7S/3W-25M1	03/17/93	480	310	17	2	80	2	67	22	110	14
No. 106	06/29/88	920	485	38	5	143	3	182	66	70	16
7S/3W-26R1	05/13/92	880	515	35	4	142	2	180	72	110	17
	05/16/95	870	495	32	3	138	2	160	57	116	14
	07/07/97	---	---	---	---	---	---	---	---	---	8
	07/20/98	---	---	---	---	---	---	---	---	---	9
	07/20/99	---	---	---	---	---	---	---	---	---	9
	07/06/00	---	---	---	---	---	---	---	---	---	8
	05/01/01	490	300	7	<1	96	<1	70	23	100	8
	07/10/01	---	---	---	---	---	---	---	---	---	12
	07/03/02	---	---	---	---	---	---	---	---	---	8
	07/07/03	---	---	---	---	---	---	---	---	---	6.8

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. 106 (Cont)	05/11/04	530	310	9	<1	93	1	80	25	88	8
7S/3W-26R1	07/13/04	---	---	---	---	---	---	---	---	---	8
	07/07/05	---	---	---	---	---	---	---	---	---	6.5
	07/19/06	---	---	---	---	---	---	---	---	---	6.1
	05/02/07	550	290	8.8	<1	91	<1	84	26	85	3.7
	07/03/07	---	---	---	---	---	---	---	---	---	6
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

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 109 (Cont)	01/11/05	---	---	---	---	---	---	---	---	---	13
8S/2W-17J1	01/04/06	---	---	---	---	---	---	---	---	---	12
	07/12/06	1300	930	130	30	130	4.8	130	280	280	12
	01/10/07	---	---	---	---	---	---	---	---	---	13
No. 110	03/31/88	1100	630	70	23	132	6	115	163	268	3
8S/1W-06K1	03/11/93	1010	610	60	21	124	5	110	200	201	3
	04/27/95	---	---	---	---	---	---	---	---	---	1
	07/20/99	---	---	---	---	---	---	---	---	---	<2
	07/06/00	---	---	---	---	---	---	---	---	---	2
	07/10/01	---	---	---	---	---	---	---	---	---	2
	03/11/02	850	500	58	20	81	5	74	190	160	<2
	07/03/02	---	---	---	---	---	---	---	---	---	<2
	09/16/03	---	---	---	---	---	---	---	---	---	2
	09/01/04	---	---	---	---	---	---	---	---	---	2
	03/02/05	810	510	56	21	79	4.9	76	170	150	<2
	09/07/05	---	---	---	---	---	---	---	---	---	1.8
	09/06/07	---	---	---	---	---	---	---	---	---	2
No. 113	03/28/88	700	400	41	12	87	2	11	20	192	18
7S/2W-25H01	03/21/91	570	290	21	5	79	2	88	17	119	11
	03/03/94	700	410	46	13	86	2	120	25	189	19
	04/27/95	---	---	---	---	---	---	---	---	---	24
	03/20/97	880	500	53	15	96	2	140	33	200	22
	07/20/98	---	---	---	---	---	---	---	---	---	23
	09/16/98	---	---	---	---	---	---	---	---	---	22
	02/25/99	---	---	---	---	---	---	---	---	---	19
	04/14/99	---	---	---	---	---	---	---	---	---	17
	06/03/99	---	---	---	---	---	---	---	---	---	21
	09/14/99	---	---	---	---	---	---	---	---	---	22
	10/21/99	---	---	---	---	---	---	---	---	---	25
	11/02/99	---	---	---	---	---	---	---	---	---	22
	12/14/99	---	---	---	---	---	---	---	---	---	23
	01/11/00	---	---	---	---	---	---	---	---	---	18
	03/07/00	810	470	75	16	59	2	70	94	200	11
	04/11/00	---	---	---	---	---	---	---	---	---	23

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 113 (Cont)	05/03/00	---	---	---	---	---	---	---	---	---	24
7S/2W-25H01	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
	11/08/06	---	---	---	---	---	---	---	---	---	23
	02/07/07	---	---	---	---	---	---	---	---	---	24
	05/01/07	---	---	---	---	---	---	---	---	---	23
	08/07/07	---	---	---	---	---	---	---	---	---	23

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 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
	09/05/07	---	---	---	---	---	---	---	---	---	1.1
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

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)	12/14/00	---	---	---	---	---	---	---	---	---	4.6 as N
8S/2W-19J	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
	11/08/02	---	---	---	---	---	---	---	---	---	15
	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
	02/07/07	---	---	---	---	---	---	---	---	---	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
	06/01/07	---	---	---	---	---	---	---	---	---	10

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. 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
	06/28/00	780	470	79	16	62	1	73	100	210	11
	12/13/00	---	---	---	---	---	---	---	---	---	2.5 as N
	03/27/01	---	---	---	---	---	---	---	---	---	2.5 as N
	04/18/01	---	---	---	---	---	---	---	---	---	10
	06/20/01	---	---	---	---	---	---	---	---	---	2.4 as N
	09/13/01	---	---	---	---	---	---	---	---	---	2.7 as N
	12/13/01	---	550	---	---	---	---	---	---	---	---
	05/14/02	---	570	---	---	---	---	---	---	---	9
	03/05/03	---	---	---	---	---	---	---	---	---	10
	03/16/04	---	---	---	---	---	---	---	---	---	12
	03/17/05	---	---	---	---	---	---	---	---	---	9
	03/21/06	---	---	---	---	---	---	---	---	---	9.4
	03/06/07	---	---	---	---	---	---	---	---	---	9.7

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. 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
	04/24/07	---	---	---	---	---	---	---	---	---	1.4
	05/01/07	---	---	---	---	---	---	---	---	---	2.7
	06/05/07	---	---	---	---	---	---	---	---	---	2.2
	07/05/07	---	---	---	---	---	---	---	---	---	2.5
	08/07/07	---	---	---	---	---	---	---	---	---	2.2
	09/05/07	---	---	---	---	---	---	---	---	---	2.1
	09/06/07	---	---	---	---	---	---	---	---	---	2
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
	09/05/07	---	---	---	---	---	---	---	---	---	8.2

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. 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
	06/05/07	---	---	---	---	---	---	---	---	---	1.6
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
	11/08/06	---	---	---	---	---	---	---	---	---	<1
	07/03/07	530	330	1.4	<1	110	<1	62	10	140	<2

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 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

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)	05/16/95	---	---	---	---	---	---	---	---	---	4
8S/2W-11R	02/05/97	780	450	4	<1	170	<1	78	82	150	5
	05/14/97	---	---	---	---	---	---	---	---	---	4
	04/14/99	---	---	---	---	---	---	---	---	---	5
	02/10/00	750	440	4	<1	170	<1	76	77	170	5
	04/12/00	---	---	---	---	---	---	---	---	---	5
	05/25/00	---	---	---	---	---	---	---	---	---	6
	05/24/01	---	---	---	---	---	---	---	---	---	6
	05/24/02	---	---	---	---	---	---	---	---	---	5
	02/19/03	820	460	4.1	<1	170	<1	87	96	180	5
	05/04/04	---	---	---	---	---	---	---	---	---	5.1
	05/12/05	---	---	---	---	---	---	---	---	---	5
	02/14/06	800	450	4.1	<1	170	<1	83	91	200	5.1
	05/12/06	---	---	---	---	---	---	---	---	---	4.5
	05/01/07	---	---	---	---	---	---	---	---	---	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
	06/26/07	---	---	---	---	---	---	---	---	---	2.4

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. 132	04/18/88	1000	620	94	13	103	6	109	153	235	2
8S/1W-07D	05/08/91	920	590	64	19	110	5	100	160	201	<1
	05/13/94	730	460	50	15	78	5	73	110	195	1
	05/16/95	---	---	---	---	---	---	---	---	---	<1
	07/18/95	860	520	59	17	100	4	90	130	223	1
	07/20/98	900	590	69	20	110	5	89	150	230	2
	01/06/99	---	---	---	---	---	---	---	---	---	2
	02/03/99	---	---	---	---	---	---	---	---	---	2
	04/14/99	---	---	---	---	---	---	---	---	---	3
	06/03/99	---	---	---	---	---	---	---	---	---	3
	07/27/99	---	---	---	---	---	---	---	---	---	5
	08/11/99	---	---	---	---	---	---	---	---	---	4
	09/15/99	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	4
	11/02/99	---	---	---	---	---	---	---	---	---	3
	12/15/99	---	---	---	---	---	---	---	---	---	3
	05/03/00	---	---	---	---	---	---	---	---	---	2
	05/16/01	800	500	57	17	74	5	63	180	150	3
	05/01/02	---	---	---	---	---	---	---	---	---	2
	05/03/05	---	---	---	---	---	---	---	---	---	<2
	05/12/06	---	---	---	---	---	---	---	---	---	3.2
	05/01/07	---	---	---	---	---	---	---	---	---	4.7
	05/03/07	820	500	53	16	64	4.4	72	150	160	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
	03/07/07	820	500	26	9.7	140	2.4	94	98	160	2.3

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

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 139	12/29/87	460	295	24	7	65	1	60	11	104	7
7S/2W-32G	11/23/92	450	275	32	9	46	2	60	13	134	20
	12/19/95	500	298	36	12	50	2	72	12	156	2.8
	03/25/97	---	---	---	---	---	---	---	---	---	10
	03/13/00	---	---	---	---	---	---	---	---	---	9
	03/28/01	---	---	---	---	---	---	---	---	---	8
	03/11/02	530	280	29	10	57	2	73	13	140	9
	03/09/04	---	---	---	---	---	---	---	---	---	8
	03/09/05	520	310	21	7.7	72	1.3	78	13	150	6
	03/09/06	---	---	---	---	---	---	---	---	---	9.9
	03/07/07	---	---	---	---	---	---	---	---	---	6.9
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
	04/24/07	---	---	---	---	---	---	---	---	---	3
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

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. 141 (Cont)	01/04/01	700	450	52	6	84	3	75	70	190	15
8S/2W-11P	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
	09/17/97	---	---	---	---	---	---	---	---	---	2.0 as N
	09/17/98	---	350	---	---	---	---	---	---	---	2.3 as N
	10/21/99	---	---	---	---	---	---	---	---	---	13
	03/07/00	730	400	21	3	120	2	84	68	140	12
	10/13/00	---	---	---	---	---	---	---	---	---	8
	10/10/01	---	---	---	---	---	---	---	---	---	8
	11/19/02	---	---	---	---	---	---	---	---	---	10
	01/13/03	---	---	---	---	---	---	---	---	---	2.1 as N
	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
	01/10/07	---	---	---	---	---	---	---	---	---	7.3

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. 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
	12/07/06	670	370	21	1	98	1.2	110	27	150	<1
	08/07/07	---	---	---	---	---	---	---	---	---	<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
	01/19/07	---	---	---	---	---	---	---	---	---	<1
No. 146	12/10/96	900	500	57	23	98	<1	100	64	280	15
7S/3W-28	03/02/00	---	---	---	---	---	---	---	---	---	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. 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
	01/24/07	---	---	---	---	---	---	---	---	---	2.4
No. 149A	08/26/88	950	540	71	211	96	1	115	47	302	18
7S/3W-28A	10/31/91	800	480	36	13	122	3	93	110	195	—
No. 150	09/29/88	1950	1235	134	29	225	2	290	220	390	15
7S/3W-27P	12/21/91	1000	590	74	17	108	4	130	110	207	—
No. 151	09/20/88	5780	3410	280	114	840	5	1660	670	369	<1
7S/3W-34B	Abandoned										
No. 151	07/25/91	860	485	53	16	103	4	90	130	183	---
8S/2W-2G	07/28/91	730	400	39	12	100	3	91	58	177	—
	07/29/91	600	340	9	2	122	5	63	34	204	---
	10/17/91	510	295	3	<1	118	1	45	10	137	---
	08/10/94	550	340	3	<1	110	1	59	22	119	<1
	06/16/97	---	---	---	---	---	---	---	---	---	<2
	08/14/97	540	300	2	<1	110	<1	44	10	160	<2
	09/16/98	—	—	---	---	---	---	---	---	---	<2
	01/06/00	510	300	1	<1	110	<1	33	4.6	180	<2
	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
	01/10/07	---	---	---	---	—	---	---	---	—	<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
	04/04/07	---	---	---	---	---	---	---	---	---	<2
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
	02/07/07	---	---	---	---	---	---	---	---	---	2.5
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
	04/04/07	---	---	---	---	---	---	---	---	---	<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. 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
	04/04/07	—	—	—	—	—	—	—	—	—	4.6
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
	06/01/07	—	—	—	—	—	—	—	—	—	5.1
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

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	03/28/88	500	290	23	3	81	2	83	27	107	21
7S/3W-35A	03/13/91	490	275	22	3	75	2	62	23	113	21
	03/03/94	510	275	20	2	72	2	72	24	104	20
	04/26/95	---	---	---	---	---	---	---	---	---	22
	03/25/97	480	270	20	2	75	2	66	18	110	21
	05/09/01	410	270	21	3	67	1	60	17	120	23
	11/13/01	---	---	---	---	---	---	---	---	---	21
	02/19/02	---	---	---	---	---	---	---	---	---	20
	05/14/02	---	---	---	---	---	---	---	---	---	18
	08/27/02	---	---	---	---	---	---	---	---	---	20
	11/20/02	---	---	---	---	---	---	---	---	---	18
	01/08/03	---	---	---	---	---	---	---	---	---	4.5 as N
	03/31/03	---	---	---	---	---	---	---	---	---	18
	06/11/03	---	---	---	---	---	---	---	---	---	18
	09/16/03	---	---	---	---	---	---	---	---	---	21
	12/04/03	---	---	---	---	---	---	---	---	---	20
	03/09/04	---	---	---	---	---	---	---	---	---	18
	06/09/04	---	---	---	---	---	---	---	---	---	18
	09/01/04	---	---	---	---	---	---	---	---	---	19
	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

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

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 210 (Cont)	10/21/99	---	---	---	---	---	---	---	---	---	5
8S/2W-12K	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
	08/14/07	---	---	---	---	---	---	---	---	---	12
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

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. 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
	06/05/07	---	---	---	---	---	---	---	---	---	2.4
	08/14/07	590	320	22	7.3	85	2.2	88	16	150	2.2
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
	10/12/06	---	---	---	---	---	---	---	---	---	19
	09/07/07	510	300	28	4.7	57	3.5	82	12	110	18
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
	05/15/07	---	---	---	---	---	---	---	---	---	16

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 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
	05/02/07	1400	830	120	27	110	4	130	250	300	2.1
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
	07/08/99	—	—	—	—	—	—	—	—	—	36
	08/25/99	—	—	—	—	—	—	—	—	—	33
	09/21/99	—	—	—	—	—	—	—	—	—	31
	10/06/99	—	—	—	—	—	—	—	—	—	30
	11/17/99	—	—	—	—	—	—	—	—	—	32
	12/14/99	—	—	—	—	—	—	—	—	—	32
	01/18/00	—	—	—	—	—	—	—	—	—	31
	02/29/00	—	—	—	—	—	—	—	—	—	10
	03/21/00	—	—	—	—	—	—	—	—	—	25
	04/11/00	—	—	—	—	—	—	—	—	—	29

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)	05/25/00	---	---	---	---	---	---	---	---	---	26
8S/2W-11J3	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
	10/26/04	---	---	---	---	---	---	---	---	---	15
	11/18/04	---	---	---	---	---	---	---	---	---	26
	12/07/04	---	---	---	---	---	---	---	---	---	16
	01/10/05	---	---	---	---	---	---	---	---	---	20
	02/14/05	---	---	---	---	---	---	---	---	---	14
	03/11/05	---	---	---	---	---	---	---	---	---	11
	04/13/05	---	---	---	---	---	---	---	---	---	25

* 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)	06/08/05	---	---	---	---	---	---	---	---	---	24
8S/2W-11J3	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
	11/02/06	---	---	---	---	---	---	---	---	---	15
	01/10/07	---	---	---	---	---	---	---	---	---	13
	02/07/07	---	---	---	---	---	---	---	---	---	15
	03/14/07	---	---	---	---	---	---	---	---	---	15
	04/17/07	---	---	---	---	---	---	---	---	---	14
	05/01/07	---	---	---	---	---	---	---	---	---	13
	06/01/07	---	---	---	---	---	---	---	---	---	11
	07/05/07	---	---	---	---	---	---	---	---	---	12
	08/14/07	---	---	---	---	---	---	---	---	---	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

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)	10/21/99	---	---	---	---	---	---	---	---	---	5
8S/2W-12K2	11/03/99	---	---	---	---	---	---	---	---	---	4
(Cont)	04/11/00	970	570	64	18	110	4	85	150	230	4
	10/06/00	---	---	---	---	---	---	---	---	---	3
	10/10/01	---	---	---	---	---	---	---	---	---	4
	08/06/02	---	---	---	---	---	---	---	---	---	26*
	01/13/03	---	---	---	---	---	---	---	---	---	1 as N
	07/07/03	---	---	---	---	---	---	---	---	---	2.7
	07/13/04	---	---	---	---	---	---	---	---	---	3
	07/12/05	---	---	---	---	---	---	---	---	---	2.8
	04/04/06	960	600	75	20	87	4.5	93	180	180	7.3
	08/04/06	---	---	---	---	---	---	---	---	---	11
	08/14/07	---	---	---	---	---	---	---	---	---	8.1
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

* Samples might have been switched with Well 232

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 234 (Old 114)	11/04/03	---	---	---	---	---	---	---	---	---	10
8S/2W-11P	11/05/04	---	---	---	---	---	---	---	---	---	10
(Cont)	11/03/05	---	---	---	---	---	---	---	---	---	12
	12/06/05	890	620	70	19	89	4.1	85	180	200	12
	11/08/06	---	---	---	---	---	---	---	---	---	14
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
No. 235 (Old 137)	11/09/00	---	---	---	---	---	---	---	---	---	15
8S/3W-1Q1	11/20/01	---	---	---	---	---	---	---	---	---	13
(Cont'd)	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
	11/14/06	---	---	---	---	---	---	---	---	---	16
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

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 302 (Cont)	05/13/97	560	500	73	14	94	2	110	86	240	<2
7S/3W-18H	07/27/99	---	---	---	---	---	---	---	---	---	<2
	05/17/00	520	320	11	1	99	<1	51	50	130	<2
	06/13/00	520	310	---	---	---	---	---	---	---	<2
	07/11/00	---	---	---	---	---	---	---	---	---	<2
	12/20/01	790	500	---	---	---	---	110	140	---	<2
	12/11/02	870	510	---	---	---	---	---	---	---	ND
	06/19/03	620	370	22	3.8	95	<1	77	63	140	<2
	03/17/04	830	510	---	---	---	---	110	85	---	<2
	06/22/04	---	---	---	---	---	---	---	---	---	<2
	09/21/04	900	550	---	---	---	---	110	82	---	<2
No. 309	08/15/90	690	370	19	3	119	2	140	25	73	5
7S/3W-27H	04/11/91	---	---	---	---	---	---	---	---	---	<.001
	09/25/91	730	365	19	2	122	2	150	27	82	5
	08/11/94	730	430	20	2	120	2	160	30	73	5
	02/16/95	---	---	---	---	---	---	---	---	---	18
	07/16/97	---	---	---	---	---	---	---	---	---	1.1 as N
	07/23/97	---	---	---	---	---	---	---	---	---	1.2 as N
	08/20/97	---	---	---	---	---	---	---	---	---	1.1 as N
	09/03/97	---	---	---	---	---	---	---	---	---	1.1 as N
	09/18/97	---	---	---	---	---	---	---	---	---	1.1 as N
	10/03/97	790	520	21	2	130	2	170	33	85	6
	08/06/98	---	---	---	---	---	---	---	---	---	6
	09/16/98	---	460	---	---	---	---	---	---	---	1.4 as N
	07/20/99	---	---	---	---	---	---	---	---	---	6
	05/10/00	---	450	20	2	130	<1	---	---	85	---
	07/06/00	---	---	---	---	---	---	---	---	---	6
	08/02/00	740	450	21	2	140	1	180	38	87	7
	07/19/01	---	---	---	---	---	---	---	---	---	7
	11/19/02	---	---	---	---	---	---	---	---	---	5
	01/13/03	---	---	---	---	---	---	---	---	---	1.1 as N
	08/20/03	880	490	21	2.1	140	1.5	190	33	83	5
	01/07/04	---	---	---	---	---	---	---	---	---	6
	11/11/05	---	---	---	---	---	---	---	---	---	6
	01/04/06	---	---	---	---	---	---	---	---	---	5.4
	12/07/06	870	470	21	1.9	140	2	190	36	84	5.4
	01/10/07	---	---	---	---	---	---	---	---	---	5.3

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
	09/04/07	663	392	53.7	19.5	51.1	0.92	70.1	32.1	158	8.32 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

* - 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-29A01	08/28/96	—	—	---	---	---	---	---	---	---	2.9 as N
(Cont)	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
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

* - 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-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
	09/04/07	430	237	12.1	0.70	78.3	0.65	47.2	27.5	107	<.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
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-26B03	07/11/07	296	197	23.7	3.04	31	2.94	33.9	7.64	76	1.79 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-20J05	08/23/07	753	466	49.4	7.09	89.2	3.19	87.9	83.6	110	6.88 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
	08/23/07	1040	677	96.1	20.2	90.9	3.67	96.2	169	190	3.42 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

* - 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)											
7S/3E-34E01	08/14/87	332	207	29	5.6	25	4.8	28	8.0	96	3.5 as N
(Cont)	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
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	3.0	158	205.0	259.0	2.7
	12/70	1180	712	83.0	28.0	138.0	3.0	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	3.0	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	3.0	150	64.0	440.0	<0.4
	09/85	1242	724	78.0	28.0	122.0	6.0	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

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		06/93	1290	764	68.3	27.5	149.0	---	168	130.0	265.0	<0.4
(Bldg 220001)		03/94	1210	783	100.0	37.1	100.0	---	145	167.0	---	2.2
(Continued)		08/94	1160	741	87.5	35.5	96.1	---	141	187.0	---	4.23
		06/95	1330	806	97.7	37.4	142.0	---	207	166.0	---	<0.04
		01/96	1300	764	91.0	33.0	140.0	---	177	142.0	363.0	<0.0
		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	<2.0	151	148.0	292.0	<2 as N
		12/97	1200	690	81.0	29.0	140.0	3.0	155	150.0	250.0	ND
	R	04/98	1200	790	83.0	31.0	101.0	3.0	165	156.0	240.0	ND
	R	06/98	1230	714	85.0	30.0	136.0	3.0	163	158.0	293.0	ND
		02/99	1250	731	84.0	29.0	127.0	3.0	160	140.0	281.0	ND
	R	04/99	1220	769	88.0	30.0	127.0	3.0	168	160.0	317.0	ND
		05/01	1300	794	98.0	36.0	130.0	3.0	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	<5.0	150	164.0	223.0	<2 as N
		12/97	1100	700	82.0	33.0	110.0	3.0	141	157.0	220.0	ND
		03/98	1100	710	83.0	33.0	100.0	3.0	182	158.0	150.0	ND
		06/98	1200	720	85.0	34.0	119.0	4.0	159	154.0	281.0	ND
		02/99	1020	613	70.0	30.0	85.0	4.0	130	85.0	179.0	8
	R	05/00	1020	709	81.0	33.0	94.0	4.0	146	149.0	220.0	ND
	R	08/00	1160	728	83.0	33.0	89.0	4.0	161	178.0	232.0	ND
	R	02/01	1200	736	85.0	35.0	116.0	4.0	164	180.0	244.0	0.7
		04/01	1200	606	85.0	34.0	112.0	4.0	154	177.0	232.0	ND
		09/01	1250	761	90.0	37.0	115.0	4.0	166	188.0	232.0	ND

ND - None Detected
R - Revised

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	R	11/01	1290	737	91.0	37.0	118.0	3.0	181	207.0	256.0	0
(Bldg 23073)	R	02/02	1260	781	89.0	36.0	123.0	4.6	170	189.0	255.0	1.3
Previously	R	04/02	1250	755	90.0	37.0	116.0	4.1	175	195.0	200.0	1
reported as	R	05/02	1290	750	92.0	38.0	110.0	4.0	157	194.0	180.0	0.6
10S/4W-18M4	R	07/02	1260	753	90.0	37.0	114.0	4.0	171	196.0	200.0	0
	R	01/03	1350	816	96.0	40.0	131.0	4.6	160	201.0	193.0	0
	R	04/03	1210	738	95.0	27.0	118.0	3.9	175	210.0	192.0	0
	R	10/03	1290	752	91.0	37.0	134.0	5.0	167	193.0	199.0	0
	R	01/04	1230	717	93.0	38.0	111.0	6.0	159	194.0	173.0	0
	R	04/04	1280	722	82.0	36.0	112.0	6.0	168	213.0	180.0	2.2
	R	07/04	1080	739	88.0	37.0	92.0	7.0	156	198.0	190.0	0
	R	11/04	1230	563	91.0	38.0	124.0	4.8	172	215.0	175.0	0
	R	01/05	1240	687	96.0	39.0	124.0	4.0	172	215.0	190.0	0
	R	04/07	1240	770	98.0	40.0	100.0	3.8	160	220.0	240.0	0
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	3.0	124	195.0	299.6	0
		05/62	1133	712	68.8	30.3	136.0	2.0	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	3.0	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

ND - None Detected
R - Revised

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	11/69	---	684	73.0	28.0	126.0	2.8	138	165.0	273.0	0
(Bldg 230001)	05/70	---	716	74.0	25.0	122.0	0.1	134	170.0	210.0	4.4
(Continued)	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	3.0	128	155.0	259.0	4.3 as N
	01/78	1100	691	70.0	23.0	147.0	3.0	140	135.0	259.0	4.4 as N
	10/78	1150	723	74.0	22.0	120.0	2.9	134	149.0	248.9	<1 as N
	04/79	1000	628	70.4	22.4	118.0	2.6	122	138.0	239.1	<1 as N
	10/80	1150	745	74.0	22.5	128.0	3.0	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	3.0	140	70.0	440.0	3.5
	09/85	1203	705	66.0	26.0	110.0	6.0	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	3.0	150	130.0	272.0	ND
	04/99	1240	722	81.0	30.0	124.0	3.0	157	150.0	293.0	ND
	08/99	1180	735	79.0	29.0	120.0	3.0	190	183.0	281.0	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		12/99	1190	699	83.0	30.0	118.0	3.0	100	158.0	278.0	ND
(Bldg 230001)		02/00	1110	723	81.0	30.0	116.0	3.0	90	163.0	293.0	ND
(Continued)		05/00	1070	714	81.0	29.0	115.0	3.0	170	152.0	273.0	ND
		08/00	1200	735	80.0	29.0	117.0	3.0	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	3.0	146	148.0	287.0	ND
		09/01	1300	751	88.0	32.0	132.0	3.0	155	160.0	293.0	ND
		10/01	1380	757	88.0	33.0	133.0	3.0	152	159.0	311.0	ND
	R	02/02	1220	724	86.0	31.0	124.0	2.6	146	156.0	293.0	ND
	R	04/02	1210	726	89.0	32.0	124.0	2.8	151	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
	R	10/02	1300	701	87.0	31.0	141.0	2.9	157	170.0	257.0	ND
	R	01/03	1260	760	88.0	32.0	139.0	3.5	146	162.0	239.0	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	3.0	167	177.0	232.0	0 as N
		01/04	1170	678	87.0	31.0	121.0	4.0	151	175.0	227.0	0 as N
		04/04	1270	697	82.0	31.0	120.0	4.0	155	171.0	250.0	0 as N
		07/04	1030	702	87.0	31.0	98.0	5.0	138	151.0	245.0	0 as N
	R	10/04	1230	879	89.0	31.0	102.0	5.0	158	176.0	0.0	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
		04/07	1200	708	89.0	32.0	120.0	2.6	150	170.0	270.0	0
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

ND - None Detected
R - Revised

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		03/97	1116	673	87.0	36.0	110.0	---	147	113	213.0	<2 as N
(Bldg 230093)		06/97	1131	779	90.0	37.0	99.0	<5.0	151	177	199.0	<2 as N
(Continued)		09/98	1160	727	83.0	36.0	90.0	3.0	160	181	232.0	ND
		10/99	1200	325	88.0	39.0	117.0	4.0	130	180	268.0	ND
		02/00	1100	739	84.0	37.0	100.0	4.0	130	180	281.0	ND
		05/00	1030	717	80.0	35.0	96.0	4.0	168	183	229.0	2
		02/01	1360	798	97.0	44.0	111.0	4.0	184	212	244.0	ND
		04/01	1310	728	94.0	42.0	114.0	4.0	168	208	232.0	ND
	R	09/01	1330	791	96.0	42.0	115.0	4.0	173	209	224.0	1
	R	03/02	1320	778	102.0	44.0	123.0	4.4	196	229	242.0	1
	R	04/02	1300	808	101.0	44.0	117.0	4.0	183	220	200.0	1.1
		07/02	1390	778	96.0	42.0	114.0	3.7	180	214	209.0	ND
		10/02	1360	763	97.0	41.0	126.0	4.0	180	207	214.0	ND
		01/03	1290	749	96.0	40.0	116.0	3.7	172	200	200.0	ND
	R	04/03	1210	783	99.0	42.0	129.0	3.9	176	229	191.0	1.3
	R	10/03	1320	775	97.0	41.0	126.0	5.0	168	231	174.0	0
	R	01/04	1270	763	101.0	42.0	106.0	6.0	162	220	180.0	0
	R	04/04	1320	781	96.0	43.0	105.0	6.0	179	250	195.0	0
	R	07/04	1370	784	100.0	43.0	89.0	6.0	169	219	203.0	0
	R	10/04	1300	857	99.0	42.0	88.0	6.0	188	245	210.0	0
	R	01/05	1270	760	99.0	42.0	115.0	4.3	170	234	185.0	2.7
		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
		04/07	1298	806	100.0	45.0	110.0	3.7	180	247	230.0	0
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

ND - None Detected
R - Revised

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		02/97	1200	720	84.0	36.0	130.0	---	150	152	240	<1 as N
(Bldg 260003)		03/97	1143	708	83.0	35.0	130.0	---	152	137	240	<2 as N
(Continued)		06/97	1227	831	94.0	34.0	120.0	<5.0	185	147	247	<2 as N
		12/97	1200	700	84.0	36.0	120.0	3.0	150	173	240	ND
		12/97	1200	700	84.0	36.0	120.0	3.0	150	173	240	ND
		03/98	1200	780	85.0	36.0	110.0	3.0	187	162	180	ND
	R	06/98	1190	734	83.0	35.0	110.0	3.0	160	167	275	ND
		02/99	1160	663	76.0	32.0	102.0	3.0	150	150	214	ND
		08/99	1120	727	76.0	33.0	99.0	3.0	156	230	281	ND
		10/99	1130	660	78.0	33.0	120.0	3.0	110	160	262	ND
	R	02/00	1030	592	79.0	35.0	95.9	3.0	120	160	244	ND
		05/00	1010	699	76.0	33.0	96.0	3.0	129	127	229	ND
		08/00	1140	720	77.0	33.0	87.0	3.0	ND	157	232	ND
	R	12/02	1120	617	73.0	32.0	102.0	3.6	132	164	174	0.4
	R	01/03	1150	689	76.0	34.0	113.0	3.6	135	165	185	ND
	R	04/03	1190	717	82.0	37.0	122.0	4.0	164	182	209	ND
		05/03	1190	---	---	---	---	---	156	182	---	---
	R	10/03	1250	737	81.0	37.0	130.0	5.0	163	201	192	0
	R	01/04	1240	694	86.0	39.0	107.0	6.0	153	182	185	0
	R	04/04	1320	750	84.0	40.0	108.0	6.0	170	210	220	0
	R	07/04	1100	761	92.0	41.0	88.0	7.0	172	204	205	0
	R	10/04	1280	893	93.0	41.0	88.0	6.0	179	222	ND	0
	R	02/05	1270	839	99.0	44.0	121.0	5.2	180	215	198	0
		04/05	1300	880	98.0	41.0	109.0	3.8	158	216	183	0 as N
	R	07/05	1380	870	101.0	43.0	109.0	4.0	430	540	176	0 as N
		11/05	1310	865	104.0	43.0	115.0	3.8	164	221	181	0 as N
		04/06	1220	810	100.0	43.0	110.0	3.8	170	240	206	0 as N
		04/07	1400	856	99.0	44.0	110.0	3.6	170	250	210	0

ND - None Detected
R - Revised

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	08/56	1060	882	78.0	30.0	112.0	---	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	3.0	144	96	268.0	0.4
	04/69	---	820	72.0	33.0	138.0	2.8	180	140	285.0	0.9
	11/69	---	604	66.0	24.0	116.0	2.8	140	110	259.0	1.8
	05/70	---	640	65.0	26.0	115.0	2.4	142	120	183.0	3.1
	09/71	1075	656	77.0	24.0	120.0	2.8	144	125	273.0	1.3
	05/72	1000	610	46.0	24.0	117.0	2.4	140	130	141.0	0
	10/72	1110	677	88.0	26.0	105.0	3.6	144	126	283.0	3.5
	10/73	1120	683	75.0	23.0	118.0	2.7 *	132	130	200.0	0.6 as N
	06/74	1210	712	72.0	19.0	150.0	3.1	208	112	195.0	0.01 as N
	01/75	850	519	61.0	21.0	93.0	2.4	102	95	212.0	2.3 as N
	02/76	1200	732	91.2	20.5	126.0	3.2	176	130	244.0	2.6 as N
	09/76	1200	732	48.0	29.0	180.0	2.4	192	123	336.7	4.2 as N
	03/77	1400	854	94.0	33.0	158.0	2.8	216	140	342.0	2.8 as N
	01/78	1000	610	66.0	23.0	100.0	2.7	128	123	205.0	4.4 as N
	10/78	1300	793	82.0	31.0	134.0	2.7	160	157	258.6	<1 as N
	04/79	1200	732	84.8	28.3	144.0	3.1	164	116	312.3	<1 as N
	01/80	1450	885	93.0	30.0	163.0	3.0	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

* 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	05/81	1000	645	72.4	21.7	105.0	3.5	128	123	209.8	<0.5 as N
(Bldg 260071)	05/82	1330	811	100.8	35.9	176.0	1.6	269	198	263.5	<0.5 as N
(Continued)	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	<5.0	158	149	271.0	2 as N
	12/97	1200	670	91.0	36.0	120.0	3.0	150	169	220.0	ND
	12/97	1200	710	87.0	35.0	120.0	2.0	152	182	220.0	1.5
	03/98	1200	810	89.0	36.0	120.0	3.0	201	168	240.0	ND
R	06/98	1390	830	91.0	36.0	140.0	2.0	185	150	366.0	ND
	02/99	1130	663	75.0	31.0	106.0	3.0	150	150	238.0	5
R	05/99	1170	711	75.0	32.0	85.0	4.0	ND	180	268.0	ND
R	08/99	1040	692	74.0	30.0	94.0	2.0	100	400	207.0	ND
	10/99	1210	757	86.0	35.0	120.0	3.0	154	100	295.0	3
	08/00	1290	766	83.0	33.0	89.0	2.0	184	150	323.0	ND
R	02/01	1140	707	85.0	35.0	107.0	2.0	152	179	232.0	4.9
R	04/01	1190	718	88.0	37.0	112.0	3.0	153	193	218.0	5
R	09/01	1200	729	89.0	38.0	106.0	3.0	158	192	201.0	4.6
R	11/01	1210	693	90.0	38.0	106.0	3.0	169	209	214.0	5.4
R	02/02	1190	726	94.0	39.0	106.0	2.7	147	184	218.0	5.9
R	04/02	1190	724	91.0	38.0	107.0	2.9	153	204	173.0	6.6
R	07/02	1200	755	88.0	37.0	107.0	3.1	162	201	180.0	6

ND - None Detected
R - Revised

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	R	10/02	1250	722	91.0	38.0	99.0	2.6	150	197	177	6.2
(Bldg 260071)	R	01/03	1260	781	95.0	39.0	119.0	3.2	144	204	169	4.5
(Continued)	R	04/03	1310	776	93.0	38.0	125.0	3.0	178	217	185	4.1
	R	04/04	1660	890	112.0	47.0	143.0	4.0	208	162	370	ND
	R	07/04	1460	785	98.0	38.0	109.0	4.0	186	191	275	3.4
	R	05/06	1380	870	100.0	41.0	110.0	2.3	180	240	210	3
		04/07	1300	812	99.0	41.0	110.0	2.5	160	230	220	5.2
10S/4W-7A2		05/56	920	651	59.0	22.0	100.0	---	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	2.0	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	3.0	110	96	232.0	0
		04/69	---	428	46.0	18.0	73.0	20.0	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

ND - None Detected
R - Revised

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		02/76	820	533	68.8	20.5	76.0	3.0	106	88	214.7	2.2 as N
(Bldg 260073)		09/76	900	585	48.0	45.0	98.0	2.3	116	112	258.6	3.0 as N
(Continued)		03/77	900	585	70.0	23.0	76.0	2.8	123	113	195.0	2.6 as N
		01/78	950	618	64.0	24.0	100.0	2.7	124	108	200.0	4.3 as N
		10/78	1050	683	74.0	20.0	80.0	3.0	113	128	205.0	<1 as N
		04/79	950	618	65.6	19.5	98.0	3.1	109	118	190.3	<1 as N
		01/80	1000	650	67.0	23.0	99.0	3.1	128	111	187.0	<1 as N
		10/80	900	546	67.2	20.5	86.0	3.4	108	86	205.0	2.3 as N
		05/81	810	585	57.2	14.4	83.0	3.4	92	84	180.6	0.7 as N
		11/81	800	451	57.2	16.3	85.0	2.0	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	<5.0	138	178	187	2 as N
		12/97	1100	690	84.0	36.0	83.0	4.0	140	181	160	<.2 as N
	R	05/99	1050	648	78.0	32.0	111.0	3.0	171	0	207	ND
		08/99	1040	696	78.0	33.0	84.0	4.0	120	390	146	ND
		10/99	1070	663	78.0	34.0	90.0	4.0	132	120	195	6 as N
	R	02/00	1010	559	83.0	36.0	82.0	4.0	140	190	220	4 as N
		05/00	972	688	80.0	34.0	79.0	4.0	144	167	190	4 as N

ND - None Detected
R - Revised

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		02/01	1200	753	92.0	40.0	100.0	3.0	164	212	195	ND
(Bldg 260073)	R	04/01	1210	736	91.0	40.0	103.0	5.0	159	217	183	4.2
(Continued)	R	09/01	1200	741	93.0	41.0	98.0	4.0	153	202	183	7.6
	R	11/01	1220	750	92.0	41.0	106.0	4.0	170	228	189	8.0
	R	02/02	1230	769	99.0	43.0	101.0	4.2	173	218	195	7.9
	R	04/02	1260	793	101.0	45.0	102.0	4.5	170	229	160	8.5
	R	07/02	1350	784	98.0	43.0	103.0	4.3	183	239	159	4.8
	R	10/02	1370	788	102.0	45.0	104.0	4.3	175	241	167	3.4
	R	01/03	1330	825	108.0	45.0	121.0	5.4	180	231	168	24
	R	04/03	1260	721	90.0	40.0	102.0	4.3	170	228	153	9.9
	R	10/03	1340	791	94.0	41.0	121.0	6.0	180	268	144	3
	R	01/04	1390	800	99.0	46.0	105.0	7.0	173	264	136	4.1
	R	04/04	1270	739	86.0	42.0	98.0	6.0	160	252	160	5.1
	R	07/04	1390	764	97.0	45.0	87.0	7.0	176	262	163	3.7
	R	10/04	1290	943	95.0	44.0	84.0	7.0	178	267	0	3.6
	R	01/05	1030	610	76.0	35.0	93.0	3.8	136	194	155	6.9
	R	04/05	1060	630	77.0	34.0	82.0	3.2	125	174	139	2.71
		07/05	1120	750	81.0	35.0	84.0	3.4	129	ND	129	0 as N
	R	11/05	1170	790	94.7	41.2	97.9	3.7	138	199	156	7.53
	R	04/06	1140	704	91.0	39.0	98.0	4.5	150	220	180	7.3
	R	05/07	1200	716	97.0	44.0	97.0	3.7	160	240	190	4.2
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

ND - None Detected
R - Revised

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		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	<2.0	171	165	264	<2 as N
		12/97	1200	710	82.0	30.0	130.0	2.0	156	162	230	ND
		03/98	1200	710	82.0	30.0	110.0	2.0	191	146	240	ND
	R	06/98	1170	658	79.0	28.0	123.0	2.0	157	151	293	ND
	R	02/99	1170	698	75.0	27.0	123.0	3.0	160	130	259	ND
		04/99	1210	667	76.0	27.0	118.0	3.0	148	140	268	ND
		08/99	1140	714	79.0	27.0	116.0	3.0	180	165	268	ND
		10/99	1150	721	80.0	28.0	131.0	3.0	110	150	281	ND
		02/00	1050	619	82.0	28.0	108.0	3.0	100	140	293	ND
		05/00	1060	716	80.0	29.0	112.0	3.0	173	141	268	ND
		08/00	1210	722	82.0	29.0	105.0	3.0	162	156	268	ND
		04/01	1210	705	85.0	30.0	130.0	3.0	163	157	281	ND
	R	09/01	1190	672	81.0	30.0	125.0	3.0	152	149	275	ND
		10/01	1200	680	81.0	29.0	143.0	3.0	162	159	281	ND
		02/02	1160	675	80.0	29.0	129.0	3.5	143	152	268	ND
	R	04/02	1180	682	84.0	31.0	124.0	2.9	151	155	230	ND
	R	07/02	1210	706	80.0	29.0	127.0	2.9	156	156	221	ND
	R	10/02	1210	669	83.0	30.0	122.0	2.9	151	162	206	8
	R	01/03	1320	801	97.0	34.0	140.0	2.8	154	180	245	ND
	R	04/03	1330	743	89.0	32.0	133.0	2.8	165	183	234	ND
	R	10/03	1210	712	87.0	31.0	135.0	4.0	155	177	204	ND
	R	04/04	1320	713	85.0	32.0	121.0	5.0	165	167	228	ND
	R	07/04	1070	703	89.0	32.0	101.0	5.0	147	173	230	ND
	R	10/04	1230	806	91.0	33.0	102.0	5.0	166	183	ND	ND
		02/05	1310	837	104.0	37.0	136.0	4.2	175	191	253	0 as N
	R	07/05	1170	750	83.0	29.0	114.0	2.7	139	ND	210	ND
	R	11/05	1260	750	91.9	29.6	119.0	3.1	144	171	225	ND
	R	04/06	1220	774	92.0	32.0	120.0	2.8	160	180	284	ND
		04/07	1010	706	86.0	29.0	120.0	2.7	150	170	260	0

ND - None Detected
R - Revised

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	01/90	1030	540	*96.0	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	<5.0	135	145	244	<2 as N
	12/97	1000	640	81.0	28.0	100.0	2.0	119	128	250	ND
	03/98	1100	620	85.0	31.0	110.0	2.0	161	144	220	ND
	06/98	1100	680	83.0	30.0	109.0	3.0	137	140	275	0.68
	09/98	1160	662	81.0	28.0	90.0	3.0	144	90	256	ND
	R 04/01	1100	612	83.0	29.0	106.0	3.0	131	146	238	3.5
	R 09/01	1150	679	89.0	31.0	103.0	2.0	142	156	241	3.2
	R 11/01	1130	658	87.0	30.0	104.0	2.0	148	169	262	3.4
	R 02/02	1120	674	85.0	30.0	112.0	3.2	140	160	257	3.1
	R 04/02	1120	682	89.0	32.0	106.0	2.7	142	167	205	2.8
	R 07/02	1150	676	83.0	30.0	111.0	2.7	145	64	205	2.3
	R 10/02	1220	711	87.0	31.0	110.0	2.7	149	175	203	ND
	R 01/03	1210	713	91.0	33.0	106.0	2.7	138	165	197	2
	R 05/03	1230	728	93.0	33.0	112.0	2.9	155	183	181	2.2
	R 10/03	1190	741	93.0	33.0	123.0	3.0	188	212	179	0 as N
	R 04/04	1270	701	87.0	32.0	103.0	4.0	163	186	220	ND
	07/04	1270	701	220.0	32.0	103.0	4.0	163	186	220	0 as N

ND - None Detected
* - Reported as .96
R - Revised

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-7D1		03/99	1280	765	91.0	34.0	127.0	2.0	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	3.0	160	191	244	ND
10S/4W-7A3)		10/99	1070	660	76.0	32.0	100.0	3.0	131	120	232	4
(Bldg 260072)	R	05/00	1010	702	79.0	34.0	94.0	3.0	177	164	254	ND
		08/00	1170	732	84.0	36.0	89.0	3.0	155	188	201	5
	R	02/01	1230	753	89.0	39.0	113.0	2.0	170	198	220	2.7
	R	04/01	1230	726	89.0	39.0	115.0	4.0	160	191	243	2.9
	R	09/01	1210	735	89.0	39.0	107.0	4.0	153	185	217	5.3
	R	11/01	1240	725	89.0	39.0	117.0	3.0	168	205	220	5.6
	R	02/02	1250	765	97.0	43.0	109.0	3.4	155	198	234	4.7
	R	04/02	1290	790	98.0	44.0	109.0	3.4	158	208	200	3.9
		07/02	1320	809	96.0	43.0	117.0	3.7	182	217	200	ND
	R	10/02	1380	787	99.0	43.0	113.0	3.7	170	216	203	2.8
	R	01/03	1370	810	101.0	44.0	134.0	4.0	155	194	217	ND
	R	04/03	1440	789	93.0	40.0	125.0	3.6	177	205	216	2.1
	R	10/03	1370	820	91.0	40.0	130.0	4.0	175	235	180	4.3
	R	01/04	1350	747	97.0	42.0	114.0	6.0	168	226	184	2.1
	R	04/04	1400	766	92.0	42.0	112.0	6.0	162	228	198	2
	R	07/04	1410	784	98.0	43.0	92.0	6.0	171	231	200	3.8
	R	11/04	1290	831	100.0	43.0	134.0	4.2	176	224	203	ND
	R	01/05	1310	804	102.0	44.0	125.0	3.7	184	241	200	2.7
	R	04/05	1100	690	78.0	34.0	84.0	3.2	128	177	162	2.6
		07/05	1160	716	84.0	35.0	96.0	3.0	136	ND	166	0 as N
	R	11/05	1180	785	92.5	40.4	97.1	3.8	138	202	174	5.93 as N
	R	04/06	1280	786	98.0	43.0	110.0	3.3	160	220	233	7.1
		04/07	1400	784	98.0	43.0	110.0	3.4	165	230	230	5

ND - None Detected
R - Revised

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	2.0	180	153	317	ND
		10/99	1150	716	79.0	27.0	140.0	2.0	120	140	305	ND
	R	02/00	956	522	67.0	23.0	117.0	2.0	90	120	268	ND
		05/00	1040	686	77.0	27.0	116.0	2.0	181	141	307	ND
		08/00	1180	722	80.0	28.0	105.0	2.0	155	143	232	ND
		02/01	1100	706	73.0	25.0	125.0	2.0	149	164	268	ND
	R	04/01	1170	701	81.0	29.0	128.0	2.0	154	149	282	ND
	R	09/01	1180	671	80.0	28.0	126.0	2.0	149	142	271	ND
		10/01	1180	678	81.0	28.0	132.0	2.0	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
	R	10/02	1180	649	78.0	27.0	115.0	2.1	135	138	217	ND
	R	01/03	1210	740	87.0	30.0	129.0	2.2	145	154	225	ND
		04/03	1200	681	79.0	27.0	128.0	2.5	150	152	215	ND
	R	10/03	1160	647	80.0	27.0	136.0	3.0	152	155	216	ND
	R	04/04	1140	604	66.0	24.0	117.0	3.0	147	133	215	ND
	R	08/04	1180	657	68.0	24.0	99.0	4.0	140	114	245	ND
	R	10/04	1170	712	85.0	29.0	97.0	5.0	160	172	ND	ND
	R	02/05	1070	661	84.0	29.0	125.0	3.3	154	148	185	ND
	R	07/05	1050	655	72.0	23.0	118.0	2.0	127	ND	202	ND
	R	11/05	1080	665	75.9	23.2	121.0	2.0	135	125	227	ND
	R	05/06	1110	650	71.0	24.0	120.0	1.9	140	130	217	ND
		04/07	950	632	72.0	25.0	120.0	1.9	140	130	260	0
10S/5W-23K3		06/99	1150	700	75.0	27.0	106.0	2.2	163	155	317	ND
(Bldg 330923)	R	08/99	1170	722	79.0	28.0	114.0	3.0	330	161	342	ND
		10/99	1170	723	78.0	28.0	140.0	3.0	120	140	293	ND
		02/00	1120	712	83.0	30.0	117.0	3.0	120	157	293	ND
	R	02/01	1240	758	85.0	31.0	136.0	3.0	167	152	305	ND
	R	04/01	1220	735	85.0	31.0	135.0	3.0	162	154	293	ND
		09/01	1240	682	81.0	29.0	132.0	3.0	162	144	281	ND

ND - None Detected
R - Revised

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		10/01	1330	746	87.0	32.0	134.0	3.0	166	156	293	ND
(Bldg 330923)	R	02/02	1190	720	83.0	29.0	140.0	3.5	150	155	281	ND
(Continued)		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
	R	10/02	1270	716	85.0	30.0	137.0	2.9	150	162	221	ND
	R	01/03	1340	826	100.0	35.0	141.0	2.6	156	185	252	0.4
	R	04/03	1350	733	85.0	30.0	129.0	2.6	162	171	235	ND
	R	10/03	887	800	84.0	30.0	141.0	3.0	160	173	224	ND
		02/04	1250	698	83.0	29.0	120.0	4.0	154	172	233	ND
	R	04/04	1240	706	78.0	28.0	121.0	4.0	163	170	220	ND
	R	07/04	1040	729	84.0	30.0	99.0	5.0	158	169	240	ND
	R	10/04	1180	857	86.0	30.0	97.0	5.0	159	172	235	ND
	R	02/05	1160	685	87.0	31.0	125.0	3.7	159	168	210	ND
	R	04/05	1230	760	91.0	30.0	122.0	2.6	149	148	213	ND
	R	07/05	1170	755	83.0	29.0	115.0	2.6	135	ND	210	ND
	R	11/05	1230	735	92.8	29.5	123.0	3.0	141	165	332	ND
	R	04/06	1190	720	89.0	31.0	120.0	2.7	160	170	233	ND
		04/07	1010	718	87.0	30.0	120.0	2.6	160	170	250	0
10S/5W-26C3	R	09/01	1410	819	101.0	38.0	138.0	3.0	173	175	296	ND
(Bldg 220002)		10/01	1370	814	104.0	38.0	131.0	3.0	199	198	317	ND
		02/02	1380	834	99.0	36.0	128.0	3.0	172	183	318	ND
		04/02	1370	808	104.0	39.0	124.0	3.2	180	184	258	ND
	R	07/02	1450	829	101.0	37.0	137.0	3.3	187	193	260	ND
	R	10/02	1400	793	98.0	35.0	143.0	3.4	179	195	248	ND
	R	01/03	1300	806	94.0	33.0	144.0	2.0	163	180	235	ND
	R	04/03	1290	759	94.0	33.0	137.0	3.1	182	198	230	ND

ND - None Detected
R - Revised

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location		Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C3	R	04/03	1290	759	94.0	32.0	137.0	3.1	182	198	230	ND
(Bldg 220002)	R	10/03	1340	761	90.0	31.0	146.0	4.0	162	188	210	ND
(Continued)	R	01/04	1320	743	94.0	32.0	124.0	5.0	182	212	203	ND
	R	04/04	1350	731	90.0	32.0	127.0	5.0	184	197	235	ND
	R	07/04	1100	773	91.0	32.0	98.0	5.0	167	197	215	ND
	R	10/04	1290	826	93.0	32.0	106.0	5.0	187	185	ND	ND
	R	02/05	1260	735	101.0	35.0	127.0	3.7	175	188	215	ND
	R	04/05	1300	760	98.0	33.0	122.0	2.8	160	184	200	ND
	R	07/05	1450	1260	97.0	33.0	119.0	2.9	154	ND	200	ND
	R	11/05	1240	795	99.0	32.0	122.0	2.9	159	169	202	ND
	R	06/06	1300	796	95.0	34.0	140.0	2.9	180	170	250	ND
		04/07	1080	764	91.0	31.0	130.0	2.9	190	190	250	0

ND - None Detected
R - Revised

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 2006-07

APPENDIX E.1

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS CALENDAR YEAR 2007

August 2008

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

APPENDIX E.1

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

JANUARY 2007 - CRITICALLY DRY 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	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	6.8	6.8				6.4	12.6	3.4	6.6	0.0	0.0	0.0	0.0	5,000.0
2	8.0	8.0				8.3	16.5	5.3	10.5	0.0	0.0	0.0	0.0	5,000.0
3	6.6	8.4				7.5	14.8	4.5	8.8	0.0	0.0	0.0	0.0	5,000.0
4	7.0	8.9				7.9	15.7	4.9	9.7	0.0	0.0	0.0	0.0	5,000.0
5	7.5	9.4				8.0	15.8	5.0	9.8	0.0	0.0	0.0	0.0	5,000.0
6	6.9	8.8				8.0	15.8	5.0	9.8	0.0	0.0	0.0	0.0	5,000.0
7	7.1	7.1				8.0	15.8	5.0	9.8	0.0	0.0	0.0	0.0	5,000.0
8	7.9	8.0				8.6	17.1	5.6	11.1	0.0	0.0	0.0	0.0	5,000.0
9	9.1	9.1				9.9	19.7	6.9	13.7	0.0	0.0	0.0	0.0	5,000.0
10	9.7	10.0				9.9	19.7	6.9	13.7	0.0	0.0	0.0	0.0	5,000.0
11	8.6	9.0	8.7	8.6	0.1	9.4	18.7	6.4	12.7	0.0	0.0	0.0	0.0	5,000.0
12	8.0	8.4	8.7	8.6	0.1	9.2	18.2	6.2	12.2	0.0	0.0	0.0	0.0	5,000.0
13	8.1	8.5	8.7	8.6	0.1	9.2	18.2	6.2	12.2	0.0	0.0	0.0	0.0	5,000.0
14	8.2	8.6	8.7	8.6	0.1	9.2	18.2	6.2	12.2	0.0	0.0	0.0	0.0	5,000.0
15	8.3	8.7	8.6	8.6	0.0	9.3	18.4	6.3	12.4	0.0	0.0	0.0	0.0	5,000.0
16	8.3	8.6	8.6	8.6	0.0	9.2	18.3	6.2	12.3	0.0	0.0	0.0	0.0	5,000.0
17	8.1	8.5	8.7	8.6	0.1	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
18	8.1	8.5	8.8	8.6	0.2	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
19	8.1	8.4	8.7	8.6	0.1	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
20	8.0	8.3	8.6	8.6	0.0	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
21	8.0	8.4	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
22	8.1	8.5	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
23	8.0	8.4	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
24	8.2	8.6	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
25	8.0	8.7	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
26	7.7	8.5	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
27	7.8	8.5	8.5	8.6	(0.1)	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
28	7.7	8.5	8.5	8.6	(0.1)	9.2	18.2	6.2	12.2	0.0	0.0	0.0	0.0	5,000.0
29	8.4	9.2	8.6	8.6	0.0	9.1	18.1	6.1	12.1	0.0	0.0	0.0	0.0	5,000.0
30	8.1	8.9	8.6	8.6	0.0	8.8	17.4	5.8	11.4	0.0	0.0	0.0	0.0	5,000.0
31	7.9	8.7	8.7	8.6	0.1	8.7	17.2	5.7	11.2	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	246.3	264.9	180.5	180.6	0.0	274.0		181.0		0.0		0.0		
TOTAL AF	488.5	525.4	358.1	358.2	0.1	543.5	543.5		359.0		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 2.0 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.2

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

FEBRUARY 2007 - CRITICALLY DRY YEAR

				DONE						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	6.1	8.9	8.7	8.6	0.1	8.6	17.1	5.6	11.1	0.0	0.0	0.0	0.0	5,000.0
2	7.8	8.5	8.7	8.6	0.1	8.6	17.1	5.6	11.1	0.0	0.0	0.0	0.0	5,000.0
3	8.0	8.3	8.7	8.6	0.1	8.7	17.2	5.7	11.2	0.0	0.0	0.0	0.0	5,000.0
4	8.2	8.3	8.6	8.6	0.0	8.6	17.1	5.6	11.1	0.0	0.0	0.0	0.0	5,000.0
5	8.2	8.3	8.6	8.6	0.0	8.7	17.3	5.7	11.3	0.0	0.0	0.0	0.0	5,000.0
6	8.5	8.5	8.6	8.6	0.0	9.4	18.7	6.4	12.7	0.0	0.0	0.0	0.0	5,000.0
7	8.5	8.5	8.6	8.6	0.0	9.5	18.9	6.5	12.9	0.0	0.0	0.0	0.0	5,000.0
8	8.3	8.3	8.5	8.6	(0.1)	9.6	19.1	6.6	13.1	0.0	0.0	0.0	0.0	5,000.0
9	8.5	8.5	8.5	8.6	(0.1)	9.8	19.5	6.8	13.5	0.0	0.0	0.0	0.0	5,000.0
10	8.7	8.7	8.5	8.6	(0.1)	10.0	19.8	7.0	13.8	0.0	0.0	0.0	0.0	5,000.0
11	8.9	8.9	8.5	8.6	(0.1)	10.0	19.8	7.0	13.8	0.0	0.0	0.0	0.0	5,000.0
12	8.7	8.7	8.5	8.6	(0.1)	9.5	18.8	6.5	12.8	0.0	0.0	0.0	0.0	5,000.0
13	8.6	8.6	8.5	8.6	(0.1)	9.5	18.8	6.5	12.8	0.0	0.0	0.0	0.0	5,000.0
14	9.1	9.1	8.6	8.6	0.0	10.2	20.2	7.2	14.2	0.0	0.0	0.0	0.0	5,000.0
15	11.0	11.0	8.9	8.6	0.3	10.9	21.7	7.9	15.7	0.0	0.0	0.0	0.0	5,000.0
16	10.0	10.0	9.0	8.6	0.4	10.9	21.7	7.9	15.7	0.0	0.0	0.0	0.0	5,000.0
17	9.8	9.8	9.2	8.6	0.6	10.9	21.7	7.9	15.7	0.0	0.0	0.0	0.0	5,000.0
18	9.8	9.8	9.3	8.6	0.7	10.9	21.7	7.9	15.7	0.0	0.0	0.0	0.0	5,000.0
19	13.0	13.0	9.8	8.6	1.2	9.6	19.0	6.6	13.0	0.0	0.0	0.0	0.0	5,000.0
20	8.9	8.9	9.8	8.6	1.2	8.9	17.6	5.9	11.6	0.0	0.0	0.0	0.0	5,000.0
21	9.4	9.4	9.8	8.6	1.2	9.9	19.7	6.9	13.7	0.0	0.0	0.0	0.0	5,000.0
22	11.0	11.0	10.1	8.6	1.5	10.9	21.6	7.9	15.6	0.0	0.0	0.0	0.0	5,000.0
23	25.0	24.0	11.6	8.6	3.0	3.7	7.3	0.7	1.3	0.0	0.0	0.0	0.0	5,000.0
24	10.0	8.5	11.5	8.6	2.9	6.6	13.1	3.6	7.1	0.0	0.0	0.0	0.0	5,000.0
25	13.0	11.0	11.5	8.6	2.9	10.9	21.7	7.9	15.7	0.0	0.0	0.0	0.0	5,000.0
26	12.0	10.0	11.5	8.6	2.9	10.9	21.7	7.9	15.7	0.0	0.0	0.0	0.0	5,000.0
27	26.0	23.0	12.9	8.6	4.3	8.8	17.5	5.8	11.5	0.0	0.0	0.0	0.0	5,000.0
28	16.0	14.0	13.3	8.6	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL SFD	303.0	293.5	268.3	240.8	27.5	254.8		173.8		0.0		0.0		
TOTAL AF	601.0	582.1	532.1	477.6	54.5	505.4	505.4		344.7		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 2 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.1

SANTA MARGARITA RIVER WATERSHED

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

MARCH 2007 - CRITICALLY DRY YEAR

					DONE					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	Input /3	Input	Output	Output	Cumulative GW Account Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF		cfs AF	cfs	AF	cfs	AF	AF
1	8.4	7.0	12.7	8.6	4.1	4.5	8.9		1.5 2.9	0.0	0.0	0.0	0.0	5,000.0
2	12.0	11.0	12.9	8.6	4.3	11.7	23.2	*	6.9 13.7	0.0	0.0	0.0	0.0	5,000.0
3	13.0	11.0	13.1	8.6	4.5	12.0	23.9	*	5.5 10.9	0.0	0.0	0.0	0.0	5,000.0
4	8.1	6.7	12.6	8.6	4.0	4.3	8.5	*	— —	0.0	0.0	0.0	0.0	5,000.0
5	6.3	5.1	10.7	8.6	2.1	4.3	8.5	*	— —	0.0	0.0	0.0	0.0	5,000.0
6	4.6	3.7	10.3	8.6	1.7	4.3	8.5	*	— —	0.0	0.0	0.0	0.0	5,000.0
7	4.5	3.6	9.5	8.6	0.9	4.5	8.9	*	— —	0.0	0.0	0.0	0.0	5,000.0
8	4.9	3.9	8.9	8.6	0.3	5.0	9.9	*	— —	0.0	0.0	0.0	0.0	5,000.0
9	4.9	4.9	7.1	8.6	(1.5)	5.0	9.9	*	— —	0.0	0.0	0.0	0.0	5,000.0
10	7.7	7.7	6.5	8.6	(2.1)	7.1	14.0	*	1.5 3.0	0.0	0.0	0.0	0.0	5,000.0
11	9.6	9.6	6.7	8.6	(1.9)	8.9	17.7		5.9 11.7	0.0	0.0	0.0	0.0	5,000.0
12	9.0	9.0	6.5	8.6	(2.1)	8.9	17.6		5.9 11.6	0.0	0.0	0.0	0.0	5,000.0
13	8.6	8.6	6.3	8.6	(2.3)	8.6	17.0		5.6 11.0	0.0	0.0	0.0	0.0	5,000.0
14	8.7	8.7	6.5	8.6	(2.1)	8.7	17.3		5.7 11.3	0.0	0.0	0.0	0.0	5,000.0
15	8.8	8.8	6.9	8.6	(1.8)	8.8	17.4		5.8 11.4	0.0	0.0	0.0	0.0	5,000.0
16	8.8	8.8	7.4	8.6	(1.2)	8.7	17.2		5.7 11.2	0.0	0.0	0.0	0.0	5,000.0
17	8.8	8.8	7.9	8.6	(0.7)	8.6	17.1		5.6 11.1	0.0	0.0	0.0	0.0	5,000.0
18	8.7	8.7	8.4	8.6	(0.2)	8.6	17.0		5.6 11.0	0.0	0.0	0.0	0.0	5,000.0
19	8.6	8.6	8.7	8.6	0.1	8.5	16.9		5.5 10.9	0.0	0.0	0.0	0.0	5,000.0
20	8.7	8.7	8.8	8.6	0.2	8.5	16.9		5.5 10.9	0.0	0.0	0.0	0.0	5,000.0
21	8.8	8.8	8.8	8.6	0.2	8.5	16.8		5.5 10.8	0.0	0.0	0.0	0.0	5,000.0
22	8.6	8.6	8.7	8.6	0.1	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
23	8.6	8.6	8.7	8.6	0.1	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
24	8.6	8.6	8.7	8.6	0.1	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
25	8.6	8.6	8.7	8.6	0.1	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
26	8.6	8.6	8.7	8.6	0.1	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
27	8.8	8.8	8.7	8.6	0.1	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
28	8.5	8.5	8.6	8.6	0.0	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
29	8.5	8.5	8.6	8.6	0.0	8.4	16.7		5.4 10.7	0.0	0.0	0.0	0.0	5,000.0
30	8.6	8.6	8.6	8.6	0.0	8.6	17.0		5.6 11.0	0.0	0.0	0.0	0.0	5,000.0
31	8.8	8.6	8.6	8.6	0.0	8.7	17.2		5.7 11.2	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	257.7	247.7	273.6	266.6	7.0	242.5			132.2	0.0		0.0		
TOTAL AF	511.1	491.3	542.6	528.8	13.8	480.9	480.9		262.3		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 2 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. However no cli
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.1

SANTA MARGARITA RIVER WATERSHED

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

APRIL 2007 - CRITICALLY DRY YEAR

					DONE					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	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	8.9	8.6	8.6	8.6	0.0	8.7	17.2	5.7	11.2	0.0	0.0	0.0	0.0	5,000.0
2	9.2	8.6	8.6	8.6	0.0	8.7	17.2	5.7	11.2	0.0	0.0	0.0	0.0	5,000.0
3	9.0	8.6	8.6	8.6	0.0	8.7	17.2	5.7	11.2	0.0	0.0	0.0	0.0	5,000.0
4	9.0	8.6	8.6	8.6	0.0	8.8	17.4	5.8	11.4	0.0	0.0	0.0	0.0	5,000.0
5	9.0	8.7	8.6	8.6	0.0	8.7	17.3	5.7	11.3	0.0	0.0	0.0	0.0	5,000.0
6	8.7	8.7	8.6	8.6	0.0	8.7	17.3	5.7	11.3	0.0	0.0	0.0	0.0	5,000.0
7	8.7	8.7	8.6	8.6	0.0	8.7	17.3	5.7	11.3	0.0	0.0	0.0	0.0	5,000.0
8	8.6	8.6	8.6	8.6	0.0	8.6	17.1	5.6	11.1	0.0	0.0	0.0	0.0	5,000.0
9	8.7	9.1	8.7	8.6	0.1	8.6	17.0	5.6	11.0	0.0	0.0	0.0	0.0	5,000.0
10	8.2	8.6	8.7	8.6	0.1	8.3	16.4	5.3	10.4	0.0	0.0	0.0	0.0	5,000.0
11	8.2	8.6	8.7	8.6	0.1	8.2	16.3	5.2	10.3	0.0	0.0	0.0	0.0	5,000.0
12	8.2	8.6	8.7	8.6	0.1	8.2	16.3	5.2	10.3	0.0	0.0	0.0	0.0	5,000.0
13	7.8	8.6	8.7	8.6	0.1	8.3	16.4	5.3	10.4	0.0	0.0	0.0	0.0	5,000.0
14	8.0	8.6	8.7	8.6	0.1	8.2	16.3	5.2	10.3	0.0	0.0	0.0	0.0	5,000.0
15	8.4	8.6	8.7	8.6	0.1	8.2	16.3	5.2	10.3	0.0	0.0	0.0	0.0	5,000.0
16	8.2	8.6	8.7	8.6	0.1	8.2	16.3	5.2	10.3	0.0	0.0	0.0	0.0	5,000.0
17	8.1	8.9	8.7	8.6	0.1	8.2	16.2	5.2	10.2	0.0	0.0	0.0	0.0	5,000.0
18	8.1	8.9	8.7	8.6	0.1	8.1	16.0	5.1	10.0	0.0	0.0	0.0	0.0	5,000.0
19	8.0	8.7	8.7	8.6	0.1	8.0	15.8	5.0	9.8	0.0	0.0	0.0	0.0	5,000.0
20	23.0	26.0	10.4	8.6	1.8	7.2	14.3	4.2	8.3	0.0	0.0	0.0	0.0	5,000.0
21	26.0	29.0	12.5	8.6	3.9	2.1	4.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	8.3	9.4	12.5	8.6	3.9	4.4	8.8	1.4	2.8	0.0	0.0	0.0	0.0	5,000.0
23	6.4	7.4	12.4	8.6	3.8	5.1	10.2	2.1	4.2	0.0	0.0	0.0	0.0	5,000.0
24	5.1	6.0	12.2	8.6	3.6	4.9	9.8	1.9	3.8	0.0	0.0	0.0	0.0	5,000.0
25	5.0	5.9	11.9	8.6	3.3	5.1	10.1	2.1	4.1	0.0	0.0	0.0	0.0	5,000.0
26	4.9	5.7	11.6	8.6	3.0	4.9	9.8	1.9	3.8	0.0	0.0	0.0	0.0	5,000.0
27	4.7	5.8	11.3	8.6	2.7	4.9	9.8	1.9	3.8	0.0	0.0	0.0	0.0	5,000.0
28	4.7	5.9	11.0	8.6	2.4	4.9	9.8	1.9	3.8	0.0	0.0	0.0	0.0	5,000.0
29	4.7	5.8	10.7	8.6	2.1	4.8	9.6	1.8	3.6	0.0	0.0	0.0	0.0	5,000.0
30	4.4	5.1	8.6	8.6	0.0	4.6	9.1	1.6	3.1	0.0	0.0	0.0	0.0	5,000.0
31	---	---	---		---	---	---	---	---	---	---	---	---	---
TOTAL SFD	258.2	276.9	289.3	258.0	31.3	213.2		124.0		0.0		0.0		
TOTAL AF	512.1	549.2	573.8	511.7	62.1	422.8	422.8		246.0		0.0		0.0	

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 2 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.1

SANTA MARGARITA RIVER WATERSHED

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

MAY 2007 -CRITICALLY DRY 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	AF	AF	cfs	AF	cfs	AF	cfs	AF
1	3.8	4.0				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	3.6	3.8				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	3.8	3.8				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.0	4.0				4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.9	3.9				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.9	3.9				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.8	3.8				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.8	3.8				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.8	3.8				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	3.8	3.8				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.8	3.8	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.8	3.8	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.8	3.8	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.8	3.8	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.8	3.8	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.9	3.9	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.9	3.9	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.9	3.9	3.8	3.8	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.8	3.8	3.8	3.8	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.8	3.8	3.8	3.8	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.9	3.9	3.8	3.8	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.9	3.9	3.9	3.8	0.1	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.1	3.8	3.9	3.8	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.1	3.8	3.9	3.8	0.0	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.1	3.9	3.9	3.8	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.2	3.9	3.9	3.8	0.1	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.1	3.8	3.9	3.8	0.1	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.0	3.8	3.8	3.8	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.8	3.8	3.8	3.8	0.0	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	3.9	3.7	3.8	3.8	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	3.9	3.7	3.8	3.8	0.0	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	120.5	118.9	80.6	79.8	0.7	125.5			0.0	0.0		0.0		
TOTAL AF	239.0	235.8	159.8	158.3	1.5	249.0	249.0	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.1

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

JUNE 2007 - CRITICALLY DRY 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		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	3.6	3.6				3.8	7.5		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	3.3	3.3				3.5	7.0		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	3.5	3.5				3.7	7.4		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	3.3	3.3				3.9	7.7	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.4	3.4				3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.4	3.4				3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.4	3.4				3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.4	3.4				3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.5	3.5				3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	3.4	3.4				3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.4	3.4	3.4	3.3	0.1	3.6	7.2	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.2	4.2	3.5	3.3	0.2	4.3	8.5	*	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.4	3.4	3.5	3.3	0.2	3.6	7.1		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.3	3.3	3.5	3.3	0.2	3.6	7.1		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.2	3.2	3.5	3.3	0.2	3.6	7.1		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.3	3.3	3.5	3.3	0.2	3.6	7.2		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.3	3.3	3.4	3.3	0.1	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.3	3.3	3.4	3.3	0.1	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.3	3.3	3.4	3.3	0.1	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.3	3.3	3.4	3.3	0.1	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.3	3.3	3.4	3.3	0.1	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.3	3.3	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.3	3.3	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.3	3.3	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.3	3.3	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	3.3	3.3	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	3.2	3.2	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.2	3.2	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.3	3.3	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	3.2	3.2	3.3	3.3	0.0	3.7	7.3		0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	—	—	—	—	—	—	—		—	—	—	—	—	—	—
TOTAL SFD	100.9	100.9	67.4	66.0	1.5	110.5				0.0	0.0		0.0		
TOTAL AF	200.2	200.1	133.7	130.9	3.0	219.2	219.2		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
* Water supplied from potable system discharge on Murrieta Creek because of MWD operational shutdown

APPENDIX E.1

SANTA MARGARITA RIVER WATERSHED

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

JULY 2007 - CRITICALLY DRY 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	AF	cfs	AF	cfs	AF
1	3.1	3.1				3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	3.1	3.1				3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	3.1	3.1				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	3.1	3.1				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.1	3.1				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.2	3.1				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.3	3.1				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.2	3.0				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.2	3.0				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	3.2	3.0				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.2	3.0	3.1	3.0	0.1	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.2	3.0	3.1	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	2.9	2.9	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.0	3.0	3.0	3.0	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.0	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.0	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.0	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.1	3.1	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.0	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.1	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.2	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.2	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	3.2	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	3.2	3.0	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.1	2.9	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.2	3.0	3.0	3.0	0.0	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	3.3	3.1	3.0	3.0	0.0	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	3.3	3.1	3.0	3.0	0.0	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	97.4	93.8	63.2	63.0	0.2	110.2			0.0	0.0		0.0		
TOTAL AF	193.2	186.0	125.4	125.0	0.4	218.6	218.6	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.1

SANTA MARGARITA RIVER WATERSHED

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

AUGUST 2007 -CRITICALLY DRY 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	AF	cfs	cfs	AF	cfs	AF	AF
											2			
1	3.2	3.0				3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	3.2	3.0				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	3.2	3.2				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	3.0	3.0				3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	2.9	2.9				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.0	3.0				3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.1	3.1				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.0	3.0				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.0	3.0				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	3.1	3.1				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.1	3.1	3.0	3.0	0.0	3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.0	3.0	3.0	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.0	3.0	3.0	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	2.9	2.9	3.0	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	2.9	2.9	3.0	3.0	0.0	3.3	6.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.1	3.1	3.0	3.0	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.1	3.1	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.1	3.1	3.0	3.0	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.0	3.0	3.0	3.0	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.1	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.9	4.9	3.2	3.0	0.2	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	2.9	2.9	3.2	3.0	0.2	3.1	6.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	2.6	2.6	3.2	3.0	0.2	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	2.6	2.6	3.1	3.0	0.1	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	2.6	2.6	3.1	3.0	0.1	3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	2.6	2.6	3.0	3.0	0.0	3.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	94.2	93.8	64.1	63.0	1.1	105.1			0.0	0.0		0.0		
TOTAL AF	186.8	186.0	127.2	125.0	2.2	208.5	208.5				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.1

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

SEPTEMBER 2007 - CRITICALLY DRY 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			2			
1	3.1	3.1				3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
2	3.1	3.1				3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
3	3.1	3.1				3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
4	3.1	3.1				3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
5	2.9	2.9				3.4	6.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
6	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
7	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
8	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
9	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
10	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
11	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
12	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
13	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
14	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
15	3.0	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
16	3.0	3.0	3.0	3.0	0.0	3.4	6.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
17	3.1	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
18	3.1	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
19	3.0	3.0	3.0	3.0	0.0	3.4	6.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
20	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
21	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
22	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
23	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
24	3.0	3.0	3.0	3.0	0.0	3.3	6.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
25	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
26	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
27	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
28	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
29	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
30	3.0	3.0	3.0	3.0	0.0	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL SFD	90.5	90.5	60.2	60.0	0.2	102.8			0.0		0.0		0.0		
TOTAL AF	179.5	179.5	119.4	119.0	0.5	203.6	203.6	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.1

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

OCTOBER 2007 - CRITICALLY DRY 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	3.0	3.0				3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
2	2.9	2.9				3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
3	3.0	3.0				3.4	6.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
4	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
5	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
6	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
7	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
8	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
9	3.0	3.0				3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
10	3.0	3.0				3.4	6.8	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
11	3.0	3.0	3.0	3.0	(0.0)	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
12	3.1	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
13	3.2	3.2	3.0	3.0	0.0	3.2	6.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
14	3.1	3.1	3.0	3.0	0.0	3.1	6.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
15	3.1	3.1	3.1	3.0	0.1	3.1	6.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
16	2.9	2.9	3.0	3.0	0.0	3.1	6.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
17	2.8	2.8	3.0	3.0	0.0	3.2	6.3	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
18	2.9	2.9	3.0	3.0	0.0	3.3	6.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
19	3.1	2.9	3.0	3.0	0.0	3.3	6.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
20	3.1	2.9	3.0	3.0	0.0	3.3	6.5	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
21	3.1	2.9	3.0	3.0	0.0	3.3	6.6	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
22	3.4	3.2	3.0	3.0	0.0	3.6	7.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
23	3.3	3.1	3.0	3.0	0.0	3.5	7.0	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
24	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
25	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
26	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
27	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
28	3.3	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
29	3.4	3.2	3.0	3.0	0.0	3.5	6.9	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
30	3.5	3.3	3.1	3.0	0.1	3.4	6.7	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
31	3.1	2.9	3.1	3.0	0.1	3.1	6.1	0.0	0.0		0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	96.1	93.5	63.2	63.0	0.4	104.6			0.0		0.0		0.0		
TOTAL AF	190.6	185.5	125.4	125.0	0.8	207.5	207.5	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.1

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

NOVEMBER 2007 - CRITICALLY DRY 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	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	3.3	3.1				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	3.3	3.1				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.2	3.0				3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	3.1	2.9				3.3	6.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.2	3.0	3.0	3.0	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.3	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.3	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.3	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.2	3.0	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.3	3.1	3.0	3.0	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.2	3.2	3.0	3.0	0.0	3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.0	3.0	3.1	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.0	3.0	3.1	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.1	3.1	3.1	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.1	3.1	3.1	3.0	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.0	3.0	3.1	3.0	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.0	3.0	3.1	3.0	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	3.0	3.0	3.1	3.0	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	3.0	3.0	3.1	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.0	3.0	3.0	3.0	0.0	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.0	3.0	3.0	3.0	0.0	3.2	6.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	1420.0	1420.0	144.7	3.0	141.7	1.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	---	---	---	---	---	---	---			---	---	---	---	---
TOTAL SFD	1,511.5	1,507.8	202.3	60.0	142.3	99.0			0.0	0.0		0.0		
TOTAL AF	2,998.0	2,990.7	401.3	119.0	282.3	196.4	196.4	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.1

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

DECEMBER 2007 - CRITICALLY DRY 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	755.0	755.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	52.0	52.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	14.0	14.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	5.1	5.1				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.7	3.7				2.4	4.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.4	3.4				3.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	155.0	155.0				0.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	47.0	47.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	20.0	20.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.1	4.1				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	3.0	3.0	30.7	3.3	27.4	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.3	3.3	25.9	3.3	22.6	3.1	6.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.3	3.3	24.8	3.3	21.5	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.5	3.5	24.6	3.3	21.3	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.6	3.6	24.6	3.3	21.3	3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.3	3.3	24.6	3.3	21.3	3.3	6.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.2	3.2	9.4	3.3	6.1	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.3	3.3	5.1	3.3	1.8	3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.6	3.6	3.4	3.3	0.1	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.5	3.5	3.4	3.3	0.1	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.5	3.5	3.4	3.3	0.1	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.3	3.3	3.4	3.3	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.3	3.3	3.4	3.3	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.3	3.3	3.4	3.3	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.3	3.3	3.4	3.3	0.1	3.3	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	3.3	3.3	3.4	3.3	0.1	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	3.3	3.3	3.4	3.3	0.1	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.3	3.3	3.4	3.3	0.1	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.4	3.4	3.4	3.3	0.1	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	3.3	3.3	3.3	3.3	0.0	3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	3.8	3.8	3.4	3.3	0.1	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	1,130.0	1,130.0	213.6	69.3	144.3	77.5				0.0				
TOTAL AF	2,241.3	2,241.3	423.7	137.5	286.3	153.8	153.8	0.0			0.0			

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

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX E.2

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

STATEMENT OF WORK
LOWER SANTA MARGARITA RIVER WATERSHED MONITORING PROGRAM

August 2008

STATEMENT OF WORK
TO PROVIDE HYDROLOGIC AND BIOLOGICAL SUPPORT TO LOWER SANTA MARGARITA RIVER WATERSHED MONITORING PROGRAM
(SIN – 899-1)

1. General Services

Provide supervisors and support staff experienced in surface water hydrology, ecology, and water quality sampling and analysis to the Office of Water Resources (OWR), AC/S Facilities, Marine Corps Base Camp Pendleton. Project length is 820 days, including time for Government review of submittals.

This work will be conducted in support of the Santa Margarita River Water Quality Monitoring Group's (Monitoring Group) ongoing program. This group is a consortium of committed parties that bring important resources, tools, and capabilities to monitoring in the watershed. Members of the Group include Camp Pendleton, San Diego State University, the Counties of San Diego and Riverside, local communities, water agencies including Fallbrook Public Utility District, Rancho California Water District, and Eastern Municipal Water District, and several resource conservation districts. These parties have been involved in water quality monitoring at various locations at various times throughout the watershed.

The overall intent is to develop and implement an integrated monitoring program that builds upon historical sampling data sets. The specific intent of this project is to immediately address some of the monitoring requirements identified by the Monitoring Group and of interest to Camp Pendleton in order to build momentum within the program while the Monitoring Group continues to refine the overall program and identify additional funding sources.

The project will support Camp Pendleton's water resources and environmental management programs. The deliverables from this project must stand on their own while also providing useful input to the ongoing Watershed Analysis Risk Management Framework (WARMF) modeling project. The WARMF initiative is funded by the Santa Margarita River Executive Management Team (SMREMT), which is led by the Bureau of Reclamation's Southern California Area Office and includes many of the same parties who participate in the Monitoring Group.

In addition, this project would also support the Technical Advisory Committee (TAC) and the Santa Margarita River Watermaster in their implementation of the Cooperative Water Resources Management Agreement (CWRMA) between the United States and the Rancho California Water District.

2. Requirements

Task 1: The contractor will examine the water quality of the Santa Margarita River (as defined in more detail in Section 5).

Sub-task 1.1: The contractor will determine how water quality patterns in the main stem of the Santa Margarita River affect surface water resources on Camp Pendleton.

Sub–task 1.2: The contractor will provide an estimate of the assimilative capacity of the river for nutrients.

Sub–task 1.3: Attend 6 meetings per year with Camp Pendleton and other parties in the watershed to present findings and support the Project.

Sub-task 1.4: The contractor will furnish Draft semi-annual reports of data gathered and progress on the tasks and annual Draft reports for comments and Final reports for the record.

Task 2: The contractor will determine whether the increased flows introduced under the CWRMA between the United States and Rancho California Water District influences threatened and endangered (T&E) species, riparian and wetland habitats, or water quality downstream.

Sub-task 2.1: The contractor will determine whether the CWRMA flows influence T&E species, their habitat, or wetlands downstream.

Sub-task 2.2: The contractor will determine whether the CWRMA flows influence water quality downstream.

Sub–task 2.3: The contractor will attend four meetings to support the CWRMA TAC, prepare hand-outs or exhibits, and attend and coordinate with Camp Pendleton personnel during meetings in order to present findings and recommendations.

Sub-task 2.4: The contractor will furnish Draft semi-annual reports of data gathered and progress on the tasks and annual Draft reports for comments and Final reports for the record. The Contractor will attend 6 meetings per year with Camp Pendleton and other parties in the watershed to present findings and support the Project.

General

Incident to the study, the contractor must avoid or minimize impacts to listed T&E species, including direct physical damage, as well as indirect impacts due to the transferring of disease or exotic species.

The contractor shall use the best available data to perform the analysis. Appendix A to this Scope will be followed for location, constituent, frequency, period, and type of sampling. Changes to this recommended program will be discussed with the Contract Officer and implemented after agreement between the contractor, contacting officer, and client via modification to the task order. Other data and information includes published USGS topographical maps, digital elevation data, and the most recent aerial photographs. Additional monitoring protocols are attached. See Appendix B to this Scope.

Data from the project should be housed in accessible, web-based data sets with metadata descriptions. All draft and final reports, including appendices, tables, charts, reports, and other documents supporting such reports, will be furnished in hard copy and on CD's in common Microsoft Office formats.

Data from the project will be assembled in a format that supports the existing Watershed Analysis Risk Management Framework (WARMF) Model for the river.

Meetings described in tasks 1.3 and 2.4 will be held concurrently and discuss issues concerning both tasks. These meetings will take place at Camp Pendleton, CA or the Bureau of Reclamation's Office in Temecula, CA. Meetings described in tasks 2.3 will be scheduled and attended separately from project progress meetings described in tasks 1.3 and 2.4 and will be held at the Rancho California Water District, Temecula, CA.

The Contractor will be responsible for laboratory analysis of water quality samples by a CA state certified lab. Sampling constituents, location, frequency, period, and type will be in accordance with Appendix A to this contract.

3. Government–furnished Equipment, Materials, and Supplies

The government will provide access to all available maps, GIS data layers, species survey reports, data on listed species, design specifications, aerial photography, water pumpage, delivery and usage data, historic surface and ground water quality data and studies, weather data, and other information held by the government that are not classified and that are needed by the contractor. The contractor will not perform land surveying aboard the Base nor other methods required to improve the quality or resolution of the currently available data.

4. Contractor–furnished Equipment, Materials, and Supplies

The contractor shall supply all necessary office and field equipment required to complete the deliveries in paragraph 5.

5. Specific Tasks and Deliverables

The contractor shall provide the following specific tasks and related deliverables:

Task 1: Examine Water Quality of the Santa Margarita River

Sub-task 1.1: Determine how water quality patterns in the main stem of the Santa Margarita River, from the confluence of Temecula and Murrieta Creeks to the Base boundary, affect the river's water quality on Camp Pendleton, from the Base boundary to the estuary.

- Develop hypotheses concerning water quality degradation (focusing on nutrient loading) based upon conceptual models of system functions.
- Develop a monitoring protocol to test the hypotheses.
    - Base the monitoring protocol upon an understanding of water quality threats and the desired or natural variability of nutrients within the system.
- Determine where and when water quality is impaired along the main stem of the river.
    - Contrast this with reference streams in the watershed.
- Determine where and when contaminants enter the main stem of the river.
    - Determine the sources, location, and relative levels of contribution of nutrient contamination (land use, fire, aerial deposition, etc.).

  - Sampling stations should complement existing and historic water quality stations and stream gages operated on the main stem of the river and the tributaries within the study area. [historical water quality data include pH, temperature, dissolved oxygen, turbidity, nitrogen, and phosphorus, as well as occasional sampling for metals and pesticides]
- Assess the influence of variability in spatial distribution of precipitation in the watershed upon movement of contaminants.
- Determine how nutrient loading and removal may vary seasonally and with changes in flow rates.
- Determine how water quality in the main stem has changed over time.
  - Construct an historic baseline.
- Report study results.

Sub-task 1.2: Provide an estimate of the assimilative capacity of the river for nutrients.

- Determine the capacity of the river to "remove" nutrients.
- Determine how the sediment transport regime may impact water quality, including sequestration of nutrients and other contaminants.
- Report study results.

Sub–task 1.3: Attend 6 meetings with Camp Pendleton and other parties in the watershed to present findings and support the Project.

Sub-task 1.4: The contractor will furnish Draft semi-annual reports of data gathered and progress on the tasks and annual Draft reports for comments and Final reports for the record.

Task 2: Determine whether the increased flows introduced under the Cooperative Water Resource Management Agreement (CWRMA) between the United States and Rancho California Water District influence threatened and endangered (T&E) species, riparian and wetland habitats, or water quality downstream.

Sub-task 2.1: The contractor will determine whether the CWRMA flows influence T&E species, their habitat, or wetlands downstream.

- Determine whether imported water quality influences federally T&E species and riparian habitats. [Measure effects primarily on T&E species and habitat and wetlands. Effects on other special status species and vegetation communities may secondarily be considered. T&E species include: arroyo toad, least Bell's vireo, southwest willow flycatcher, tidewater goby, light-footed clapper rail, and least tern.]
  - Measure biological effects using values relevant to regulatory agencies (e.g. changes in extent (acres of riparian, wetland or T&E species habitat) or quality of habitat (food supply, breeding habitat, etc).
  - Assess changes in distribution and abundance of breeding pools for fish, amphibians, and exotic predators.
  - Determine the water quality and temperature of the pools.

- Determine the water quality of imported water and how it differs from local water quality (including historic water quality values).
- Determine whether qualitative differences between local and imported water quality affect the number, distribution, or areal extent of T&E species.
- Determine whether qualitative differences between local and imported water quality affect the quality or extent of T&E habitats and wetlands.
- Determine whether the additional flows result in an increased quantity of T&E habitat and wetlands over pre-2002 levels.
- Determine how much surface flow is needed to support current populations of T&E species and habitat maintenance and regeneration.
- Determine whether the discharge patterns of imported water influence T&E species and riparian habitats.
- How do restored base flows affect special status species and habitats?
- How do restored base flows affect exotic species?
- How does the water discharge schedule change base flows relative to historic flows?
    - Assess changes in temporal and geographic distribution.
    - Assess variation during and among years.
- How does the restored variability in base flows affect special status species and habitats?
- Provide all data gathered from the field investigations to the Base for incorporation into existing models and data sets.
- Report results of study.

Sub-task 2.2: The contractor will determine whether the CWRMA flows influence water quality downstream.

- Determine whether qualitative differences between local and imported water quality affect the water quality downstream.
- Report results of study.

Sub–task 2.3: The contractor will attend four meetings to support the CWRMA TAC, prepare hand-outs or exhibits, and attend and coordinate with Camp Pendleton personnel during meetings in order to present findings and recommendations.

Sub-task 2.4: The contractor will furnish Draft semi-annual reports of data gathered and progress on the tasks and annual Draft reports for comments and Final reports for the record. The Contractor will attend 6 meetings per year with Camp Pendleton and other parties in the watershed to present findings and support the Project.

6. Submittal Requirements. The contractor will be allocated 820 days total time, including Government review of submittals, to complete the project. The contractor shall submit the following for each phase of the project:

List of Submittals

Submittal Required	Due Date or Delivery Time	Type	No. of Sets to be sent to:	
			CO	COTR
Safety Plan in accordance with WBR Clause 1452.223-81	15 days after award of task order	A	1hard copy	1 hard copy
Quality Assurance Work Plan (QAPP)	15 days after award of task order	A	1hard copy	1 hard copy
Work Plan	15 days after award of task order	A	1hard copy	1 hard copy
Monthly Progress Update	Submit with Monthly Invoices	A	1 Original + 3 copies	
1st Draft Semi-annual Report	15 days after first 6 months of sampling after award of task order.	A	1 hard copy	3 hard copies + 1 CD
1st Draft Annual Report	30 days after first 12 months of sampling after award of task order.	A	1 hard copy	3 hard copies + 1 CD
2cd Draft Semi-annual Report	15 days after first 18 months of sampling after award of task order.	A	1hard copy	3 hard copies + 1 CD
Draft Final Report	30 days after 24 months of sampling after award of task order	A	1hard copy	3 hard copies + 1 CD
Final Report	30 days after receipt of Government's comments on Draft Final Report	A	1hard copy	3 hard copies + 1 CD

Submittal type:

A – Approval
CO indicates Contracting Officer
COTR indicates Contracting Officer Technical Representative

With the exception of the first report (1st Draft Semi-Annual Report), each report will incorporate the findings of previous reports such that the Final Draft Report and Final Report will include results for the entire 24 month period of sampling. Government review time for the two Semi-Annual Reports will be 15 days; 21 days for the 1st Draft Annual Report and 30 days for the Draft Final Report.

Government comments on the two Draft Semi-Annual Reports and 1st Draft Annual Report will be discussed verbally between the Government and the Contractor at their regularly scheduled meetings

following the submittal of the reports. Government comments on the Draft Final Report will be submitted to the contractor at the end of the 30 day government review period. The contractor will incorporate the Government comments in the Final Report within 30 days from receipt of the Government comments.

It should be noted that any report or material that uses the Bureau of Reclamation and/or incorporates the Bureau's seal, logotype and tagline must be in accordance with Reclamation's Visual Identity Program policy. Refer to http://usbr.gov/vip [Username: Reclamation. Password: Website1 (both are case sensitive)] when developing any materials that will be used to officially represent Reclamation.

7. Security Requirements

a. For Monitoring and Sampling on Camp Pendleton, C: The contractor must comply with all Camp Pendleton Security Requirements as defined in Appendix C, Security and RAPID Gate Requirements.

b. For Monitoring and Sampling Other Than on Camp Pendleton: Access and permission for monitoring at locations not on Camp Pendleton must be coordinated with the applicable public and private land owners by the contractor.

8. Payment

The Government shall pay the contractor upon submission of proper monthly invoices rendered and accepted for the portion of work actually performed under this task order in accordance with FAR 52.212-4, subparagraphs (g) and (i), Contract Terms and Conditions – Commercial Items (Sept 2005). The contractor shall submit a monthly progress update with his invoice, summarizing work that was performed.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX E.3

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

PALA PARK GROUNDWATER MONITORING WELL

August 2008

Site Description for Pala Park (8S/2W-19A1-6)

LOCATION: Latitude 33º 28' 19.67", longitude 117º 07' 06.86" (NAD83) in Riverside County, California. Wells are located off Temecula Lane just south of Pala Community Park in Temecula, California.

SITE INFORMATION: Land-surface altitude is 1017 feet above mean sea level (NGVD29) from 24000 scale topographic map.

INSTRUMENTATION: In_Situ transducers, In_Situ barometer, with a Design Analysis logger and GOES transmitter. Water levels are logged at 15-minute intervals. A 12-volt rechargeable battery provides power.

WATER-LEVEL RECORD: The period of record for intermittent and daily water-level measurements is listed below.

State well number	USGS station number	Intermittent water-level	Daily water-level
8S/2W-19A1	332819117070601	09/30/2006 to present	09/30/2006 to present
8S/2W-19A2	332819117070602	09/30/2006 to present	09/30/2006 to present
8S/2W-19A3	332819117070603	09/30/2006 to present	09/30/2006 to present
8S/2W-19A4	332819117070604	09/30/2006 to present	09/30/2006 to present
8S/2W-19A5	332819117070605	09/30/2006 to present	09/30/2006 to present
8S/2W-19A6	332819117070606		

WATER-LEVEL MEASUREMENTS: Water levels are measured manually each month by means of a calibrated electric tape. Electric tape is used to avoid entangling the sensor and cable. Correction factors (comparison to a steel tape) are applied when necessary. Water-level corrections, for example to compensate for gage height, are calculated after each measurement and applied to the recorded values. In the annual data report daily values are reported as the measurement at 1200 hours in feet below land surface.

MEASURING POINT: Measuring point #1 is at an even level with the top of the vault. Measuring point #2 is a black mark on the top of the PVC casing.

TOPOGRAPHIC MAP: USGS Pechanga, California, 7.5 minute series.

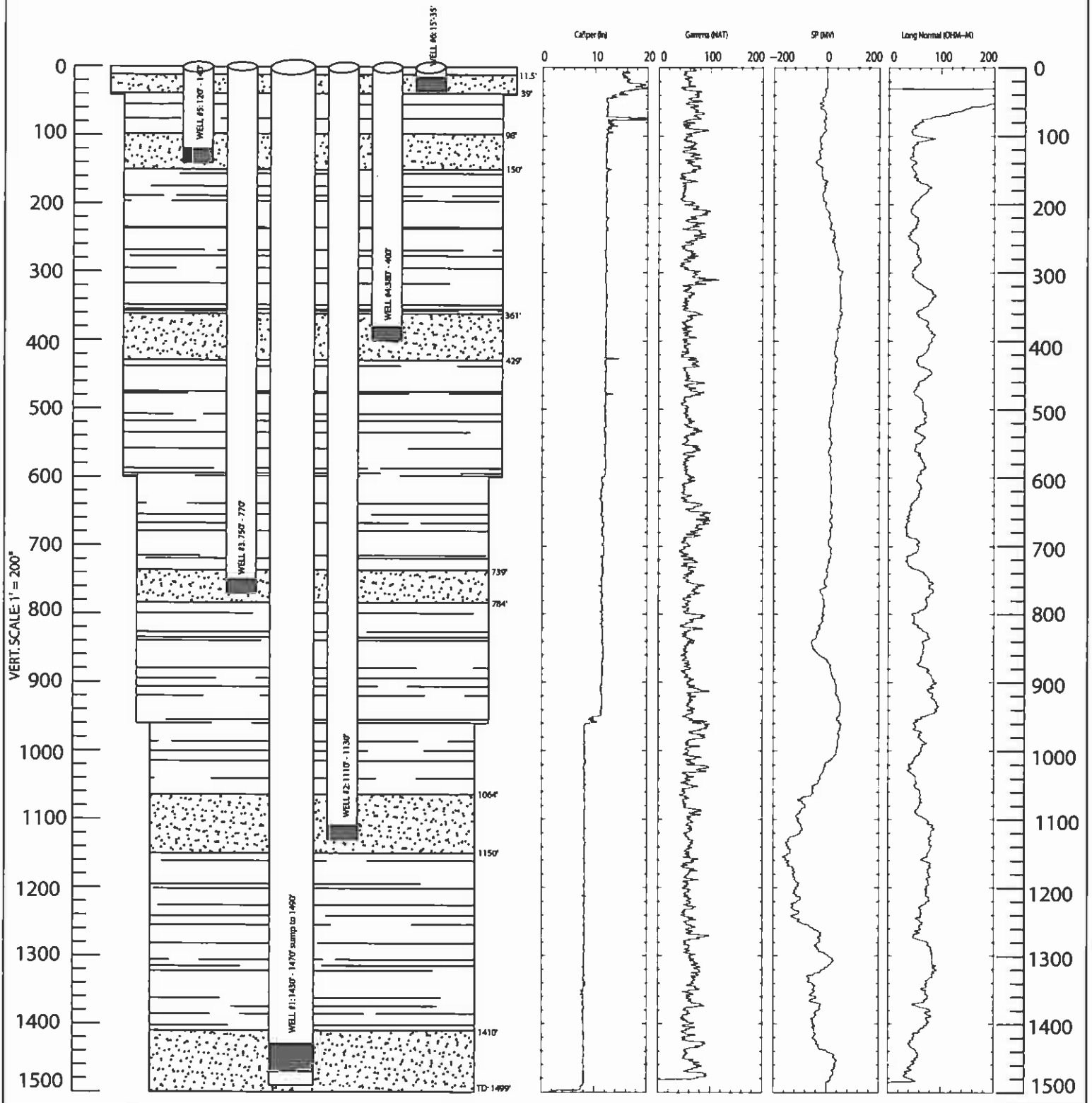
COOPERATION:

State well number	USGS station number	Hole depth (ft)	Perforation depth (ft)	Casing size and type	Date drilled
8S/2W-19A1	332819117070601	1499	1430-1470	3" PVC	9/30/06
8S/2W-19A2	332819117070602	1499	1110-1130	2" PVC	9/30/06
8S/2W-19A3	332819117070603	1499	750-770	2" PVC	9/30/06
8S/2W-19A4	332819117070604	1499	380-400	2" PVC	9/30/06
8S/2W-19A5	332819117070605	1499	120-140	2" PVC	9/30/06
8S/2W-19A6	332819117070606	1499	15-35	2" PVC	9/30/06

ROAD LOG: Key intersection is the intersection of CA-79 and Interstate Highway 15. Directions given are from Interstate Highway 15 North.

Mileage	Description
0.0	From I-15 North take the CA-79 South exit onto a local road toward Temecula / Indio.
0.3	Turn right on CA-79 South.
1.0	Turn right on Pechanga Parkway.
1.7	Turn left on Muirfield Dr.
1.9	Turn right on Canterfield Dr.
1.9	Turn right on Temecula Ln. Vault is located at end of Temecula Ln in a dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. A 2640 lock secures the vault.

SITE I.D.:	3328191170706 01-06	COMPLETION DATE:	9/30/06
STATION NAME:	08S/02W-19A 01-06	TOTAL DEPTH:	1499'
USGS SITE:	TMPP- Temecula Pala Park	WELL FINISH:	VAULT
OWNER:	Rancho California Water Agency		



DRILL TYPE:	HYDRAULIC MUD ROTARY	DRILLER:	USGS WESTERN REGION CREW
CASING TYPE:	SCHD. 80 PVC 20' SEC.	SCREEN TYPE:	SCHD. 80 1.5"x0.02"SLOTS
GROUT:	PUREGOLD GROUT @ 30% SOLIDS	SAND:	RMC LONESTAR #3
BOREHOLE DIA:	15": 0'- 41'; 12.25": 41'-600'; 10.5": 600'-960'; 8.5": 960'-1499'		

Lithologic log: Pala Park Well (8S/2W-19A 1S)

Core

[Altitude of land surface, approximately 1017 feet NGVD29. Depth is in feet below land surface. Drilled by U.S. Geological Survey September 30, 2006. Total depth drilled 1499 feet. Screened intervals: 1430-1470, 1110-1130, 750-770, 380-400, and 120-140 feet.]

Depth (ft)	Description
5	Sand (S); very fine to very coarse sand; subangular; moderately sorted; olive gray (5Y 4/2)
10	Sand (S); very fine to coarse sand; subangular; well sorted; olive gray (5Y 4/2)
15	Silty sand (zS); very fine to coarse sand with silt; subangular; well sorted; dark olive gray (5Y 3/2)
20	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to rounded; poorly sorted; olive gray (5Y 5/2)
25	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to rounded; poorly sorted; olive gray (5Y 5/2)
30	Gravel (G); very large pebble-size gravel; angular; light olive brown (2.5Y 5/4)
35	Gravel (G); granule- to medium pebble-size gravel; subrounded; well sorted; various colors
40	Sandy silt (sZ); silt with very fine to medium sand; subangular to subrounded; well sorted; very dark gray (5Y 3/1)
45	Sandy silt (sZ); silt with very fine to medium sand; subrounded; well sorted; olive gray (5Y 4/2)
50	Sandy silt (sZ); silt with very fine to medium sand; subrounded; well sorted; olive gray (5Y 4/2)
55	Sand (S); very fine to medium sand; subangular to subrounded; well sorted; olive brown (2.5Y 4/3)
60	Sandy silt (sZ); silt with very fine to medium sand; subangular to

	subrounded; well sorted; olive gray (5Y 4/2)
65	Sand (S); very fine to medium sand; subrounded; well sorted; olive gray (5Y 4/2)
70	Sand (S); very fine to medium sand; subrounded; well sorted; olive gray (5Y 4/2)
75	Sandy silt (sZ); silt with very fine to medium sand; subrounded; well sorted; olive brown (2.5Y 4/3)
80	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; light olive brown (2.5Y 5/3)
85	Sandy silt (sZ); silt with very fine to fine sand; subangular to subrounded; well sorted; olive brown (2.5Y 4/3)
90	Sandy silt (sZ); silt with very fine to medium sand; subangular to subrounded; well sorted; olive brown (2.5Y 4/3)
95	Silty sand (zS); very fine to medium sand with silt; subrounded; well sorted; olive gray (5Y 4/2)
100	Silty sand (zS); very fine to fine sand with silt; subangular to subrounded; well sorted; olive gray (5Y 4/2)
105	Sand (S); very fine to very coarse sand; subangular to subrounded; moderately sorted; yellowish brown (10YR 5/4)
110	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subrounded; poorly sorted; light olive brown (2.5Y 5/3)
115	Gravelly sand (gS); very fine to very coarse sand with granules; subangular to subrounded; poorly sorted; grayish brown (2.5Y 5/2)
120	Gravelly sand (gS); very fine to very coarse sand with granules; subangular to subrounded; poorly sorted; grayish brown (2.5Y 5/2)
125	Sand (S); very fine to fine sand; subangular to subrounded; very well sorted; grayish brown (2.5Y 5/2)
130	Sandy silt (sZ); silt with very fine to fine sand; subangular to subrounded; very well sorted; grayish brown (2.5Y 5/2)
135	Gravelly sandy silt ((g)sM); silt with very fine to very coarse sand and granules; subangular to subrounded; very poorly sorted; light olive brown (2.5Y 5/3)
140	Gravelly sandy silt ((g)sM); silt with very fine to very coarse sand and granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; light olive brown (2.5Y 5/3)
145	Silty sand (zS); very fine to medium sand with silt; subangular to subrounded; well sorted; dark grayish brown (2.5Y 4/2)

150	Silty sand (zS); very fine to very coarse sand with silt; subangular to subrounded; moderately sorted; dark gray (5Y 4/1)
155	Sandy gravel (sG); granule- to small pebble-size gravel with medium to very coarse sand; subrounded; poorly sorted; various colors
160	Sandy silt (sZ); silt with very fine to fine sand; subangular to subrounded; very well sorted; olive gray (5Y 4/2)
165	Sandy silt (sZ); silt with very fine to medium sand; subangular to subrounded; well sorted; gray (5Y 6/1)
170	Silty sand (zS); very fine to coarse sand with silt; subangular; poorly sorted; olive brown (2.5Y 4/3)
175	Gravel (G); granule- to medium pebble-size gravel; subangular to subrounded; moderately sorted; various colors
180	Sandy gravel (sG); granule- to medium pebble-size gravel with coarse to very coarse sand; subrounded; poorly sorted; various colors
185	Gravelly sand (gS); very fine to very coarse sand with granules; subangular; poorly sorted; various colors
190	Gravelly sand (gS); very fine to very coarse sand with granules; angular to subangular; poorly sorted; grayish brown (2.5Y 5/2)
195	Gravelly sand (gS); very fine to very coarse sand with granules; angular to subangular; poorly sorted; grayish brown (2.5Y 5/2)
200	Sand (S); very fine to coarse sand; subangular to subrounded; moderately sorted; dark grayish brown (2.5Y 4/2)
395	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to very large pebble-size gravel; subangular to subrounded; very poorly sorted; olive gray (5Y 5/2)
400	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; olive gray (5Y 5/2)
405	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to large pebble-size gravel; angular to subangular; very poorly sorted; olive gray (5Y 5/2)
410	Gravelly sand (gS); very fine to very coarse sand with granules; subangular; poorly sorted; olive gray (5Y 5/2)
415	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; olive gray (5Y 5/2)
420	Gravelly sand (gS); very fine to very coarse sand with granules; subangular to subrounded; poorly sorted; olive gray (5Y 5/2)

425	Silty sand (zS); very fine to coarse sand with silt; subangular; poorly sorted; olive gray (5Y 4/2)
430	Sandy silt (sZ); silt with very fine sand; subangular; very well sorted; dark gray (5Y 4/1)
705	Sand (S); very fine to very coarse sand; angular to subangular; moderately sorted; light yellowish brown (2.5Y 6/3)
710	Silty sand (zS); very fine to very coarse sand with silt; angular to subangular; moderately sorted; light yellowish brown (2.5Y 6/3)
715	Silty sand (zS); very fine to very coarse sand with silt; angular to subangular; moderately sorted; light yellowish brown (2.5Y 6/3)
720	Silty sand (zS); very fine to very coarse sand with silt; subangular; well sorted; olive gray (5Y 4/2)
845	Gravelly sand (gS); very fine to coarse sand with granules; subangular; poorly sorted; olive gray (5Y 5/2)
850	Sandy gravel (sG); granule- to medium pebble-size gravel with very fine to very coarse sand; subangular to subrounded; poorly sorted; light yellowish brown (2.5Y 6/4)
855	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; pale yellow (2.5Y 7/4)
860	Sand (S); very fine to medium sand; subangular; well sorted; light gray (2.5Y 7/2)
865	Gravelly sand (gS); very fine to very coarse sand with granule- to medium pebble-size gravel; subangular to rounded; very poorly sorted; pale yellow (5Y 7/3)
870	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; light yellowish brown (2.5Y 6/4)
875	Gravelly sand (gS); very fine to very coarse sand with granule- to medium pebble-size gravel; subangular to rounded; very poorly sorted; light yellowish brown (2.5Y 6/3)
880	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; light yellowish brown (2.5Y 6/3)
985	Silty sand (zS); very fine to very coarse sand with silt; subangular; poorly sorted; light brownish gray (2.5Y 6/2)
990	Silty sand (zS); very fine to very coarse sand with silt; subangular; poorly sorted; olive gray (5Y 5/2)
995	Sandy silt (sZ); silt with very fine to fine sand; subangular; well sorted; olive gray (5Y 4/2)

1482	Gravelly sand (gS); very fine to very coarse sand with granule- to medium pebble-size gravel; subangular to subrounded; poorly sorted; various colors
1485	Gravel (G); very large pebble-size gravel; subangular; light olive brown (2.5Y 5/3)

Lithologic log: Pala Park Well (8S/2W-19A 1S)

Shaker

[Altitude of land surface, approximately 1017 feet NGVD29. Depth is in feet below land surface. Drilled by U.S. Geological Survey September 30, 2006. Total depth drilled 1499 feet. Screened intervals: 1430-1470, 1110-1130, 750-770, 380-400, and 120-140 feet.]

Depth (ft)	Description
210	Gravelly sand (gS); fine to very coarse sand with granules; subangular to subrounded; poorly sorted; light olive brown (2.5Y 5/3)
220	Gravelly sand (gS); coarse to very coarse sand with granules; subangular to subrounded; well sorted; dark grayish brown (2.5Y 4/2)
230	Sand (S); medium to very coarse sand; subangular to subrounded; moderately sorted; dark grayish brown (2.5Y 4/2)
240	Silty sand (zS); very fine to very coarse sand with silt; subangular; poorly sorted; dark grayish brown (2.5Y 4/2)
250	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granules; subangular; very poorly sorted; dark grayish brown (2.5Y 4/2)
260	Gravelly sand (gS); medium to very coarse sand with granules; subrounded; well sorted; light olive brown (2.5Y 5/3)
270	Gravelly sand (gS); medium to very coarse sand with granules; subrounded; well sorted; light olive brown (2.5Y 5/3)
280	Gravelly sand (gS); medium to very coarse sand with granules; subrounded; well sorted; light olive brown (2.5Y 5/3)
290	Gravelly sand (gS); medium to very coarse sand with granules; subrounded; well sorted; light olive brown (2.5Y 5/3)
300	Gravelly silty sand (gmS); medium to very coarse sand with silt and granules; subrounded; moderately sorted; dark grayish brown (2.5Y 4/2)
310	Gravelly silty sand (gmS); medium to very coarse sand with silt and granules; subrounded; moderately sorted; dark olive gray (5Y 3/2)
320	Gravelly silty sand (gmS); medium to very coarse sand with silt and

	granules; subrounded; moderately sorted; dark grayish brown (2.5Y 4/2)
330	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subrounded; moderately sorted; grayish brown (2.5Y 5/2)
340	Gravelly sand (gS); medium to very coarse sand with granules; subrounded; well sorted; light olive brown (2.5Y 5/3)
350	Gravelly sand (gS); medium to very coarse sand with granules; subrounded; well sorted; light olive brown (2.5Y 5/3)
360	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subrounded; moderately sorted; light olive brown (2.5Y 5/3)
370	Sand (S); fine to coarse sand; subrounded; well sorted; dark grayish brown (2.5Y 4/2)
380	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
390	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
440	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; olive gray (5Y 4/2)
450	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; angular to subrounded; poorly sorted; light olive brown (2.5Y 5/3)
460	Gravelly sand (gS); fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; grayish brown (2.5Y 5/2)
470	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; grayish brown (2.5Y 5/2)
480	Sand (S); coarse to very coarse sand; subangular; very well sorted; light olive brown (2.5Y 5/3)
490	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; very well sorted; light olive brown (2.5Y 5/3)
500	Gravelly sand (gS); coarse to vey coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
510	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
520	Gravelly sand (gS); coarse to very coarse sand with granules;

	angular to subangular; moderately sorted; light olive brown (2.5Y 5/3)
530	Gravelly sand (gS); coarse to very coarse sand with granule- to small pebble-size gravel; angular to subangular; poorly sorted; light olive brown (2.5Y 5/3)
540	Sand (S); coarse to very coarse sand; subangular; very well sorted; light olive brown (2.5Y 5/3)
550	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
560	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
570	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
580	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
590	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
600	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
610	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
620	Gravelly sand (gS); coarse to very coarse sand with granules; subangular; well sorted; light olive brown (2.5Y 5/3)
630	Gravelly sand (gS); coarse to very coarse sand with granule- to medium pebble-size gravel; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
640	Sand (S); coarse to very coarse sand; subangular to subrounded; very well sorted; dark grayish brown (2.5Y 4/2)
650	Sand (S); coarse to very coarse sand; subangular to subrounded; very well sorted; dark grayish brown (2.5Y 4/2)
660	Silty sand (zS); medium to very coarse sand with silt; subangular; moderately sorted; dark olive gray (5Y 3/2)
670	Silty sand (zS); medium to very coarse sand with silt; subangular; moderately sorted; dark olive gray (5Y 3/2)
680	Silty sand (zS); medium to very coarse sand with silt; subangular; moderately sorted; dark grayish brown (2.5Y 4/2)
690	Gravelly sand (gS); coarse to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; olive brown (2.5Y 4/3)

700	Gravelly sand (gS); coarse to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
730	Gravelly silty sand (gmS); very fine to very coarse sand with silt and occasional granule- to large pebble-size gravel; subangular to subrounded; poorly sorted; olive gray (5Y 4/2)
740	Gravelly sand (gS); medium to very coarse sand with granules; subangular; moderately sorted; grayish brown (2.5Y 5/2)
750	Gravelly sand (gS); medium to very coarse sand with granules; subangular; moderately sorted; grayish brown (2.5Y 5/2)
760	Gravelly silty sand (gmS); fine to very coarse sand with silt and granules; subangular; poorly sorted; light olive brown (2.5Y 5/3)
770	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular; moderately sorted; grayish brown (2.5Y 5/2)
780	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular; moderately sorted; grayish brown (2.5Y 5/2)
790	Gravelly sand (gS); medium to very coarse sand with granules; angular to subangular; moderately sorted; grayish brown (2.5Y 5/2)
800	Gravelly sand (gS); medium to very coarse sand with granule- to medium pebble-size gravel; subangular; poorly sorted; light olive brown (2.5Y 5/3)
810	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular; poorly sorted; olive gray (5Y 4/2)
820	Gravelly silty sand (gmS); medium to very coarse sand with silt and granules; subangular; poorly sorted; olive gray (5Y 4/2)
830	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular; very poorly sorted; dark grayish brown (2.5Y 4/2)
840	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; olive brown (2.5Y 4/3)
890	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/4)
900	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)

910	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; grayish brown (2.5Y 5/2)
920	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; grayish brown (2.5Y 5/2)
930	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subrounded; moderately sorted; grayish brown (2.5Y 5/2)
940	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subrounded; moderately sorted; light olive brown (2.5Y 5/3)
950	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subrounded; moderately sorted; light olive brown (2.5Y 5/3)
960	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular; moderately sorted; grayish brown (2.5Y 5/2)
970	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; olive gray (5Y 4/2)
980	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; very poorly sorted; olive gray (5Y 4/2)
1000	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1010	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular; poorly sorted; olive gray (5Y 4/2)
1020	Sand (S); medium to very coarse sand; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1030	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1040	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1050	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y

	5/2)
1060	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1070	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1080	Gravelly sand (gS); medium to very coarse sand with granules; subangular; moderately sorted; grayish brown (2.5Y 5/2)
1090	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1100	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1110	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1120	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1130	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1140	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1150	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1160	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1170	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1180	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1190	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown

	(2.5Y 5/3)
1200	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1220	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1230	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1240	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1250	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; light olive brown (2.5Y 5/3)
1260	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1270	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1280	Sand (S); medium to very coarse sand; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1290	Sand (S); medium to very coarse sand; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1300	Sand (S); medium to very coarse sand; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1310	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1320	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1330	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1340	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1350	Sand (S); medium to very coarse sand; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1360	Gravelly sand (gS); fine to very coarse sand with granules;

	subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1370	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1380	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1390	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1400	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; well sorted; grayish brown (2.5Y 5/2)
1410	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1420	Gravelly sand (gS); medium to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1430	Gravelly sand (gS); very fine to very coarse sand with granule- to small pebble-size gravel; subangular to subrounded; moderately sorted; dark grayish brown (2.5Y 4/2)
1400	Gravelly sand (gS); very fine to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1450	Gravelly sand (gS); very fine to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
1460	Sand (S); very fine to very coarse sand; subangular to subrounded; moderately sorted; olive brown (2.5Y 4/3)
1470	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; dark grayish brown (2.5Y 4/2)
1480	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granule- to small pebble-size gravel; subangular to subrounded; poorly sorted; dark grayish brown (2.5Y 4/2)
1489	Sandy gravel (sG); granules with coarse to very coarse sand; subangular to subrounded; well sorted; light brownish gray (2.5Y 6/2)
1499	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)

Lithologic log: Pala Park Well (8S/2W-19A 1S)

Sieve

[Altitude of land surface, approximately 1017 feet NGVD29. Depth is in feet below land surface. Drilled by U.S. Geological Survey September 30, 2006. Total depth drilled 1499 feet. Screened intervals: 1430-1470, 1110-1130, 750-770, 380-400, and 120-140 feet.]

Depth (ft) From	Depth (ft) To	Description
0	210	No data available
210	230	Sand (S); very fine to coarse sand; subangular; well sorted; olive brown (2.5Y 4/3)
230	250	Sand (S); very fine to medium sand; subangular; well sorted; olive brown (2.5Y 4/3)
250	270	Gravelly sand (gS); very fine to very coarse sand with some granules; subangular; moderately sorted; olive brown (2.5Y 4/3)
270	290	Sand (S); very fine to very coarse sand; subangular; well sorted; olive brown (2.5Y 4/3)
290	310	Sand (S); very fine to medium sand; subangular; well sorted; olive gray (5Y 4/2)
310	330	Sand (S); very fine to coarse sand; subangular; well sorted; olive gray (5Y 4/2)
330	350	Gravelly sand (gS); very fine to very coarse sand with granules; subangular; poorly sorted; light olive brown (2.5Y 5/3)
350	370	Gravelly sand (gS); medium to very coarse sand with granules; subangular to subrounded; moderately sorted; grayish brown (2.5Y 5/2)
370	390	Gravelly sand (gS); very fine to very coarse sand with some granules; subangular; poorly sorted; olive gray (5Y 4/2)
390	430	No sample collected
430	450	Gravelly sand (gS); very fine to very coarse sand with some granules; subangular; poorly sorted; olive gray (5Y

		4/2)
450	470	Sand (S); very fine to coarse sand; subangular; well sorted; olive gray (5Y 4/2)
470	490	Sand (S); very fine to very coarse sand; subangular to subrounded; moderately sorted; olive gray (5Y 4/2)
490	510	Sand (S); very fine to very coarse sand; subangular; moderately sorted; olive gray (5Y 4/2)
510	530	Sandy gravel (sG); granule- to small pebble-size gravel with very fine to very coarse sand; subangular; very poorly sorted; olive brown (2.5Y 4/3)
530	550	Gravelly sand (gS); very fine to very coarse sand with granules; subangular to subrounded; poorly sorted; grayish brown (2.5Y 5/2)
550	570	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
570	590	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
590	610	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
610	630	Sand (S); very fine to coarse sand; subangular; well sorted; dark grayish brown (2.5Y 4/2)
630	650	Sand (S); very fine to coarse sand; subangular; well sorted; dark grayish brown (2.5Y 4/2)
650	670	Sand (S); very fine to medium sand; subangular; very well sorted); very abundant mica; olive gray (5Y 4/2)
670	690	Sand (S); very fine to very coarse sand; subangular; moderately sorted; olive gray (5Y 5/2)
690	720	No sample collected
720	730	Gravelly silty sand (gmS); very fine to very coarse sand with silt and granules; subangular to subrounded; poorly sorted; dark grayish brown (2.5Y 4/2)
730	750	Sand (S); very fine to very coarse sand; subangular; moderately sorted; olive gray (5Y 4/2)
750	770	Gravelly sand (gS); very fine to very coarse sand with some granule- to small pebble-size gravel; subangular; poorly sorted; olive gray (5Y 4/2)
770	790	Sand (S); very fine to medium sand; subangular; well sorted; olive (5Y 4/3)
790	810	Sand (S); very fine to fine sand; subangular; very well

		sorted; olive gray (5Y 4/2)
810	830	Sandy gravel (sG); granule- to small pebble-size gravel with very fine to very coarse sand; subangular to subrounded; very poorly sorted; olive gray (5Y 4/2)
830	890	No sample collected
890	910	Gravelly sand (gS); very fine to very coarse sand with granules; subangular; poorly sorted; grayish brown (2.5Y 5/2)
910	930	Sand (S); very fine to very coarse sand; subangular; moderately sorted; olive gray (5Y 4/2)
930	950	Gravelly sand (gS); very fine to very coarse sand with some granule- to small pebble-size gravel; subangular; poorly sorted; olive gray (5Y 4/2)
950	970	Sand (S); very fine to medium sand; subangular; well sorted; olive gray (5Y 4/2)
970	980	Sand (S); very fine to medium sand; subangular; well sorted; olive gray (5Y 4/2)
980	995	No sample collected
995	1010	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
1010	1030	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
1030	1050	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1050	1070	Sand (S); very fine to coarse sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1070	1090	Sand (S); very fine to very coarse sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1090	1110	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
1110	1130	Sand (S); very fine to very coarse sand; subangular; moderately sorted; grayish brown (2.5Y 5/2)
1130	1150	Sand (S); very fine to coarse sand; subangular; well sorted; olive gray (5Y 4/2)
1150	1170	Sand (S); very fine to very coarse sand; subangular; well sorted; olive gray (5Y 4/2)
1170	1190	Sand (S); very fine to medium sand; subangular; well sorted; olive gray (5Y 4/2)
1190	1210	No sample collected

1210	1230	Sand (S); very fine to medium sand; subangular; well sorted; olive gray (5Y 4/2)
1230	1250	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1250	1267	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1267	1278	Sand (S); very fine to medium sand; subangular; well sorted; olive gray (5Y 4/2)
1278	1298	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1298	1318	Sand (S); very fine to coarse sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1318	1338	Sand (S); very fine to coarse sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1338	1358	Sand (S); very fine to coarse sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1358	1378	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1378	1398	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1398	1418	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1418	1438	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1438	1458	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)
1458	1478	Sand (S); very fine to medium sand; subangular; well sorted; grayish brown (2.5Y 5/2)

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e046451

Page 1 of 1

Owner's Well Number TMPP #1

Date Work Began 08/30/2006 Date Work Ended 9/30/2006

Local Permit Agency County of Riverside, Dept. of Environmental Health

Permit Number 32250 Permit Date 8/9/06

DWR Use Only – Do Not Fill In

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand; vf-med sand; olive gray (5Y 5/2)
15	35	Gravel; granules-small pebbles; pale yellow (5Y 7/3)
35	130	Silt; silt; lt olive gray (5Y 6/2)
130	200	Gravelly sand; fine-vc sand with granules; lt gray (2.5Y 7/2)
200	240	Sand; med-vc sand; grayish brown (2.5Y 5/2)
240	260	Sandy silt; silt with coarse-vc sand; dk grayish brown (2.5Y 4/2)
260	310	Sand; coarse-vc sand; ly olive brown (2.5Y 5/3)
310	320	Sandy silt; silt with med-vc sand; dk olive gray (5Y 3/2)
320	660	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
660	690	Sandy silt; silt with vf-med sand; olive (5Y 4/3)
690	800	Gravelly sand; med-vc sand with granules; olive brown (2.5Y 4/3)
800	840	Clayey sand; fine-vc sand with clay; olive gray (5Y 4/3)
840	900	Gravelly sand, coarse-vc sand with granules; lt olive brown (2.5Y 5/3)
900	960	Gravelly sand, coarse-vc sand with granules-sm pebbles; dk grayish brown (2.5Y 4/2)
960	1,020	Gravelly sand, med-vc sand with granules-sm pebbles; lt brownish gray (2.5Y 6/2)
1020	1,340	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
1340	1,499	Sand; med-vc sand; grayish brown (2.5Y 5/2)

Total Depth of Boring 1499 Feet

Total Depth of Completed Well 1490 Feet

Well Owner

Name Rancho California Water District

Mailing Address 42135 Winchester Road

City Temecula State CA Zip 92590

Well Location

Address 44900 Temecula Lane

City Temecula County Riverside

Latitude 33 Deg. 28 Min. 19.67 Sec. N Longitude 117 Deg. 07 Min. 06.86 Sec W

Datum NAD83 Decimal Lat. Decimal Long.

APN Book 231 Page 41-48 Parcel Lot 89, TR21067

Township 08S Range 02W Section 19A

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc and attach a map. Use additional paper if necessary. Please be accurate and complete

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply
☐ Domestic ☐ Public
☐ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
◉ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	41	15						
100	340	12.25						
340	820	10.5						
820	1,500	8.5						
0/1470	1430/1490		Blank	PVC Sch. 80	.300	3.5		
1,430	1,470		Screen	PVC Sch. 80	.300	3.5	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
12	39	Fill	RMC #3 Sand
98	150	Fill	RMC #3 Sand
361	429	Fill	RMC #3 Sand
736	784	Fill	RMC #3 Sand
1064/1410	1150/1489	Fill	RMC #3 Sand
		Bentonite	All other depths

Attachments

☑ Geologic Log
☑ Well Construction Diagram
☑ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☑ Other On file @ USGS San Diego

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Anthony Brown, Hydrologic Technician, US Geological Survey
Person, Firm or Corporation

4165 Spruance Road, Suite 200 San Diego CA 92101
Address City State Zip

Signed
C-57 Licensed Water Well Contractor

10/5/2006
Date Signed

Exempt, US Govt.
C-57 License Number

DWR 188 REV 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

WELL SCHEDULE
GEOLOGICAL SURVEY, WRD

Lat 33 28 19 Long 117 07 06 Seq. No. 01 B&M ☐

County: Riverside Well No. 08S/02W-19A1
Area: Temecula, CA Drill Log No. e046451
Date: 10/31/2006 Other No. TMPP #1
Recorded by: Anthony Brown
Source of data: Site Geologist

Location map: Pechanga Scale: 1:24000
Altitude of LSD: 1017 ft. How obtained: map
Topography at well: Flat
Owner: Rancho California Water District Phone No. (951) 296-6900
Address: 42135 Winchester Road, Temecula, CA 92590
Permission to measure/sample given by:
Contact before? (Yes) No
Driller: USGS Western Region Research Drilling Unit
Address: 160 N. Stephanie Road Henderson, Nevada 89074 702.564.4541
Date drilled: 09/30/2006 Drill Depth: 1499'
Method drilled: Hydraulic rotary Well Finish: Perfed
Perforations: 1.5"x 0.020", 1430'-1470'

Type log data: Geologist log, drillers log, geophysical logs

Use of well: Observation Use of water: Unused
Pump type: none Serial No. N/A
Motor: N/A Serial No. N/A
Power type: N/A HP: N/A Meter No. N/A

Well Depth: 1490 ft. From MP: Meas. Rept. Date:

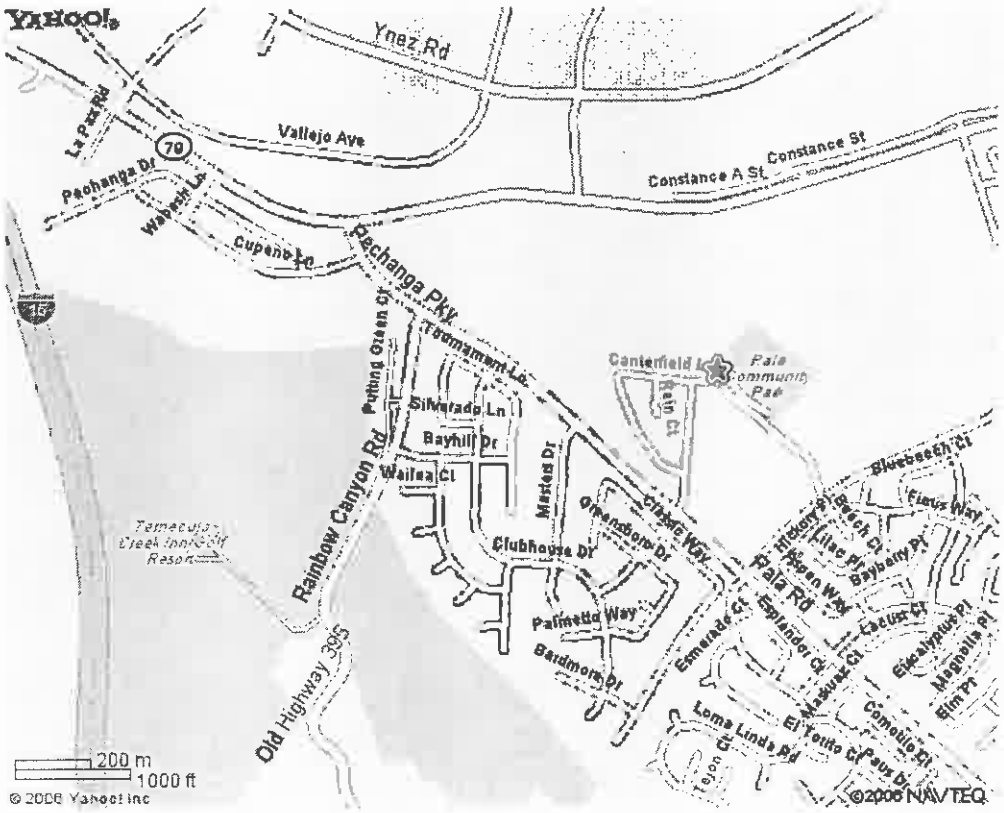
Casing diam. 3" Sched. 80 2.9" ID Casing type: Flush Thread PVC

Water level: ft. Stdg. Pmpg. Meas. Rept. 19
above / below which is ft. above / below LSD
Water level abv/blw LSD=

T 8-22

Well is located at 44900 Temecula Lane, Temecula, CA 92592. Take I-15N to the 79S exit. Make right onto 79S. Turn right on Pechanga Parkway. Turn left on Muirfield Dr. Turn right on Canterfield Dr. Vault is located at end of Temecula Lane in dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. 2640 lock secures vault.

SKETCH OF LOCATION AND M.P.



*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e046452

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

Page 1 of 1

Owner's Well Number TMPP #2

Date Work Began 08/30/2006 Date Work Ended 9/30/2006

Local Permit Agency County of Riverside, Dept. of Environmental Health

Permit Number 32250 Permit Date 8/9/06

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand; vf-med sand; olive gray (5Y 5/2)
15	35	Gravel; granules-small pebbles; pale yellow (5Y 7/3)
35	130	Silt; silt; lt olive gray (5Y 6/2)
130	200	Gravelly sand; fine-vc sand with granules; lt gray (2.5Y 7/2)
200	240	Sand; med-vc sand; grayish brown (2.5Y 5/2)
240	260	Sandy silt; silt with coarse-vc sand; dk grayish brown (2.5Y 4/2)
260	310	Sand; coarse-vc sand; ly olive brown (2.5Y 5/3)
310	320	Sandy silt; silt with med-vc sand; dk olive gray (5Y 3/2)
320	660	Gravelly sand; med-vc sand with granules; grayish brown (2 5Y 5/2)
660	690	Sandy silt; silt with vf-med sand; olive (5Y 4/3)
690	800	Gravelly sand; med-vc sand with granules; olive brown (2.5Y 4/3)
800	840	Clayey sand; fine-vc sand with clay; olive gray (5Y 4/3)
840	900	Gravelly sand; coarse-vc sand with granules; lt olive brown (2.5Y 5/3)
900	960	Gravelly sand, coarse-vc sand with granules-sm pebbles, dk grayish brown (2.5Y 4/2)
960	1,020	Gravelly sand; med-vc sand with granules-sm pebbles; lt brownish gray (2.5Y 6/2)
1020	1,340	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
1340	1,499	Sand; med-vc sand; grayish brown (2.5Y 5/2)

Total Depth of Boring 1499 Feet

Total Depth of Completed Well 1130 Feet

Well Owner

Name Rancho California Water District

Mailing Address 42135 Winchester Road

City Temecula State CA Zip 92590

Well Location

Address 44900 Temecula Lane

City Temecula County Riverside

Latitude 33 Deg. 28 Min. 19.67 Sec. N Longitude 117 Deg 07 Min. 06.86 W Sec

Datum NAD83 Decimal Lat. Decimal Long.

APN Book 231 Page 41-48 Parcel Lot 89, TR21067

Township 08S Range 02W Section 19A

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc and attach a map Use additional paper if necessary Please be accurate and complete

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply
☐ Domestic ☐ Public
☐ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
◉ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size If Any (Inches)
0	41	15						
100	340	12.25						
340	820	10.5						
820	1,500	8.5						
0	1110		Blank	PVC Sch. 80	.218	2.375		
1,110	1,130		Screen	PVC Sch. 80	.218	2.375	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
12	39	Fill	RMC #3 Sand
98	150	Fill	RMC #3 Sand
361	429	Fill	RMC #3 Sand
736	784	Fill	RMC #3 Sand
1064/1410	1150/1499	Fill	RMC #3 Sand
		Bentonite	All other depths

Attachments

☑ Geologic Log
☑ Well Construction Diagram
☑ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☑ Other On file @ USGS San Diego

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Anthony Brown, Hydrologic Technician, US Geological Survey
Person, Firm or Corporation

4165 Spruance Road, Suite 200 (Address) San Diego (City) CA (State) 92101 (Zip)

Signed (C-57 Licensed Water Well Contractor) 10/5/2006 (Date Signed) Exempt, US Govt. (C-57 License Number)

DWR 188 REV. 1/2006

* * * IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

WELL SCHEDULE
GEOLOGICAL SURVEY, WRD

Lat 33 28 19 Long 117 07 06 Seq. No. 02 B&M ☐

County: Riverside Well No. 08S/02W-19A2
Area: Temecula, CA Drill Log No. e046452
Date: 10/31/2006 Other No. TMPP #2
Recorded by: Anthony Brown
Source of data: Site Geologist

Location map: Pechanga Scale: 1:24000
Altitude of LSD: 1017 ft. How obtained: map
Topography at well: Flat
Owner: Rancho California Water District Phone No. (951) 296-6900
Address: 42135 Winchester Road, Temecula, CA 92590
Permission to measure/sample given by:
Contact before? (Yes) No
Driller: USGS Western Region Research Drilling Unit
Address: 160 N. Stephanie Road Henderson, Nevada 89074 702.564.4541
Date drilled: 09/30/2006 Drill Depth: 1499'
Method drilled: Hydraulic rotary Well Finish: Perfed
Perforations: 1.5"x0.020"; 1110'-1130'

Type log data: Geologist log, drillers log, geophysical logs

Use of well: Observation Use of water: Unused
Pump type: none Serial No. N/A
Motor: N/A Serial No. N/A
Power type: N/A HP: N/A Meter No. N/A

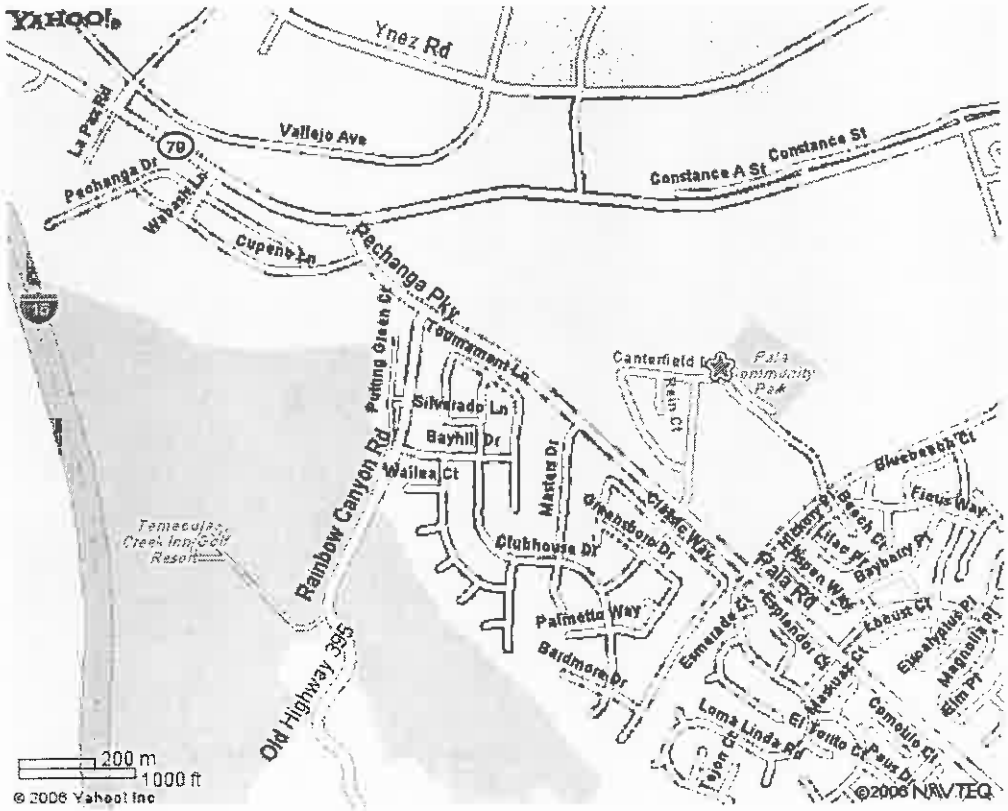
Well Depth: 1130 ft. From MP: Meas. Rept. Date:

Casing diam. 2" Sched. 80; 1.94"ID Casing type: Flush Thread PVC

Water level: ft. Stdg. Pmpg. Meas. Rept. 19
above / below which is ft. above / below LSD
Water level abv/blw LSD=

Well is located at 44900 Temecula Lane, Temecula, CA 92592. Take I-15N to the 79S exit. Make right onto 79S. Turn right on Pechanga Parkway. Turn left on Muirfield Dr. Turn right on Canterfield Dr. Vault is located at end of Temecula Lane in dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. 2640 lock secures vault.

SKETCH OF LOCATION AND M.P.



*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e046453

Page 1 of 1

Owner's Well Number TMPP #3

Date Work Began 08/30/2006 Date Work Ended 9/30/2006

Local Permit Agency County of Riverside, Dept. of Environmental Health

Permit Number 32250 Permit Date 8/9/06

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand; vf-med sand; olive gray (5Y 5/2)
15	35	Gravel; granules-small pebbles; pale yellow (5Y 7/3)
35	130	Silt; silt; lt olive gray (5Y 6/2)
130	200	Gravelly sand; fine-vc sand with granules; lt gray (2.5Y 7/2)
200	240	Sand; med-vc sand; grayish brown (2.5Y 5/2)
240	260	Sandy silt; silt with coarse-vc sand; dk grayish brown (2.5Y 4/2)
260	310	Sand; coarse-vc sand; ly olive brown (2.5Y 5/3)
310	320	Sandy silt; silt with med-vc sand; dk olive gray (5Y 3/2)
320	660	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
660	690	Sandy silt; silt with vf-med sand; olive (5Y 4/3)
690	800	Gravelly sand; med-vc sand with granules; olive brown (2.5Y 4/3)
800	840	Clayey sand; fine-vc sand with clay; olive gray (5Y 4/3)
840	900	Gravelly sand; coarse-vc sand with granules; lt olive brown (2.5Y 5/3)
900	960	Gravelly sand, coarse-vc sand with granules-sm pebbles; dk grayish brown (2.5Y 4/2)
960	1,020	Gravelly sand; med-vc sand with granules-sm pebbles, lt brownish gray (2.5Y 6/2)
1020	1,340	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
1340	1,499	Sand; med-vc sand; grayish brown (2.5Y 5/2)

Total Depth of Boring 1499 Feet

Total Depth of Completed Well 770 Feet

Well Owner

Name Rancho California Water District

Mailing Address 42135 Winchester Road

City Temecula State CA Zip 92590

Well Location

Address 44900 Temecula Lane

City Temecula County Riverside

Latitude 33 Deg. 28 Min. 19.67 Sec. N Longitude 117 Deg. 07 Min. 06.86 W Sec.

Datum NAD83 Decimal Lat. Decimal Long.

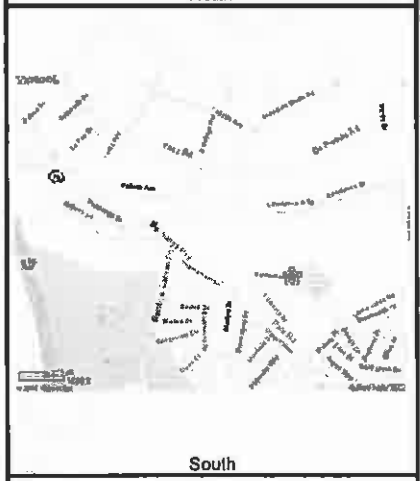
APN Book 231 Page 41-48 Parcel Lot 89, TR21067

Township 08S Range 02W Section 19A

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North



South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc and attach a map. Use additional paper if necessary. Please be accurate and complete

Activity

◉ New Well

○ Modification/Repair

○ Deepen

○ Other

○ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply

☐ Domestic ☐ Public

☐ Irrigation ☐ Industrial

○ Cathodic Protection

○ Dewatering

○ Heat Exchange

○ Injection

◉ Monitoring

○ Remediation

○ Sparging

○ Test Well

○ Vapor Extraction

○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	41	15						
100	340	12.25						
340	820	10.5						
820	1,500	8.5						
0	750		Blank	PVC Sch. 80	.218	2.375		
750	770		Screen	PVC Sch. 80	.218	2.375	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
12	39	Fill	RMC #3 Sand
98	150	Fill	RMC #3 Sand
361	429	Fill	RMC #3 Sand
736	784	Fill	RMC #3 Sand
1084/1410	1150/1499	Fill	RMC #3 Sand
		Bentonite	All other depths

Attachments

☑ Geologic Log

☑ Well Construction Diagram

☑ Geophysical Log(s)

☐ Soil/Water Chemical Analyses

☑ Other On file @ USGS San Diego

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Anthony Brown, Hydrologic Technician, US Geological Survey

Person, Firm or Corporation

4165 Spruance Road, Suite 200 (Address) San Diego (City) CA (State) 92101 (Zip)

Signed (C-57 Licensed Water Well Contractor) 10/5/2006 (Date Signed) Exempt, US Govt. (C-57 License Number)

DWR 188 REV 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

WELL SCHEDULE
GEOLOGICAL SURVEY, WRD

Lat 33 28 19 Long 117 07 06 Seq. No. 03 B&M ☐

County: Riverside Well No. 08S/02W-19A3
Area: Temecula, CA Drill Log No. e046453
Date: 10/31/2006 Other No. TMPP #3
Recorded by: Anthony Brown
Source of data: Site Geologist

Location map: Pechanga Scale: 1:24000
Altitude of LSD: 1017 ft. How obtained: map
Topography at well: Flat
Owner: Rancho California Water District Phone No. (951) 296-6900
Address: 42135 Winchester Road, Temecula, CA 92590
Permission to measure/sample given by:
Contact before? (Yes) No
Driller: USGS Western Region Research Drilling Unit
Address: 160 N. Stephanie Road Henderson, Nevada 89074 702.564.4541
Date drilled: 09/30/2006 Drill Depth: 1499'
Method drilled: Hydraulic rotary Well Finish: Perfed
Perforations: 1.5"x0.020"; 750'-770'

Type log data: Geologist log, drillers log, geophysical logs

Use of well: Observation Use of water: Unused
Pump type: none Serial No. N/A
Motor: N/A Serial No. N/A
Power type: N/A HP: N/A Meter No. N/A

Well Depth: 770 ft. From MP: Meas. Rept. Date:

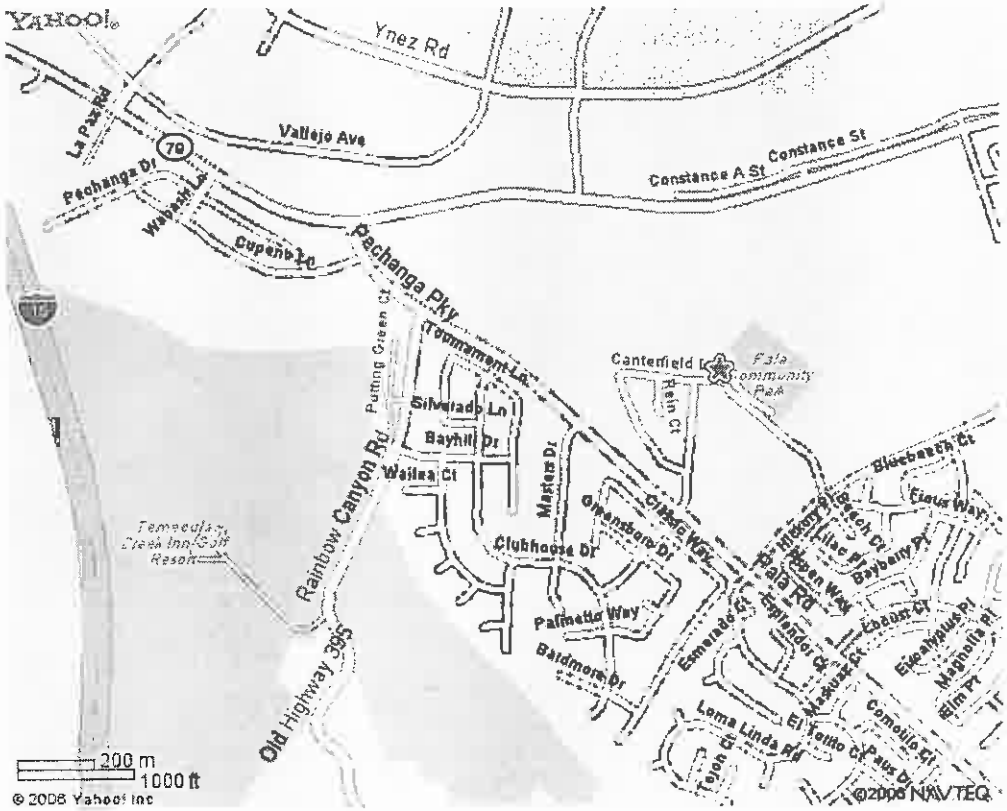
Casing diam. 2" Sched. 80 1.94"ID Casing type: Flush Thread PVC

Stdg. Meas.
Water level: ft. Pmpg. Rept. 19
above / below which is ft. above / below LSD
Water level abv/blw LSD=

T8S-R2W-26

Well is located at 44900 Temecula Lane, Temecula, CA 92592. Take I-15N to the 79S exit. Make right onto 79S. Turn right on Pechanga Parkway. Turn left on Muirfield Dr. Turn right on Canterfield Dr. Vault is located at end of Temecula Lane in dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. 2640 lock secures vault.

SKETCH OF LOCATION AND M.P.



*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e046454

Page 1 of 1

Owner's Well Number TMPP #4

Date Work Began 08/30/2006 Date Work Ended 9/30/2006

Local Permit Agency County of Riverside, Dept. of Environmental Health

Permit Number 32250 Permit Date 8/9/06

DWR Use Only – Do Not Fill In

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand; vf-med sand; olive gray (5Y 5/2)
15	35	Gravel; granules-small pebbles; pale yellow (5Y 7/3)
35	130	Silt; sill; lt olive gray (5Y 6/2)
130	200	Gravelly sand; fine-vc sand with granules; lt gray (2.5Y 7/2)
200	240	Sand; med-vc sand; grayish brown (2.5Y 5/2)
240	260	Sandy silt; silt with coarse-vc sand; dk grayish brown (2.5Y 4/2)
260	310	Sand; coarse-vc sand; ly olive brown (2.5Y 5/3)
310	320	Sandy silt; silt with med-vc sand; dk olive gray (5Y 3/2)
320	660	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
660	690	Sandy silt; silt with vf-med sand; olive (5Y 4/3)
690	800	Gravelly sand; med-vc sand with granules; olive brown (2.5Y 4/3)
800	840	Clayey sand; fine-vc sand with clay; olive gray (5Y 4/3)
840	900	Gravelly sand; coarse-vc sand with granules; lt olive brown (2.5Y 5/3)
900	960	Gravelly sand, coarse-vc sand with granules-sm pebbles; dk grayish brown (2.5Y 4/2)
960	1,020	Gravelly sand, med-vc sand with granules-sm pebbles, lt brownish gray (2.5Y 6/2)
1020	1,340	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
1340	1,499	Sand; med-vc sand; grayish brown (2.5Y 5/2)

Total Depth of Boring 1499 Feet

Total Depth of Completed Well 400 Feet

Well Owner

Name Rancho California Water District

Mailing Address 42135 Winchester Road

City Temecula State CA Zip 92590

Well Location

Address 44900 Temecula Lane

City Temecula County Riverside

Latitude 33 Deg. 28 Min. 19.67 Sec. N Longitude 117 Deg 07 Min. 06.86 Sec. W

Datum NAD83 Decimal Lat. Decimal Long.

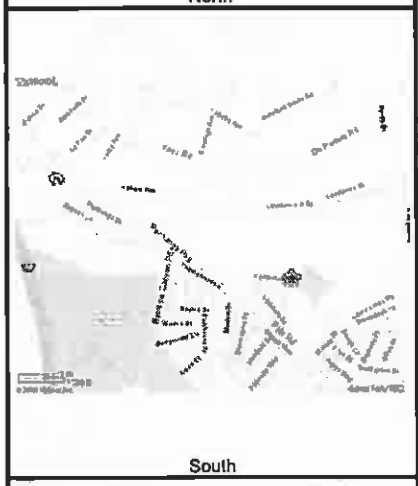
APN Book 231 Page 41-48 Parcel Lot 89, TR21067

Township 08S Range 02W Section 19A

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North



South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply
☐ Domestic ☐ Public
☐ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
◉ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size If Any (Inches)
0	41	15						
100	340	12.25						
340	820	10.5						
820	1,500	8.5						
0	380		Blank	PVC Sch. 80	.218	2.375		
380	400		Screen	PVC Sch. 80	.218	2.375	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
12	39	Fill	RMC #3 Sand
98	150	Fill	RMC #3 Sand
361	429	Fill	RMC #3 Sand
736	784	Fill	RMC #3 Sand
1064/1410	1150/1499	Fill	RMC #3 Sand
		Bentonite	All other depths

Attachments

☑ Geologic Log
☑ Well Construction Diagram
☑ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☑ Other On file @ USGS San Diego

Attach additional information, if it exists

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Anthony Brown, Hydrologic Technician, US Geological Survey
Person, Firm or Corporation

4165 Spruance Road, Suite 200 (Address) San Diego (City) CA (State) 92101 (Zip)

Signed (C-57 Licensed Water Well Contractor) 10/5/2006 (Date Signed) Exempt, US Govt. (C-57 License Number)

DWR 188 REV. 1/2006

* * * IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

WELL SCHEDULE
GEOLOGICAL SURVEY, WRD

Lat 33 28 19 Long 117 07 06 Seq. No. 04 B&M ☐

County: Riverside Well No. 08S/02W-19A4
Area: Temecula, CA Drill Log No. e046454
Date: 10/31/2006 Other No. TMPP #4
Recorded by: Anthony Brown
Source of data: Site Geologist

Location map: Pechanga Scale: 1:24000
Altitude of LSD: 1017 ft. How obtained: map
Topography at well: Flat
Owner: Rancho California Water District Phone No. (951) 296-6900
Address: 42135 Winchester Road, Temecula, CA 92590
Permission to measure/sample given by:
Contact before? (Yes) No
Driller: USGS Western Region Research Drilling Unit
Address: 160 N. Stephanie Road Henderson, Nevada 89074 702.564.4541
Date drilled: 09/30/2006 Drill Depth: 1499'
Method drilled: Hydraulic rotary Well Finish: Perfed
Perforations: 1.5"x0.020"; 380'-400'

Type log data: Geologist log, drillers log, geophysical logs

Use of well: Observation Use of water: Unused
Pump type: none Serial No. N/A
Motor: N/A Serial No. N/A
Power type: N/A HP: N/A Meter No. N/A

Well Depth: 400 ft. From MP: Meas. Rept. Date:

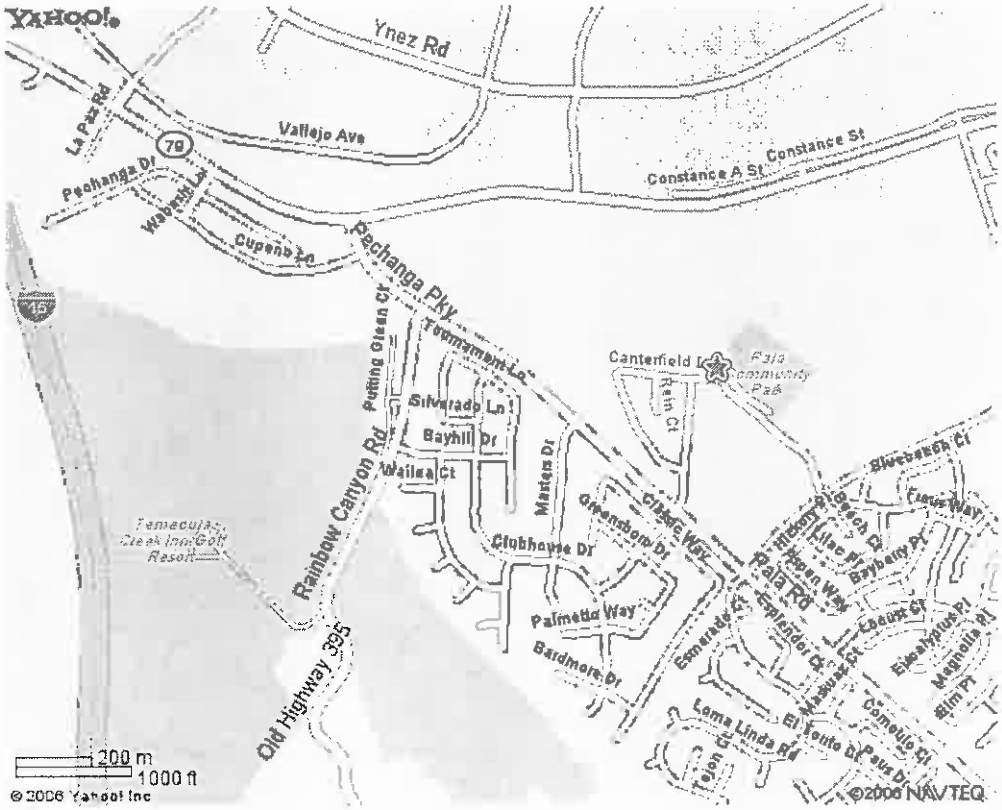
Casing diam. 2" Sched. 80 1.94"ID Casing type: Flush Thread PVC

Stdg. Meas.
Water level: ft. Pmpg. Rept. 19
above above
below which is ft. below LSD
Water level abv/blw LSD=

8S-2W-19A4

Well is located at 44900 Temecula Lane, Temecula, CA 92592. Take I-15N to the 79S exit. Make right onto 79S. Turn right on Pechanga Parkway. Turn left on Muirfield Dr. Turn right on Canterfield Dr. Vault is located at end of Temecula Lane in dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. 2640 lock secures vault.

SKETCH OF LOCATION AND M.P.



*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e046455

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N Latitude W Longitude

APN/TRS/Other

Page 1 of 1

Owner's Well Number TMPP #5

Date Work Began 08/30/2006 Date Work Ended 9/30/2006

Local Permit Agency County of Riverside, Dept. of Environmental Health

Permit Number 32250 Permit Date 8/9/06

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand; vf-med sand; olive gray (5Y 5/2)
15	35	Gravel; granules-small pebbles; pale yellow (5Y 7/3)
35	130	Silt; silt; lt olive gray (5Y 6/2)
130	200	Gravelly sand; fine-vc sand with granules; lt gray (2.5Y 7/2)
200	240	Sand; med-vc sand; grayish brown (2.5Y 5/2)
240	260	Sandy silt; silt with coarse-vc sand; dk grayish brown (2.5Y 4/2)
260	310	Sand; coarse-vc sand; ly olive brown (2.5Y 5/3)
310	320	Sandy silt; silt with med-vc sand; dk olive gray (5Y 3/2)
320	660	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
660	690	Sandy silt; silt with vf-med sand; olive (5Y 4/3)
690	800	Gravelly sand; med-vc sand with granules; olive brown (2.5Y 4/3)
800	840	Clayey sand; fine-vc sand with clay; olive gray (5Y 4/3)
840	900	Gravelly sand; coarse-vc sand with granules; lt olive brown (2.5Y 5/3)
900	960	Gravelly sand; coarse-vc sand with granules-sm pebbles; dk grayish brown (2.5Y 4/2)
960	1,020	Gravelly sand; med-vc sand with granules-sm pebbles; lt brownish gray (2.5Y 6/2)
1020	1,340	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
1340	1,499	Sand; med-vc sand; grayish brown (2.5Y 5/2)

Total Depth of Boring 1499 Feet

Total Depth of Completed Well 140 Feet

Well Owner

Name Rancho California Water District

Mailing Address 42135 Winchester Road

City Temecula State CA Zip 92590

Well Location

Address 44900 Temecula Lane

City Temecula County Riverside

Latitude 33 Deg. 28 Min. 19.67 Sec. N Longitude 117 Deg. 07 Min. 06.86 Sec. W

Datum NAD83 Decimal Lat. Decimal Long.

APN Book 231 Page 41-48 Parcel Lot 89, TR21067

Township 08S Range 02W Section 19A

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete

Activity

◉ New Well

○ Modification/Repair

○ Deepen

○ Other

○ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply

☐ Domestic ☐ Public

☐ Irrigation ☐ Industrial

○ Cathodic Protection

○ Dewatering

○ Heat Exchange

○ Injection

◉ Monitoring

○ Remediation

○ Sparging

○ Test Well

○ Vapor Extraction

○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size If Any (Inches)
0	41	15						
100	340	12.25						
340	820	10.5						
820	1,500	8.5						
0	120		Blank	PVC Sch. 80	.218	2.375		
120	140		Screen	PVC Sch. 80	.218	2.375	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
12	39	Fill	RMC #3 Sand
98	150	Fill	RMC #3 Sand
361	429	Fill	RMC #3 Sand
736	784	Fill	RMC #3 Sand
1064/1410	1150/1499	Fill	RMC #3 Sand
		Bentonite	All other depths

Attachments

☑ Geologic Log

☑ Well Construction Diagram

☑ Geophysical Log(s)

☐ Soil/Water Chemical Analyses

☑ Other On file @ USGS San Diego

Attach additional information, if it exists

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Anthony Brown, Hydrologic Technician, US Geological Survey

Person, Firm or Corporation

4165 Spruance Road, Suite 200 Address San Diego City CA State 92101 Zip

Signed C-57 Licensed Water Well Contractor 10/5/2006 Date Signed Exempt, US Govt. C-57 License Number

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

WELL SCHEDULE
GEOLOGICAL SURVEY, WRD

Lat 33 28 19 Long 117 07 06 Seq. No. 05 B&M ☐

County: Riverside
Area: Temecula, CA
Date: 10/31/2006
Recorded by: Anthony Brown
Source of data: Site Geologist

Well No. 08S/02W-19A5
Drill Log No. e046455
Other No. TMPP #5

Location map: Pechanga Scale: 1:24000
Altitude of LSD: 1017 ft. How obtained: map
Topography at well: Flat
Owner: Rancho California Water District Phone No. (951) 296-6900
Address: 42135 Winchester Road, Temecula, CA 92590
Permission to measure/sample given by: _____ Contact before? (Yes) No
Driller: USGS Western Region Research Drilling Unit
Address: 160 N. Stephanie Road Henderson, Nevada 89074 702.564.4541
Date drilled: 09/30/2006 Drill Depth: 1499'
Method drilled: Hydraulic rotary Well Finish: Perfed
Perforations: 1.5"x0.020"; 120'-140'

Type log data: Geologist log, drillers log, geophysical logs

Use of well: Observation Use of water: Unused
Pump type: none Serial No. N/A
Motor: N/A Serial No. N/A
Power type: N/A HP: N/A Meter No. N/A

Well Depth: 140 ft. From MP: Meas. Rept. Date: _____

Casing diam. 2" Sched. 80 1.94" ID Casing type: Flush Thread PVC

Water level: _____ ft. Stdg. Pmpg. Meas. Rept. _____ 19____
above / below _____ which is _____ ft. above / below LSD
Water level abv/blw LSD= _____

08-30

Well is located at 44900 Temecula Lane, Temecula, CA 92592. Take I-15N to the 79S exit. Make right onto 79S. Turn right on Pechanga Parkway. Turn left on Muirfield Dr. Turn right on Canterfield Dr. Vault is located at end of Temecula Lane in dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. 2640 lock secures vault.

SKETCH OF LOCATION AND M.P.

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e046456

Page 1 of 1

Owner's Well Number TMPP #6

Date Work Began 08/30/2006 Date Work Ended 9/30/2006

Local Permit Agency County of Riverside, Dept. of Environmental Health

Permit Number 32250 Permit Date 8/9/06

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	15	Sand; vf-med sand; olive gray (5Y 5/2)
15	35	Gravel; granules-small pebbles; pale yellow (5Y 7/3)
35	130	Silt; sill; lt olive gray (5Y 6/2)
130	200	Gravelly sand; fine-vc sand with granules; lt gray (2.5Y 7/2)
200	240	Sand; med-vc sand; grayish brown (2.5Y 5/2)
240	260	Sandy silt; silt with coarse-vc sand; dk grayish brown (2.5Y 4/2)
260	310	Sand; coarse-vc sand; ly olive brown (2.5Y 5/3)
310	320	Sandy silt; silt with med-vc sand; dk olive gray (5Y 3/2)
320	660	Gravelly sand; med-vc sand with granules; grayish brown (2 5Y 5/2)
660	690	Sandy silt; silt with vf-med sand; olive (5Y 4/3)
690	800	Gravelly sand; med-vc sand with granules; olive brown (2.5Y 4/3)
800	840	Clayey sand; fine-vc sand with clay; olive gray (5Y 4/3)
840	900	Gravelly sand; coarse-vc sand with granules; lt olive brown (2.5Y 5/3)
900	960	Gravelly sand, coarse-vc sand with granules-sm pebbles, dk grayish brown (2 5Y 4/2)
960	1,020	Gravelly sand; med-vc sand with granules-sm pebbles; lt brownish gray (2.5Y 6/2)
1020	1,340	Gravelly sand; med-vc sand with granules; grayish brown (2.5Y 5/2)
1340	1,499	Sand; med-vc sand; grayish brown (2.5Y 5/2)

Total Depth of Boring 1499 Feet

Total Depth of Completed Well 35 Feet

Well Owner

Name Rancho California Water District

Mailing Address 42135 Winchester Road

City Temecula State CA Zip 92590

Well Location

Address 44900 Temecula Lane

City Temecula County Riverside

Latitude 33 Deg. 28 Min. 19.67 Sec. N Longitude 117 Deg. 07 Min 06.86W Sec

Datum NAD83 Decimal Lat. Decimal Long.

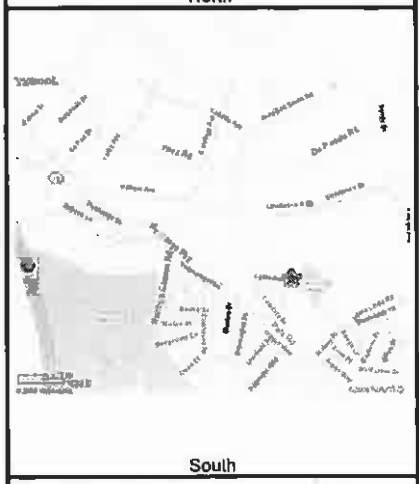
APN Book 231 Page 41-48 Parcel Lot 89, TR21067

Township 08S Range 02W Section 19A

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North



South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map Use additional paper if necessary Please be accurate and complete

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

○ Water Supply
☐ Domestic ☐ Public
☐ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
◉ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level (Feet) Date Measured

Estimated Yield * (GPM) Test Type

Test Length (Hours) Total Drawdown (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	41	15						
100	340	12.25						
340	820	10.5						
820	1,500	8.5						
0	15		Blank	PVC Sch. 80	.218	2.375		
15	35		Screen	PVC Sch. 80	.218	2.375	Milled Slots	0.020

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
12	39	Fill	RMC #3 Sand
98	150	Fill	RMC #3 Sand
361	429	Fill	RMC #3 Sand
736	784	Fill	RMC #3 Sand
1064/1410	1150/1499	Fill	RMC #3 Sand
		Bentonite	All other depths

Attachments

☑ Geologic Log
☑ Well Construction Diagram
☑ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☑ Other On file @ USGS San Diego

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Anthony Brown, Hydrologic Technician, US Geological Survey
Person, Firm or Corporation

4165 Spruance Road, Suite 200 Address San Diego City CA State 92101 Zip

Signed C-57 Licensed Water Well Contractor 10/5/2006 Date Signed Exempt, US Govt. C-57 License Number

DWR 188 REV 1/2006 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

WELL SCHEDULE
GEOLOGICAL SURVEY, WRD

Lat 33 28 19 Long 117 07 06 Seq. No. 06 B&M ☐

County: Riverside Well No. 08S/02W-19A6
Area: Temecula, CA Drill Log No. e046456
Date: 10/31/2006 Other No. TMPP #6
Recorded by: Anthony Brown
Source of data: Site Geologist

Location map: Pechanga Scale: 1:24000
Altitude of LSD: 1017 ft. How obtained: map
Topography at well: Flat
Owner: Rancho California Water District Phone No. (951) 296-6900
Address: 42135 Winchester Road, Temecula, CA 92590
Permission to measure/sample given by:
Contact before? (Yes) No
Driller: USGS Western Region Research Drilling Unit
Address: 160 N. Stephanie Road Henderson, Nevada 89074 702.564.4541
Date drilled: 09/30/2006 Drill Depth: 1499'
Method drilled: Hydraulic rotary Well Finish: Perfed
Perforations: 1.5"x0.020"; 15'-35'

Type log data: Geologist log, drillers log, geophysical logs

Use of well: Observation Use of water: Unused
Pump type: none Serial No. N/A
Motor: N/A Serial No. N/A
Power type: N/A HP: N/A Meter No. N/A

Well Depth: 35 ft. From MP: Meas. Rept. Date:

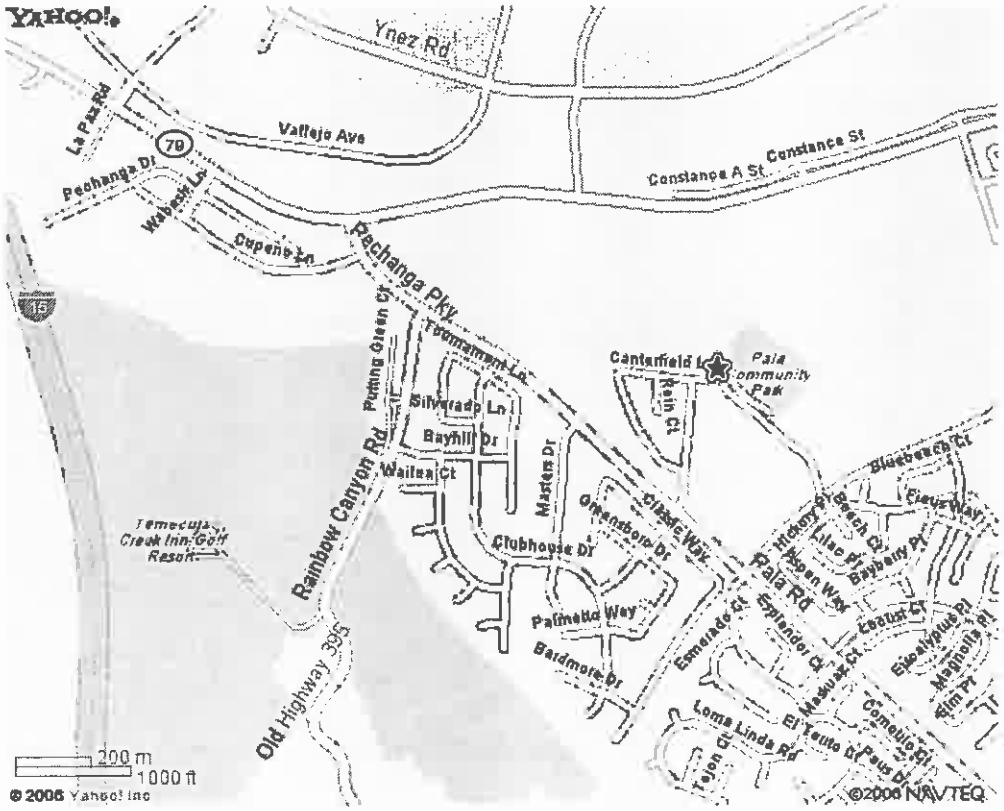
Casing diam. 2" Sched. 80 1.94" ID Casing type: Flush Thread PVC

Water level: ft. Stdg. Pmpg. Meas. Rept. 19
above / below which is ft. above / below LSD
Water level abv/blw LSD=

D-32

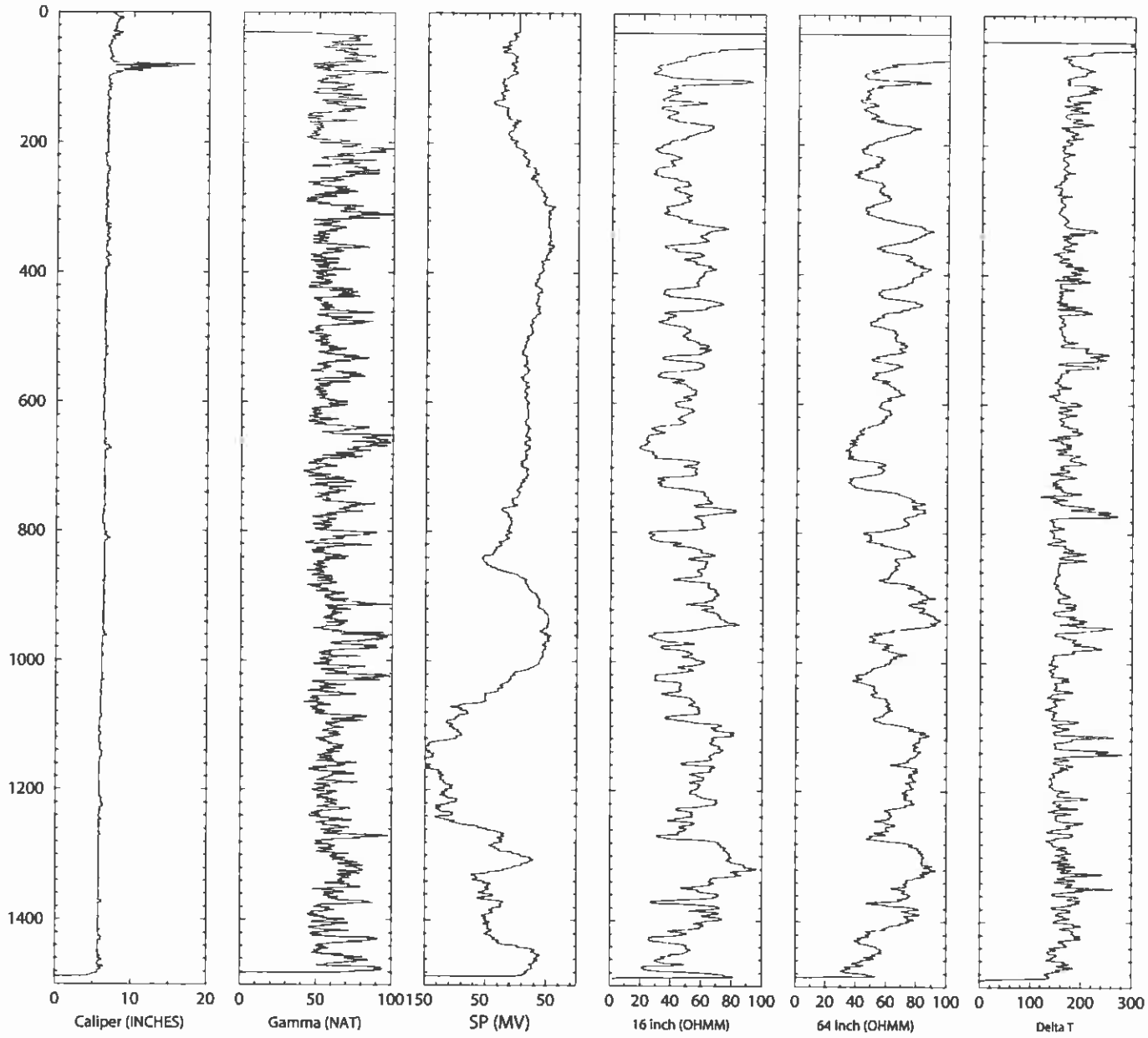
Well is located at 44900 Temecula Lane, Temecula, CA 92592. Take I-15N to the 79S exit. Make right onto 79S. Turn right on Pechanga Parkway. Turn left on Muirfield Dr. Turn right on Canterfield Dr. Vault is located at end of Temecula Lane in dirt/gravel lot adjacent to the parking lot for Pala Park. Vault is accessible from parking lot. 2640 lock secures vault.

SKETCH OF LOCATION AND M.P.



TMPP

Pacific Surveys Logs

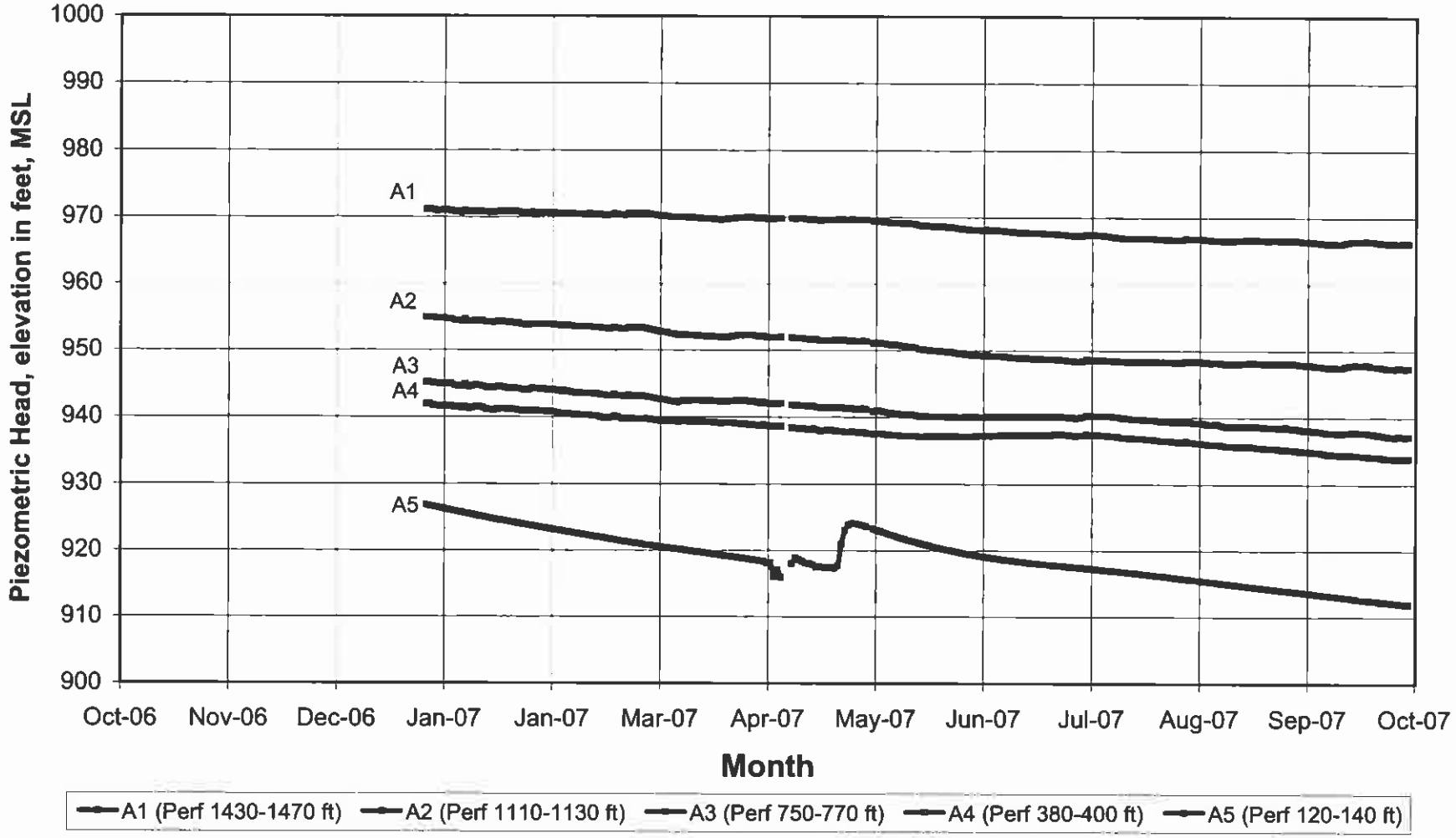


End-of Month Piezometric Head for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
(elevation in feet, MSL)

Water Year 2006-07

Month	Well A1	Well A2	Well A3	Well A4	Well A5
Oct	---	---	---	---	---
Nov	---	---	---	---	---
Dec	970.97	954.73	944.95	941.54	926.31
Jan	970.65	953.83	944.07	940.76	923.21
Feb	970.44	953.11	942.93	939.65	920.77
Mar	969.80	952.02	942.11	938.73	918.47
Apr	969.60	951.37	941.13	937.61	923.65
May	968.13	949.31	940.04	937.16	919.28
Jun	967.32	948.40	940.02	937.29	917.41
Jul	966.80	948.38	939.25	936.23	915.60
Aug	966.44	947.88	938.13	934.93	913.66
Sep	966.15	947.37	937.16	933.84	911.87

Piezometric Head for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)



Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
November 2006

	Sampling date		11/8/2006	11/2/2006	11/1/2006	11/6/2006	11/8/2006
3	Sampling depth, feet		100	100	100	100	100
10	Temperature, water, degrees Celsius		22.3	20.5	21.4	22.9	20.8
28	Agency analyzing sample, code		80020	80020	80020	80020	80020
59	Flow rate, instantaneous, gallons per minute		2.2	1.1	1.1	1.1	1
95	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius		665	821	750	831	687
191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter		M	M	M	M	0.00002
300	Dissolved oxygen, water, unfiltered, milligrams per liter		0.4	0.3	0.3	0.5	6.2
400	pH, water, unfiltered, field, standard units		9.4	9.7	9.4	8.6	7.8
403	pH, water, unfiltered, laboratory, standard units		9.5	9.7	9.4	8.6	8
602	Total nitrogen, water, filtered, milligrams per liter						2.7
607	Organic nitrogen, water, filtered, milligrams per liter			0.08			
608	Ammonia, water, filtered, milligrams per liter as nitrogen		0.028	0.041	0.046	0.041	< 0.02
613	Nitrite, water, filtered, milligrams per liter as nitrogen	1 (a)		0.01	0.011	0.008	0.004
618	Nitrate, water, filtered, milligrams per liter as nitrogen						2.59
623	Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen			0.12	0.09 E	0.09 E	0.13
631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen			< 0.06	0.05 E	0.05 E	2.6
660	Orthophosphate, water, filtered, milligrams per liter			2.41	3.33	1.88	0.741
666	Phosphorus, water, filtered, milligrams per liter			1.02	1.32	0.67	0.33
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus			0.785	1.08	0.614	0.242
900	Hardness, water, milligrams per liter as calcium carbonate		8	9	8	57	160
915	Calcium, water, filtered, milligrams per liter		3.14	3.32	2.62	18.7	44.9
925	Magnesium, water, filtered, milligrams per liter		0.106	0.058	0.288	2.45	12.1
930	Sodium, water, filtered, milligrams per liter		127	152	138	145	81.4
931	Sodium adsorption ratio, water, number		19	23	22	8	3
932	Sodium fraction of cations, water, percent in equivalents of major cations		97	97	97	84	52
935	Potassium, water, filtered, milligrams per liter		0.62	0.96	1.26	2.39	2.1
940	Chloride, water, filtered, milligrams per liter	600	138	131	112	87.1	40.1
945	Sulfate, water, filtered, milligrams per liter	600	34.1	95.3	84.7	102	110
950	Fluoride, water, filtered, milligrams per liter	2 (b)	4.56	4.18	1.09	0.38	0.42
955	Silica, water, filtered, milligrams per liter		17.3	19	14.6	17.2	28.3
1000	Arsenic, water, filtered, micrograms per liter	10 (c)	25.7	20.4	17.1	6	2.4
1005	Barium, water, filtered, micrograms per liter	1000 (d)	2.9	2.6	2.3	10.4	31.9
1010	Beryllium, micrograms per liter	4 (e)					
1020	Boron, water, filtered, micrograms per liter		128	138	97	120	150
1025	Cadmium, micrograms per liter	5 (f)					
1030	Chromium, micrograms per liter	50 (g)					
1035	Cobalt, micrograms per liter						
1040	Copper, micrograms per liter	1000 (h)					
1046	Iron, water, filtered, micrograms per liter	300	< 6	3 E	3 E	< 6	< 6
1049	Lead, micrograms per liter						
1056	Manganese, water, filtered, micrograms per liter	50	0.5 E	0.7	1.6	7.6	1.7
1057	Thallium, micrograms per liter	2 (i)					
1060	Molybdenum, micrograms per liter						
1065	Nickel, micrograms per liter	100 (j)					
1075	Silver, micrograms per liter	100 (k)					
1080	Strontium, water, filtered, micrograms per liter		23	16.8	17.8	161	202
1085	Vanadium, micrograms per liter						
1090	Zinc, micrograms per liter	5000 (l)					
1095	Antimony, micrograms per liter	6 (m)					
1106	Aluminum, water, filtered, micrograms per liter	1000 (n)	95.3	127	82.4	54.3	4.1
1130	Lithium, water, filtered, micrograms per liter		4	5	4	7	6
1145	Selenium, micrograms per liter	50 (o)					

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
November 2006

	Sampling date		11/8/2006	11/2/2006	11/1/2006	11/6/2006	11/8/2006
4022	Terbuthylazine, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01
4025	Hexazinone, water, filtered, recoverable, micrograms per liter					< 0.026	< 0.026
4029	Bromacil, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
4035	Simazine, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.036
4036	Prometryn, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
4037	Prometon, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01
4040	2-Chloro-4-Isopropylamino-6-amino-s-triazine, water, filtered, recoverable, micrograms per liter					< 0.014	< 0.014
4095	Fonofos, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
7000	Tritium, water, unfiltered, picocuries per liter		-0.2	0.3	0.5	0.6	11.1
22703	Uranium, natural, micrograms per liter						
29801	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate		50	65	74	165	168
30217	Dibromomethane, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
32101	Bromodichloromethane, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
32102	Tetrachloromethane, water, unfiltered, recoverable, micrograms per liter	0.5				< 0.08	< 0.08
32103	1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
32104	Tribromomethane, water, unfiltered, recoverable, micrograms per liter					< 0.08	< 0.08
32105	Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
32106	Trichloromethane, water, unfiltered, recoverable, micrograms per liter					< 0.04	0.03 E
34010	Toluene, water, unfiltered, recoverable, micrograms per liter	150				< 0.02	< 0.02
34030	Benzene, water, unfiltered, recoverable, micrograms per liter	1				< 0.02	< 0.02
34215	Acrylonitrile, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
34221	Anthracene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34248	Benzo[a]pyrene, water, filtered, recoverable, micrograms per liter	0.2 (p)				< 0.1	< 0.1
34288	Tribromomethane, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34301	Chlorobenzene, water, unfiltered, recoverable, micrograms per liter	70				< 0.02	< 0.02
34311	Chloroethane, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
34371	Ethylbenzene, water, unfiltered, recoverable, micrograms per liter	300				< 0.02	< 0.02
34377	Fluoranthene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34396	Hexachloroethane, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
34409	Isophorone, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34413	Bromomethane, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
34418	Chloromethane, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
34423	Dichloromethane, water, unfiltered, recoverable, micrograms per liter	5				< 0.04	< 0.04
34443	Naphthalene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34462	Phenanthrene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34466	Phenol, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
34470	Pyrene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
34475	Tetrachloroethene, water, unfiltered, recoverable, micrograms per liter	5				< 0.04	< 0.04
34476	Tetrachloroethene, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
34488	Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter	150				< 0.08	< 0.08
34496	1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	5				< 0.06	< 0.06
34501	1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6				< 0.02	< 0.02
34506	1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	200				< 0.04	< 0.04
34511	1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	5				< 0.04	< 0.04
34516	1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	1				< 0.1	< 0.1
34536	1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	600				< 0.04	< 0.04
34541	1,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter	5				< 0.02	< 0.02
34546	trans-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	10				< 0.02	< 0.02
34551	1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5				< 0.1	< 0.1
34566	1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
34571	1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5				< 0.04	< 0.04
34572	1,4-Dichlorobenzene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1

Code–Data parameter number used in USGS National Water Information System (NWIS).
E–Estimated.
M–Presence verified but not quantified.
MCL–Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
November 2006

	Sampling date		11/8/2006	11/2/2006	11/1/2006	11/8/2006	11/8/2006
34668	Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter					< 0.14	< 0.14
34696	Naphthalene, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
34699	trans-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				< 0.1	< 0.1
34704	cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				< 0.06	< 0.06
38454	Dicrotophos, water, filtered, recoverable, micrograms per liter					< 0.08	< 0.08
38775	Dichlorvos, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.01
38933	Chlorpyrifos, water, filtered, recoverable, micrograms per liter					< 0.005	< 0.005
39086	Alkalinity, water, filtered, incremental titration, field, milligrams per liter as calcium carbonate			61			
39175	Vinyl chloride, water, unfiltered, recoverable, micrograms per liter	0.5				< 0.1	< 0.1
39180	Trichloroethene, water, unfiltered, recoverable, micrograms per liter	5				< 0.02	< 0.02
39381	Dieldrin, water, filtered, recoverable, micrograms per liter					< 0.009	< 0.009
39415	Metolachlor, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01
39532	Malathion, water, filtered, recoverable, micrograms per liter					< 0.016	< 0.016
39572	Diazinon, water, filtered, recoverable, micrograms per liter					< 0.005	< 0.005
39632	Atrazine, water, filtered, recoverable, micrograms per liter					< 0.007	< 0.007
39702	Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
46342	Alachlor, water, filtered, recoverable, micrograms per liter					< 0.005	< 0.005
49260	Acetochlor, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
49295	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.09	< 0.09
49991	Methyl acrylate, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
49999	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
50000	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
50002	Bromoethene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
50004	tert-Butyl ethyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
50005	Methyl tert-pentyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
50305	Caffeine, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
50359	Metalaxyl, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
61585	Cyfluthrin, water, filtered, recoverable, micrograms per liter					< 0.053	< 0.053
61586	Cypermethrin, water, filtered, recoverable, micrograms per liter					< 0.046	< 0.046
61591	Fenamiphos, water, filtered, recoverable, micrograms per liter					< 0.03	< 0.03
61593	Iprodione, water, filtered, recoverable, micrograms per liter					< 0.026	< 0.026
61594	Isofenphos, water, filtered, recoverable, micrograms per liter					< 0.011	< 0.011
61596	Metalaxyl, water, filtered, recoverable, micrograms per liter					< 0.007	< 0.007
61598	Methidathion, water, filtered, recoverable, micrograms per liter					< 0.009	< 0.009
61599	Myclobutanil, water, filtered, recoverable, micrograms per liter					< 0.033	< 0.033
61601	Phosmet, water, filtered, recoverable, micrograms per liter					< 0.008	< 0.008
61610	Tribuphos, water, filtered, recoverable, micrograms per liter					< 0.035	< 0.035
61618	2-Chloro-2',6'-diethylacetanilide, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
61620	2-Ethyl-6-methylaniline, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01
61625	3,4-Dichloroaniline, water, filtered, recoverable, micrograms per liter					< 0.004	< 0.004
61633	4-Chloro-2-methylphenol, water, filtered, recoverable, micrograms per liter					< 0.005	< 0.005
61635	Azinphos-methyl oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
61636	Chlorpyrifos oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.06	< 0.06
61644	Ethion monoxon, water, filtered, recoverable, micrograms per liter					< 0.02	< 0.02
61645	Fenamiphos sulfone, water, filtered, recoverable, micrograms per liter					< 0.053	< 0.053
61646	Fenamiphos sulfoxide, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
61652	Malaoxon, water, filtered, recoverable, micrograms per liter					< 0.039	< 0.039
61664	Methyl paraoxon, water, filtered, recoverable, micrograms per liter					< 0.02	< 0.02
61666	Phorate oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.03	< 0.03
61668	Phosmet oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.05	< 0.05
61674	Terbufos oxygen analog sulfone, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
61705	Diethoxyoctylphenol, water, filtered, recoverable, micrograms per liter					< 1	< 1

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
November 2006

	Sampling date		11/8/2006	11/2/2006	11/1/2006	11/8/2006	11/8/2006
61706	Monoethoxyoctylphenol, water, filtered, recoverable, micrograms per liter					< 1	< 1
62005	Cotinine, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
62054	1-Methylnaphthalene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62055	2,6-Dimethylnaphthalene, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62056	2-Methylnaphthalene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62057	3-beta-Coprostanol, water, filtered, recoverable, micrograms per liter					< 2	< 2
62058	3-Methyl-1H-indole, water, filtered, recoverable, micrograms per liter					< 0.08	< 0.08
62059	3-tert-Butyl-4-hydroxyanisole, water, filtered, recoverable, micrograms per liter					< 0.6	< 0.6
62060	4-Cumylphenol, water, filtered, recoverable, micrograms per liter					< 0.14	< 0.14
62061	4-Octylphenol, water, filtered, recoverable, micrograms per liter					< 0.16	< 0.16
62062	4-tert-Octylphenol, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62063	5-Methyl-1H-benzotriazole, water, filtered, recoverable, micrograms per liter					< 2	< 2
62064	Acetophenone, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62065	Acetyl hexamethyl tetrahydro naphthalene, water, filtered, recoverable, micrograms per liter					< 0.5	< 0.5
62066	9,10-Anthraquinone, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62067	Benzophenone, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62068	beta-Sitosterol, water, filtered, recoverable, micrograms per liter					< 2	< 2
62070	Camphor, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62071	Carbazole, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62072	Cholesterol, water, filtered, recoverable, micrograms per liter					< 1	< 1
62073	D-Limonene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62075	Hexahydrohexamethyl cyclopentabenzopyran, water, filtered, recoverable, micrograms per liter					< 0.5	< 0.5
62076	Indole, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62077	Isoborneol, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62078	Isopropylbenzene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62079	Isoquinoline, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
62080	Menthol, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62081	Methyl salicylate, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62082	DEET, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62083	Diethoxynonylphenol, water, filtered, recoverable, micrograms per liter					< 5	< 5
62084	p-Cresol, water, filtered, recoverable, micrograms per liter					< 0.18	< 0.18
62085	4-Nonylphenol, water, filtered, recoverable, micrograms per liter					< 2	< 2
62086	beta-Stigmastanol, water, filtered, recoverable, micrograms per liter					< 2	< 2
62087	Tris(2-chloroethyl) phosphate, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62088	Tris(dichloroisopropyl) phosphate, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62089	Tributyl phosphate, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62090	Triclosan, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62091	Triethyl citrate, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
62092	Triphenyl phosphate, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62093	Tris(2-butoxyethyl) phosphate, water, filtered, recoverable, micrograms per liter					< 0.5	< 0.5
62166	Fipronil, water, filtered, recoverable, micrograms per liter					< 0.016	< 0.016
62167	Fipronil sulfide, water, filtered, recoverable, micrograms per liter					< 0.013	< 0.013
62168	Fipronil sulfone, water, filtered, recoverable, micrograms per liter					< 0.024	< 0.024
62169	Desulfinylfipronil amide, water, filtered, recoverable, micrograms per liter					< 0.029	0.008 E
62170	Desulfinylfipronil, water, filtered, recoverable, micrograms per liter					< 0.012	< 0.012
62854	Total nitrogen, (NH3+NO2+NO3+Organic), filtered, milligrams per liter						
70300	Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter	1500	360	473	416	493	433
70301	Residue, water, filtered, sum of constituents, milligrams per liter		356	446	404	477	433
70303	Residue, water, filtered, tons per acre-foot		0.49	0.64	0.57	0.67	0.59
71846	Ammonia, water, filtered, milligrams per liter as NH4		0.04	0.05	0.06	0.05	
71851	Nitrate, water, filtered, milligrams per liter	45 (q)					11.5
71856	Nitrite, water, filtered, milligrams per liter		0.31	0.032	0.038	0.026	0.012

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
November 2006

	Sampling date		11/8/2006	11/2/2006	11/1/2006	11/8/2006	11/8/2006
71865	Iodide, water, filtered, milligrams per liter			0.517	0.39	0.025	0.003
71870	Bromide, water, filtered, milligrams per liter		0.31	0.42	0.37	0.28	0.06
72019	Depth to water level, feet below land surface		46.61	60.97	70	73.36	83.74
73547	trans-1,4-Dichloro-2-butene, water, unfiltered, recoverable, micrograms per liter					< 0.6	< 0.6
73570	Ethyl methacrylate, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
75985	Tritium 2-sigma combined uncertainty, water, unfiltered, picocuries per liter		0.58	0.58	0.58	0.58	0.7
77041	Carbon disulfide, water, unfiltered, micrograms per liter					0.1	< 0.06
77093	cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6				< 0.02	< 0.02
77103	n-Butyl methyl ketone, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
77128	Styrene, water, unfiltered, recoverable, micrograms per liter	100				< 0.04	< 0.04
77135	o-Xylene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77168	1,1-Dichloropropene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77170	2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.06	< 0.06
77173	1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
77220	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77221	1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
77222	1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77223	Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77224	n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77226	1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77275	2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77277	4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77297	Bromochloromethane, water, unfiltered, recoverable, micrograms per liter					< 0.06	< 0.06
77342	n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
77350	sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77353	tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.08	< 0.08
77356	4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter					< 0.08	< 0.08
77424	Iodomethane, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
77443	1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.12	< 0.12
77562	1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
77613	1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
77651	1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter	0.05				< 0.04	< 0.04
77652	1,1,2-Trichloro-1,2,2-trifluoroethane, water, unfiltered, recoverable, micrograms per liter					< 0.04	< 0.04
78032	Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
78109	3-Chloropropene, water, unfiltered, recoverable, micrograms per liter					< 0.08	< 0.08
78133	Isobutyl methyl ketone, water, unfiltered, recoverable, micrograms per liter					< 0.2	< 0.2
81552	Acetone, water, unfiltered, recoverable, micrograms per liter					< 6	< 6
81555	Bromobenzene, water, unfiltered, recoverable, micrograms per liter					< 0.02	< 0.02
81576	Diethyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
81577	Diisopropyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.06	< 0.06
81593	Methyl acrylonitrile, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
81595	Ethyl methyl ketone, water, unfiltered, recoverable, micrograms per liter					< 1.6	< 1.6
81597	Methyl methacrylate, water, unfiltered, recoverable, micrograms per liter					< 0.2	< 0.2
81607	Tetrahydrofuran, water, unfiltered, recoverable, micrograms per liter					< 1	< 1
82082	Deuterium/Protium ratio, water, unfiltered, per mil		-53.6	-52.8	-52.9	-46	-44.1
82085	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil		-8.28	-8.15	-8.02	-6.93	-6.81
82346	Ethion, water, filtered, recoverable, micrograms per liter					< 0.016	< 0.016
82625	1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.5	< 0.5
82630	Metribuzin, water, filtered, recoverable, micrograms per liter					< 0.012	< 0.012
82660	2,6-Diethylaniline, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.006	< 0.006
82661	Trifluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.009	< 0.009
82662	Dimethoate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.006	< 0.006

Code–Data parameter number used in USGS National Water Information System (NWIS).
E–Estimated.
M–Presence verified but not quantified.
MCL–Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
November 2006

	Sampling date		11/8/2006	11/2/2006	11/1/2006	11/8/2006	11/8/2006
82664	Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.02	< 0.02
82667	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.008	< 0.008
82670	Tebuthiuron, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.02	< 0.02
82673	Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.01	< 0.01
82675	Terbufos, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.01	< 0.01
82676	Propyzamide, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.004	< 0.004
82680	Carbaryl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.06	< 0.06
82682	DCPA, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.003	< 0.003
82683	Pendimethalin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.02	< 0.02
82686	Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.08	< 0.08
82687	cis-Permethrin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					< 0.01	< 0.01
85795	m-Xylene plus p-xylene, water, unfiltered, recoverable, micrograms per liter					< 0.08	< 0.08
90095	Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius		647	820	727	810	674
99583	Bisphenol A-d3, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery					11.6	11.6
99584	Caffeine-13C, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery					101	113
99585	Decafluorobiphenyl, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery					53.9	57.2
99586	Fluoranthene-d10, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery					98.8	109
99587	Sample volume, wastewater method, water, filtered, milliliters					959	944
99832	1,2-Dichloroethane-d4, surrogate, Schedule 2090, water, unfiltered, percent recovery					126	136
99833	Toluene-d8, surrogate, Schedule 2090, water, unfiltered, percent recovery					89.8	92.5
99834	1-Bromo-4-fluorobenzene, surrogate, VOC schedules, water, unfiltered, percent recovery					62.5	62.3
99871	Number of tentatively identified compounds (TICS) from VOC analysis by GCMS, number					1	0
99972	Sample volume, Schedule 2003, milliliters					981	908
99994	Diazinon-d10, surrogate, Schedule 2003, water, filtered, percent recovery					120	119
99995	alpha-HCH-d6, surrogate, Schedule 2003, water, filtered, percent recovery					93.5	99.1

Notes: U.S. EPA STORET numbers for MCLs correspond to the same as the USGS NWIS data parameter number except as follows:

(a) MCL shown for U S EPA STORET No. 620.
(b) MCL shown for U.S. EPASTORET No. 951.
(c) MCL shown for U.S. EPA STORET No. 1002.
(d) MCL shown for U.S. EPA STORET No. 1007.
(e) MCL shown for U.S. EPA STORET No. 1012.
(f) MCL shown for U.S. EPA STORET No. 1027.
(g) MCL shown for U.S. EPA STORET No. 1034.
(j) MCL shown for U.S EPA STORET No. 1067.
(k) MCL shown for U.S. EPASTORET No. 1077.
(l) MCL shown for U.S. EPA STORET No. 1092.
(m) MCL shown for U.S. EPA STORET No. 1097.
(n) MCL shown for U.S. EPA STORET No. 1105.
(o) MCL shown for U.S. EPA STORET No. 1147.
(p) MCL shown for U.S. EPA STORET No. 34247.

Code–Data parameter number used in USGS National Water Information System (NWIS).
E–Estimated.
M–Presence verified but not quantified.
MCL–Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
September 2007

	Sampling date		9/27/2007	9/20/2007	9/25/2007	9/25/2007	9/20/2007
3	Sampling depth, feet						
10	Temperature, water, degrees Celsius		25.5	21	21	21	21
28	Agency analyzing sample, code		80020	80020	80020	80020	80020
59	Flow rate, instantaneous, gallons per minute						
95	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius		653	789	788	686	685
191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter						
300	Dissolved oxygen, water, unfiltered, milligrams per liter		< 0.2	< 0.2	0.07	0.07	5.68
400	pH, water, unfiltered, field, standard units		9.52	9.42	9.14	8.28	7.87
403	pH, water, unfiltered, laboratory, standard units						
602	Total nitrogen, water, filtered, milligrams per liter						
607	Organic nitrogen, water, filtered, milligrams per liter						
608	Ammonia, water, filtered, milligrams per liter as nitrogen		0.026	0.021	0.051	0.031	< 0.02
613	Nitrite, water, filtered, milligrams per liter as nitrogen	1 (a)	< 0.002	< 0.002	< 0.002	< 0.002	0.002
618	Nitrate, water, filtered, milligrams per liter as nitrogen						
623	Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen						
631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen		< 0.06	< 0.06	< 0.06	< 0.06	2.12
660	Orthophosphate, water, filtered, milligrams per liter						
666	Phosphorus, water, filtered, milligrams per liter						
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus		0.021	0.459	1.968	0.332	1.002
900	Hardness, water, milligrams per liter as calcium carbonate						
915	Calcium, water, filtered, milligrams per liter		3.9	2.9	3.6	29.5	38.0
925	Magnesium, water, filtered, milligrams per liter		0.03	0.08	0.34	3.56	9.29
930	Sodium, water, filtered, milligrams per liter		131.90	150.90	169.10	115.50	90.72
931	Sodium adsorption ratio, water, number						
932	Sodium fraction of cations, water, percent in equivalents of major cations						
935	Potassium, water, filtered, milligrams per liter		0.33	0.76	1.39	2.32	2.58
940	Chloride, water, filtered, milligrams per liter	600	133.46	130.63	121.06	80.84	44.11
945	Sulfate, water, filtered, milligrams per liter	600	33.30	95.24	101.18	79.93	108.28
950	Fluoride, water, filtered, milligrams per liter	2 (b)	4.42	3.44	0.92	0.28	0.31
955	Silica, water, filtered, milligrams per liter		18.2	17.6	14.9	17.7	24.3
1000	Arsenic, water, filtered, micrograms per liter	10 (c)	31.27	18.74	13.11	4.469	3.97
1005	Barium, water, filtered, micrograms per liter	1000 (d)	4	3	3	14	22
1010	Beryllium, micrograms per liter	4 (e)	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
1020	Boron, water, filtered, micrograms per liter		102	158	147	153	143
1025	Cadmium, micrograms per liter	5 (f)	0.35	0.49	0.31	0.03 E	0.02 E
1030	Chromium, micrograms per liter	50 (g)	< 0.12	< 0.12	< 0.12	< 0.12	1.11
1035	Cobalt, micrograms per liter		< 0.04	< 0.04	0.04 E	0.03 E	0.08
1040	Copper, micrograms per liter	1000 (h)	< 0.4	< 0.04	0.70	0.87	1.71
1046	Iron, water, filtered, micrograms per liter	300	3 E	< 6	10	4 E	< 6
1049	Lead, micrograms per liter		< 0.12	< 0.12	0.08 E	< 0.12	< 0.12
1056	Manganese, water, filtered, micrograms per liter	50	0.42	0.85	2.78	12.45	0.71
1057	Thallium, micrograms per liter	2 (i)	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
1060	Molybdenum, micrograms per liter		208.2	251.2	207.5	11.46	6.83
1065	Nickel, micrograms per liter	100 (j)	< 0.06	0.19	0.46	0.26	0.73
1075	Silver, micrograms per liter	100 (k)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1080	Strontium, water, filtered, micrograms per liter		28	17	20	257	201
1085	Vanadium, micrograms per liter		78.84	32.17	7.33	1.14	21.53
1090	Zinc, micrograms per liter	5000 (l)	< 0.6	0.70	0.70	1.05	2.76
1095	Antimony, micrograms per liter	6 (m)	0.06 E	0.11	0.17	0.04 E	0.07
1106	Aluminum, water, filtered, micrograms per liter	1000 (n)	43.06	100.30	139.40	27.01	3.30
1130	Lithium, water, filtered, micrograms per liter		2.0	4.0	2.7	6.8	5.1
1145	Selenium, micrograms per liter	50 (o)	0.08 E	0.08	0.09	0.05	7.50

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
September 2007

	Sampling date		9/27/2007	9/20/2007	9/25/2007	9/25/2007	9/20/2007
4022	Terbuthylazine, water, filtered, recoverable, micrograms per liter						
4025	Hexazinone, water, filtered, recoverable, micrograms per liter						
4029	Bromacil, water, filtered, recoverable, micrograms per liter						
4035	Simazine, water, filtered, recoverable, micrograms per liter						
4036	Prometryn, water, filtered, recoverable, micrograms per liter						
4037	Prometon, water, filtered, recoverable, micrograms per liter						
4040	2-Chloro-4-isopropylamino-6-amino-s-triazine, water, filtered, recoverable, micrograms per liter						
4095	Fonofos, water, filtered, recoverable, micrograms per liter						
7000	Tritium, water, unfiltered, picocuries per liter						
22703	Uranium, natural, micrograms per liter		0.06	0.13	0.43	2.17	2.16
29801	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate		48	58	92	132	158
30217	Dibromomethane, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
32101	Bromodichloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
32102	Tetrachloromethane, water, unfiltered, recoverable, micrograms per liter	0.5	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
32103	1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.1	< 0.1	< 0.1	< 0.1
32104	Tribromomethane, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
32105	Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
32106	Trichloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.02	< 0.04	< 0.04	< 0.04	< 0.04
34010	Toluene, water, unfiltered, recoverable, micrograms per liter	150	< 0.02	< 0.018	< 0.018	< 0.018	< 0.018
34030	Benzene, water, unfiltered, recoverable, micrograms per liter	1	< 0.02	0.029 E	0.018 E	< 0.018	< 0.018
34215	Acrylonitrile, water, unfiltered, recoverable, micrograms per liter		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
34221	Anthracene, water, filtered, recoverable, micrograms per liter						
34248	Benzo[a]pyrene, water, filtered, recoverable, micrograms per liter	0.2 (p)					
34288	Tribromomethane, water, filtered, recoverable, micrograms per liter						
34301	Chlorobenzene, water, unfiltered, recoverable, micrograms per liter	70	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
34311	Chloroethane, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	0.083 E	< 0.1	< 0.1
34371	Ethylbenzene, water, unfiltered, recoverable, micrograms per liter	300	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02
34377	Fluoranthene, water, filtered, recoverable, micrograms per liter						
34396	Hexachloroethane, water, unfiltered, recoverable, micrograms per liter		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
34409	Isophorone, water, filtered, recoverable, micrograms per liter						
34413	Bromomethane, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
34418	Chloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	0.592 E	< 0.1	< 0.1
34423	Dichloromethane, water, unfiltered, recoverable, micrograms per liter	5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
34443	Naphthalene, water, filtered, recoverable, micrograms per liter						
34462	Phenanthrene, water, filtered, recoverable, micrograms per liter						
34466	Phenol, water, filtered, recoverable, micrograms per liter						
34470	Pyrene, water, filtered, recoverable, micrograms per liter						
34475	Tetrachloroethene, water, unfiltered, recoverable, micrograms per liter	5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
34476	Tetrachloroethene, water, filtered, recoverable, micrograms per liter						
34488	Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter	150	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
34496	1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	5	< 0.04	< 0.06	< 0.06	< 0.06	< 0.06
34501	1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
34506	1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	200	< 0.02	< 0.04	< 0.04	< 0.04	< 0.04
34511	1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	5	< 0.06	< 0.04	< 0.04	< 0.04	< 0.04
34516	1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
34536	1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	600	< 0.02	< 0.04	< 0.04	< 0.04	< 0.04
34541	1,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter	5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
34546	trans-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	10	< 0.02	< 0.018	< 0.018	< 0.018	< 0.018
34551	1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5	< 0.08	< 0.12	< 0.12	< 0.12	< 0.12
34566	1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
34571	1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5	< 0.02	< 0.04	< 0.04	< 0.04	< 0.04
34572	1,4-Dichlorobenzene, water, filtered, recoverable, micrograms per liter						

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
September 2007

	Sampling date		9/27/2007	9/20/2007	9/25/2007	9/25/2007	9/20/2007
34668	Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
34696	Naphthalene, water, unfiltered, recoverable, micrograms per liter		< 0.2	< 0.4	< 0.4	< 0.4	< 0.4
34699	trans-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
34704	cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5	< 0.1	< 0.06	< 0.06	< 0.06	< 0.06
38454	Dicrotophos, water, filtered, recoverable, micrograms per liter						
38775	Dichlorvos, water, filtered, recoverable, micrograms per liter						
38933	Chlorpyrifos, water, filtered, recoverable, micrograms per liter						
39086	Alkalinity, water, filtered, incremental titration, field, milligrams per liter as calcium carbonate						
39175	Vinyl chloride, water, unfiltered, recoverable, micrograms per liter	0.5	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
39180	Trichloroethene, water, unfiltered, recoverable, micrograms per liter	5					
39381	Dieldrin, water, filtered, recoverable, micrograms per liter						
39415	Metolachlor, water, filtered, recoverable, micrograms per liter						
39532	Malathion, water, filtered, recoverable, micrograms per liter						
39572	Diazinon, water, filtered, recoverable, micrograms per liter						
39632	Atrazine, water, filtered, recoverable, micrograms per liter						
39702	Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.1	< 0.1	< 0.1	< 0.1
46342	Alachlor, water, filtered, recoverable, micrograms per liter						
49260	Acetochlor, water, filtered, recoverable, micrograms per liter						
49295	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
49991	Methyl acrylate, water, unfiltered, recoverable, micrograms per liter		< 0.8	< 0.4	< 0.4	< 0.4	< 0.4
49999	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
50000	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
50002	Bromoethene, water, unfiltered, recoverable, micrograms per liter		< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
50004	tert-Butyl ethyl ether, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
50005	Methyl tert-pentyl ether, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.04	< 0.04	< 0.04	< 0.04
50305	Caffeine, water, filtered, recoverable, micrograms per liter						
50359	Metalaxyl, water, filtered, recoverable, micrograms per liter						
61585	Cyfluthrin, water, filtered, recoverable, micrograms per liter						
61586	Cypermethrin, water, filtered, recoverable, micrograms per liter						
61591	Fenamiphos, water, filtered, recoverable, micrograms per liter						
61593	Iprodione, water, filtered, recoverable, micrograms per liter						
61594	Isofenphos, water, filtered, recoverable, micrograms per liter						
61596	Metalaxyl, water, filtered, recoverable, micrograms per liter						
61598	Methidathion, water, filtered, recoverable, micrograms per liter						
61599	Myclobutanil, water, filtered, recoverable, micrograms per liter						
61601	Phosmet, water, filtered, recoverable, micrograms per liter						
61610	Tribuphos, water, filtered, recoverable, micrograms per liter						
61618	2-Chloro-2',6'-diethylacetanilide, water, filtered, recoverable, micrograms per liter						
61620	2-Ethyl-6-methylaniline, water, filtered, recoverable, micrograms per liter						
61625	3,4-Dichloroaniline, water, filtered, recoverable, micrograms per liter						
61633	4-Chloro-2-methylphenol, water, filtered, recoverable, micrograms per liter						
61635	Azinphos-methyl oxygen analog, water, filtered, recoverable, micrograms per liter						
61636	Chlorpyrifos oxygen analog, water, filtered, recoverable, micrograms per liter						
61644	Ethion monoxon, water, filtered, recoverable, micrograms per liter						
61645	Fenamiphos sulfone, water, filtered, recoverable, micrograms per liter						
61646	Fenamiphos sulfoxide, water, filtered, recoverable, micrograms per liter						
61652	Malaoxon, water, filtered, recoverable, micrograms per liter						
61664	Methyl paraoxon, water, filtered, recoverable, micrograms per liter						
61666	Phorate oxygen analog, water, filtered, recoverable, micrograms per liter						
61668	Phosmet oxygen analog, water, filtered, recoverable, micrograms per liter						
61674	Terbufos oxygen analog sulfone, water, filtered, recoverable, micrograms per liter						
61705	Diethoxyoctylphenol, water, filtered, recoverable, micrograms per liter						

Code–Data parameter number used in USGS National Water Information System (NWIS).
E–Estimated.
M–Presence verified but not quantified.
MCL–Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
September 2007

	Sampling date		9/27/2007	9/20/2007	9/25/2007	9/25/2007	9/20/2007
61706	Monoethoxyoctylphenol, water, filtered, recoverable, micrograms per liter						
62005	Cotinine, water, filtered, recoverable, micrograms per liter						
62054	1-Methylnaphthalene, water, filtered, recoverable, micrograms per liter						
62055	2,6-Dimethylnaphthalene, water, filtered, recoverable, micrograms per liter						
62056	2-Methylnaphthalene, water, filtered, recoverable, micrograms per liter						
62057	3-beta-Coprostanol, water, filtered, recoverable, micrograms per liter						
62058	3-Methyl-1H-Indole, water, filtered, recoverable, micrograms per liter						
62059	3-tert-Butyl-4-hydroxyanisole, water, filtered, recoverable, micrograms per liter						
62060	4-Cumylphenol, water, filtered, recoverable, micrograms per liter						
62061	4-Octylphenol, water, filtered, recoverable, micrograms per liter						
62062	4-tert-Octylphenol, water, filtered, recoverable, micrograms per liter						
62063	5-Methyl-1H-benzotriazole, water, filtered, recoverable, micrograms per liter						
62064	Acetophenone, water, filtered, recoverable, micrograms per liter						
62065	Acetyl hexamethyl tetrahydro naphthalene, water, filtered, recoverable, micrograms per liter						
62066	9,10-Anthraquinone, water, filtered, recoverable, micrograms per liter						
62067	Benzophenone, water, filtered, recoverable, micrograms per liter						
62068	beta-Sitosterol, water, filtered, recoverable, micrograms per liter						
62070	Camphor, water, filtered, recoverable, micrograms per liter						
62071	Carbazole, water, filtered, recoverable, micrograms per liter						
62072	Cholesterol, water, filtered, recoverable, micrograms per liter						
62073	D-Limonene, water, filtered, recoverable, micrograms per liter						
62075	Hexahydrohexamethyl cyclopentabenzopyran, water, filtered, recoverable, micrograms per liter						
62076	Indole, water, filtered, recoverable, micrograms per liter						
62077	Isoborneol, water, filtered, recoverable, micrograms per liter						
62078	Isopropylbenzene, water, filtered, recoverable, micrograms per liter						
62079	Isoquinoline, water, filtered, recoverable, micrograms per liter						
62080	Menthol, water, filtered, recoverable, micrograms per liter						
62081	Methyl salicylate, water, filtered, recoverable, micrograms per liter						
62082	DEET, water, filtered, recoverable, micrograms per liter						
62083	Diethoxynonylphenol, water, filtered, recoverable, micrograms per liter						
62084	p-Cresol, water, filtered, recoverable, micrograms per liter						
62085	4-Nonylphenol, water, filtered, recoverable, micrograms per liter						
62086	beta-Stigmastanol, water, filtered, recoverable, micrograms per liter						
62087	Tris(2-chloroethyl) phosphate, water, filtered, recoverable, micrograms per liter						
62088	Tris(dichloroisopropyl) phosphate, water, filtered, recoverable, micrograms per liter						
62089	Tributyl phosphate, water, filtered, recoverable, micrograms per liter						
62090	Triclosan, water, filtered, recoverable, micrograms per liter						
62091	Triethyl citrate, water, filtered, recoverable, micrograms per liter						
62092	Triphenyl phosphate, water, filtered, recoverable, micrograms per liter						
62093	Tris(2-butoxyethyl) phosphate, water, filtered, recoverable, micrograms per liter						
62166	Fipronil, water, filtered, recoverable, micrograms per liter						
62167	Fipronil sulfide, water, filtered, recoverable, micrograms per liter						
62168	Fipronil sulfone, water, filtered, recoverable, micrograms per liter						
62169	Desulfinylfipronil amide, water, filtered, recoverable, micrograms per liter						
62170	Desulfinylfipronil, water, filtered, recoverable, micrograms per liter						
62854	Total nitrogen, (NH3+NO2+NO3+Organic), filtered, milligrams per liter		0.036 E	0.06	0.112	0.045 E	2.207
70300	Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter	1500	358	460	471	397	429
70301	Residue, water, filtered, sum of constituents, milligrams per liter						
70303	Residue, water, filtered, tons per acre-foot						
71846	Ammonia, water, filtered, milligrams per liter as NH4						
71851	Nitrate, water, filtered, milligrams per liter	45 (q)					
71856	Nitrite, water, filtered, milligrams per liter						

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
September 2007

	Sampling date		9/27/2007	9/20/2007	9/25/2007	9/25/2007	9/20/2007
71865	Iodide, water, filtered, milligrams per liter						
71870	Bromide, water, filtered, milligrams per liter		0.31	0.40	0.38	0.28	0.12
72019	Depth to water level, feet below land surface						
73547	trans-1,4-Dichloro-2-butene, water, unfiltered, recoverable, micrograms per liter		< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
73570	Ethyl methacrylate, water, unfiltered, recoverable, micrograms per liter		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
75985	Tritium 2-sigma combined uncertainty, water, unfiltered, picocuries per liter						
77041	Carbon disulfide, water, unfiltered, micrograms per liter		< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
77093	cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
77103	n-Butyl methyl ketone, water, unfiltered, recoverable, micrograms per liter		< 0.6	< 0.4	< 0.4	< 0.4	< 0.4
77128	Styrene, water, unfiltered, recoverable, micrograms per liter	100	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77135	o-Xylene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77168	1,1-Dichloropropene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77170	2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
77173	1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
77220	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77221	1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
77222	1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.04	0.02 E	0.02 E	< 0.04	0.03 E
77223	Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77224	n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77226	1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77275	2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77277	4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77297	Bromochloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
77342	n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
77350	sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77353	tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.08	< 0.06	< 0.08	< 0.08
77356	4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
77424	Iodomethane, water, unfiltered, recoverable, micrograms per liter		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
77443	1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter		< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
77562	1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77613	1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.12	< 0.12	< 0.12	< 0.12
77651	1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter	0.05	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
77652	1,1,2-Trichloro-1,2,2-trifluoroethane, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
78032	Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
78109	3-Chloropropene, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
78133	Isobutyl methyl ketone, water, unfiltered, recoverable, micrograms per liter		< 0.4	< 0.2	< 0.2	< 0.2	< 0.2
81552	Acetone, water, unfiltered, recoverable, micrograms per liter		< 4	< 8	< 8	< 8	< 8
81555	Bromobenzene, water, unfiltered, recoverable, micrograms per liter		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
81576	Diethyl ether, water, unfiltered, recoverable, micrograms per liter		< 0.12	< 0.08	< 0.08	< 0.08	< 0.08
81577	Diisopropyl ether, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.06	0.77	< 0.06	< 0.06
81593	Methyl acrylonitrile, water, unfiltered, recoverable, micrograms per liter		< 0.2	< 0.4	< 0.4	< 0.4	< 0.4
81595	Ethyl methyl ketone, water, unfiltered, recoverable, micrograms per liter		< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
81597	Methyl methacrylate, water, unfiltered, recoverable, micrograms per liter		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
81607	Tetrahydrofuran, water, unfiltered, recoverable, micrograms per liter		< 1.4	< 1	< 1	< 1	< 1
82082	Deuterium/Protium ratio, water, unfiltered, per mil		-53.6	-52.8	-52.9	-46.0	-44.1
82085	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil		-8.28	-8.15	-8.02	-6.93	-44.1
82346	Ethion, water, filtered, recoverable, micrograms per liter						
82625	1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
82630	Metribuzin, water, filtered, recoverable, micrograms per liter						
82660	2,6-Diethylaniline, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82661	Trifluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82662	Dimethoate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
September 2007

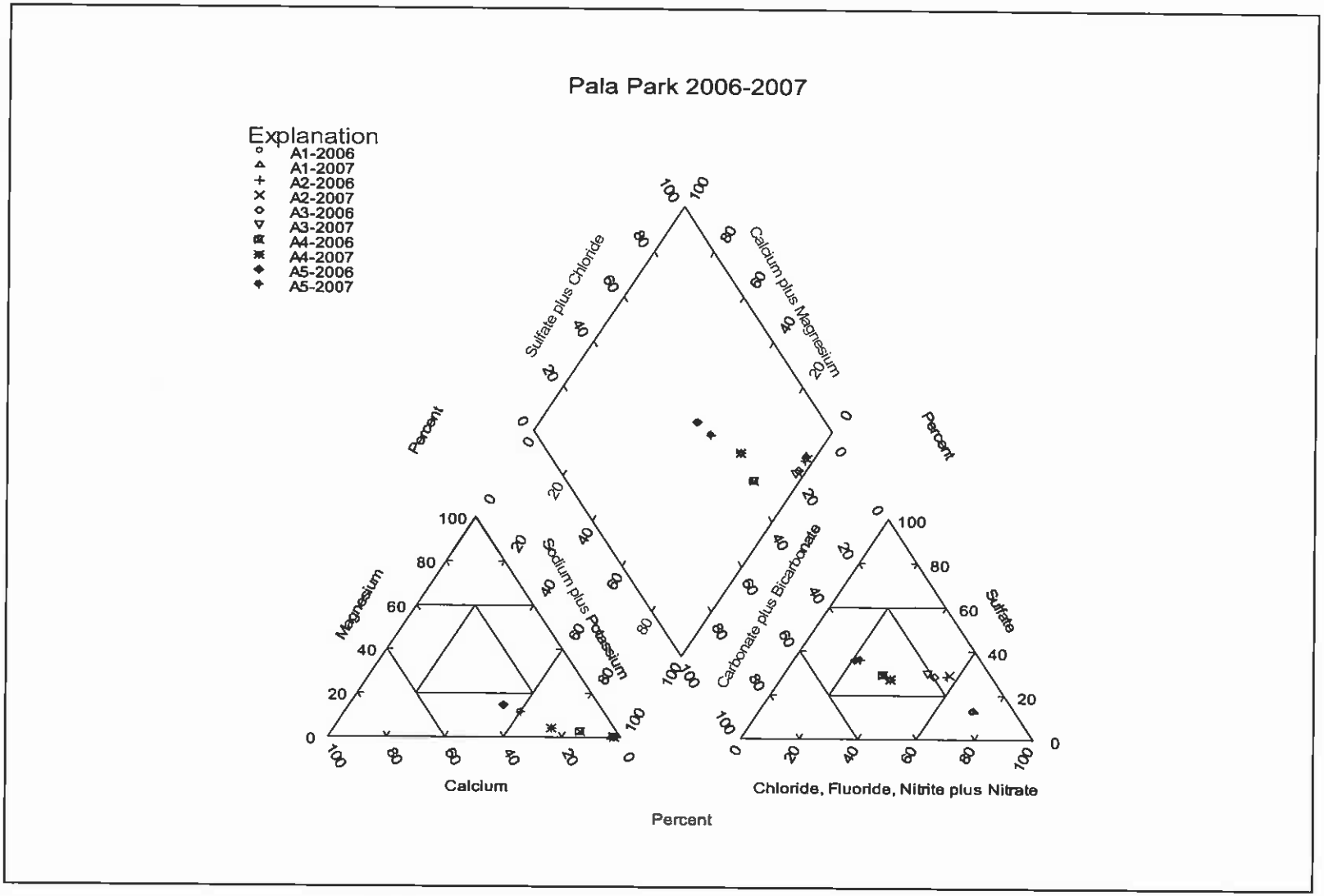
	Sampling date		9/27/2007	9/20/2007	9/25/2007	9/25/2007	9/20/2007
82664	Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82667	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82670	Tebuthiuron, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82673	Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82675	Terbufos, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82676	Propyzamide, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82680	Carbaryl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82682	OCPA, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82683	Pendimethalin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82686	Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82687	cis-Permethrin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
85795	m-Xylene plus p-xylene, water, unfiltered, recoverable, micrograms per liter		< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
90095	Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius						
99583	Bisphenol A-d3, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery						
99584	Caffeine-13C, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery						
99585	Decafluorobiphenyl, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery						
99586	Fluoranthene-d10, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery						
99587	Sample volume, wastewater method, water, filtered, milliliters						
99832	1,2-Dichloroethane-d4, surrogate, Schedule 2090, water, unfiltered, percent recovery						
99833	Toluene-d8, surrogate, Schedule 2090, water, unfiltered, percent recovery						
99834	1-Bromo-4-fluorobenzene, surrogate, VOC schedules, water, unfiltered, percent recovery						
99871	Number of tentatively identified compounds (TICS) from VOC analysis by GCMS, number						
99972	Sample volume, Schedule 2003, milliliters						
99994	Diazinon-d10, surrogate, Schedule 2003, water, filtered, percent recovery						
99995	alpha-HCH-d6, surrogate, Schedule 2003, water, filtered, percent recovery						

Notes: U.S. EPA STORET numbers for MCLs correspond to the same as the USGS NWIS data parameter number except as follows:

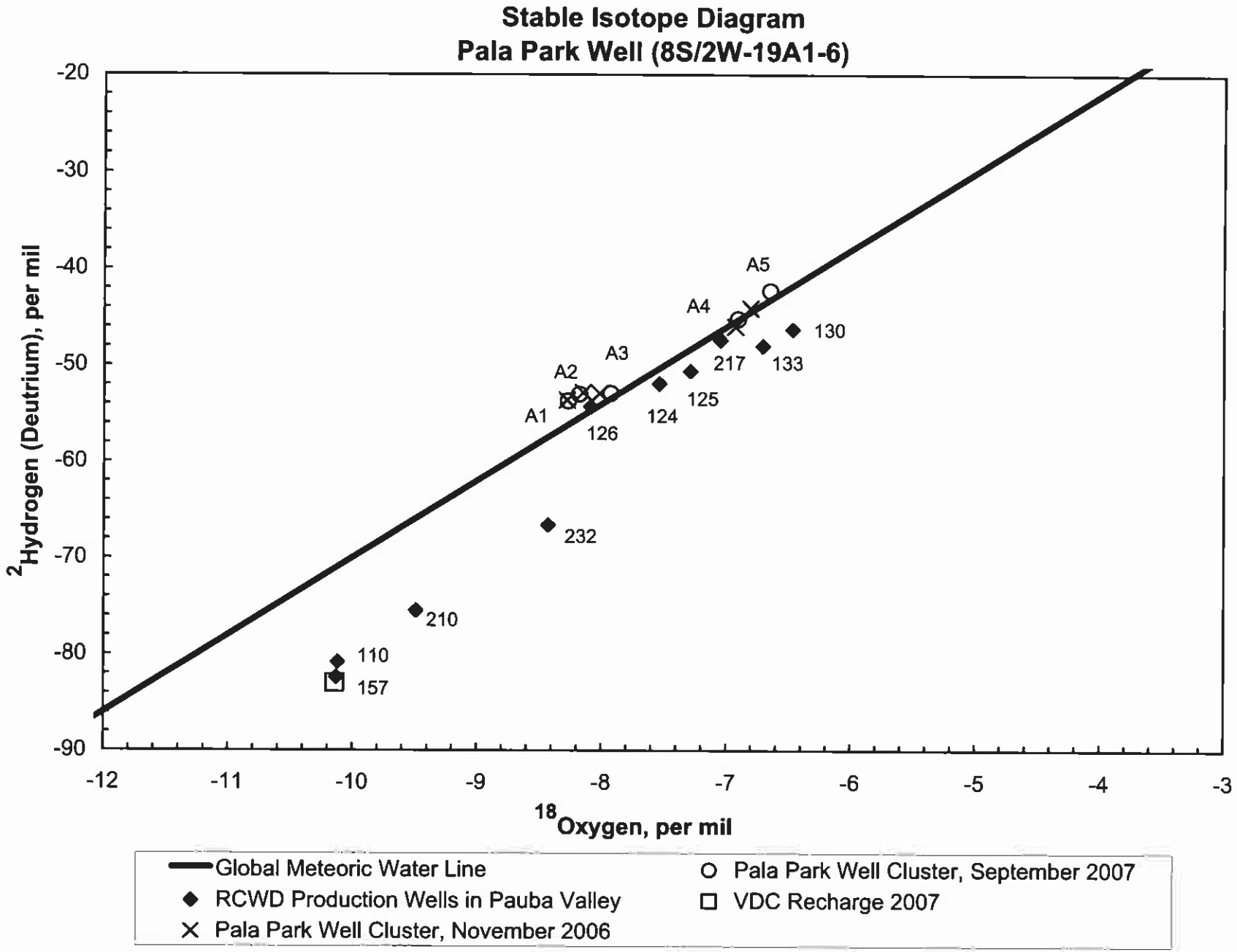
(a) MCL shown for U.S EPA STORET No. 620.
(b) MCL shown for U S. EPASTORET No. 951.
(c) MCL shown for U.S. EPA STORET No. 1002.
(d) MCL shown for U.S. EPA STORET No. 1007.
(e) MCL shown for U.S. EPA STORET No. 1012.
(f) MCL shown for U.S. EPA STORET No. 1027.
(g) MCL shown for U.S. EPA STORET No. 1034.
(j) MCL shown for U.S EPA STORET No. 1067.
(k) MCL shown for U.S. EPASTORET No. 1077.
(l) MCL shown for U.S. EPA STORET No. 1092.
(m) MCL shown for U.S. EPA STORET No. 1097.
(n) MCL shown for U.S. EPA STORET No. 1105.
(o) MCL shown for U.S. EPA STORET No. 1147.
(p) MCL shown for U.S. EPA STORET No. 34247.

Code--Data parameter number used in USGS National Water Information System (NWIS).
E--Estimated.
M--Presence verified but not quantified.
MCL--Maximum Contaminant Level reported by California DHS (May 25, 2007 Database) for U.S. EPA STORET number.

Tri-Linear Diagram
Pala Park Well (8S/2W-19A1-6)



Source: USGS California Water Science Center, see following website for more information: http://ca.water.usgs.gov/temecula.



Source: USGS California Water Science Center.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2006-07

APPENDIX F

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

August 2008

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.

Major Water Purveyors

Santa Margarita River Watershed Watermaster

Map Produced by:
Rancho California Water District
Planning and Capital Projects
Geographic Information Services
July 2008

1 inch equals 4 miles

0 0.5 1 2 3 Miles

W.M.W.D. E.M.W.D. E.V.M.W.D. W.M.W.D.-M R.C.W.D.-S.R. R.C.W.D.-R. F.P.U.D. R.M.W.D.

Cleveland National Forest

San Bernardino National Forest

Cleveland National Forest

Orange County

Riverside County

San Diego County

Camp Pendleton

Pacific Ocean

CANYON LAKE

LAKE ELSINORE

DIAMOND VALLEY LAKE

LAKE SKINNER

HEMET LAKE

VAIL LAKE

LAKE O'NEILL

Murrieta

Temecula

Fallbrook

Anza

Aguanga

Ramona I.R.

Cahuilla I.R.

Pechanga I.R.

Pauma I.R.

San Jacinto River

Santa Margarita River

Murrieta Creek

Warm Springs Creek

Tucalota Creek

Temecula Creek

Rawson Creek

Santa Gertrudis Creek

Wilson Creek

Cahuilla Creek

Tule Creek

Pechanga Creek

Rainbow Creek

Sandia Creek

De Luz Creek

Chihuahua Creek

Cole Creek

Township 4 South Range 6 West
Township 4 South Range 5 West
Township 4 South Range 4 West
Township 4 South Range 3 West
Township 4 South Range 2 West
Township 4 South Range 1 West
Township 4 South Range 1 East
Township 4 South Range 2 East
Township 4 South Range 3 East
Township 4 South Range 4 East
Township 5 South Range 6 West
Township 5 South Range 5 West
Township 5 South Range 4 West
Township 5 South Range 3 West
Township 5 South Range 2 West
Township 5 South Range 1 West
Township 5 South Range 1 East
Township 5 South Range 2 East
Township 5 South Range 3 East
Township 5 South Range 4 East
Township 6 South Range 6 West
Township 6 South Range 5 West
Township 6 South Range 4 West
Township 6 South Range 3 West
Township 6 South Range 2 West
Township 6 South Range 1 West
Township 6 South Range 1 East
Township 6 South Range 2 East
Township 6 South Range 3 East
Township 6 South Range 4 East
Township 7 South Range 6 West
Township 7 South Range 5 West
Township 7 South Range 4 West
Township 7 South Range 3 West
Township 7 South Range 2 West
Township 7 South Range 1 West
Township 7 South Range 1 East
Township 7 South Range 2 East
Township 7 South Range 3 East
Township 7 South Range 4 East
Township 8 South Range 6 West
Township 8 South Range 5 West
Township 8 South Range 4 West
Township 8 South Range 3 West
Township 8 South Range 2 West
Township 8 South Range 1 West
Township 8 South Range 1 East
Township 8 South Range 2 East
Township 8 South Range 3 East
Township 8 South Range 4 East
Township 9 South Range 5 West
Township 9 South Range 4 West
Township 9 South Range 3 West
Township 9 South Range 2 West
Township 9 South Range 1 West
Township 9 South Range 1 East
Township 9 South Range 2 East
Township 9 South Range 3 East
Township 9 South Range 4 East
Township 10 South Range 4 West
Township 10 South Range 3 West
Township 10 South Range 2 West
Township 10 South Range 1 West
Township 10 South Range 1 East
Township 10 South Range 2 East
Township 10 South Range 3 East
Township 11 South Range 6 West
Township 11 South Range 5 West
Township 11 South Range 4 West
Township 11 South Range 3 West
Township 11 South Range 2 West
Township 11 South Range 1 West
Township 11 South Range 2 East

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.

Legend

- Gaging Station
- Santa Margarita River Watershed
- Indian Reservation

RCWD Divisions

R.C.W.D.-R - Rancho California Water District - Rancho Division
R.C.W.D.-SR - Rancho California Water District - Santa Rosa Division

Water Purveyors

E.M.W.D. - Eastern Municipal Water District
E.V.M.W.D. - Elsinore Valley Municipal Water District
F.P.U.D. - Fallbrook Public Utility District
R.M.W.D. - Rainbow Municipal Water District
W.M.W.D. - Western Municipal Water District
W.M.W.D.-M - Western Municipal Water District- Murrieta Division