

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2008-09

UNITED STATES OF AMERICA

V.

FALLBROOK PUBLIC UTILITY DISTRICT, ET AL

CIVIL NO. 1247-SD-GT-RBB

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Major Water Purveyors

Bound at back of report

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SECTION 1 - SUMMARY

Section 1 - A summary of the Santa Margarita River Watershed Annual Watermaster Report for the 2008-09 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 varied in Water Year 2008-09. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula, and the Santa Margarita River at Ysidora were 91%, 99% and 63% of their long-term averages, respectively. Flows at Temecula Creek near Aguanga were 41% of the long term average. Direct surface diversions to use totaled 986 acre feet compared with 987 acre feet in 2007-08. The total quantity of water in storage in the Watershed on September 30, 2009, was 414,065 acre feet, of which 22,709 acre feet were Santa Margarita River water and 391,356 acre feet were imported water.

Section 4 - Groundwater extractions were 42,258 acre feet compared to 40,608 acre feet in 2007-08 as shown on Table 4.1. Water purveyors pumped 36,697 acre feet and 5,561 acre feet were pumped by other substantial users. Total annual local production including surface diversions for use for the period 2000-2009 is shown on Figure 1.1.

Section 5 - During 2008-09, 86,612 acre feet of net imports were distributed for use within the Santa Margarita River Watershed, as shown Table 5.2. This compares with 89,119 acre feet in 2007-08 and represents a decrease of 2.8 percent. Annual imports for the period 2000-2009 are shown on Figure 1.2 and Table 5.4. Exports of wastewater and native water for use outside the watershed in 2008-09 were 19,069 acre feet. This compares with 19,975 acre feet in 2007-08 and represents a decrease of 4.5 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 surface water 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

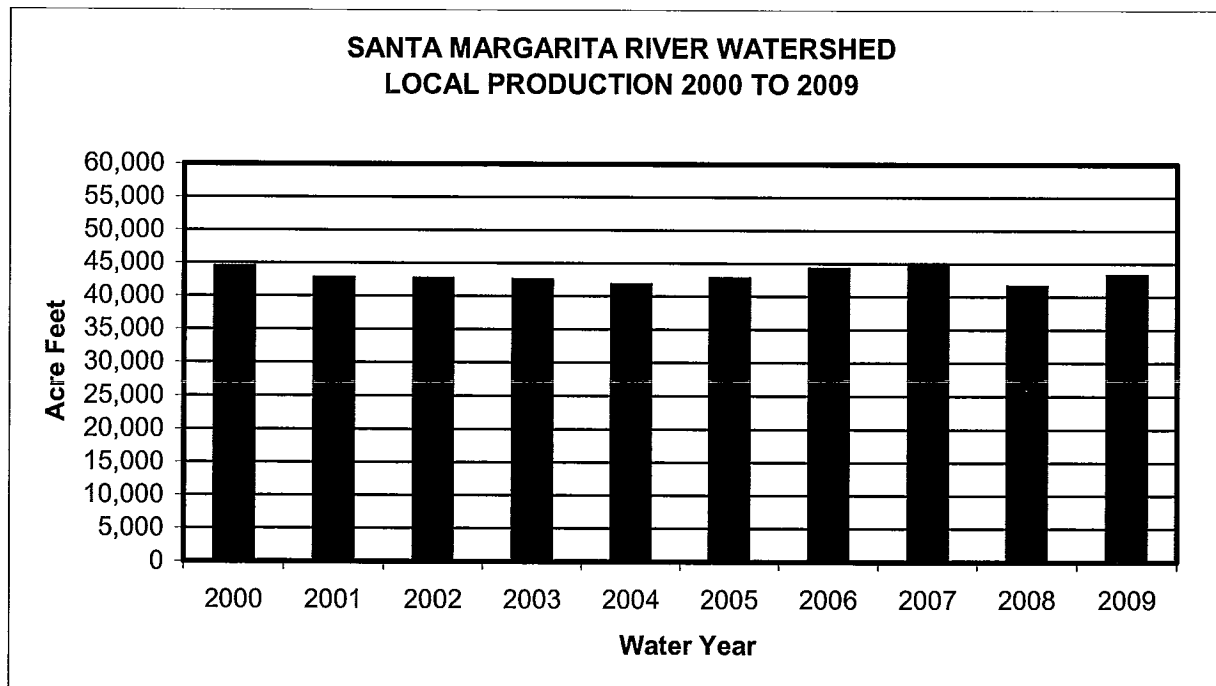
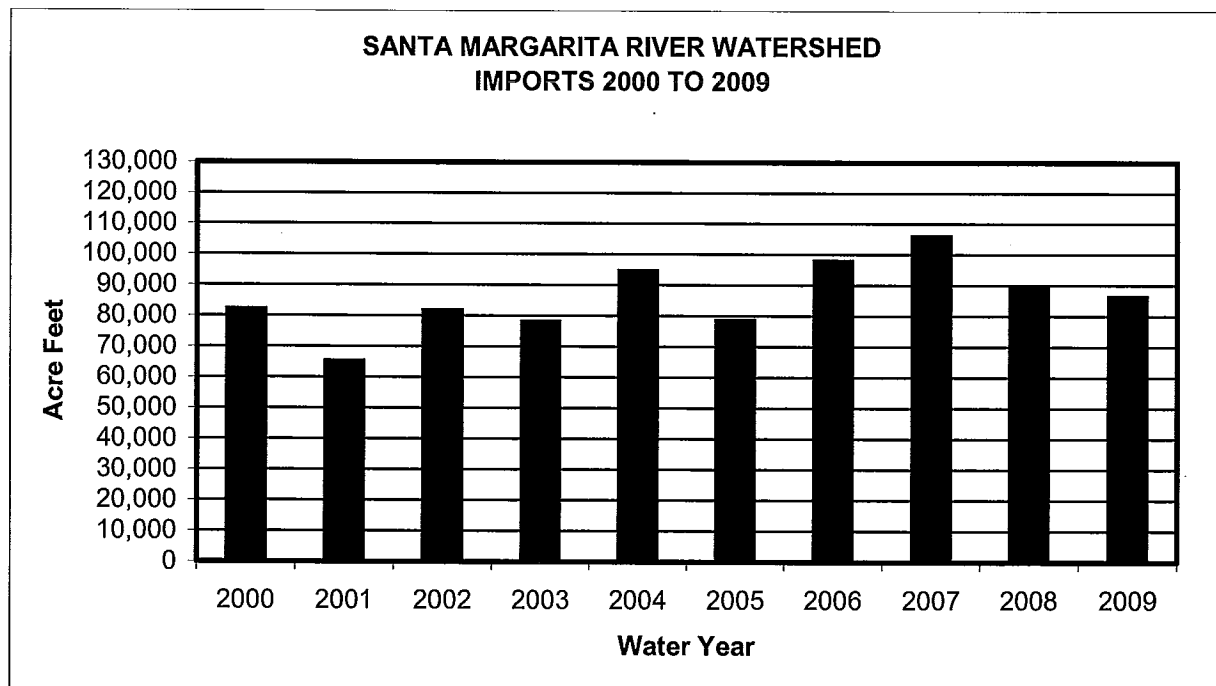


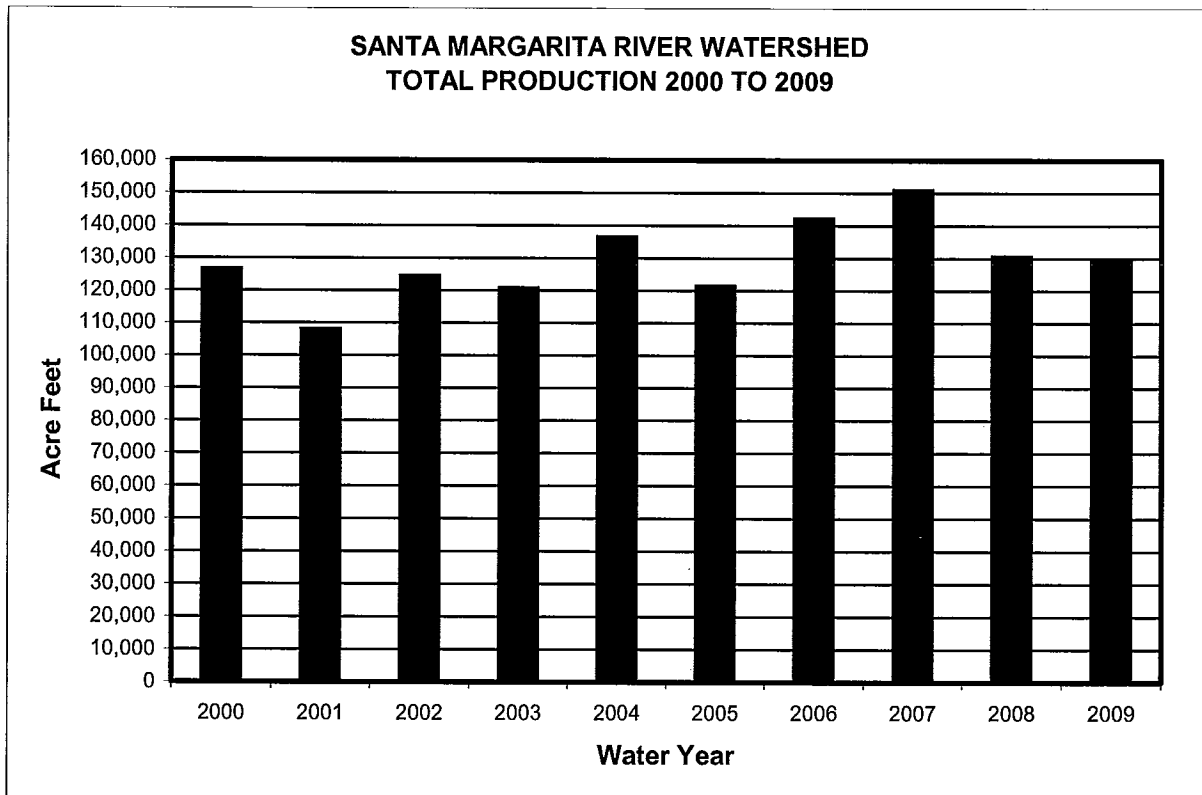
Figure 1.2



Section 7 –Total imported supplies plus local production totaled 129,714 acre feet compared to 130,745 acre feet reported in 2007-08. Of that quantity, 47,095 acre feet were used for agriculture; 7,908 acre feet were used for commercial purposes; 59,303 acre feet were used for domestic purposes; 26 acre feet were discharged to Murrieta Creek; 11 acre feet were discharged to Santa Gertrudis Creek; 5,265 acre feet were discharged by Rancho California WD during 2008-09 pursuant to the Cooperative Water Resources Management Agreement (CWRMA) (3,992 acre feet to the Santa Margarita River from MWD WR-34 and 1,052 acre feet to Murrieta Creek from the System River Meter and 221 acre feet from the potable connection to WR-34 outlet pipe); 3,146 acre feet of fresh water were exported by Camp Pendleton; and 2,357 acre feet were recharged by Rancho California WD to storage. The overall system loss was 4,879 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. This data are shown on Table 7.1.

Total annual production for the period 2000-2009 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 legal authority 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 2008-09. 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 seven of nine wells at Camp Pendleton. Two wells sampled by Rancho California WD showed concentrations exceeding 750 mg/l, 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 2009 calendar year, Rancho California WD discharged 4,795 acre feet to the Santa Margarita River to meet flow requirements under the Agreement. During 2009, 3,092 acre feet were calculated as input to the groundwater account but the balance was already at the maximum balance of 5,000 acre feet and no additional water was credited to the account.

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

Section 13 - A total Watermaster budget for the Water Year 2010-11 is proposed to be \$566,160. This budget includes \$334,630 for the Watermaster Office and \$231,525 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 2008-09 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 findings and conclusions to the Court promptly after the end of each water year.

2.3 Scope

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

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SECTION 3 - SURFACE WATER AVAILABILITY AND USE

3.1 Surface Flow

Over the years, flows in the Santa Margarita River Watershed have been measured at the stations listed on Table 3.1. A number of these stations have been discontinued. During Water Year 2008-09 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 and precipitation 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 2008-09 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 2008-09 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.

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TABLE 3.1

SANTA MARGARITA RIVER WATERSHED
STREAM GAGING STATIONS
2008-09

STATION NAME	STATION NO.	AREA SQ MI	RECORDS FROM	PERIOD OF RECORD										
				1920	1930	1940	1950	1960	1970	1980	1990	2000		
Temecula Creek Near Aguanga	11042400	131	USGS					8/57 ••	••••••••	••••••••	••••••••	••••••••	••••••••	••••••••
Wilson Creek Above Vail Lake	11042490	122	USGS									10/89	10/94 •••••	
Temecula Creek At Vail Dam	11042520	320	USGS	2/23 ••••••••	••••••••	••••••••	••••••••	••••••••	••••••••	••••••••	10/77			
Vail Lake at Temecula (Reservoir Storage)	11042510	320	USGS				10/48 •	••••••••	••••••••	••••••~	••••••~	••••••~	••••••~	••••••~
Pechanga Creek Near Temecula	11042631	13.8	USGS								10/87	••	••••••~	••••••~
Warm Springs Creek Near Murrieta	11042800	55.4	USGS								10/87	••	••••~	••••~
Santa Gertrudis Creek Near Temecula	11042900	90.1	USGS								10/87	••	••••~	••••~
Murrieta Creek Near Murrieta	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 ••••				10/92 ••••~	••••~
DeLuz Creek Near DeLuz	11044800	33	USGS										9/89-9/90 •	4/02-2/03 •
DeLuz Creek Near Fallbrook 2/	11044900	47.5	USGS/ USMC				2/51 ••••~	••••~	••••~	77 ••••~				
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
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

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TABLE 3.2
SANTA MARGARITA RIVER WATERSHED
MEASURED SURFACE WATER FLOW
2008-09
Quantities in Acre Feet

GAGING STATION	DRAINAGE AREA SQ MI	MONTH												WATER YEAR TOTAL	ANNUAL AVERAGE THRU 2008	YEARS OF RECORD THRU 2008
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Temecula Creek Near Aguanga	131	22	36	448	145	1,080	299	153	60	35	7	7	10	2,302	5,650	51
Pechanga Creek Near Temecula ^{1/}	13.1	0	0	45	0	0	0	0	0	0	0	0	0	45	488	21
Warm Springs Creek Near Murrieta	55.4	0	137	1,170	20	605	14	13	0	0	0	0	0	1,959	3,120	21
Santa Gertrudis Creek Near Temecula	90.2	0	88	577	0	366	0	0	0	0	0	0	0	1,031	2,960	21
Murrieta Creek Near Murrieta ^{2/}	30	0	105	936	1	757	46	3	0	0	0	0	0	1,848	----- ^{3/} 4,430	----- 8 (1998-2005)
Murrieta Creek At Temecula	222	475	794	4,550	50	3,230	20	7	5	2	1	0	0	9,134	10,086	84
Santa Margarita River Near Temecula	588	480	916	5,780	634	3,800	664	645	224	680	708	241	176	14,948	15,084 20,390	60 (1949-2008) 26 (1923-48)
Rainbow Creek Near Fallbrook	10.3	10	32	622	61	276	49	25	16	12	7	6	4	1,119	2,720	19
Sandia Creek Near Fallbrook	21.1	75	165	704	442	693	446	276	239	171	76	48	42	3,377	7,130	19
Santa Margarita River At FPU D Sump	620	488	1,050	6,330	990	5,470	966	744	463	857	708	271	136	18,473	30,670	19
DeLuz Creek Near DeLuz	33	0	0	358	113	522	182	60	1	0	0	0	0	1,236	9,270	16 (1993-2008)
Santa Margarita River At Ysidora	723	643	467	8,110	889	6,670	1,600	724	345	322	270	42	0	20,082	31,637 ^{4/} 31,390	60 (1949-2008) 26 (1923-48)
Fallbrook Creek Near Fallbrook	6.97	0	5	212	36	118	30	12	3	1	0	0	0	418	1,283 1,462 ^{5/}	20 (1989-2008) 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 on February 22, 2005 in lieu of bridge installation. Only discharge measurements were taken from February 2005 until September 2007.

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

5/ Includes wastewater flows

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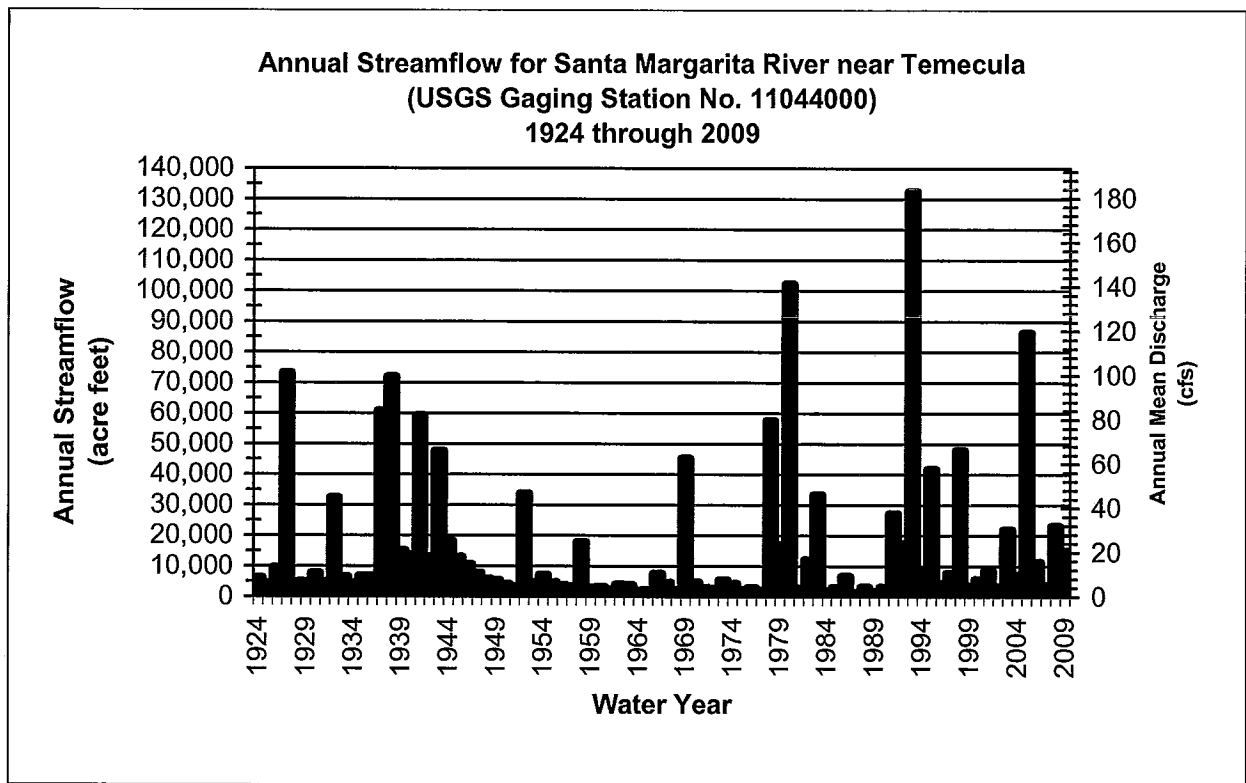
Total flows at four long-term stations for Water Years 2007-08 and 2008-09 are compared with their averages in the tabulation below. Average flows for the Santa Margarita River stations near Temecula and near Ysidora are shown for two periods: before and after Vail Dam was constructed (1923 to 1948, and 1949 to 2006).

	<u>TOTAL FLOW</u>		<u>AVERAGE FLOW</u>
	<u>2007-08</u>	<u>2008-09</u>	<u>Through 2008</u>
	<u>Acre Feet</u>	<u>Acre Feet</u>	<u>Acre Feet</u>
Temecula Creek Near Aguanga	4,220	2,302	5,650 (1957-2008)
Murrieta Creek At Temecula	16,713	9,134	10,086 (1925-2008)
Santa Margarita River Near Temecula	23,071	14,948	15,084 (1949-2008) 20,390 (1923-1948)
Santa Margarita River At Ysidora (various locations)	30,966	20,082	31,637 (1949-2008) 31,390 (1923-1948)

The foregoing tabulation indicates the flows for Water Year 2008-09 were varied compared to average flows for the indicated periods through 2008. Flows for long-term stations on Murrieta Creek at Temecula, the Santa Margarita River near Temecula and the Santa Margarita River at Ysidora were 91%, 99% and 63% of their long-term averages, respectively. Flows at Temecula Creek near Aguanga were 41% 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 2008-09 flows were in the third quartile and less than the flows for the prior year.

Figure 3.1

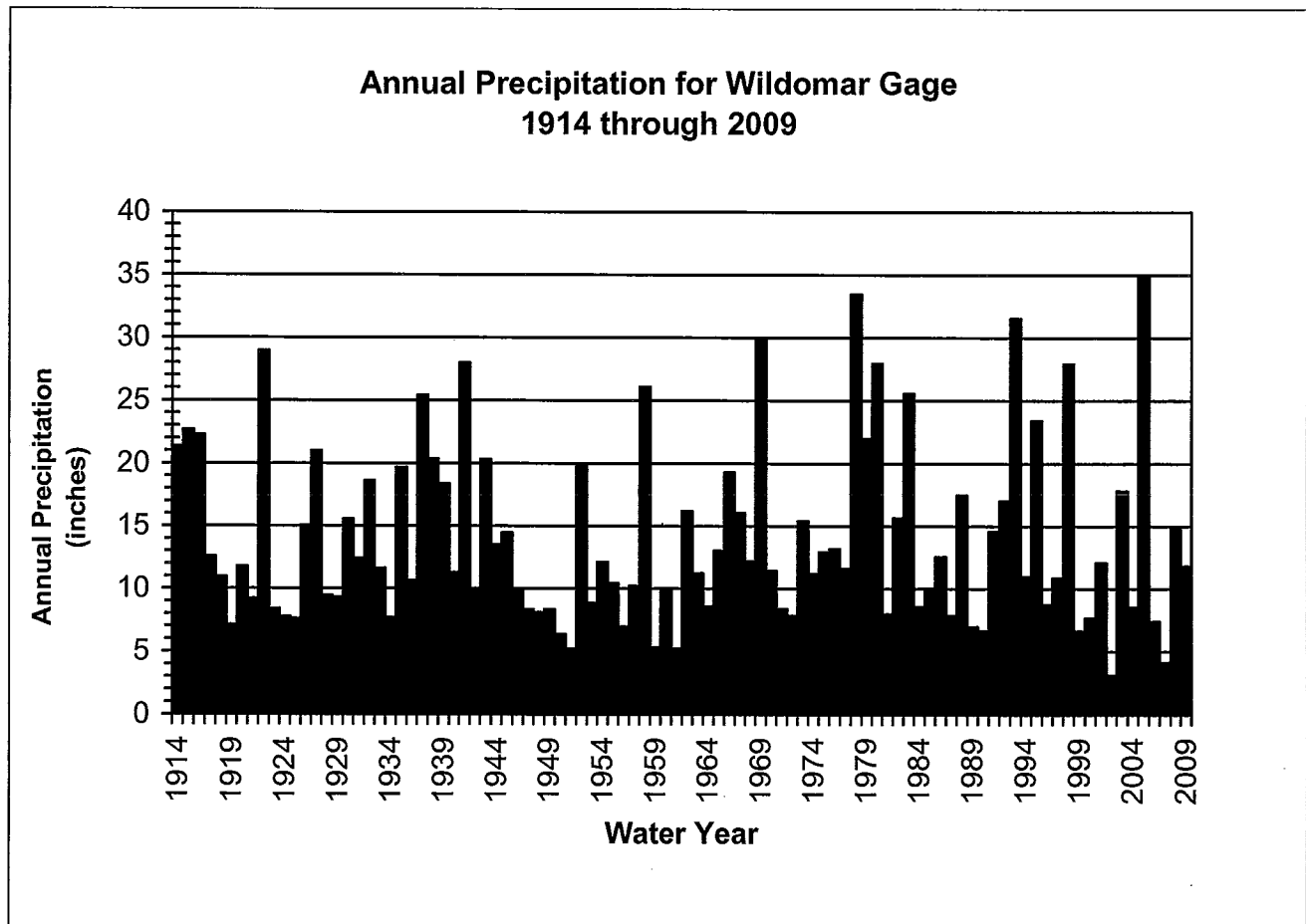


It is also interesting to review long-term precipitation records relative to long-term streamflow. Figure 3.2 shows the long-term time series for annual precipitation for the Wildomar gage maintained by the Riverside County Flood Control and Water Conservation District. The Wildomar gage is specified 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 2009 is 13.94 inches. The reported precipitation for Water Year 2008-09 is 11.81 inches, which is in the third quartile 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 the Rancho California WD discharges are pursuant to the CWRMA. During Water Year 2008-09 the total CWRMA discharges into the Santa Margarita River and Murrieta Creek equaled 5,265 acre feet.

The discharges into Santa Margarita River totaled 3,992 acre feet from outlet WR-34, located just upstream from the Santa Margarita River near Temecula gaging station. In 2009 Rancho California WD extended a pipeline from its distribution system to discharge at the same location as the outlet WR-34. Discharges from the potable connection to the Santa Margarita River totaled 221 acre feet. Additional discharges into Murrieta Creek occurred during the periods when the pipeline serving WR-34 was shut down or when Rancho California WD elected to discharge from the System River Meter due to quagga mussel concerns as described in Section 9. The discharges to Murrieta Creek totaled 1,052 acre feet from the System River Meter.

Figure 3.2



During 2008-09, Rancho California WD also released 26 acre feet from wells into Murrieta Creek, and 11 acre feet from wells into Santa Gertrudis Creek.

3.2 Surface Water Diversions

Surface diversions to surface water storage and groundwater storage are shown in Table 3.3 for Vail Lake and Table 3.4 for Lake O'Neill. 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 Lake 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 2008-09 are shown in Table 3.5. 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 3.6, together with the water in storage on September 30, 2008 and September 30, 2009. Total Santa Margarita River stream system water in storage at the end of Water Year 2008-09 totaled 22,709 acre feet, compared to 25,039 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 3.6.

TABLE 3.3

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE FOR VAIL LAKE
2008-09

Quantities in Acre Feet

	Surface Water Storage		
	2006-07	2007-08	2008-09
Storage end of prior year	30,300	26,450	24,160
Inflow - Total	1,145	6,664	3,227
Inflow to be Bypassed ¹	209	216	225
Spill	0	0	0
Diversions to Surface Storage ²	936	6,448	3,002
Annual Evaporation	4,082	3,893	4,006
Releases - Total	913	5,061	1,461
Release to GW Storage ³	704	4,845	1,236
Change of Storage	(3,850)	(2,290)	(2,240)
Storage End of Year	26,450	24,160	21,920
	Groundwater Storage		
Recharge Release from Vail Lake	704	4,845	1,236 ⁴

Data reported by Rancho California WD except end of year storage reported by U. S. Geological Survey

1/ Inflow to be bypassed Oct 1 to Oct 31 and May 1 to Sept 30 in accordance with Permit 7032

2/ Inflow less Spill less Inflow to be Bypassed

3/ Total Release less Inflow to be Bypassed

4/ Includes 929 AF rediverted into Upper VDC recharge basins

TABLE 3.4

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE FOR LAKE O'NEILL
2008-09

Quantities in Acre Feet

	Surface Water Storage		
	<u>2006-07</u>	<u>2007-08</u>	<u>2008-09</u>
Storage end of prior year	496	615	879
Inflow - Total	1,547 ¹	3,253 ²	1,730 ³
Spill	0	0	78
Diversions to Surface Storage	1,547 ⁴	3,253 ⁴	1,652 ⁴
Annual Evaporation	353	394	501
Releases - Total	334	1,510	836
Release to GW Storage	334	1,510	836
Apparent Seepage to GW	741 ⁵	1,084 ⁵	405 ⁵
Change of Storage	(119)	264	(90)
Storage End of Year	615	879	789
	Groundwater Storage		
Recharge Release from Lake O'Neill	1,075 ⁶	2,594 ⁶	1,241 ⁶
Deliveries to Recharge Ponds	3,886	7,788	6,335
Indirect Recharge from Ditch System	<u>1,099</u>	<u>1,330</u>	<u>1,119</u>
TOTAL	6,060	11,712	8,695

1/ 1,230 AF diverted from the Santa Margarita River, 211 estimated inflow from

Fallbrook Creek, 44 AF from local runoff, and 62 AF from rainfall on lake surface

2/ 2,047 diverted from the Santa Margarita River, 734 AF estimated inflow

from Fallbrook Creek, 322 AF from local runoff, and 150 AF from rainfall on lake surface

3/ 1,065 AF diverted from the Santa Margarita River, 418 AF estimated inflow from

Fallbrook Creek, 145 AF from local runoff, and 102 AF from rainfall on lake surface

4/ Inflow less Spill

5/ Includes seepage losses, leakage through flashboards and unaccounted for water

6/ Includes Release to GW Storage and Apparent Seepage to GW from Lake O'Neill

TABLE 3.5

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO USE
2008-09

Quantities in Acre Feet

DIVERTER	Surface Diversions	Consumptive		Return
		Use ¹	Loss ²	
Blue Bird Ranch	31.5	21.2	3.2	7.1
James Carter	145	97.9	14.5	32.6
Chambers	7	4.7	0.7	1.6
Cal June, Inc.	9	6.1	0.9	2.0
Papac	38	25.7	3.7	8.6
Sage Ranch Nursery	100	67.5	10.0	22.5
Rose Family 1985 Trust	7	4.7	0.7	1.6
Val Verde Partners (Strange)	250	168.8	25.0	56.2
Wilson Creek Dev. LLC	350	236.2	35.0	78.8
Cahuilla Indian Reservation	5.6	3.7	0.7	1.2
San Diego State University	43.1	29.1	4.3	9.7
TOTAL	986.2	665.6	98.7	221.9

¹ Consumptive use equals 75% of Diversions less Losses

² Losses equal 10% of Diversions

³ Returns equal 25% of Diversions less Losses

TABLE 3.6

SANTA MARGARITA RIVER WATERSHED
WATER IN STORAGE
 2008-09
 Quantities in Acre Feet

Santa Margarita River Storage	Total Capacity 1/	Water in Storage	
		9/30/2008	9/30/2009
Dunn Ranch Dam	90	0	0
Upper Chihuahua Creek Reservoir	47	0	0
Vail Lake	49,370	24,160	21,920
Lake O'Neill	1,380	879	789
SUBTOTAL	50,887	25,039	22,709
Imported Water Storage			
Lake Skinner	44,000	37,340	40,085
Diamond Valley Lake	810,000	490,891	351,271
SUBTOTAL	854,000	528,231	391,356
TOTAL STORAGE	904,887	553,270	414,065

1/ Capacity shown is current capacity reported by owner. Original capacity or decreed capacity may not be reflected in this table.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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

Total 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 2008-09, production by purveyors totaled 36,697 acre feet, compared to 35,291 acre feet in 2007-08. Monthly quantities are shown in Appendix A and annual production for water years between 1966 and 2009 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 5,561 acre feet in 2008-09. 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.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE 4.1

SANTA MARGARITA RIVER WATERSHED
SANTA MARGARITA RIVER WATER PRODUCTION BY SUBSTANTIAL USERS
2008-09

HYDROLOGIC AREA	WATER PURVEYOR PRODUCTION ACRE FEET	OTHER IRRIGATED ACRES *	OTHER IRRIGATION PRODUCTION ACRE FEET *	TOTAL GROUNDWATER PRODUCTION ACRE FEET	SURFACE WATER DIVERSIONS ACRE FEET *	TOTAL PRODUCTION ACRE FEET	ESTIMATED CONSUMPTIVE USE ACRE FEET ^{1/}	ESTIMATED RETURN FLOW ACRE FEET	
Wilson Creek Above Aguanga GWA Includes Anza Valley	(Lake Riverside, Anza MWC, Cahuilla)	425	398 ^{2/}	833	1,258	6	1,264	948	316
Temecula Creek Above Aguanga GWA	(Butterfield Oaks MHP)	23	297	833	856	38	894	668	226
Aguanga GWA	(Outdoor Resorts) (Jobaba Hills)	560	570	1,911	2,471	600	3,071	2,258	813
Upper Murrieta Creek (Warm Springs Creek above 7S/3W-14)		0	0	0	0	0	0	0	0
Lower Murrieta Creek (Santa Gertrudis/Tucalota Creek above 7S/2W-18 -- Includes FPUD Diversion from Lake Skinner)		0	410	43	43	100	143	100	43
Murrieta-Temecula GWA	(RCWD **, WMWD (Murrieta Division), EMWD, Pechanga and Hawthorn)	29,291	857	1,327	30,618	145	30,763	23,061	7,702
Santa Margarita River Below the Gorge									
Deluz Creek		0	294	610	610	45	655	488	167
Sandia Creek		0	55	0	0	9	9	6	3
Rainbow Creek		0	0	0	0	0	0	0	0
Santa Margarita River	(USMC)	6,398	19	4	6,402	43	6,445	2,471	828
TOTAL		36,697	2,900	5,561	42,258	986 ^{3/}	43,244	30,000	10,098

1/ Estimated consumptive use is equal to 75% of Total Groundwater Production plus 75% of Surface Water Diversions less 10% (CU = .75 {GW + .90 * SW}), except for Camp Pendleton where export of 3,146 acre feet is excluded and return flows include any measured wastewater returns to the watershed.

2/ Includes lands overlying deep aquifer in Anza Valley.

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

* - Data taken from Appendix C.

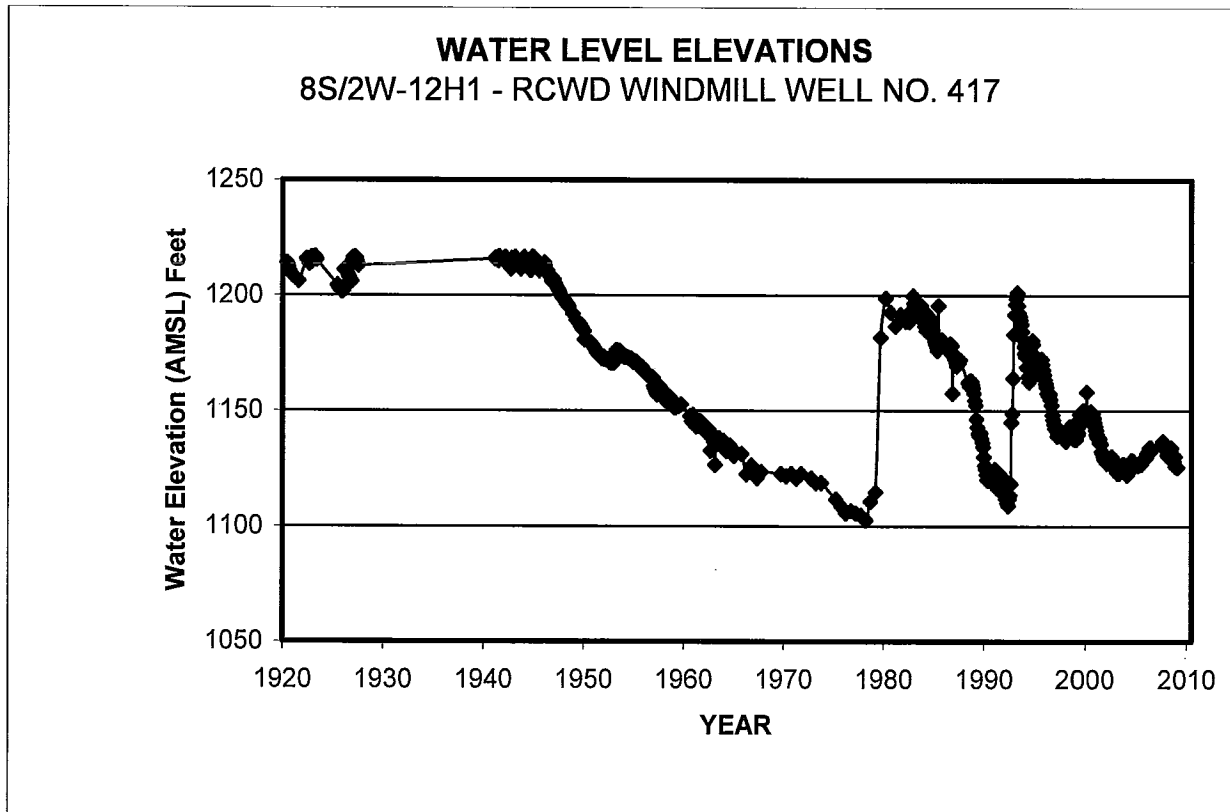
** - RCWD pumped an additional 367 AF that was exported to the San Mateo Watershed

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 declined 5.5 feet between September 30, 2008 and September 30, 2009. 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 2008-09, 14,828 acre feet of imported water were recharged in the VDC of which 84 percent was recovered in the same year.

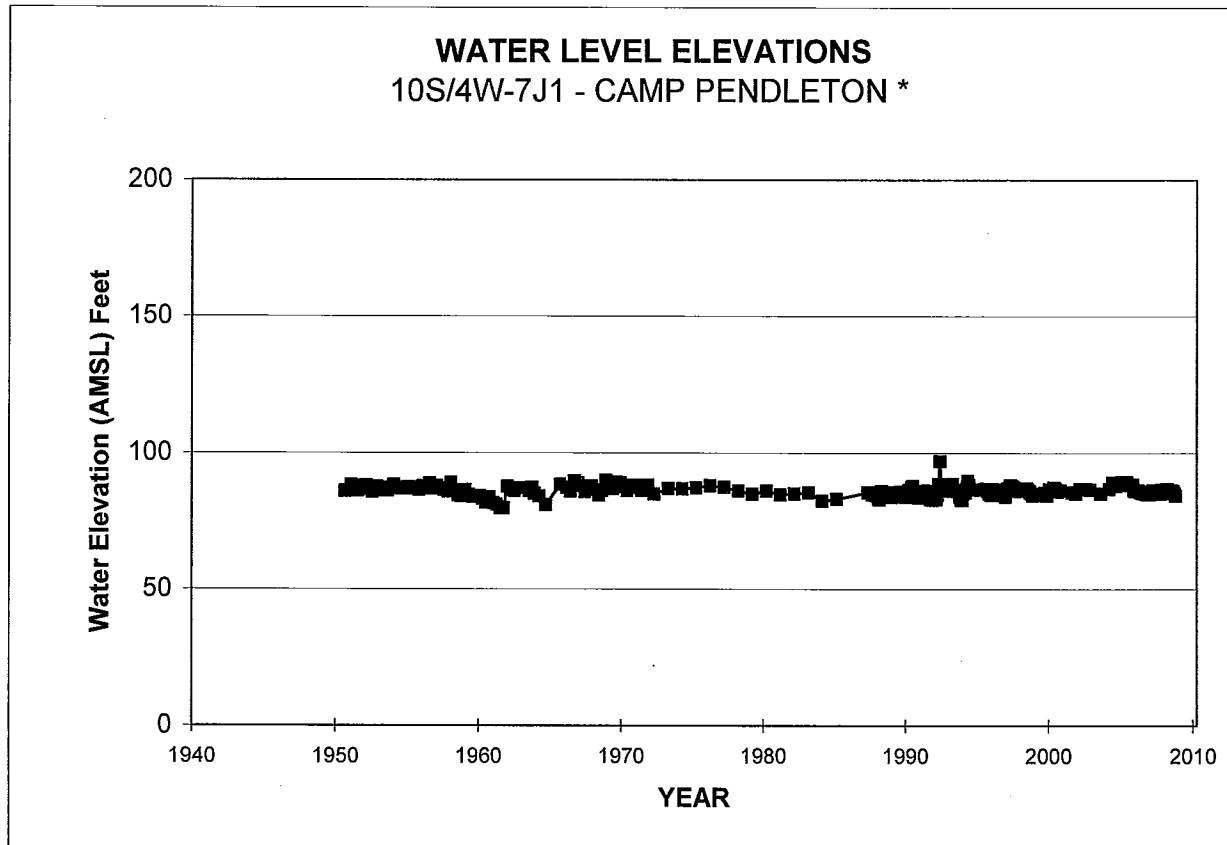
FIGURE 4.1



Collar El. 1216.7 Feet; Depth 515 Feet; Drilled in Alluvium
Ref: RCWD reports (1920-2009)

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 0.8 feet in the period between September 2008 and September 2009.

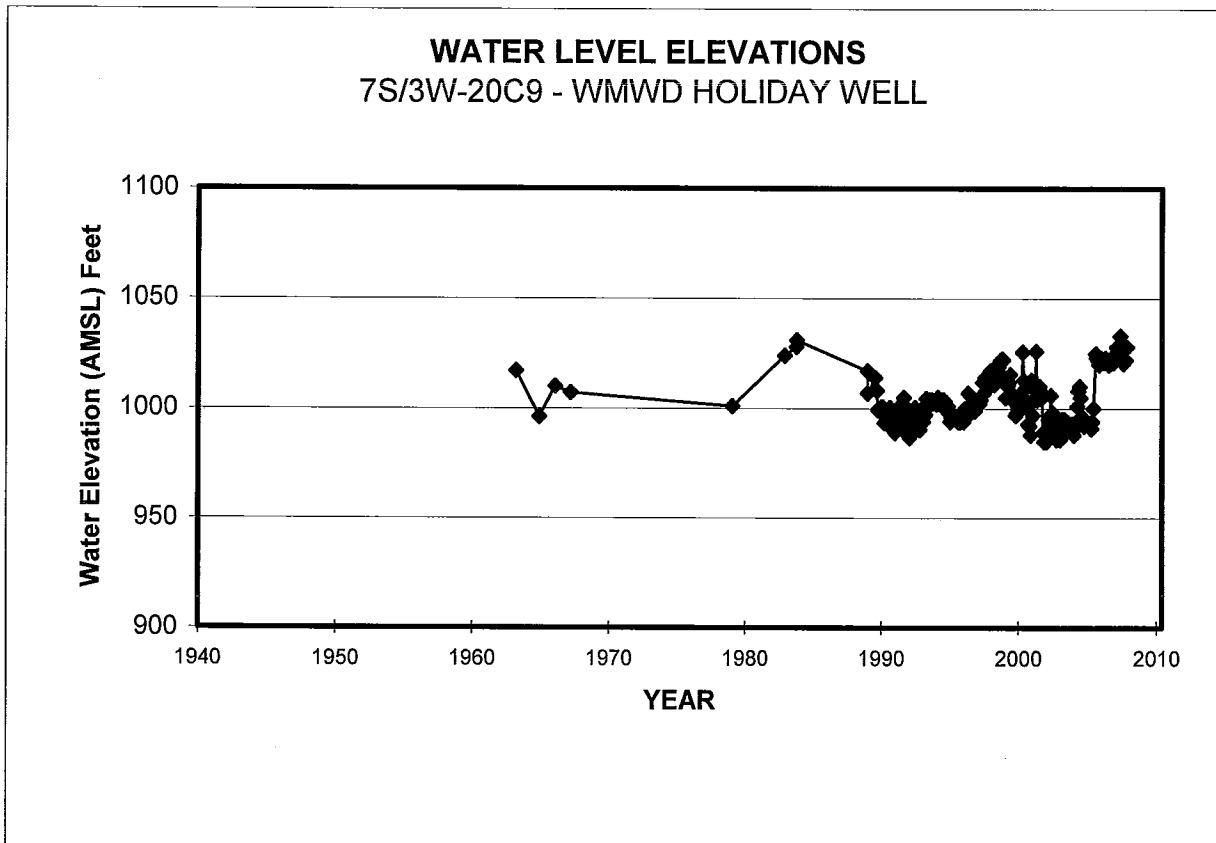
FIGURE 4.2



Ground El. 92 Feet; Depth 141 Feet; Perf. Unknown; Drilled in Alluvium
Camp Pendleton Records (1950-72) (1988-2009); Leeds Hill Study (1973-85) Dates Estimated
* Well previously referred to as 10S/4W-7J4

Figure 4.3 shows water levels from Holiday Well No. 7S/3W-20C9 in the Murrieta Division service area of Western Municipal Water District. The Holiday Well was used as a production well until February 2006 but now is used only as a monitoring well. Water levels in this well declined by 6 feet between September 30, 2008 and August 31, 2009. Water levels in the Lynch Well, 7S/3W-17R2, which serves as a monitoring well and had no production in 2008-09, rose by 3 feet.

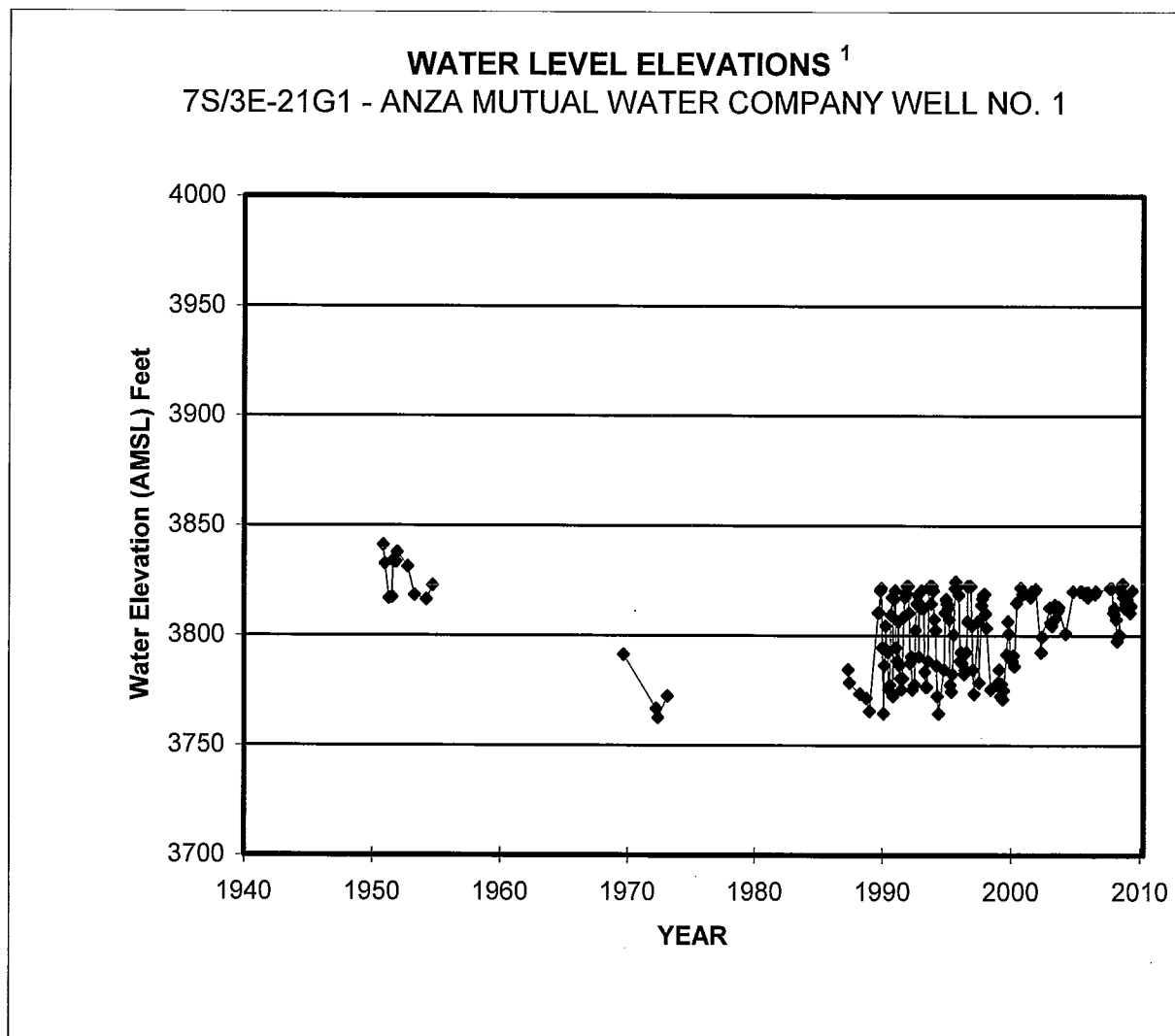
FIGURE 4.3



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 20 feet by the end of 2008-09. 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.

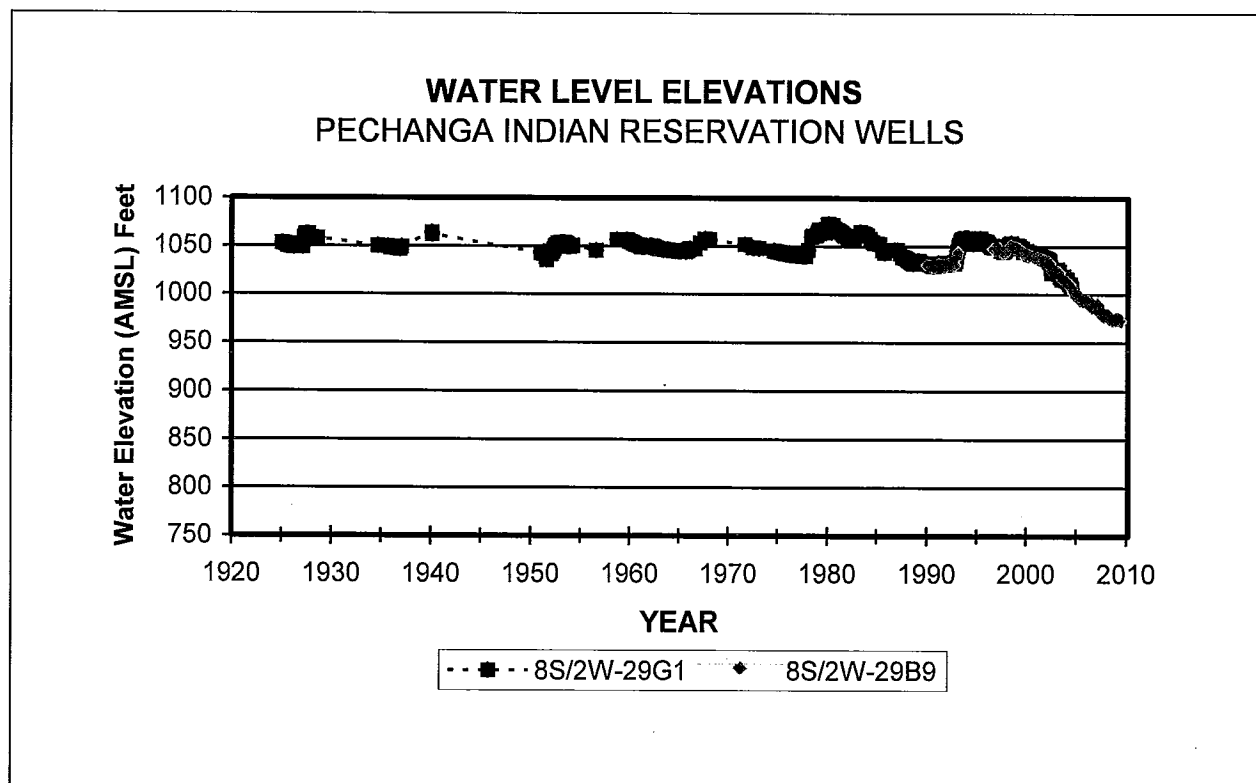
FIGURE 4.4



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 (1987-2009); 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 1.3 feet in 2008-09.

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 2009 Water Year are shown below:

<u>Well</u>	<u>Water Elevation 2008 Feet</u>	<u>Water Elevation 2009 Feet</u>	<u>Change in Water Level Feet</u>
RCWD 8S/2W-12H1	1131.0	1125.5	Down 5.5
USMC 10S/4W-7J1*	85.1	84.3	Down 0.8
WMWD 7S/3W-20C9	1028.0	1022.0**	Down 6.0
Anza MWC 7S/3E-21G1	3800.6	3820.6	Up 20.0
Pechanga IR 8S/2W-29B9	974.3***	973.0****	Down 1.3
Pechanga IR 8S/2W-29G1	N/A	N/A	Well Dry

* Well previously referred to as 10S/4W-7J4

** Reading taken 8/31/09

*** Reading taken 9/4/08

**** Reading taken 8/27/09

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 2008-09 useable groundwater storage in place was computed for all three sub-basins to be 26,601 acre feet. The useable storage in place for the three sub-basins amounted to 26,423 acre feet in 2007-08. Thus there was an increase in groundwater storage in place of 178 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
2008-09
Quantities in Acre Feet

	Sub-basin			Total
	Upper	Chappo	Ysidora	
I. Available Storage				
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	7.7	8.3	10.4	
D. Depth below 5 Feet	2.7	3.3	5.4	----
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	490	1,094	515	----
III. Useable Storage in Place ⁷	12,010	13,906	685	26,601
IV. Useable Storage in Place 2007-08	12,170	13,816	437 R	26,423 R
V. Change in Storage 2008-09	(160)	90	248	178

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 2005 through 2009. The change in groundwater storage for Water Year 2009 calculated using the water budget method is a decrease of 6,670 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 2009 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 2005 through 2009 are shown in Table 4.4. The change in groundwater storage for Water Year 2009 is calculated as a loss of 1,104 acre feet.

The foregoing two methods are based on independent measurements and estimates. The estimates from the two methods are generally comparable for 2009 as well as 2002 through 2004 as reported in prior Watermaster reports. The estimates from the two methods for 2005 through 2008 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.

TABLE 4.3

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

<u>Elements of Inflow</u>	<u>Water Year Ending</u>				
	2005	2006	2007	2008	2009
Releases from Vail ¹	(1,269)	1,399	704	4,845	1,236
Releases from Lake Skinner ²	2,710	292	54	132	142
Freshwater Releases to Stream ³	3,384	4,923	3,859	4,092	5,302
Reclaimed Water Released to Stream ⁴	0	0	0	0	0
Recharged Imported Water ⁵	16,504	18,820	14,175	12,419	14,828
Return Flow from RCWD Groundwater Production ⁶	8,958	9,250	9,137	8,660	9,325
Return Flow from Import Direct Use ⁷	3,422	4,397	5,428	4,725	3,903
Return Flow from Applied Wastewater ⁸	1,598	1,818	1,904	1,335	1,565
Underflow and Tributary Inflow ⁹	123,020	9,212	785	27,906	15,251
Subtotal	158,327	50,111	36,046	64,114	51,552
<u>Elements of Outflow</u>					
Riparian Evapotranspiration and Underflow ¹⁰	508	508	508	508	508
Total RCWD Groundwater Production ¹¹	38,948	40,216	39,727	37,653	40,541
Net Pumping by Others ¹²	3,119	3,265	3,066	1,841	2,225
Surface Outflow ¹³	86,330	11,271	3,894	23,071	14,948
Subtotal	128,905	55,260	47,195	63,073	58,222
<u>Change in Groundwater Storage</u>	29,422	(5,149)	(11,149)	1,041	(6,670)

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, Table A-7 Footnote 3, times 0.23

8 - The sum of: (Reclaimed Wastewater Table A-7, Reuse in SMRW) plus (Table A-1, Reuse in SMRW), plus (Table A-5 Pechanga's Reclaimed Wastewater from EMWD), 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				
					2005	2006	2007	2008	2009	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2005	2006	2007	2008	2009
1	Temecula	0.0036	301 ⁴	1371	122.82	116.54	129.00	166.96	198.02	5.26	6.28	(12.46)	(37.96)	(31.06)	26	31	(61)	(187)	(153)
2	Pauba	0.0398	439	479	25.74	31.17	37.10	39.81	34.73	12.24	(5.43)	(5.93)	(2.71)	5.08	233	(104)	(113)	(52)	97
3	Pauba	0.0309	146	802	24.23	28.96	33.36	43.80	34.38	7.69	(4.73)	(4.40)	(10.44)	9.42	191	(117)	(109)	(259)	233
4	Pauba	0.0350	401	694	69.93	169.80	82.71	175.88	111.37	10.10	(99.87)	87.09	(93.17)	64.51	245	(2,426)	2,115	(2,263)	1,567
5	Pauba	0.0319	402 ¹	1322	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Pauba	0.0698	495	1562	89.10	89.88	101.24	107.68	105.95	(2.50)	(0.78)	(11.36)	(6.44)	1.73	(273)	(85)	(1,239)	(702)	189
7	Pauba	0.0012	211 ²	719	134.38	134.75	88.17	172.33	160.02	10.00	(0.37)	46.58	(84.16)	12.31	9	(0)	40	(73)	11
8	Oyal	0.20	492 ³	339	27.56	29.40	18.72	29.61	28.35	2.71	(1.84)	10.68	(10.89)	1.26	184	(125)	724	(738)	85
9	Pauba	0.0891	492 ³	496	27.56	29.40	18.72	29.61	28.35	2.71	(1.84)	10.68	(10.89)	1.26	120	(81)	472	(481)	56
10	Temecula	0.0036	410	2066	324.13	326.04	329.51	327.10	334.60	(41.56)	(1.91)	(3.47)	2.41	(7.50)	(309)	(14)	(26)	18	(56)
11	Oyal	0.20	426	1438	38.96	43.91	44.20	43.19	41.12	2.49	(4.95)	(0.29)	1.01	2.07	716	(1,424)	(83)	290	595
12	Pauba	0.0746	426	1165	38.96	43.91	44.20	43.19	41.12	2.49	(4.95)	(0.29)	1.01	2.07	216	(430)	(25)	88	180
13	Oyal	0.20	422	1405	60.32	60.54	61.49	61.33	62.32	(1.31)	(0.22)	(0.95)	0.16	(0.99)	(368)	(62)	(267)	45	(278)
14	Pauba	0.0634	422	1413	60.32	60.54	61.49	61.33	62.32	(1.31)	(0.22)	(0.95)	0.16	(0.99)	(117)	(20)	(85)	14	(89)
15	Oyal	0.20	417 ⁵	1769	90.22	85.21	82.85	85.74	91.19	4.30	5.01	2.36	(2.89)	(5.45)	1,521	1,773	835	(1,022)	(1,928)
16	Pauba	0.0422	417 ⁵	752	90.22	85.21	82.85	85.74	91.19	4.30	5.01	2.36	(2.89)	(5.45)	136	159	75	(92)	(173)
17	Oyal	0.20	414 ¹	898	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	Pauba	0.0198	414 ¹	398	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	Temecula	0.0036	462	2084	427.18	409.71	420.46	407.13	423.20	3.24	17.47	(10.75)	13.33	(16.07)	24	131	(81)	100	(121)
20	Temecula	0.0036	464	1347	319.97	321.97	324.01	325.67	325.30	(2.22)	(2.00)	(2.04)	(1.66)	0.37	(11)	(10)	(10)	(8)	2
21	Temecula	0.0036	209 ¹	1967	—	—	—	—	503.60	—	—	—	—	—	—	—	—	—	—
22	Temecula	0.0036	139 ¹	2008	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23	Pauba	0.0967	129 ²	1546	204.12	204.62	205.22	212.51	217.39	(3.73)	(0.50)	(0.60)	(7.29)	(4.88)	(568)	(75)	(90)	(1,090)	(730)
24	Temecula	0.0036	466	1562	323.07	298.35	287.03	292.00	297.70	(0.46)	24.72	11.32	(4.97)	(5.70)	(3)	139	64	(28)	(32)
25	Pauba	0.0738	493	3231	280.13	273.78	267.95	268.02	270.75	(4.92)	6.35	5.83	(0.07)	(2.73)	(1,173)	1,514	1,390	(17)	(651)
26	Pauba	0.1392	463	2303	54.92	55.04	55.81	55.44	55.46	2.91	(0.12)	(0.77)	0.37	(0.02)	933	(38)	(247)	119	(6)
27	Pauba	0.0325	Lynch	1008	80.00	67.00	63.00	72.00	69.00	(35.00)	13.00	4.00	(9.00)	3.00	(1,147)	426	131	(295)	98
TOTAL															597	(838)	3,411	(6,633)	(1,104)

1 - Well not measured -sub-area excluded for change in storage calculation
2 - For 2007 used reading of April 29, 2007
3 - For 2005 used reading of August 28, 2005
4 - For 2006 used reading of July 30, 2006
5 - 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 2009 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 2008-09 water in storage in the SWP increased from 1.87 million acre feet on September 30, 2008 to 2.06 million acre feet on September 30, 2009. Storage on September 30, 2009 corresponds to about 39 percent of the total SWP storage capacity.

Water in storage in the Colorado River system increased 0.1 million acre feet from 33.7 million acre feet in the prior year to 33.8 million acre feet on September 30, 2009. On September 30, 2009 those reservoirs contained 52 percent of their total combined capacity.

The California Department of Water Resources prepares projections of water availability in the SWP for the coming year (2010) on a monthly basis from February through May. The report DWR Bulletin 120-4-10 dated May 1, 2010, indicated that statewide precipitation October 1 through April 30 was 110 percent of average compared to 80 percent last year. As of June 22, 2010, the SWP allocation for 2010 will meet 50 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	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Oroville	3,540	1,920	1,488	1,400	2,284	1,753	2,877	2,833	1,568	1,097	1,337
San Luis (State Share)	1,060	388	516	394	653	514	925	911	445	200	224
Pyramid	171	164	162	165	165	161	160	163	166	163	166
Castaic	324	285	287	310	314	298	306	266	313	268	200
Silverwood	73	70	72	72	70	72	72	72	73	71	70
Perris	132	110	122	115	114	116	82	72	66	69	62
Total	5,300	2,937	2,647	2,456	3,600	2,914	4,422	4,317	2,631	1,868	2,059
Percent of Capacity		55%	50%	46%	68%	55%	83%	81%	50%	35%	39%

MAJOR COLORADO RIVER RESERVOIRS											
Reservoir	Total Capacity	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Flaming Gorge	3,789	3,010	2,982	2,675	2,635	2,679	3,177	3,130	3,063	3,024	3,394
Blue Mesa	941	560	597	275	387	507	588	667	687	650	651
Navajo	1,709	1,357	1,409	872	729	935	1,516	1,420	1,510	1,319	1,314
Powell	27,000	20,939	19,135	14,468	12,109	9,170	11,939	11,917	11,929	14,509	15,463
Mead	28,537	22,444	19,873	17,093	15,618	13,937	15,219	13,887	12,505	12,013	10,933
Mohave	1,818	1,523	1,610	1,577	1,643	1,605	1,573	1,584	1,545	1,586	1,501
Havasu	648	566	567	565	562	589	554	555	576	584	564
Total	64,442	50,399	46,173	37,525	33,683	29,422	34,566	33,160	31,815	33,685	33,820
Percent of Capacity		78%	72%	58%	52%	46%	54%	51%	49%	52%	52%

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

FIGURE 5.1

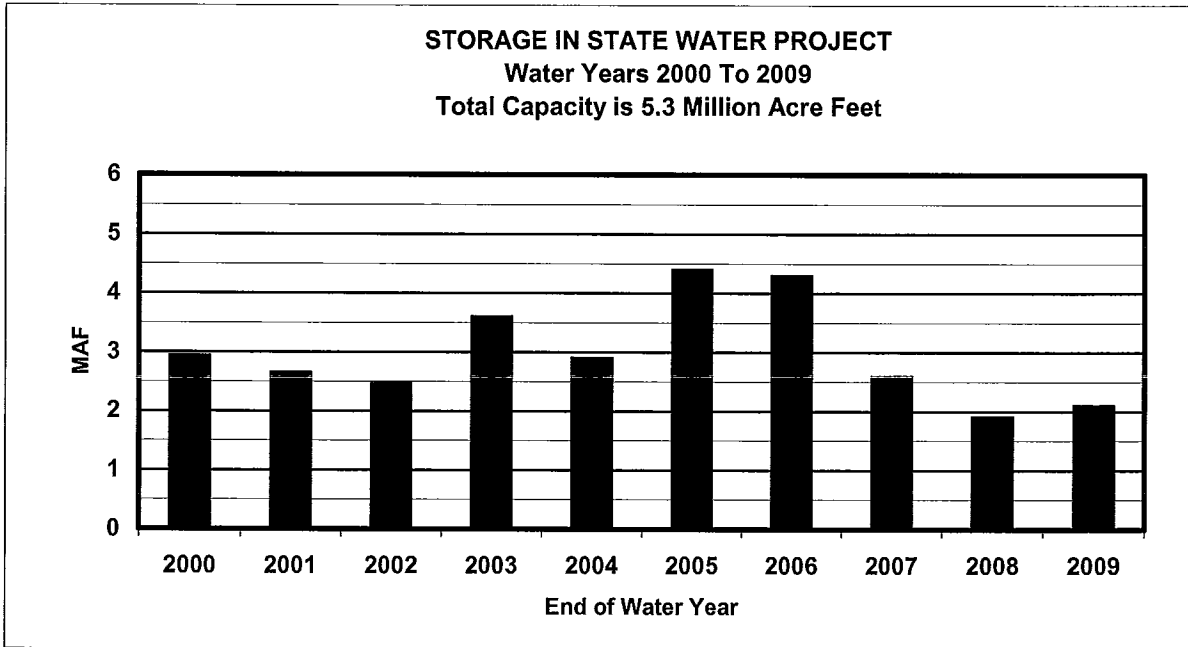
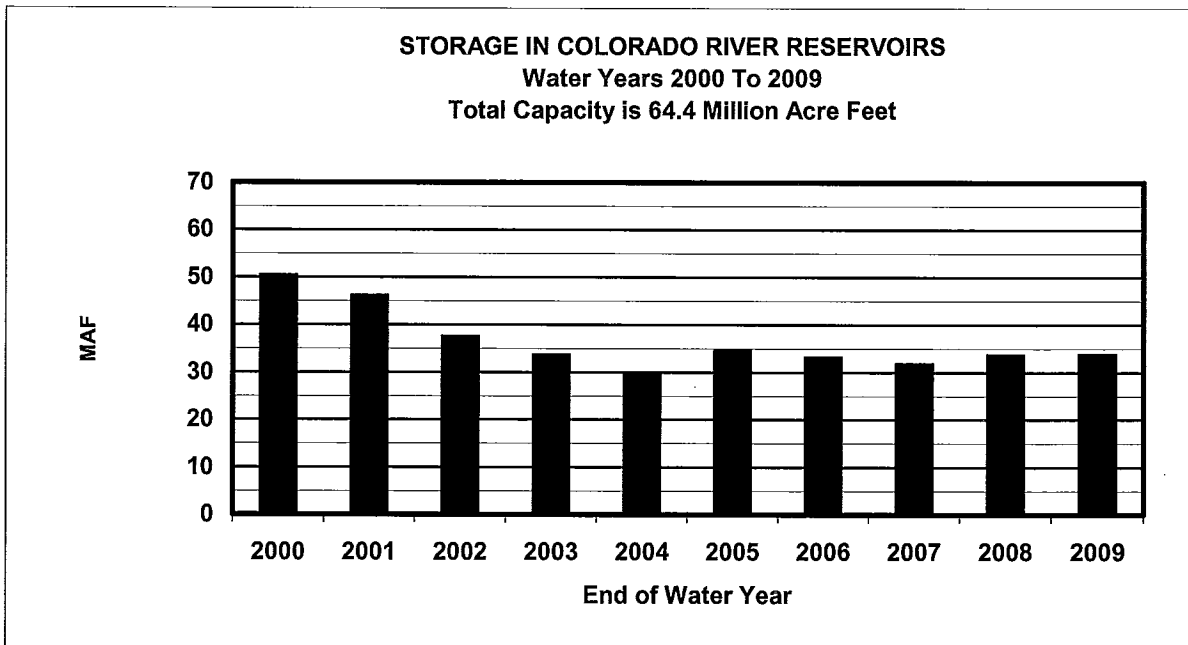


FIGURE 5.2



WATERMASTER
SANTA MARGARITA RIVER WATERSHED

In addition to net deliveries through member agencies, MWD, pursuant to a Court Order, imported 465 acre feet of water into the Santa Margarita River Watershed for irrigation of lands in Domenigoni Valley during 2008-09. MWD also imported an additional 142 acre feet into the Watershed as a result of maintenance releases from its storage and delivery system. MWD records show the maintenance releases included 50 acre feet from Lake Skinner to Tualota Creek. The remaining releases were made from various locations on the delivery system including 17 acre feet to tributaries of Tualota Creek, 66 acre feet to tributaries of Murrieta Creek, and 9 acre feet to Murrieta Creek.

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 for treatment at the Southern Region Tertiary Treatment Plant. Reclaimed wastewater is used for irrigation both within and outside the watershed. Treated wastewater in excess of reclaimed use is exported for discharge at the Oceanside Outfall. 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 2008-09, Eastern MWD's export of wastewater that was discharged to Temescal Creek was 2,772 acre feet. Rancho California WD had no export of wastewater for discharge to Temescal Creek in 2009.

The following paragraphs of this report describe imports and exports during Water Year 2008-09 and during the period 1966-2009. There is also discussion of MWD's Lake Skinner and Diamond Valley Lake operations.

5.2 Water Year 2008-09

During 2008-09 a total of 86,612 acre feet of water of net imported supplies were distributed for use in the Santa Margarita River Watershed. This compares with 89,119 acre feet in 2007-08 and represents a decrease of approximately three 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 2008-09.

The water exported from the Santa Margarita River Watershed for 2008-09 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 2008-09 were 19,069 acre feet as shown on Table 5.2. This compares to 19,975 acre feet in 2007-08 and represents a decrease of about 5 percent.

The quality of the water supplies imported through the MWD system in 2008-09 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 1966-2009

Water quantities imported by districts into the Santa Margarita River Watershed during Water Years 1966-2009 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

2008-09

Quantities in Acre Feet

NET IMPORTS

EXPORTS 3/

YEAR MONTH	NET IMPORTS										EXPORTS 3/									
	EASTERN MWD	ELSNORE VALLEY MWD	FALLBROOK PUD	MWD 1/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD	U.S. NAVAL WS 2/	WESTERN MWD	TOTAL NET IMPORTS	EXPORTS 4/	WASTEWATER RETURNS 5/	NET EXPORT	U.S. NAVAL WS	EASTERN MWD 6/	ELSNORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 7/	TOTAL EXPORTS	
2008																				
OCT	1,658	799	1,002	69	174	184	5,865	7	5	9,763	719	107	612	1.2	1,060	77	91	39	1,880	
NOV	260	838	660	29	177	227	3,895	6	4	6,096	448	94	354	0.9	1,056	93	102	35	1,641	
DEC	753	564	275	8	104	117	1,793	9	3	3,626	352	61	291	1.1	1,241	89	108	30	1,760	
2009																				
JAN	782	443	416	22	71	51	2,176	4	3	3,968	355	70	285	0.4	1,220	93	103	20	1,721	
FEB	625	429	245	82	79	103	999	5	3	2,570	318	58	260	0.8	1,193	78	91	25	1,648	
MAR	1,385	529	618	34	49	53	3,455	6	4	6,133	414	91	323	0.8	1,187	89	108	14	1,722	
APR	1,359	621	755	34	104	120	3,804	5	4	6,806	441	109	332	0.6	910	90	93	32	1,458	
MAY	1,620	810	790	106	150	135	4,821	5	5	8,442	455	114	341	0.9	968	87	94	30	1,521	
JUNE	1,385	976	759	42	170	220	4,733	7	4	8,296	475	105	370	1.2	835	91	92	39	1,428	
JULY	1,887	963	984	71	174	172	6,972	8	6	11,237	569	120	449	1.5	836	93	93	35	1,508	
AUG	1,726	1,181	978	59	207	255	6,041	6	4	10,457	545	114	431	1.2	831	97	86	32	1,478	
SEPT	1,032	922	1,075	51	195	215	5,716	6	6	9,218	509	107	402	1.5	690	92	83	36	1,305	
TOTAL	14,472	9,075	8,557	607	1,654	1,852	50,270	74	51	86,612	5,600	1,150	4,450	12	12,027	1,069	1,144	367	19,069	

1/ Metropolitan Water District direct deliveries in Domenigoni Valley as shown on Table A-4 plus miscellaneous maintenance releases.

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/ Agricultural and Camp Supply use outside the SMRW, reclaimed use outside the SMRW, plus export to Oceanside Outfall as shown on Table A-8.

5/ Estimated as reclaimed percentage of Camp Supply use outside the SMRW as shown on Table A-8.

6/ 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.

7/ 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	
	<u>2007-08</u>	<u>2008-09</u>	<u>2007-08</u>	<u>2008-09</u>
OCT	438	576	54	22
NOV	439	543	55	30
DEC	490	541	43	32
JAN	502	614	42	17
FEB	280	643	36	6
MAR	304	625	36	8
APR	518	587	38	12
MAY	512	566	38	19
JUNE	590	575	20	21
JULY	554	537	32	30
AUG	556	536	27	28
SEPT	573	540	23	23

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/

WATER YEAR	EASTERN MWD	ELSNORE VALLEY MWD	FALLBROOK PUD 1/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL VAL 3/	U.S. NAVAL WS	WESTERN MWD 4/	TOTAL		CAMP PENDLETON WASTEWATER RETURNS		NET EXPORT	U.S. NAVAL WS	EASTERN MWD	ELSNORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 7/	TOTAL EXPORTS	
									IMPORTS	EXPORTS	EXPORTS	EXPORTS								
1966			3,351	0	1,308	0	0	24	6,287	3,251	974	2,277	0	0	0	0	0	0	2,277	
1967	1,604	N/R	2,852	0	1,095	0	0	20	5,597	3,180	1,243	1,937	0	0	0	0	0	0	1,937	
1968	1,630	N/R	3,423	0	1,377	0	0	27	6,291	3,368	1,214	2,154	0	0	0	0	0	0	2,154	
1969	1,741	N/R	2,837	0	1,253	0	0	25	5,856	3,276	1,170	2,106	0	0	0	0	0	0	2,106	
1970	1,417	N/R	3,538	0	1,689	0	0	31	6,675	3,809	1,113	2,696	0	0	0	0	0	0	2,696	
1971	1,383	N/R	3,405	0	1,650	0	0	34	6,548	3,527	1,090	2,437	0	0	0	0	0	0	2,437	
1972	1,470	N/R	3,916	0	2,037	0	76 E	34	7,572	3,543	1,168	2,375	0	0	0	0	0	0	2,375	
1973	1,533	N/R	3,210	0	1,616	0	115 E	30	6,504	3,544	1,187	2,357	0	0	0	0	0	0	2,357	
1974	1,601	N/R	3,967	0	2,049	0	115 E	36	7,768	3,532	1,140	2,392	0	0	0	0	0	0	2,392	
1975	1,969	N/R	3,597	0	1,247	0	115 E	34	6,962	3,098	1,530	1,568	0	0	0	0	0	0	1,568	
1976	2,493	N/R	4,627	0	2,239	0	115 E	35	9,628	3,619	1,497	2,122	0	0	0	0	0	0	2,122	
1977	2,947	N/R	5,212	0	2,343	0	115 E	24	12,486	3,194	1,416	1,778	0	0	0	0	0	0	1,778	
1978	2,551	569	5,202	0	2,188	0	115 E	26	16,425	3,071	1,283	1,788	0	0	0	0	0	0	1,788	
1979	1,894	712	5,723	0	2,348	0	115 E	24	17,824	4,756	1,427	3,329	0	0	0	0	0	0	3,329	
1980	1,192	698	6,404	0	2,489	0	115 E	25	21,047	3,651	1,405	2,246	0	0	0	0	0	0	2,246	
1981	716	798	8,543	0	3,153	0	115 E	34	28,642	3,892	1,249	2,643	0	0	0	0	0	0	2,643	
1982	1,112	678	7,079	0	2,460	0	115 E	34	24,856	3,761	1,273	2,488	0	0	0	0	0	0	2,488	
1983	1,211	658	6,720	0	2,190	0	115 E	26	16,672	3,000	1,242	2,123	0	0	0	0	0	0	2,123	
1984	699	816	8,506	0	3,410	0	115 E	27	20,015	3,377	1,200	2,177	0	0	0	0	0	0	2,177	
1985	679	808	7,831	0	2,945	0	115 E	34	24,474	3,326	981	2,645	0	0	0	0	0	0	2,645	
1986	760	882	8,585	0	3,390	0	116	36	21,855	3,444	1,799	1,645	0	0	0	0	0	0	1,645	
1987	1,155	938	8,656	0	2,985	0	120	36	32,108	3,457	1,872	1,585	0	0	0	0	0	0	1,585	
1988	2,047	1,032	8,033	0	3,003	0	128	23	40,202	3,418	1,446	1,972	0	0	0	0	0	0	1,972	
1989	3,746	1,341	9,066	0	3,818	0	145	22	43,974	2,971	1,451	1,520	0	0	0	0	0	0	1,520	
1990	5,601	2,255	10,103	0	2,904	0	109	21	44,134	2,168	1,219	949	0	0	0	0	0	0	949	
1991	9,479	2,421	7,962	0	2,277	0	99	25	37,756	2,702	1,501	878	0	0	0	0	0	0	878	
1992	8,593	2,190	7,893	0	1,651	0	73	37	35,768	2,702	1,501	1,201	0	0	0	0	0	0	1,201	
1993	7,150	3,221	7,250	0	1,661	0	125	29	31,750	2,781	1,611	1,170	0	0	0	0	0	0	1,170	
1994	4,625	3,117	6,538	547	1,861	0	100	35	43,689	3,577	1,493	2,084	0	0	0	0	0	0	2,084	
1995	4,960	4,181	7,993	1,005	1,815	0	125	30	47,542	3,643	1,932	1,711	0	0	0	0	0	0	1,711	
1996	3,284	4,283	7,894	3,521	1,429	0	109	31	42,935	3,742	2,073	1,669	0	0	0	0	0	0	1,669	
1997	5,117	5,100	6,382	5,023	1,601	0	97	31	42,935	3,742	2,073	1,669	0	0	0	0	0	0	1,669	
1998	4,127	6,134	7,430	3,781	1,727	0	111	41	58,041	3,558	2,130	1,428	0	0	0	0	0	0	1,428	
1999	7,256	7,172	9,365	712	2,217	0	104	42	82,277	4,072	2,115	1,957	0	0	0	0	0	0	1,957	
2000	5,948	6,592	8,398	689	1,804	0	73	59	65,386	3,653	2,075	1,578	0	0	0	0	0	0	1,578	
2001	8,117	7,596	9,580	595	1,676	0	97	64	81,873	3,701	1,950	1,751	0	0	0	0	0	0	1,751	
2002	9,062	7,091	9,130	495	1,510	0	88	42	78,264	3,767	1,688	2,079	0	0	0	0	0	0	2,079	
2003	9,138	8,438	11,749	766	1,888	0	73	50	94,840	4,951 6/	0	4,951	0	0	0	0	0	0	4,951	
2004	10,858	8,215	9,702	556	1,610	0	40	62	78,732	4,625 6/	0	4,625	0	0	0	0	0	0	4,625	
2005	14,161	9,819	10,622	506	1,851	0	64	66	98,016	4,912 6/	0	4,912	0	0	0	0	0	0	4,912	
2006	15,398	10,811	12,292	660	2,262	0	70	45	106,079	5,152 6/	0	5,152	0	0	0	0	0	0	5,152	
2007	14,952	9,951	8,934	493	1,790	0	82	54	89,119	4,774 6/	0	4,774	0	0	0	0	0	0	4,774	
2008	14,472	9,075	8,557	607	1,852	0	74	51	86,612	5,600 8/	1,150	4,450	0	0	0	0	0	0	4,450	
2009																				

1/ Includes Deluz Heights MWD prior to 1991
 2/ Metropolitan Water District direct deliveries in Domenigoni Valley plus miscellaneous maintenance releases beginning 2009
 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
 8/ Includes export of native water plus reclaimed wastewater.
 N/R - Not Reported
 P - Partial year data
 E - Estimate

Exports over the 1966-2009 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 Tocalota 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 Tocalota Creek if groundwater levels in Well AV-28B fall below an elevation of 1356.64 feet. At the end of September 30, 2009, the well level was 1358.45 feet, a decline of 3.35 feet compared to September 30, 2008.

The MOU also provides that all local surface inflow that enters Lake Skinner will be released into Tocalota 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 Tocalota 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 2008-09 no water accumulated in Lake Skinner for diversion to Fallbrook PUD.

In 2008-09 MWD records show no local inflow to Lake Skinner and thus there were no required releases in accordance with the MOU. However, MWD released 50 acre feet from Lake Skinner in 2008-09 into Tucalota Creek for maintenance purposes.

5.5 Diamond Valley Lake

Diamond Valley Lake is located in Diamond and Domenigoni Valleys within the Santa Margarita River Watershed. The Lake was created by three dams, one each at the east and west ends of Domenigoni/Diamond Valley and a saddle dam at the low point on the north rim. The East Dam diverts surface and groundwater flows from a 4.2 square mile drainage area in the Santa Margarita River Watershed, known as Goodhart Canyon, into the Santa Ana River Watershed. The West Dam intercepts existing westward surface and subsurface flows from an additional 13.19 square mile area.

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

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

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

Total required releases into Warm Springs Creek during 2008-09 were 16.385 acre feet. The total released during the year was 17.473 acre feet.

Although all surface waters within the Santa Margarita River Watershed in Domenigoni Valley and Diamond Valley are subject to the continuing jurisdiction of the Court, groundwater contained within the younger alluvium, north of the south line of Section 9, Township 6 South, Range 2 West, SBM is not considered by the Court to be a part of the Santa Margarita River system as long as groundwater levels are below an elevation of 1400 feet. During 2008-09 groundwater elevations in Well MO-6, which is located along the south line of Section 9, increased 4.68 feet from 1360.99 feet at the beginning of the water year to 1365.67 feet on October 19, 2009.

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During 2008-09, there were no injections into the Domenigoni Valley groundwater basin pursuant to Agreements for Mitigation of Groundwater. However, pursuant to a Court Order, MWD imported 465 acre feet of water into the Santa Margarita River Watershed 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.

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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 water diversion, sets terms for the water 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.

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

	<u>Direct Diversions</u> <u>Gallons Per Day</u>	<u>Storage</u> <u>Acre Feet</u>
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	<u>1,550</u>	<u>---</u>
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.

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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 Grammer	4/22/44	Temecula Creek	Sec. 34, 9S, 2E	DD-2880 gpd	D	License
11161	Roy C. Pursche & Barbara Booth	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/IN/M/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	ST-18 AF	I/R	License
				Sec. 30, 8S, 4W			
20608	Pete and Dorothy Prestinzi	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	ST-4,000 AF	D/I/M/Z	License
				Sec. 2, 11S, 5W			
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	I
					ST-100 AF	
011411/State	Agri Empire, Inc.	5/16/84	Kohler Canyon	Sec. 33, 9S, 2E	DD-0.245 cfs	I/S
					ST-40 AF	
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
IN - Industrial 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. On November 14, 2008, the U. S. Bureau of Reclamation filed petitions for time extensions for completion of beneficial use under the three permits. On September 14, 2009 change petitions were filed to amend the permits to conform to the Santa Margarita Conjunctive Use Project being developed jointly by the U. S. Bureau of Reclamation, Department of the Navy Marine Corps Base Camp Pendleton, and Fallbrook Public Utility District. Those extension and change petitions have been accepted and in accordance with SWRCB Order 2009-0063-EXEC they are under consideration in tandem.

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."

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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

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.
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 divert and store up to 10,000 acre feet per year at 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.

On December 18, 2009, Fallbrook PUD filed a petition for a time extension for completion of beneficial use under Permit No. 11356. The petition was accepted and noticed by the SWRCB on January 23, 2009 and is pending.

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, 2009, the Court ordered the Cahuilla Band and Ramona Band as plaintiffs to serve by April 30, 2009 all water right holders subject to the Court's jurisdiction within the entire watershed. Service was completed and the parties commenced negotiations. On April 1, 2009, the Cahuilla and Ramona Bands filed motions to dismiss claims against certain downstream defendants and to file second amended complaints to limit the claims to the Anza-Cahuilla Groundwater Area. On April 29, 2009, the Court issued an Order granting the motions. The parties are progressing with negotiations and Court proceedings for quantification of each Band's federal reserved water rights based on the second amended complaints.

6.5 Federal Reserved Water Rights Claims by Pechanga Band

In 1974, the Pechanga Band of Luiseño Indians filed a Motion to intervene as a Plaintiff-Intervenor in *United States v. Fallbrook Public Utility District, et al.* and in 1975 the Court granted the Motion. Rather than filing a complaint asking the Court to quantify its federal reserved water rights, the Pechanga Band is in the process of resolving its claims to water rights in the Santa Margarita River Watershed through a comprehensive settlement agreement with the United States and principal water districts, including Rancho California WD, Eastern MWD, and Metropolitan Water District. On December 17, 2009, Pechanga and Rancho California WD announced an agreement on a framework, developed with the assistance of Metropolitan Water District and the United States Federal Negotiating Team, to resolve Pechanga's water rights claims. On April 27, 2009, Pechanga and Rancho California WD agreed to a Settlement Conceptual Agreement and on June 11, 2009, the Rancho California WD Board approved the Settlement Conceptual Agreement. On November 16, 2009, the parties announced the Pechanga Water Rights Settlement Agreement was finalized. On December 11, 2009 and January 26, 2010 the Pechanga Indian Water Rights Settlement Act was introduced in the United States House of Representatives and Senate, respectively. The parties are now in the process of obtaining Congressional and Court approvals.

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 the 2008-09 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 2008-09 Water Year are summarized on Table 7.1. Total imported supplies plus local production totaled 129,714 acre feet compared to 130,745 reported in 2007-08. Of that quantity, 47,095 acre feet were used for agriculture; 7,908 acre feet were used for commercial purposes; 59,303 acre feet were used for domestic purposes; 26 acre feet were discharged to Murrieta Creek; 11 acre feet were discharged to Santa Gertrudis Creek; 5,265 acre feet were discharged by Rancho California WD during 2008-09 pursuant to the Cooperative Water Resources Management Agreement (CWRMA) (3,992 acre feet to the Santa Margarita River from MWD WR-34; 1,052 acre feet to Murrieta Creek from the System River Meter and 221 acre feet from the potable connection to WR-34 outlet pipe); 3,146 acre feet of fresh water were exported by Camp Pendleton; and 2,357 acre feet were recharged by Rancho California WD to storage. The overall system loss was 4,879 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 1966-2009 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 2008-09 was 34.13 acre feet from Well No. 1 as shown in Appendix A, Table A-11. Well No. 2 was not in use for 2008-09. Water levels in Well No. 1 increased 20 feet from last year.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE 7.1
SANTA MARGARITA RIVER WATERSHED
WATER PRODUCTION AND USE
2008-09
Quantities in Acre Feet

	PRODUCTION				USE				WATER RIGHT
	WELL/ SURFACE	IMPORT	TOTAL	AG	COMM	DOM	LOSS	TOTAL	
WATER PURVEYORS									
Anza Mutual Water Company	34	0	34	0	0	31	3 ^{1/}	34	Appropriative
Eastern MWD	0	14,472	14,472	0	0	13,748	724	14,472	Appropriative
Elsinore Valley MWD	0	9,075	9,075 ^{12/}	147	2,015	6,913	0	9,075	-----
Fallbrook PUD	0	8,557	8,557	4,151	533	3,363	510	8,557	Appropriative
Lake Riverside Estates	348	0	348	0	348 ^{2/}	0	0	348	Appropriative
Metropolitan Water District	0	465	465	441	0 ^{3/}	0	24	465	-----
Murrieta Division of Western MWD	861	1,654	2,515	396	219	1,723	177	2,515	Appropriative
Rainbow MWD	0	1,852	1,852	1,463	0	220	169	1,852	-----
Rancho California WD	27,453 ^{4/}	50,270 ^{5/}	77,723	32,797 ^{6/}	4,306	30,159	10,461 ^{7/}	77,723	Various
U.S.M.C. - Camp Pendleton	6,398	0	6,398	273	----- ^{8/}	2,681	3,444 ^{1/9/}	6,398	Appropriative/ Riparian
U.S. Naval Weapons Station	0	74	74	0	----- ^{8/}	67	7 ^{1/}	74	-----
Western MWD Improvement District A Through Rancho California WD	0	51	51	0	46	0	5 ^{1/}	51	-----
INDIAN RESERVATIONS									
Cahuilla	49	0	49	0	-----	49	0	49	Overlying/Reserved
Pechanga	952	0	952	548	441	195	(232) ^{13/}	952	Overlying/Reserved
SMALL WATER SYSTEMS									
Butterfield Oaks	23	0	23	8	0	13	2 ^{1/}	23	Riparian/Overlying
Outdoor Resorts	492	0	492	429	0	57	6 ^{1/}	492	Overlying
Jojoba Hills SKP Resort	68	0	68	0	0	61	7 ^{1/}	68	Overlying
Hawthorn Water System	25	0	25	0	0	23	2 ^{1/}	25	Appropriative
OTHER SUBSTANTIAL USERS	6,541 ^{10/}	0	6,541	6,442	0	0	99 ^{11/}	6,541	
TOTAL	43,244	86,470	129,714	47,095	7,908	59,303	15,408^{14/}	129,714	

1/ Assumes 10% system loss

2/ Recreation Use

3/ Construction use at Diamond Valley Lake

4/ 26,584 AF production from Old Alluvium and 1,236 AF of Vail Recovery less 367 AF exported to the San Mateo Watershed

5/ Includes 32,168 AF direct use; 14,828 AF direct recharge; 3,992 AF from MWD WR-34; and minus 718 AF export

6/ 26,811 AF Ag, and 5,986 AF Ag/Domestic

7/ 26 AF discharged into Murrieta Creek; 11 AF discharged into Santa Gertrudis Creek; 3,992 AF discharged into Santa Margarita River from MWD WR-34; 1,052 AF from System River Meter; 221 AF from potable connection to WR-34 outlet pipe and 2,357 AF of import remaining in storage; and a system loss of 2,802 AF

8/ Listed with Domestic uses

9/ Includes exports of 3,146 acre feet

10/ 986 AF for surface diversion plus 5,604 AF from groundwater as shown in Appendix C, minus 49 AF on the Cahuilla Reservation

11/ 10% of surface diversions

12/ Sales figures

13/ Includes a system loss of 36 acre feet, minus 268 acre feet of reclaimed wastewater from EMWD, accounted for on Table A-1.

See Table A-5 for Pechanga production and use

14/ Includes an overall system loss of 4,879 AF

TABLE 7.2

**SANTA MARGARITA RIVER WATERSHED
DEFINITIONS OF WATER USE
BY MUNICIPAL WATER PURVEYORS
2008-09**

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 educational 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 allotted 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, 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 -2009 are shown in Appendix Table B-12.

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 2008-09.

Imports, not including water wholesaled to Rancho California WD or the Murrieta Division of Western MWD or delivered to Elsinore Valley MWD, totaled 16,919 acre feet. A portion of that import amounting to 2,447 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 14,472 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.

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Disposition of wastewater from the Temecula Valley Regional Water Reclamation Facility (Facility) service area for Water Years 2007-08 and 2008-09 is shown below:

<u>Use</u>	<u>2007-08</u>		<u>2008-09</u>	
	<u>Quantity</u>	<u>Percent</u>	<u>Quantity</u>	<u>Percent</u>
	AF	%	AF	%
Reuse in Santa Margarita	1,450	10	2,615	18
Reuse outside Santa Margarita	<u>5,925</u>	<u>42</u>	<u>6,786</u>	<u>46</u>
Subtotal	7,375	52	9,401	64
Discharge to Dissipater at Temescal Creek	4,210	29	2,772	19
Other	<u>2,654</u>	<u>19</u>	<u>2,469</u>	<u>17</u>
TOTAL	14,239	100	14,642	100

It can be noted that the quantities of reclaimed wastewater used within the Santa Margarita River Watershed increased from 1,450 acre feet in 2007-08 to 2,615 acre feet in 2008-09. During the same period reuse outside the Santa Margarita River Watershed increased from 5,925 acre feet to 6,786 acre feet. From the foregoing it may be concluded that 18 percent of the wastewater is reused in the watershed and 46 percent is used outside the watershed. The quantity of wastewater discharged to the dissipater at Temescal Creek decreased from 4,210 acre feet to 2,772 acre feet. The Other use decreased from 2,654 acre feet to 2,469 acre feet. This Other use includes changes of storage in Winchester and Sun City storage ponds, as well as evaporation and percolation losses.

Because of concerns about the potential export of native Santa Margarita water, the sources of water supply to the Facility service area were determined and are shown on Table 7.3. In 2008-09, 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. It is noted that Rancho California WD does not agree with this method for calculating export of native waters.

TABLE 7.3

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

	2005		2006		2007		2008		2009	
	AF	%	AF	%	AF	%	AF	%	AF	%
Eastern MWD										
Deliveries to TVRWRF Service Area										
1. Groundwater	0		0		0		0		0	
2. Import 1/	10,858		14,161		15,398		14,952		14,472	
3. Total	<u>10,858</u>		<u>14,161</u>		<u>15,398</u>		<u>14,952</u>		<u>14,472</u>	
Rancho California WD										
Deliveries to TVRWRF Service Area										
1. Groundwater 2/	8,486		8,150		5,923		5,700		5,230	
2. Import 3/	10,696		12,753		17,230		16,431		15,609	
3. Total 4/	<u>19,182</u>		<u>20,903</u>		<u>23,153</u>		<u>22,131</u>		<u>20,839</u>	
Total Deliveries to TVRWRF Service Area										
1. Groundwater	8,486	28.2%	8,150	23.2%	5,923	15.4%	5,700	15.4%	5,230	14.8%
2. Import	21,554	71.8%	26,914	76.8%	32,628	84.6%	31,383	84.6%	30,081	85.2%
3. Total	<u>30,040</u>	<u>100.0%</u>	<u>35,064</u>	<u>100.0%</u>	<u>38,551</u>	<u>100.0%</u>	<u>37,083</u>	<u>100.0%</u>	<u>35,311</u>	<u>100.0%</u>

1/ EMWD imports are based on discharges from EIM-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

On August 4, 2009, a Judgment was entered in *United States and Fallbrook Public Utility District v. Eastern Municipal Water District and Rancho California Water District* (CV 04-8182 CBM (RNBx), United States District Court, Central District of California) pertaining to the export of treated wastewater from the Santa Margarita River Watershed. For purposes of this annual report the export of treated wastewater will be reported consistent with prior annual reports with no changes pursuant to the recent Judgment. Once this case is resolved pending any motions for reconsideration and possible appeals, the Watermaster will reevaluate the calculations and reporting to be included in future annual reports.

Estimates of water production and use for the period 1966-2009 are shown in Appendix B.

Elsinore Valley Municipal Water District

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

As shown in Appendix A, the Elsinore Valley MWD reports that 9,075 acre feet of imported water was delivered in the portion of its service area that is inside the Santa Margarita River Watershed in 2008-09. Also during 2008-09, approximately 1,069 acre feet of wastewater were exported from that same area.

Production and use during the period 1966 to 2009 are shown in Appendix B.

Fallbrook Public Utility District

In 2008-09, Fallbrook PUD imported 15,355 acre feet through its contract with the San Diego County Water Authority as shown in Appendix A. Of this quantity, 2,767 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 5,790 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 8,557 acre feet in 2008-09. Fallbrook PUD did not receive any water diverted at Lake Skinner for 2008-09. It is noted the District is working with the Watermaster to refine estimates of deliveries inside and outside the watershed, and such refinements will be included in future annual reports.

In addition, the District has three wells; however, in 2008-09, there was no pumpage from these wells. In 2008-09, Fallbrook PUD treated 1,187 acre feet of wastewater from areas served within the Watershed, of which 31 acre feet were reused in the Watershed, and the remainder was exported.

Production during the period 1966 to 2009 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 2008-09 was 348 acre feet as shown in Appendix A, Table A-11. 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 - 2009 are shown on Appendix Table B-12.

Metropolitan Water District of Southern California

Pursuant to a Court Order, MWD imported 465 acre feet of water into the Santa Margarita River Watershed 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 - 2009 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 2008-09 the District imported a total of 27,075 acre feet of water as shown on Table B-7. However, most of the District is in the San Luis Rey River Watershed and only about seven percent of the District's imported supply was delivered to the portion of the District's service area inside the Santa Margarita River Watershed. As shown in Appendix A, total deliveries of imported water in the Santa Margarita River Watershed in 2008-09 amounted to 1,852 acre feet.

The import production for years between 1966 and 2009 is shown in Appendix B.

Rancho California Water District

Rancho California WD serves water to a 99,600 acre service area in the central portion of the Watershed. The District produced water from 47 wells in 2008-09 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 2008-09

well production of native water included 27,820 acre feet from the Murrieta-Temecula Groundwater Area. This quantity included 26,584 acre feet from the older alluvium, and 1,236 acre feet of recovered Vail recharge. A portion of the groundwater amounting to 367 acre feet was exported for use in the San Mateo Watershed, resulting in a net well production of 27,453 acre feet.

Import supplies totaled 50,988 acre feet of which 32,168 acre feet were used for direct use, 14,828 acre feet were recharged, and 3,992 acre feet were discharged by Rancho California WD to the Santa Margarita River from MWD Meter WR-34 during 2008-09 pursuant to the CWRMA. A portion of that import amounting to 718 acre feet were exported from the Santa Margarita River Watershed resulting in net import to the Watershed of 50,270 acre feet.

During 2008-09, use totaled 77,723 acre feet including 26,811 acre feet by agriculture; 5,986 acre feet by ag/domestic; 4,306 acre feet by commercial; 30,159 acre feet by domestic; 5,302 acre feet were released into Murrieta Creek, Temecula Creek, Santa Gertrudis Creek and the Santa Margarita River; 2,357 acre feet of import were recharged to storage; and 2,802 acre feet were system loss.

In 2008-09 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 originally issued on February 18, 1948. Permit 7032 was subsequently amended on July 28, 1971 and April 22, 2009. The water 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. The water so stored may be used for recreational uses at Vail Lake and municipal, domestic, industrial, and irrigation uses within the entire service area of Rancho California WD. Such uses may be by direct diversion from Vail Lake or by recovery of water released from Vail and spread downstream in Pauba Valley. Points of re-diversion for recovery from underground storage are permitted for 12 production wells: Rancho California WD Well Nos. 109, 110, 123, 132, 152, 153, 157, 158, 210, 232, 233, and 234.

A total of 1,236 acre feet were released from Vail during 2008-09 for groundwater recharge. Releases from Vail for groundwater recharge for the period 1980 to 2009 are shown on Appendix Table B-8.

Permit 7032 operations for 2008-09 are summarized on Table 7.4. The recovery from groundwater recharge for 2008-09 was 1,236 acre feet corresponding to the amount released from Vail for recharge and thus there was no change in the Vail recharge account balance.

It is noted with the issuance of the amended Permit 7032 in 2009 the place of use, purposes of use, and permitted points of re-diversion were changed. Accordingly, the reporting of Permit 7032 operations needs to be modified to reflect the changed permit conditions. Table 7.4 was modified to reflect the changes subject to further refinement as part of the update of the CWRMA groundwater model. The reporting on Table 7.4 reflects the assumption that all water released from Vail for recharge in 2008-09 was recovered from the younger alluvium by pumping from the permitted recovery wells. The remainder of the pumping from the younger alluvium was apportioned to direct import recharge. The updated groundwater model will be used to develop a refined accounting methodology for recharge and recovery of Vail releases and imported water. The updated model will also be used to evaluate the status of and accounting for the Vail recharge account and the imported water carryover account.

Imported Water Return Flows

Return flows for 2008-09 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 2008-09, 58.89 percent of the supply to the Rancho Division was imported and 65.02 percent of the supply to the Santa Rosa Division was imported.

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

TABLE 7.4

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
PERMIT 7032 OPERATIONS

2008-09

Quantities in Acre Feet

Diversion to Storage in Vail Lake ^{1/}		3,002
Release to Groundwater Storage ^{1/}		1,236
Recovery from Groundwater Storage ^{2/ 3/}		
Younger Alluvium	1,236	
Older Alluvium	<u>0</u>	
Total		1,236
Vail Recharge Account Balance from 2007-08		54,297
Release minus Recovery		0
Vail Recharge Account Balance for 2008-09		54,297

1/ See Table 3.3

2/ Permitted Points of Re-Diversion RCWD Well Nos. 109, 110, 123, 132, 152, 153, 157, 158, 210, 232, 233 and 234

3/ Total pumping from Vail recovery wells is greater than amount shown as recovered under Permit 7032.

Total pumping from the 12 recovery wells shown on Table 7.8.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE 7.5

**SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2008-09
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	886.09	936.50	608.62	2,522.30	329.06	759.60	679.18	837.56	7,558.91
% Import	58.89	58.89	58.89	58.89	58.89	58.89	58.89	58.89	
Import Use	521.79	551.48	358.40	1,485.30	193.77	447.30	399.95	493.21	4,451.20
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	130.45	137.87	89.60	371.33	48.44	111.83	99.99	123.30	1,112.80
AG/DOMESTIC									
Total Use	559.12	42.15	0.00	36.21	517.56	40.06	438.01	150.67	1,783.78
% Import	58.89	58.89	58.89	58.89	58.89	58.89	58.89	58.89	
Import Use	329.25	24.82	0.00	21.32	304.77	23.59	257.93	88.73	1,050.41
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	82.31	6.21	0.00	5.33	76.19	5.90	64.48	22.18	262.60
COMMERCIAL									
Total Use	264.79	1,249.74	837.56	782.56	220.92	131.20	51.94	7.69	3,546.39
% Import	58.89	58.89	58.89	58.89	58.89	58.89	58.89	58.89	
Import Use	155.93	735.93	493.21	460.83	130.09	77.26	30.58	4.53	2,088.36
% Credit	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Credit	15.59	73.59	49.32	46.08	13.01	7.73	3.06	0.45	208.84
DOMESTIC									
Total Use	1,302.87	2,428.93	2,553.76	11,811.47	740.50	3,797.78	1,829.51	595.48	25,060.32
% Import	58.89	58.89	58.89	58.89	58.89	58.89	58.89	58.89	
Import Use	767.22	1,430.32	1,503.83	6,955.40	436.06	2,236.39	1,077.34	350.66	14,757.22
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	191.80	357.58	375.96	1,738.85	109.01	559.10	269.34	87.67	3,689.30
TOTAL USE	3,012.87	4,657.32	3,999.94	15,152.55	1,808.03	4,728.64	2,998.64	1,591.40	37,949.40
TOTAL									
Total Import Use	1,774.18	2,742.55	2,355.44	8,922.85	1,064.69	2,784.54	1,765.80	937.13	22,347.19
Total Credit	420.16 **	575.25	514.88	2,161.59	246.66	684.55	436.86	233.60	5,273.54
Total Credit Qyal		287.62	514.88		246.66				1,049.16
Total Credit Qtoal		287.62		2,161.59		684.55	436.86	233.60	3,804.22

* 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
 2008-09
SANTA ROSA DIVISION
 Quantities in Acre Feet

HYDROGEOLOGIC AREAS				
	1	3	8	TOTAL
	MURRIETA WOLF 1/2 QYAL 1/2 QTOAL	LOWER MESA QTOAL	RTS 279, 280 & 285 1/4 QYAL 3/4 QTOAL	
AGRICULTURAL *				
Total Use	0.00	0.00	589.65	589.65
% Import	65.02	65.02	65.02	
Import Use	0.00	0.00	383.39	383.39
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	95.85	95.85
AG/DOMESTIC				
Total Use	0.00	0.00	0.00	0.00
% Import	65.02	65.02	65.02	
Import Use	0.00	0.00	0.00	0.00
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	0.00	0.00
COMMERCIAL				
Total Use	0.00	0.00	607.08	607.08
% Import	65.02	65.02	65.02	
Import Use	0.00	0.00	394.72	394.72
% Credit	10.00	10.00	10.00	
Credit	0.00	0.00	39.47	39.47
DOMESTIC				
Total Use	0.00	0.00	1,409.30	1,409.30
% Import	65.02	65.02	65.02	
Import Use	0.00	0.00	916.32	916.32
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	229.08	229.08
TOTAL USE				
	0.00	0.00	2,606.02	2,606.02
TOTAL				
Total Import Use	0.00	0.00	1,694.43	1,694.43
Total Credit	0.00	0.00	364.40	364.40
Total Credit Qyal	0.00		91.10	91.10
Total Credit Qtoal	0.00	0.00	273.30	273.30

* Includes golf course and landscape irrigation

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

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

Based on the foregoing factors, the return flow credit for 2008-09 is computed to be 5,273.54 acre feet for the Rancho Division and 364.40 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Some of the hydrogeologic areas overlie older alluvium and some overlie younger alluvium. Comparison of exposures of younger alluvium with maps of the District's hydrogeologic areas indicates that the Santa Gertrudis, Pauba and half of the Murrieta-Wolf areas overlie younger alluvium. The area of the Santa Rosa Division that overlies the groundwater area is one-fourth in the younger alluvium and three-fourths in the older alluvium. Import return flows in these areas can be credited against pumping from the younger alluvium. These credits for 2008-09 are 1,049.16 acre feet for the Rancho Division and 91.10 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Rancho California WD imported an additional 14,828 acre feet of water for groundwater recharge in 2008-09, of which 12,471 acre feet were recovered.

Division of Local Water

During 2008-09, Rancho California WD pumped 40,541 acre feet of groundwater, comprised of 28,070 acre feet of local water and 12,471 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 28,070 acre feet of local water, 250 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 2008-09 using the percentages noted in Table 7.7 is presented in Table 7.8. It may be noted that 13,707 acre feet were pumped from the younger alluvium and 26,834 acre feet were pumped from the older alluvium in 2008-09.

The production of 13,707 acre feet from the younger alluvium, as shown on Table 7.8 includes recovery of 1,236 acre feet of Vail recharge and 12,471 acre feet of direct import recharge. The recovered Vail recharge of 1,236 acre feet is determined as the total Vail release from recharge shown on Table 7.4

Rancho California WD imported 14,828 acre feet of water in 2008-09 for direct recharge of which 12,471 acre feet were recovered leaving 2,357 acre feet as unrecovered direct recharge.

Imported water carryover to 2008-09 includes the following:

	<u>AF</u>
1. Carryover from 2007-08	46,941
2. Unrecovered direct recharge in 2008-09	2,357
3. Import Return Flow Credit for 2008-09	<u>1,140</u>
4. Total Carryover to 2009-10	50,438

Thus, 50,438 acre feet of imported supplies remain available to offset younger alluvium production in future years.

TABLE 7.7

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

RCWD WELL NO.	LOCATION TOWNSHIP/ RANGE/ SECTION	SEAL DEPTH FEET	PERFORATED INTERVAL FEET	DEPTH YOUNGER ALLUVIUM FEET	PERCENT YOUNGER ALLUVIUM %		REMARKS
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; 530-590	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; 420-460
113	7S/2W-25H1	52	96-136; 275-462; 482-542	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; 420-500	135	65.0%		Brown Sand Clay 135'-210'
129	7S/2W-20L	Unknown	180-290; 416-480; 520-600	Shallow	0.0%	Santa Gertrudis Creek	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/ Murrieta Valley	Sandy clay 10'-20'
210	8S/2W-12K	None	48-228	140	94.0%		Clay cobblestones 160'-167', 175'-227'
218	8S/2W-20B5	27	48-289	40	0.0%		Old 28; clay with sand layer 40'-60'; now monitoring wells 427, 428 and 429
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 Fault
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; 235-295	145	88.0%		Old 112, P32; sand and clay at 145'-220'
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; 540-640	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
 2008-09
 Quantities in Acre Feet

WELL NO.	QYAL	QTOAL	TOTAL
101	0.00	137.00	137.00
102	0.00	225.00	225.00
106	0.00	429.00	429.00
108	0.00	864.00	864.00
109	585.48	111.52	697.00
110	1,288.16	39.84	1,328.00
113	0.00	554.00	554.00
118	0.00	1,066.00	1,066.00
119 *	0.00	991.00	991.00
120	0.00	285.00	285.00
121	0.00	0.00	0.00
122 *	0.00	762.00	762.00
123	104.65	56.35	161.00
124	0.00	550.00	550.00
125	0.00	560.00	560.00
126	0.00	1,339.00	1,339.00
128	0.00	0.00	0.00
129	0.00	0.00	0.00
130	0.00	908.00	908.00
131	0.00	1,096.00	1,096.00
132	1,116.02	244.98	1,361.00
133	0.00	705.00	705.00
135	0.00	108.00	108.00
138	0.00	2,273.00	2,273.00
139	0.00	945.00	945.00
140	0.00	955.00	955.00
141	0.00	551.00	551.00
143	0.00	811.00	811.00
144	0.00	500.00	500.00
145	0.00	809.00	809.00
146	0.00	69.00	69.00
149	0.00	365.00	365.00
151	0.00	0.00	0.00
152	1,891.36	191.64	2,083.00
153	1,460.25	14.75	1,475.00
155	0.00	32.00	32.00
156	0.00	780.00	780.00
157	2,132.50	70.50	2,203.00
158	1,682.00	61.01	1,743.00
201	0.00	0.00	0.00
203	0.00	705.00	705.00
205	0.00	447.00	447.00
207	0.00	0.00	0.00
208	0.00	0.00	0.00
209	0.00	0.00	0.00
210	576.22	36.78	613.00
211*	0.00	494.00	494.00
215	0.00	483.00	483.00
216	0.00	102.00	102.00
217	0.00	1,055.00	1,055.00
231	0.00	0.00	0.00
232	865.72	75.28	941.00
233	1,749.44	238.56	1,988.00
234	255.30	89.70	345.00
235	0.00	1,115.00	1,115.00
301	0.00	0.00	0.00
302	0.00	0.00	0.00
309	0.00	2,533.00	2,533.00
TOTAL	13,707.10	26,833.90	40,541.00

* - A total of 250 AF of water from Wells 119, 122 and 211 was delivered to Pechanga Indian Reservation for their use.

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. Improvement District A is operated by Rancho California WD under an operations and maintenance contract on behalf of Western MWD.

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.

All of the Murrieta Division of Western MWD 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 64 to 70 feet in 2008-09, and there has been no production from the Holiday Well since March 2006. Accordingly all of Murrieta Division well production is from the older alluvium under a groundwater appropriative right.

In Water Year 2008-09, the Murrieta Division of Western MWD produced 861 acre feet of water from the North Well and imported 1,654 acre feet as shown in Appendix Table A-10.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

The following table itemizes the production from the Murrieta Division wells:

<u>Well Designation</u>	<u>Well Name</u>	<u>2008-09 Production Acre Feet</u>	<u>Casing Depth Feet</u>	<u>Water Depth Feet</u>	<u>Well Depth Feet</u>	<u>Perforated Interval Feet</u>
7S/3W-20	New Clay	0	101	245 – 290	940	330 – 350 370 – 470 680 – 790 830 – 900
7S/3W-20C9	Holiday	0	25	64 – 70	307	60 – 307
7S/3W-20G5	House	0	50	*	298	120 – 252
7S/3W-17R2	Lynch	0	26	59 – 74	212	172 – 212
7S/3W-18J2	North	861	50	261 – 297	650	240 – 260 500 – 640
7S/3W-20D	South	0	50	*	446	120 – 446
7S/3W-7M	Alson	0	50	*	416	106 – 416
TOTAL		861				

* Water levels not measured during Water Year 2008-09

Western MWD's Murrieta Division production for the period between 1966 and 2009 is shown in Appendix Table B-11.

Improvement District A

In Water Year 2008-09, imports to Improvement District A amounted to approximately 51 acre feet as shown in Appendix Table A-11. Deliveries to Improvement District A through turnout WR-13 for the period 1966 to 2009 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 6,398 acre feet in Water Year 2008-09: three wells used for agricultural production and nine wells used for Camp Supply. This production is from the younger alluvium and is based on riparian and appropriative rights. The water is used for both agricultural use and Camp Supply including domestic and commercial uses as well as irrigation for landscaping and park areas. For 2008-09, 882 acre feet were used for agricultural use and 5,516 acre feet were used for Camp Supply. Camp Pendleton water use is located both inside and outside the Watershed. A total of 3,252 acre feet were used inside the Watershed and 3,146 acre feet were exported to areas of the Base outside the Watershed. The production and use of water for Camp Pendleton are shown on Appendix Table A-8.

Beginning in December 2008 all wastewater for Camp Pendleton is treated at the Southern Region Tertiary Treatment Plant replacing the regional treatment Plant Nos. 1, 2, 3, and 13. On March 11, 2009, the Regional Water Quality Control Board issued Order No. R9-2009-0021 for a Master Reclamation Permit for the Camp Pendleton Southern Region Tertiary Treatment Plant. Wastewater effluent is discharged to either: (1) approved areas for use of reclaimed water for irrigation purposes; or (2) the Oceanside Outfall under NPDES Permit No. CA0109347, Order No. R9-2003-0155, and Order No. R9-2008-0096. The approved areas for use of reclaimed water are located both within and outside the Watershed. In Water Year 2008-09 the total amount of reclaimed wastewater for Camp Pendleton was 2,503 acre feet as shown on Appendix Table A-8. A total of 537 acre feet were reclaimed for irrigation purposes with 49 acre feet used within the Watershed and 488 acre feet used outside the Watershed. An additional 1,966 acre feet of reclaimed wastewater were exported by Camp Pendleton to the Oceanside Outfall.

Production and estimated use inside and outside the Watershed, as well as wastewater reclamation and use, are shown in Appendix B for the period 1966-2009. It is noted the format and reporting shown in Appendix Table B-9 were changed for the Annual Watermaster Report for Water Year 2008-09. Prior reports show for the period 1966 through 2003 reclaimed use inside the Watershed reported as recharged wastewater from ponds and recharge areas. In addition, the prior reports distinguished the source of the recharged wastewater between wastewater treated within or outside the Watershed at the various regional treatment plants. The format and reporting for Water Year 2008-09 in Appendix Tables A-8 and B-9 reflect current and anticipated operations for the foreseeable future. Accordingly the prior format is obsolete and the reader is directed to prior reports from 2008 and earlier for additional information regarding historical wastewater operations.

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 2008-09, 74 acre feet were imported of which 12 acre feet of wastewater were exported, as shown in Appendix A. Imports and use between 1966 and 2009 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. 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. In addition reports indicate Reservation non-irrigated lands are used for the grazing of 500 cattle. Based on a daily requirement of 10 gallons per head per day, the annual use is estimated to be about 6 acre feet.

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 and stock watering is included on Table 4.1 under water purveyor production.

An additional 5 acre feet pumped from well 7S/2E-26B3 were put to commercial use at a casino. This water 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 2008-09, Pechanga received 250 acre feet of delivered groundwater from Rancho California WD. In addition the Pechanga Water System produced 702 acre feet from wells, and received 268 acre feet of reclaimed wastewater from Eastern MWD, resulting in a total production for Pechanga of 1,220 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	Name	2008 Water Depth Feet	2009 Water Depth Feet	Well Depth Feet	Perforated Interval Feet
8S/2W					
29A2	Kelsey	142	144	425	105 - 415
29B10	Eduardo	285	252	697	437 - 687
29B11	Eagle III	191	173	645	275 - 635
29J3	South Boundary	---	---	350	150 - 340
28M5	Cell Tower	216	158	518	372 - 432 468 - 508

The total groundwater pumping for the Pechanga Water System wells decreased from 865 acre feet in 2007-08 to 702 acre feet in 2008-09. The total pumping in Wolf Valley by Rancho California WD Well Nos. 119, 122 and 211 for both the district's use and for delivery to Pechanga also decreased from 2,827 acre feet in 2007-08 to 2,247 acre feet in 2008-09. Therefore, the total pumping in Wolf Valley for 2008-09 decreased by 743 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- 2009 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 water supply is provided for domestic use by two individual wells. Total production for 2008-09 is reported as 2.4 acre feet. 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 6,541 acre feet. This quantity includes 5,561 acre feet of well production and 980 acre feet of surface diversion as shown in Appendix C.

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SECTION 8 - UNAUTHORIZED WATER USE

8.1 General

From time to time there are complaints of unauthorized water uses of various types in the Watershed. Such complaints are investigated in accordance with the powers and duties 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 are settled so long as the Cooperative Water Resource Management Agreement (CWRMA) between the United States on behalf of Camp Pendleton and Rancho California Water District is in effect.

As further explained in Section 11, many of these issues are described in Appendix F. One area of past concern pertains to Rancho California WD's petition to the State Water Resources Control Board (SWRCB) to change the place of use, type of use and re-diversion facilities in Permit 7032. On April 22, 2009, the SWRCB issued an order and amended Permit 7032 with the desired changes and conditions to resolve concerns by Camp Pendleton and the U. S. Fish and Wildlife Service. The reporting of Vail Lake operations in accordance with Amended Permit 7032 is provided on Table 3.3 and in Section 7.

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 a legal basis for such exportation is an unauthorized water use. Once the so-called "Four-Party Case" in *United States and Fallbrook Public Utility District v. Eastern Municipal Water District and Rancho California Water District* (CV 04-8182 CBM (RNBx), United States District Court, Central District of California) is resolved, the Watermaster will reevaluate the calculations and reporting of exportation of treated wastewater to be included in future annual reports.

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 have been collected periodically by the Riverside County Department of Health Services and the USGS.

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/tmdl/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. Previous studies for Anza Valley include 1976 and 1988 reports by the U. S. Geological Survey and a 1990 report by a consultant to Riverside County. 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.

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 Park Groundwater Monitoring Well as part of this network. The monitoring well was completed with six piezometers and continuous water level recording devices. In 2009 the groundwater monitoring network was expanded to include the Wolf Valley Monitoring Well previously constructed by the USGS under a cooperative program with the Pechanga Band. Groundwater levels and water quality data for the two monitoring wells are reported in Appendix E.

Groundwater level data for three additional wells in the Murrieta-Temecula Groundwater Area are included in this report as Figures 4.1, 4.3 and 4.5. Water levels in the Windmill Well (8S/2W-12H1) located at the eastern part of Pauba Valley declined 5.5 feet in 2008-09. Water levels in Well 7S/3W-20C9 in the Murrieta Division of Western MWD area declined 6 feet from last year.

Well 8S/2W-29G1 on the Pechanga Indian Reservation in Wolf Valley became dry at the end of 2003-04. The declining water levels in Well 8S/2W-29G1 appear to be attributed to recent relatively dry hydrologic conditions and pumping of the nearby New Kelsey Well. To allow continued monitoring of water levels on the Reservation, Well No. 29G1 is being replaced with Well No. 8S/2W-29B9 which declined 1.3 feet.

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 2008-09, Eastern MWD exported 6,786 acre feet of treated wastewater from the watershed for reuse and 2,772 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 2008-09, approximately 8,450 tons of salt were exported by Eastern MWD through the export of 9,558 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 2008-09 wells discharged 37 acre feet, as shown below, together with estimated total dissolved solids for each well. Additional water quality data for the wells are provided in Appendix D.

Well No.	Release Acre Feet	TDS mg/l	Sample Date
101	5	810	6/25/09
102	3	700	6/20/95
106	10	340	7/01/09
108	1	370	8/05/09
118	<u>18</u>	610	6/04/09
Total	37		

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, Rancho California WD, and the Pechanga Band within the Santa Margarita River Watershed for 2008-09 was 6,806 acre feet compared to 5,805 acre feet in 2007-08 and compared to 690 acre feet in 1986-87. Assuming an average TDS concentration of wastewater of 650 mg/l, the salt loading for 6,806 acre feet of reclaimed wastewater is approximately 6,020 tons. It is expected that the use of reclaimed wastewater within the watershed will increase in the future including expanded use of reclaimed wastewater by the Pechanga Band 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. In 2009 two other wells showed levels exceeding the MCL but were still in operation under approved blending plans.

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.

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 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 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 Tualota 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. In 2009 there were no required releases of native water from Lake Skinner. The total required releases from Diamond Valley Lake were 16.385 acre feet. The actual releases were 17.473 acre feet and were made in accordance with the approved quagga mussel control plan.

Infestation by the quagga mussel has also altered Rancho California WD operations in accordance with the Cooperative Water Resource Management Agreement. Beginning on April 10, 2008 Rancho California WD periodically 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 release 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 or from the potable connection to the WR-34 discharge location. The treated water is de-chlorinated prior to release to Murrieta Creek.

On July 17, 2009, Rancho California WD submitted its quagga mussel response and control action plan to the California Department of Fish and Game. Key components of the plan include:

- Raw MWD water is released into the Santa Margarita Watershed only when chlorinating is being performed at Lake Skinner.
- All watercraft vessels, trailers, and equipment are being inspected before launching in Vail Lake.

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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 2008-09. 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 2009.

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 2008-09.

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 2008-09 water quality data were collected from wells at Western MWD – Murrieta Division, Rancho California WD, Pechanga Indian Reservation, and Camp Pendleton.

Western MWD – Murrieta Division sampled three wells in 2008-09 as shown in Appendix D-3. Two of the wells were sampled for nitrates only with one sampling for each well. The North Well was sampled 14 times and included six samples subjected to standard chemical analysis. Concentrations of nitrates were generally below the drinking water standard of 45 mg/l as nitrate for samples in the three wells ranged from less than 1 mg/l to 6.7 mg/l.

Water quality data for Rancho California WD wells are shown in Appendix Table D-4. Samples were collected from 44 wells during 2008-09. Of the 44 wells, 31 wells were analyzed for nitrates and TDS only. Nitrate concentrations ranged up to 24 mg/l as nitrate, with the drinking water standard being 45 mg/l as nitrate. The remaining 13 wells were subjected to standard chemical analysis. Samples from two wells (Wells 101 and 109) show TDS concentrations exceeding 750 mg/l, the Basin Plan objective.

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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

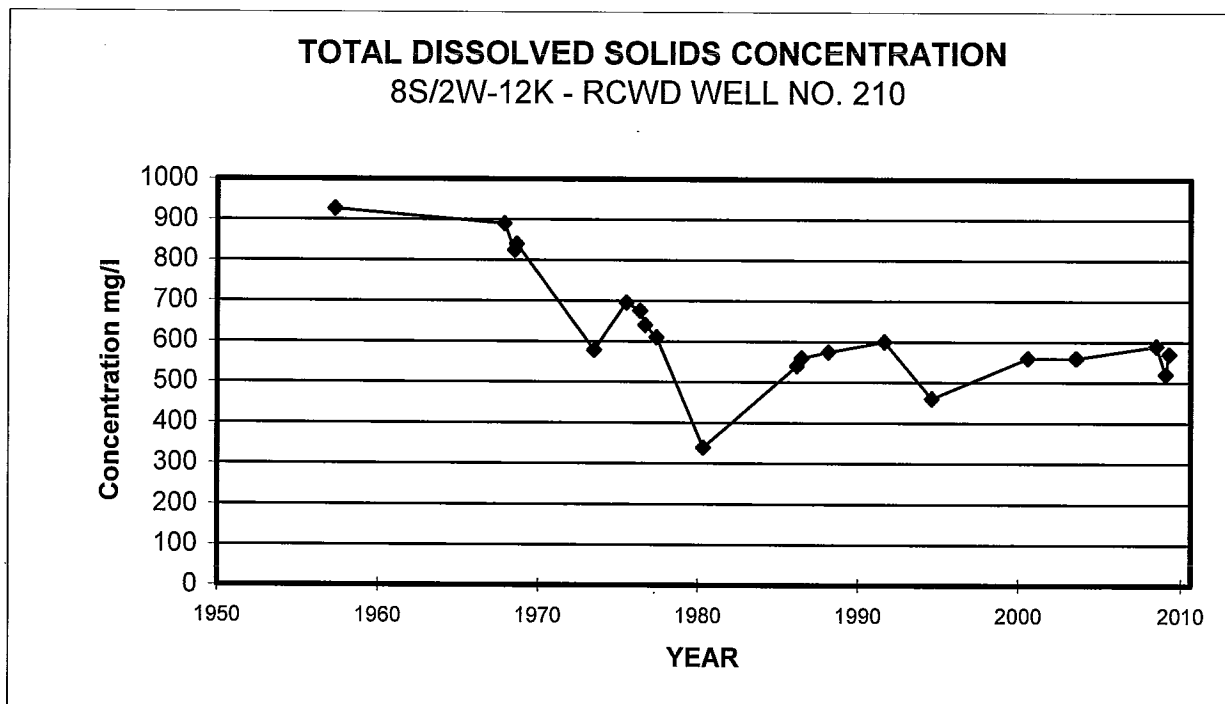
Water Year 2008-09

COLLECTION MONTH/YEAR	DISSOLVED OXYGEN mg/l		pH		SPECIFIC CONDUCTANCE microsiemens/cm		TEMPERATURE Deg C	
	High	Low	High	Low	High	Low	High	Low
2008								
October	8.9	7.6	8.2 *	7.4 *	1,020 *	906 *	24.7	17.3
November	8.9	6.9	8.4 *	7.0 *	1,540 *	139 *	21.5	13.2
December	9.0 *	8.0 *	8.0 *	7.7 *	1,200 *	887 *	19.3 *	14.8 *
2009								
January	10.6	8.2	8.3	8.0	1,090	820	20.2	11.9
February	10.6 *	8.4 *	8.4 *	8.0 *	1,080 *	326 *	19.6 *	11.0 *
March	11.2	9.8	8.4	8.0	1,060	962	17.0	13.5
April	10.1 *	8.8 *	8.4 *	8.2 *	1,020 *	958 *	18.6 *	16.1 *
May	9.6	7.5	8.4	8.0	1,130	877	22.0	18.0
June	8.3	7.5	8.6	8.2	940	879	24.1	20.8
July	7.8 *	7.1 *	8.8 *	8.1 *	935 *	740 *	29.6 *	24.0 *
August	7.9	6.2	8.4	7.9	896	744	29.1	26.9
September	8.2	6.2	8.5	7.9	966	883	29.3	25.6

* - 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.

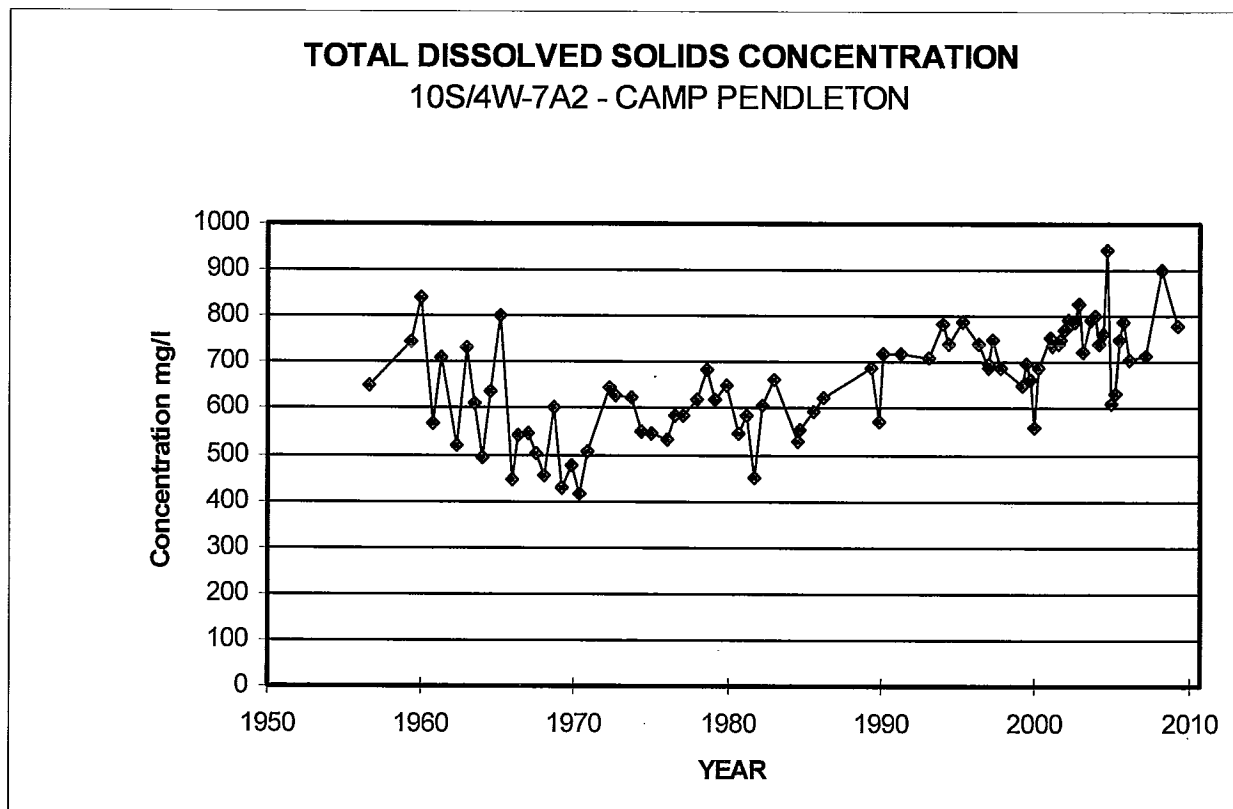
FIGURE 10.1



During 2008-09 samples of groundwater were collected from ten wells at Camp Pendleton as shown on Appendix Table D-6. One well was tested for nitrates only and nine wells were subjected to standard chemical analysis with results generally consistent with the historical results. Of the nine wells sampled, seven provided a sample where TDS concentrations exceeded 750 mg/l, the Basin Plan Objective. Eight wells were tested for TDS levels in both 2008 and 2009. Six of the eight wells showed TDS concentrations that exceeded those in the prior years and two wells showed a decline of TDS concentrations over the previous year.

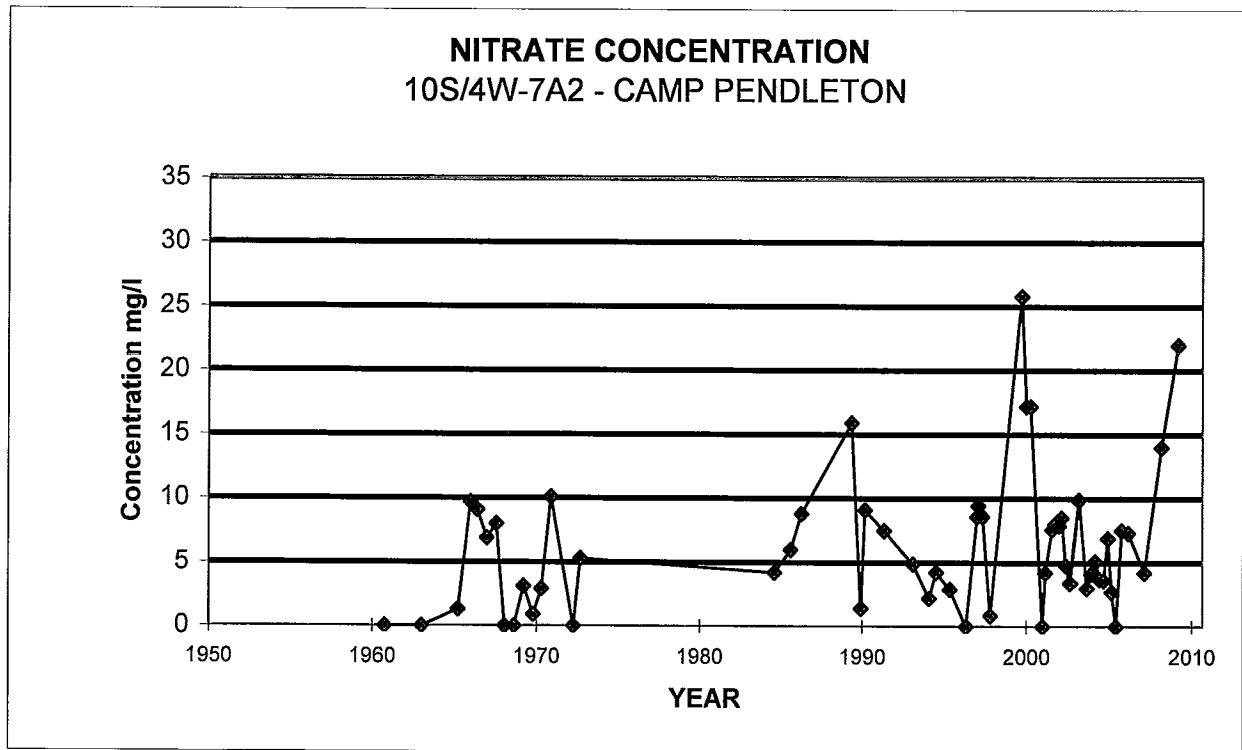
Historical TDS concentrations for Camp Pendleton Well 7A2 are shown on Figure 10.2 for samples collected since mid-1950. The figure shows a decline between mid-1950 and 1970, then a period of increasing concentrations to levels in the 550-950 mg/l range. Analysis of the sample collected in 2008-09 indicated TDS concentrations of 780 mg/l, a decrease of 120 mg/l compared to 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 2008-09 shows a nitrate concentration of 22 mg/l, an increase from last year.

FIGURE 10.3



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SECTION 11 – COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

11.1 General

On August 20, 2002, the Cooperative Water Resource Management Agreement (CWRMA) between Camp Pendleton and Rancho California WD was approved by the District Court. The CWRMA provisions specify required accounting will be reported on a calendar year basis and accordingly Section 11 and Appendix E, which serve as the annual report required under CWRMA, present data reported on a calendar year basis. However, the remainder of the Annual Watermaster Report is prepared on a water year basis requiring the CWRMA calendar year reporting to be converted to a water year basis to be incorporated into other sections of the report. The water year period begins on October 1 and concludes on September 30 of the following year.

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 2009 the hydrologic index was determined and the year classified as an "Above Normal" hydrologic year. The hydrologic year establishes the required flows at the Santa Margarita River near Temecula gaging station for the calendar year. Required flows for 2008-09, an "Above Normal" year, are listed in Section 5 of the CWRMA and are shown on Table 11.1.

As indicated above, CWRMA calendar year accounting must be converted to a water year basis for other sections of the annual report. The data for October through December 2008 for the various accounts are needed to convert the amounts shown on Table 11.1 to water year values. These data for October through December 2008 were reported in the prior year Annual Watermaster Report. To assist the reader in calculating water year amounts for various CWRMA operations, Table 11.2 in the current report is a repeat of Table 11.1 from the prior year report. Additional information concerning the operations underlying the values reported on Table 11.2 can be found in the prior year report.

Prior to implementation of the Cooperative Water Resources Management Agreement 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.

TABLE 11.1

SANTA MARGARITA RIVER WATERSHED

MONTHLY SUMMARY OF REQUIRED FLOWS,
DISCHARGES, CREDITS AND ACCOUNTS
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

2009 CALENDAR YEAR - ABOVE NORMAL YEAR

Month	USGS		Minimum Flow Maintenance Requirement cfs /1,2	Section 5 Flows cfs /3	No. of Days 10- Day Moving Average is Less Than Required Flow	Discharge from WR-34 Per MWD AF /4	Climatic Credits Earned AF /5	Camp Pendleton	
	Official Discharge AF	Website Daily Discharge AF						Input AF	Cumulative Balance AF
Jan	633.9	664.5	10.6	17.8	0	642.1 *	0.0	387.4	5,000.0
Feb	3,798.3	3,798.3	10.6	17.8	0	223.7 **	0.0	349.9	5,000.0
Mar	664.5	664.5	10.6	17.8	0	656.3	0.0	387.4	5,000.0
Apr	645.0	645.0	10.6	17.8	0	623.4	0.0	374.9	5,000.0
May	223.7	222.5	5.7/3.0	11.7	0	227.8 ***	0.0	12.3	5,000.0
June	680.3	686.3	11.5	9.4	0	709.1	0.0	0.0	5,000.0
July	708.1	708.1	11.5	7.8	0	746.0	0.0	0.0	5,000.0
Aug	240.6	226.1	6.5/3.0	7.6	0	254.0	0.0	248.1	5,000.0
Sept	176.3	178.7	3.0	7.4	0	186.7	0.0	261.8	5,000.0
Oct	184.3	184.7	3.0	7.7	0	202.6 +	0.0	289.0	5,000.0
Nov	184.1	178.7	3.0	8.8	0	189.3 ++	0.0	345.1	5,000.0
Dec	2,906.8	2,907.0	3.3	10.4	0	133.7	0.0	436.6	5,000.0
CALENDAR YEAR TOTAL	11,045.9	11,064.4		0	0	4,794.6	0.0	3,092.4	FULL

Monthly totals are rounded to the nearest tenth of an acre foot.

- 1 - Minimum Flow Maintenance Requirement for January thru April equals 11.5 cfs less 0.9 cfs CAP Credit less 0 Climatic Credit.
- 2 - On April 30, 2009, Camp Pendleton requested a modification to the flow requirements to aid in a water quality and habitat study. Flow requirements were reduced in May and increased in June, July and August, with no net change in required flows. The flow requirement was decreased in May from 11.5 cfs to 3.0 cfs with an intermediate flow requirement of 5.7 cfs for the first four days of May. Flow requirements were increased for June, July and August from 9.4 cfs, 7.8 cfs, and 7.6 cfs, respectively, to 11.5 cfs, 11.5 cfs, and 10 cfs, respectively. Subsequently, from August 1 through December 31, 2009, Camp Pendleton requested to forego make-up water and reduce the required flow to simulate Critically Dry Hydrologic Conditions. The request to forego water reduced the modified August flow requirement from 10 cfs to 3.0 cfs, with a 6.5 cfs intermediate flow period from August 1-5. The intermediate flows in May and August were intended to provide a transition between the high and low flows.
- 3 - 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.
- 4 - CAP Credit equals WR-34 discharge in excess of 4,000 AF; for 2009 the CAP Credit earned was 795 AF.
- * - Includes 46.4 AF from System River Meter and 105.6 AF from potable connection to WR-34 outlet pipe from January 24 - 31 for MWD shutdown
- ** - Includes 21.3 AF from System River Meter and 48.4 from potable connection to WR-34 outlet pipe from February 1 - 4 for MWD shutdown
- *** - Includes 67.3 AF from potable connection to WR-34 outlet pipe from May 3 - 12 and May 27 for MWD Shutdown
- ++ - Includes 2.5 AF from potable connection to WR-34 outlet pipe on October 31 because of MWD shutdown
- +- Includes 56.8 AF from potable connection to WR-34 outlet pipe from November 1 - 10 because of MWD shutdown
- 5 - 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. No climatic credits can be earned during an Above Normal Year.
- 6 - 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. Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

TABLE 11.2

SANTA MARGARITA RIVER WATERSHED

MONTHLY SUMMARY OF REQUIRED FLOWS,
DISCHARGES, CREDITS AND ACCOUNTS
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

2008 CALENDAR YEAR - ABOVE NORMAL YEAR

Month	USGS Official Discharge AF	USGS Website Daily Discharge AF	Minimum Flow Maintenance Requirement cfs /1	Section 5 Flows cfs /2	No. of Days 10- Day Moving Average is Less Than Required Flow /3	Discharge from WR-34 Per MWD AF /4	Climatic Credits Earned AF /5	Camp Pendleton Groundwater Account /6 Input AF	Cumulative Balance AF
Jan	11,378.0	11,511.1	6.4	17.8	0	193.0	0.0	387.4	5,000.0
Feb	2,207.6	2,300.0	6.4	17.8	0	131.2 *	0.0	362.4	5,000.0
Mar	410.6	404.4	6.4	17.8	0	346.5	0.0	387.4	5,000.0
Apr	386.6	392.3	6.4	17.8	0	328.3 **	0.0	374.9	5,000.0
May	1,249.5	1,245.0	11.5	11.7	0	494.2 ***	0.0	12.3	5,000.0
June	582.5	573.0	9.4	9.4	0	532.4 ****	0.0	0.0	5,000.0
July	494.9	494.9	7.8	7.8	0	473.6 +	0.0	0.0	5,000.0
Aug	469.3	479.6	7.6	7.6	0	480.2 +	0.0	0.0	5,000.0
Sept	455.2	448.7	7.4	7.4	0	456.5 +	0.0	0.0	5,000.0
Oct	480.0	479.4	7.7	7.7	1	481.3 +	0.0	0.0	5,000.0
Nov	916.0	908.2	3.0	8.8	1	407.4 +	0.0	126.5	5,000.0
Dec	5,780.0	5,874.7	3.3	10.4	0	107.0 +	0.0	436.6	5,000.0
CALENDAR YEAR TOTAL	24,810.2	25,111.3		2	2	4,431.7	0.0	2,087.4	FULL

Monthly totals are rounded to the nearest tenth of an acre foot.

- 1 - Minimum Flow Maintenance Requirement for January thru April equals 11.5 cfs less 0 cfs CAP Credit less 5.1 Climatic Credit except for November and December when required flows were reduced to flows of Critically Dry Year per agreement of parties commencing on Nov 20, 2008
- 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 2 days in October and November when the 10-day moving average was less than the required flow were minus 0.1.
- 4 - CAP Credit equals WR-34 discharge in excess of 4,000 AF; for 2009 the CAP Credit earned was 432 AF
- 5 - Climatic Credits equal the WR-34 discharges less actual Flow Requirements, which is the flow indicated in Section 5 of the CWRMA less applicable credits but not less than 3.0 cfs. No climatic credits can be earned during an Above Normal Year
- 6 - 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. Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF
- * Includes 65 AF from System River Meter during February 17 - 22, 2008.
- ** Includes 224.7 AF from System River Meter during April 10 - 30, 2008.
- *** Includes 78.8 AF from System River Meter during May 1 - 4, 2008.
- **** Includes 233.3 AF from System River Meter during June 17 - 30, 2008
- + All flows from July 1 through December 30, 2008 were from System River Meter. December 31 flow of 11.9 AF was from WR-34.

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 in Below Normal and Critically Dry years 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 CAP 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.

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. For calendar year 2009 there were no days when the moving average was less than the required flow. Rancho California WD released water from the System River Meter to meet the required flows under CWRMA during certain periods of the year due to MWD operational shutdowns and quagga mussel threats.

During calendar year 2009 the total releases by Rancho California WD from WR-34, including releases from the System River Meter and the potable connection were 4,795 acre feet. No climatic credits were used in calendar year 2009 and no climatic credits were earned in accordance with CWRMA provisions that no climatic credits can be earned in an Above Normal Year.

CAP Credits of 795 acre feet were accumulated in calendar year 2009 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 calendar year 2009, 3,092 acre feet were calculated as input to the groundwater account but the balance was already at the maximum balance of 5,000 acre feet and no additional water was credited to the account.

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, 2009.

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 2007-08, 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. A copy of the Statement of Work for the Lower Santa Margarita River Watershed Monitoring Program was provided in the 2007 and 2008 Annual Watermaster Reports. The monitoring was funded for a two-year period and the final report, *Hydrological and Biological Support to Lower Santa Margarita River Watershed Monitoring Program Water Years 2008-2009* was published on February 21, 2010. A copy of the final report can be found at the following website: <http://www.usbr.gov/lc/socal/planning>.

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 USGS monitoring program for the Pala Park Groundwater Monitoring Well is included in the ongoing Watermaster budget beginning in year 2007-08.

In 2009 the groundwater monitoring program was expanded to include the Wolf Valley Monitoring Well that was previously constructed under a cooperative agreement between the USGS and the Pechanga Band. Two piezometers are installed at the Wolf Valley Well. Approved Watermaster funding of the water quality monitoring for Pala Park Well was used for water quality sampling at both the Pala Park and Wolf Valley wells in 2009. The groundwater level monitoring for the Wolf Valley Well was funded by the Pechanga Band.

Information concerning the construction of the Pala Park and Wolf Valley monitoring wells, 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 for the Pala Park Groundwater Monitoring Well can be found in Appendix E-2. Construction information, groundwater levels, and water quality data for the Wolf Valley Groundwater Monitoring Well are provided in Appendix E-3.

Also during 2007 Camp Pendleton and Rancho California WD initiated an effort to update the CWRMA Groundwater Model in accordance with Section 7(d). Work on updating the groundwater model continued during 2009. 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:

Year		Watermaster Office	USGS Groundwater Monitoring	USGS Gaging Stations	Total
Current Year	2009-10	\$327,820	\$22,100	\$201,750	\$551,670
Projected Years	2010-11	\$334,635	\$27,700	\$203,850	\$566,160
	2011-12	\$344,700	\$61,900	\$209,900	\$616,500
	2012-13	\$355,000	\$63,800	\$216,200	\$635,000
	2013-14	\$365,700	\$65,700	\$222,700	\$654,100
	2014-15	\$376,700	\$67,700	\$239,400	\$673,800

SECTION 13 - WATERMASTER OFFICE BUDGET 2010-2011

A total Watermaster Budget of \$566,160 for the Water Year ending September 30, 2011 is shown below.

This budget includes \$334,635 for the Watermaster Office and \$231,525 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 2009-10	PROPOSED BUDGET 2010-11
Watermaster Office		
Rent	\$ 14,500	\$ 14,500
Accounting Services	6,100	6,100
Supplies	1,200	1,200
General Liability & Professional Insurance	500	500
Printing	7,900	7,000
Audit	6,000	6,300
Publications	2,600	2,000
Clerical/Data Management	78,700	82,700
Telephone/Internet	2,700	2,700
Miscellaneous Operating/Maintenance	1,720	1,835
Mileage/Travel	800	800
Office Equipment and Software	2,000	2,000
IT System/Website	10,000	10,000
Watermaster		
Consulting Services	174,000	177,000
Travel Reimbursement	20,000	20,000
SUBTOTAL WATERMASTER OFFICE	\$ 327,820	\$ 334,635
USGS		
Gaging Station Operation and Maintenance	\$ 174,100	\$ 175,925
Water Quality Operation and Maintenance	27,650	27,900
Groundwater Monitoring Wells Water Levels	11,300	16,800
Groundwater Monitoring Wells Water Quality	10,800	10,900
SUBTOTAL USGS	\$ 223,850	\$ 231,525
TOTAL	\$ 551,670	\$ 566,160

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2008-09

APPENDIX A

WATER PRODUCTION AND USE

WATER YEAR 2008-09

September 2010

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-1

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION					USE						RECLAIMED WASTEWATER				
	WELLS	IMPORT	EXPORT	NET	TOTAL	AG	COMM	DOM	TOTAL	LOSS	TOTAL	REUSE	REUSE	OTHER	TOTAL	
	1/	FROM	IMPORT			3/		4/			USE	IN	OUTSIDE	REUSE		
	SMRW 2/											SMRW 5/	SMRW	6/		
2008																
OCT	0	1,976	318	1,658	1,658	0	0	1,575	1,575	83	1,658	146	520	540	1,206	
NOV	0	453	193	260	260	0	0	247	247	13	260	131	610	446	1,187	
DEC	0	849	96	753	753	0	0	715	715	38	753	56	228	1,013	1,297	
2009																
JAN	0	805	23	782	782	0	0	743	743	39	782	37	165	1,055	1,257	
FEB	0	598	(27)	625	625	0	0	594	594	31	625	29	150	1,043	1,222	
MAR	0	1,521	136	1,385	1,385	0	0	1,315	1,315	70	1,385	130	450	737	1,317	
APR	0	1,243	(116)	1,359	1,359	0	0	1,291	1,291	68	1,359	265	802	108	1,175	
MAY	0	1,485	(135)	1,620	1,620	0	0	1,539	1,539	81	1,620	276	714	254	1,244	
JUNE	0	1,459	74	1,385	1,385	0	0	1,316	1,316	69	1,385	323	696	139	1,158	
JULY	0	2,342	455	1,887	1,887	0	0	1,793	1,793	94	1,887	355	792	44	1,191	
AUG	0	2,446	720	1,726	1,726	0	0	1,640	1,640	86	1,726	388	779	52	1,219	
SEPT	0	1,742	710	1,032	1,032	0	0	980	980	52	1,032	479	880	(190)	1,169	
TOTAL	0	16,919	2,447	14,472	14,472	0	0	13,748	13,748	724	14,472	2,615	6,786	5,241	14,642	

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/ No sewage diverted to RCWD for 2009 water year for treatment at Santa Rosa Water Reclamation Facility.

Reuse within watershed includes 674 AF sold to RCWD and 268 sold to Pechanga Band.

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 2,772 AF.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-2

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION			USE						WASTEWATER EXPORTED
	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE	
2008										
OCT	0	799	799	15	193	591	799	0	799	77
NOV	0	838	838	13	208	617	838	0	838	93
DEC	0	564	564	10	113	441	564	0	564	89
2009										
JAN	0	443	443	7	57	379	443	0	443	93
FEB	0	429	429	6	65	358	429	0	429	78
MAR	0	529	529	6	77	446	529	0	529	89
APR	0	621	621	10	135	476	621	0	621	90
MAY	0	810	810	12	187	611	810	0	810	87
JUNE	0	976	976	16	222	738	976	0	976	91
JULY	0	963	963	13	231	719	963	0	963	93
AUG	0	1,181	1,181	22	293	866	1,181	0	1,181	97
SEPT	0	922	922	17	234	671	922	0	922	92
TOTAL	0	9,075	9,075	147	2,015	6,913	9,075	0	9,075	1,069

* Assumes no loss

TABLE A-3

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION						USE						WASTEWATER				
	TOTAL LAKE SKINNER DIVERSIONS	LAKE SKINNER DIVERSIONS DELIVERED	TOTAL DISTRICT IMPORT 1/	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	TOTAL SMRW IMPORT 2/	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
2008																	
OCT	0	0	1,731	381	1,350	621	1,002	513	71	431	1,015	(13)	1,002	95	3.10	1.20	91
NOV	0	0	1,410	22	1,388	638	660	277	55	271	603	57	660	105	2.10	0.90	102
DEC	0	0	518	69	449	206	275	142	36	260	438	(163)	275	109	0.30	1.05	108
2009																	
JAN	0	0	878	22	856	394	416	91	28	150	269	147	416	104	0.30	0.44	103
FEB	0	0	431	87	344	158	245	149	38	199	386	(141)	245	93	0.90	0.77	91
MAR	0	0	1,115	195	920	423	618	214	29	143	386	232	618	109	0.30	0.82	108
APR	0	0	1,317	276	1,041	479	755	362	53	290	705	50	755	97	2.80	0.61	93
MAY	0	0	1,419	254	1,165	536	790	359	53	255	667	123	790	100	5.40	0.91	94
JUNE	0	0	1,352	253	1,099	506	759	364	43	347	754	5	759	97	3.20	1.19	92
JULY	0	0	1,695	378	1,318	606	984	505	39	276	820	164	984	98	3.60	1.48	93
AUG	0	0	1,718	348	1,370	630	978	508	43	386	937	41	978	91	3.90	1.21	86
SEPT	0	0	1,771	482	1,288	593	1,075	667	45	355	1,067	8	1,075	89	4.60	1.46	83
TOTAL	0	0	15,355	2,767	12,588	5,790	8,557	4,151	533	3,363	8,047	510	8,557	1,187	31	12	1,144

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

WATERMASTER
 SANTA MARGARITA RIVER WATERSHED

TABLE A-4

SANTA MARGARITA RIVER WATERSHED
 MONTHLY WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
 DELIVERIES IN DOMENIGONI VALLEY

2008-09
 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
2008									
OCT	0	69	69	66	0	0	66	3	69
NOV	0	30	30	29	0	0	29	1	30
DEC	0	8	8	7	0	0	7	1	8
2009									
JAN	0	4	4	3	0	0	3	1	4
FEB	0	10	10	9	0	0	9	1	10
MAR	0	28	28	27	0	0	27	1	28
APR	0	34	34	32	0	0	32	2	34
MAY	0	59	59	56	0	0	56	3	59
JUNE	0	42	42	40	0	0	40	2	42
JULY	0	71	71	68	0	0	68	3	71
AUG	0	59	59	56	0	0	56	3	59
SEPT	0	51	51	48	0	0	48	3	51
TOTAL	0	465	465	441	0	0	441	24	465

* Construction water

** Loss = 5%

TABLE A-5

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION				USE					
	WELLS ON RESERVATION 1/	DELIVERED GROUNDWATER FROM RCWD 2/	RECLAIMED WASTEWATER FROM EMWD 3/	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 4/	TOTAL USE
2008										
OCT	88	52	0	140	74	34	27	135	5	140
NOV	61	18	0	79	31	31	16	78	1	79
DEC	36	0	0	36	5	23	5	33	3	36
2009										
JAN	62	0	3	65	13	30	13	56	9	65
FEB	45	0	6	51	10	27	12	49	2	51
MAR	57	0	17	74	31	32	9	72	2	74
APR	53	18	34	105	44	37	19	100	5	105
MAY	60	15	49	124	73	43	9	125	(1)	124
JUNE	35	41	28	104	50	38	9	97	7	104
JULY	78	26	61	165	90	50	21	161	4	165
AUG	71	35	38	144	67	48	26	141	3	144
SEPT	56	45	32	133	60	48	29	137	(4)	133
TOTAL	702	250	268	1,220	548	441	195	1,184	36	1,220

1/ Total production attributed to Eduardo, Eagle III, Kelsey, Cell Tower, Ballpark and Zone 5 Rock 1 wells.

2/ Water provided from Rancho California WD Well Nos. 119, 122, and 211.

3/ Reclaimed wastewater provided by Eastern MWD via Wheeling Agreement with Rancho California WD shown as a component of production for Table A-5 only to illustrate water budget for Reservation. Actual production for Watershed accounted for on Table A-1 and Table 7.1 for Eastern MWD.

4/ Loss determined as Total Production less Total Delivered

WATERMASTER
 SANTA MARGARITA RIVER WATERSHED

TABLE A-6

SANTA MARGARITA RIVER WATERSHED
 MONTHLY WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION			USE				
	LOCAL	IMPORT TO WATERSHED	TOTAL IN WATERSHED	AG	COMMERCIAL/ DOMESTIC	TOTAL DELIVERIES	LOSS*	TOTAL USE
2008								
OCT	0	184	184	143	24	167	17	184
NOV	0	227	227	177	30	207	20	227
DEC	0	117	117	90	16	106	11	117
2009								
JAN	0	51	51	38	8	46	5	51
FEB	0	103	103	82	12	94	9	103
MAR	0	53	53	39	9	48	5	53
APR	0	120	120	95	14	109	11	120
MAY	0	135	135	105	17	122	13	135
JUNE	0	220	220	180	20	200	20	220
JULY	0	172	172	138	18	156	16	172
AUG	0	255	255	205	27	232	23	255
SEPT	0	215	215	171	25	196	19	215
TOTAL	0	1,852	1,852	1,463	220	1,683	169	1,852

*Loss = 10% of use

TABLE A-7

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION				USE						VAIL		RECLAIMED WASTEWATER				
	WELLS EXPORT	NET WELLS	IMPORT	EXPORT	NET IMPORT	TOTAL	AG DOM	AG/ DOM	COMM	DOM	SMR RELEASE	IMPORT TO STORAGE	TOTAL USE	LOSS	TOTAL	RELEASE AND RECHARGE	REUSED IN SMRW
	1/ 2,794	2/ 1,877	3/ 1,225	4/ 1,831	5/ 1,793	6/ 2,988	7/ 1,880	8/ 423	9/ 560	10/ 2,199	11/ 108	12/ 5,491	13/ 2,988	14/ 2,988	15/ 0	16/ 0	17/ 326
2008																	
OCT	2,794	2,755	5,956	91	5,865	8,620	3,049	666	437	3,292	489	260	8,193	427	8,620	70	496
NOV	1,877	1,842	3,968	73	3,895	5,737	2,954	669	258	2,949	412	354	7,596	(1,859)	5,737	0	326
DEC	1,225	1,195	1,831	38	1,793	2,988	1,880	423	560	2,199	108	321	5,491	(2,503)	2,988	0	326
2009																	
JAN	1,970	1,950	2,192	16	2,176	4,126	501	130	248	1,331	644	78	2,932	1,194	4,126	0	314
FEB	1,157	1,132	1,024	25	999	2,131	1,094	253	254	1,551	224	(233)	3,143	(1,012)	2,131	0	318
MAR	2,234	2,220	3,471	16	3,455	5,675	580	144	251	1,345	661	458	3,439	2,236	5,675	0	338
APR	3,075	3,043	3,840	36	3,804	6,847	1,740	382	248	2,044	624	(42)	4,996	1,851	6,847	0	344
MAY	2,283	2,253	4,887	66	4,821	7,074	2,324	516	380	2,671	230	208	6,329	745	7,074	(28)	327
JUNE	2,515	2,476	4,800	67	4,733	7,209	2,512	566	395	2,894	712	126	7,205	4	7,209	(73)	313
JULY	2,922	2,887	7,066	94	6,972	9,859	2,459	554	411	3,024	749	270	7,467	2,392	9,859	84	367
AUG	3,010	2,978	6,138	97	6,041	9,019	3,325	717	430	3,380	258	680	8,790	229	9,019	917	401
SEPT	2,758	2,722	5,815	99	5,716	8,438	4,393	966	434	3,479	191	(123)	9,340	(902)	8,438	266	321
TOTAL	27,820	27,453	50,988	718	50,270	77,723	26,811	5,986	4,306	30,159	5,302	2,357	74,921	2,802	77,723	1,236	4,191

1/ Wells recovered 26,584 AF from older alluvium and 1,236 AF from Vail recharge. An additional 250 AF was delivered to Pechanga Indian Reservation and is shown on Table A-5.

2/ Groundwater used in San Mateo Watershed

3/ Includes 32,168 AF direct use (16,971 AF to Rancho Division and 15,197 AF to Santa Rosa Division); 14,828 AF direct recharge; and 3,992 AF from MWD WR-34.

4/ Import used in San Mateo Watershed

5/ 26 AF into Murrieta Creek from Wells 101, 102, and 118; 11 AF into Santa Gertrudis Creek from Wells 106 and 108;

6/ 1,052 AF from System River Meter, 221 AF from potable connection to WR-34 outlet pipe and 3,992 AF from MWD WR-34

7/ 14,828 AF of direct recharge less 12,471 AF of import recovery

8/ Loss = Total production less total use and includes 402 acre feet pumped from wells 102, 135 and 146 directly into reclaimed water system.

9/ Vail releases and the related Vail recharge are computed as Total Release less inflow to be bypassed.

9/ Does not include 674 AF reclaimed wastewater purchased from EIMWD.

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-8

SANTA MARGARITA RIVER WATERSHED
U.S.M.C. - CAMP PENDLETON
2008-09
Quantities in Acre Feet

MONTH YEAR	PRODUCTION			USE						RECLAIMED WASTEWATER				EXPORTS		
	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE IN SMRW 1/	AGRICULTURE OUT SMRW	CAMP SUPPLY IN SMRW 2/	CAMP SUPPLY OUT SMRW	TOTAL EXPORT	TOTAL IN SMRW 3/	RECLAIMED IN SMRW	RECLAIMED OUT SMRW 4/	EXPORTED TO OCEANSIDE OUTFALL 5/	TOTAL	TOTAL 6/	WASTE WATER RETURNS 7/	NET EXPORT
2008																
OCT	331	513	844	103	228	277	236	464	380	0	36	219	255	719	107	612
NOV	21	453	474	6	15	245	208	223	251	0	18	207	225	448	94	354
DEC	0	294	294	0	0	159	135	135	159	0	7	210	217	352	61	291
2009																
JAN	0	337	337	0	0	182	155	155	182	0	13	187	200	355	70	285
FEB	0	277	277	0	0	150	127	127	150	0	6	185	191	318	58	260
MAR	10	438	448	3	7	237	201	208	240	0	22	184	206	414	91	323
APR	16	521	537	5	11	281	240	251	286	2	47	143	192	441	109	332
MAY	33	547	580	10	23	295	252	275	305	12	69	111	192	455	114	341
JUNE	55	504	559	17	38	272	232	270	289	6	51	154	211	475	105	370
JULY	149	575	724	46	103	310	265	368	356	15	82	119	216	569	120	449
AUG	149	546	695	46	103	295	251	354	341	4	64	127	195	545	114	431
SEPT	118	511	629	37	81	276	235	316	313	10	73	120	203	509	107	402
TOTAL	882	5,516	6,398	273	609	2,979	2,537	3,146	3,252	49	488	1,966	2,503	5,600	1,150	4,450

- 1/ Agricultural water use is divided with 31% used inside the SMRW and 69% used outside the SMRW.
- 2/ Camp Supply water use is divided with 54% used inside the SMRW and 46% used outside the SMRW.
- 3/ Assumes no losses
- 4/ Reclaimed use for irrigation of golf course, landscaping and park areas.
- 5/ All wastewater treated at Southern Regional Tertiary Treatment Plant (SRTTP) beginning December 2008.
- 6/ Agriculture and Camp Supply use outside the SMRW, reclaimed use outside the SMRW, plus export to Oceanside Outfall
- 7/ Percent Camp Supply reclaimed estimated as 2,503 AF divided by 5,516 AF equals 45.38%. Wastewater returns estimated as 45.38% of Camp Supply use outside of SMRW

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-9

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION			USE				WASTEWATER
	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL/ DOMESTIC	LOSS 2/	TOTAL USE	EXPORTED
2008								
OCT	0.0	7.3	7.3	0.0	6.6	0.7	7.3	1.2
NOV	0.0	6.4	6.4	0.0	5.8	0.6	6.4	0.9
DEC	0.0	8.9	8.9	0.0	8.1	0.8	8.9	1.1
2009								
JAN	0.0	3.9	3.9	0.0	3.5	0.4	3.9	0.4
FEB	0.0	5.2	5.2	0.0	4.7	0.5	5.2	0.8
MAR	0.0	5.9	5.9	0.0	5.4	0.5	5.9	0.8
APR	0.0	5.5	5.5	0.0	5.0	0.5	5.5	0.6
MAY	0.0	4.6	4.6	0.0	4.2	0.4	4.6	0.9
JUNE	0.0	6.6	6.6	0.0	6.0	0.6	6.6	1.2
JULY	0.0	7.6	7.6	0.0	6.9	0.7	7.6	1.5
AUG	0.0	5.8	5.8	0.0	5.3	0.5	5.8	1.2
SEPT	0.0	5.9	5.9	0.0	5.4	0.5	5.9	1.5
TOTAL	0.0	73.6	73.6	0.0	66.9	6.7	73.6	12.0

1/ - Import via Fallbrook Public Utility District

2/ - Loss = 10% of Use

WATERMASTER
 SANTA MARGARITA RIVER WATERSHED

TABLE A-10

**SANTA MARGARITA RIVER WATERSHED
 MONTHLY WATER PRODUCTION AND USE**

**WESTERN MUNICIPAL WATER DISTRICT
 MURRIETA DIVISION**

2008-09

Quantities in Acre Feet

MONTH YEAR	PRODUCTION			USE					
	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE
2008									
OCT	78	174	252	42	19	168	229	23	252
NOV	83	177	260	42	24	180	246	14	260
DEC	59	104	163	20	15	95	130	33	163
2009									
JAN	35	71	106	10	14	75	99	7	106
FEB	55	79	134	13	14	85	112	22	134
MAR	48	49	97	12	16	86	114	(17)	97
APR	83	104	187	28	16	125	169	18	187
MAY	82	150	232	35	17	159	211	21	232
JUNE	84	170	254	45	21	184	250	4	254
JULY	84	174	258	43	19	168	230	28	258
AUG	87	207	294	60	25	228	313	(19)	294
SEPT	83	195	278	46	19	170	235	43	278
TOTAL	861	1,654	2,515	396	219	1,723	2,338	177	2,515

* Loss = Total production less total delivered

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE A-11

SANTA MARGARITA RIVER WATERSHED
MISCELLANEOUS WATER PRODUCTION AND IMPORTS

2008-09

Quantities in Acre Feet

MONTH YEAR	IMPORT		PRODUCTION				
	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
2008							
OCT	4.90	N/A	8.70	N/A	37.63	2.61	7.17
NOV	4.40	N/A	4.08	N/A	10.16	1.23	5.55
DEC	3.10	N/A	3.45	N/A	1.32	0.86	4.67
2009							
JAN	3.30	N/A	3.21	N/A	15.10	0.68	4.50
FEB	2.60	N/A	3.25	N/A	2.82	0.64	3.21
MAR	4.00	N/A	4.53	N/A	16.33	0.68	5.10
APR	3.70	N/A	3.89	N/A	32.85	0.74	4.71
MAY	4.50	N/A	8.31	N/A	39.21	2.26	6.00
JUNE	4.00	N/A	7.04	N/A	62.39	3.04	5.82
JULY	6.20	N/A	8.33	N/A	50.82	3.49	7.96
AUG	4.40	N/A	4.56	N/A	50.69	4.61	6.73
SEPT	5.80	N/A	3.51	N/A	28.19	4.52	6.44
SUBTOTAL			62.86 429.40 *	15.00 8.30 *			
TOTAL	50.90	34.13 **	492.26	23.30	347.51	25.36	67.86

N/A Monthly readings not available

* Estimated non-metered use

** - Production data not available due to meter malfunction, total amount shown assumed to be same as reported for 2008.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2008-09

APPENDIX B

WATER PRODUCTION AND USE

WATER YEAR 1965-66 TO WATER YEAR 2008-09

September 2010

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

WATER YEAR	PRODUCTION					USE					RECLAIMED WASTEWATER						
	WELLS	IMPORT	EXPORT	NET	TOTAL	AG	COMM	DOM	TOTAL	LOSS	TOTAL	REUSE	REUSE	OTHER	RELEASE	RECHARGE	TOTAL
	1/	FROM	SMRW	IMPORT		2/	3/				4/	SMRW	SMRW	5/	TO RIVER		
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	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	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	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	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	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	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	12,336
2,005	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	14,340
2,006	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	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	14,103
2008	0	18,714	3,762	14,952	14,952	0	0	14,204	14,204	748	14,952	1,450		5,925	6,864	0	14,239
2009	0	16,919	2,447	14,472	14,472	0	0	13,748	13,748	724	14,472	2,615		6,786	5,241	0	14,642

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/ Reuse within watershed includes noted amount of sewage distributed to RCWD for treatment by RCWD, reclaimed wastewater sold to RCWD for delivery to RCWD

reclaimed wastewater customers, and beginning in 2009 reclaimed wastewater sold to the Pechanga Band.

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

6/ Includes 905 AF of sewage diverted to RCWD

7/ Includes 1,159 AF of sewage diverted to RCWD

8/ Includes 1,162 AF of sewage diverted to RCWD

9/ Includes 1,201 AF of sewage diverted to RCWD

10/ Includes 1,219 AF of sewage diverted to RCWD

11/ Includes 1,056 AF of sewage diverted to RCWD

12/ Includes 0 AF of sewage diverted to RCWD

13/ Includes 574 AF of sewage diverted to RCWD

14/ Includes 910 AF of sewage diverted to RCWD

15/ Includes 797 AF of sewage diverted to RCWD

WATERMASTER
 SANTA MARGARITA RIVER WATERSHED

TABLE B-2

SANTA MARGARITA RIVER WATERSHED
 MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Quantities in Acre Feet

WATER YEAR	PRODUCTION			USE					WASTEWATER EXPORTED	
	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS *		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	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
2008	0	9,951	9,951	115	4,149	5,687	9,951	0	9,951	901
2009	0	9,075	9,075	147	2,015	6,913	9,075	0	9,075	1,069

* Assumes no loss

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE B-3

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

WATER YEAR	PRODUCTION									USE					
	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
2008	31	31	0	15,540	3,307	12,233	5,627	8,934	8,965		4,492	3,962	8,454	511	8,965
2009	0	0	0	15,355	2,767	12,588	5,790	8,557	8,557		4,151	3,896	8,047	510	8,557

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)

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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	1,183	29	12	1,142	0	0
2008	1,940	61	1,178	28	11	1,139	0	0
2009	1,900	62	1,187	31	12	1,144	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE B-5

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
DELIVERIES IN DOMENIGONI VALLEY

Quantities in Acre Feet

WATER YEAR	PRODUCTION			USE					
	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
2008	0	493	493	469	0	0	469	24	493
2009	0	465	465	441	0	0	441	24	465

* Construction Water

** Loss = 5%

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE B-6

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION

Quantities in Acre Feet

WATER YEAR	PRODUCTION 1/					USE 2/						
	SURFACE DIVERSION	WELLS ON RESERVATION	DELIVERED GROUNDWATER FROM RCWD	RECLAIMED WASTEWATER FROM EMWD	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	0	58	0	0	58	N/R	N/R	58	
1992	0	66	0	0	66	0	0	66	N/R	N/R	66	
1993	0	91	0	0	91	0	0	91	N/R	N/R	91	
1994	0	70	0	0	70	0	0	70	N/R	N/R	70	
1995	0	63	0	0	63	0	4	59	N/R	N/R	63	
1996	0	145	0	0	145	0	45	100	N/R	N/R	145	
1997	4	167	0	0	171	0	25	146	N/R	N/R	171	
1998	4	175	0	0	179	0	62	117	N/R	N/R	179	
1999	4	241	0	0	245	33	84	128	N/R	N/R	245	
2000	4	370	0	0	374	51	182	141	N/R	N/R	374	
2001	4	291	0	0	295	56	85	154	N/R	N/R	295	
2002	4	460	0	0	464	73	194	174	441	23	464	
2003	4	600	0	0	604	78	354	148	580	24	604	
2004	4	721	0	0	725	81	537	71	689	36	725	
2005	0	608	0	0	608	140	401	61	602	6	608	
2006	0	754	0	0	754	159	401	194	N/R	N/R	754	
2007	0	919	154	0	1,073	275	517	229	1,021	52	1,073	
2008	0	865	412	0	1,277	599	370	282	1,251	26	1,277	
2009	0	702	250	268	1,220	548	441	195	1,184	36	1,220	

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.

For 2008, 2009 loss determined as Total Production less Total Delivered

N/R--Not reported.

TABLE B-7

**SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE**

RAINBOW MUNICIPAL WATER DISTRICT

Quantities in Acre Feet

WATER YEAR	PRODUCTION			USE				
	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
2008	0	24,390	1,790	1,461	167	1,628	162	1,790
2009	0	27,075	1,852	1,463	220	1,683	169	1,852

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

YEAR	PRODUCTION				USE				VAIL		RECLAIMED WASTEWATER								
	WELLS	EXPORT 1/	NET WELLS	IMPORT 2/	EXPORT 2/	NET IMPORT	TOTAL	AG DOM	AG/ DOM	COMM DOM	SMR RELEASE	IMPORT TO STORAGE	TOTAL USE	LOSS 3/	TOTAL	RELEASE AND RECHARGE	IRRIGATION 4/	REUSE IN SMRW	MURRIETA CREEK DISCHARGE 5/
1966							0										185		
1967	4,288					0	4,288										1,136		
1968	5,100					0	5,100										398		
1969	3,617					0	3,617										697		
1970	6,721					0	6,721										540		
1971	7,960					0	7,960										1,541		
1972	8,369					0	8,369										203		
1973	7,726					0	7,726										524		
1974	10,163					0	10,163										1,066		
1975	10,357					0	10,357										369		
1976	11,809			119		0	11,928										50		
1977	11,809			1,845		0	12,654										0		
1978	8,930			5,774		0	14,704										0		
1979	11,371			7,009		0	18,380										0		
1980	12,621			10,126		0	22,747								10,944		0		
1981	15,612			15,282		0	30,894								6,802		0		
1982	12,631			13,378		0	26,009								6,056		0		
1983	16,675	6/		5,752		0	22,427								12,113		715		
1984	25,660			6,716		0	32,376								6,612		1,144		
1985	24,373			7,156		0	31,531								5,027		1,201		
1986	26,987			11,174		0	38,171								8,722		1,053		
1987	33,735			7,564		0	41,299								8,089		273		
1988	21,367			17,854		0	39,221								4,844		0		
1989	26,131			22,895		0	49,026		25,333		3,316	13,198	42,699	6,327	49,026		0		
1990	33,241			22,030		0	55,271		27,643		3,940	14,916	47,401	7,870	55,271		0		
1991	26,503			21,238		0	47,741		32,924		2,941	10,603	47,253	488	47,741		0		
1992	29,968			16,931		0	46,899		30,651		2,406	9,672	43,412	3,487	46,899		0		
1993	31,029			11,411		0	42,440		29,265		2,141	10,618	42,543	(103)	42,440		0		
1994	32,725			16,386		0	49,111		32,584		2,322	12,370	47,693	1,418	49,111		0		
1995	33,111			15,108		0	48,219		31,081		2,752	16,330	48,850	(631)	48,219		0		
1996	36,086			23,600		0	59,686		35,912		3,350	18,635	57,143	2,543	59,686		0		
1997	26,992			26,992		0	53,984		38,287		2,978	2,149	56,166	(2,442)	53,717		0		
1998	26,851			19,584		0	46,435		28,307		2,805	16,273	47,844	(1,409)	46,435		0		
1999	30,598			34,490		0	65,088		37,157		3,674	19,610	63,771	1,317	65,088		0		
2000	27,938			55,409		0	83,347		40,672		1,044	2,286	86,031	1,317	87,348		0		
2001	26,421			41,823		0	68,244		30,383		1,067	79,031	4,316	4,316	83,347		0		
2002	24,895			54,148		0	79,043		35,747		514	64,715	3,529	(361)	68,244		0		
2003	25,238		64	50,927		183	75,918		30,277		4,896	2,750	73,069	2,849	75,918		0		
2004	25,353		312	63,170		762	87,449		33,467		3,201	5,094	81,508	5,941	87,449		0		
2005	27,606		319	27,287		578	74,901		25,819		3,384	5,162	70,894	4,007	74,901		0		
2006	27,559		317	27,242		725	60,811		30,888		4,923	6,163	67,974	(1,269)	66,705		0		
2007	27,645		364	64,792		974	91,099		34,810		3,859	2,247	84,848	6,251	91,099		0		
2008	26,239		361	25,878		770	76,561		26,388		4,092	1,417	74,062	2,489	76,561		0		
2009	27,820		367	27,453		718	50,270		26,811		5,302	2,357	74,921	2,802	77,723		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.

5/ Figures from 1966 to 1972 supplied by USGS; 1973 to 2002 supplied by RCWD.

6/ 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 EIMWD reclaimed wastewater production

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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

WATER YEAR	PRODUCTION			USE						RECLAIMED WASTEWATER			NET EXPORT	
	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE		CAMP SUPPLY		TOTAL EXPORT	TOTAL IN SMRW	RECLAIMED USE IN SMRW	USE OUT SMRW	EXPORTED TO OCEANSIDE OUTFALL		TOTAL
				IN SMRW	OUT SMRW	IN SMRW	OUT SMRW							
1966	1,101	4,605	5,706	429	672	2,026	2,579	3,251	2,455	1,893			1,893	
1967	796	4,811	5,607	310	486	2,117	2,694	3,180	2,427	2,156			2,156	
1968	986	4,939	5,925	385	601	2,172	2,767	3,368	2,557	2,080			2,080	
1969	940	4,821	5,761	367	573	2,058	2,763	3,276	2,485	2,189			2,189	
1970	1,106	5,481	6,587	431	675	2,347	3,134	3,809	2,778	2,145			2,145	
1971	819	5,291	6,110	319	500	2,264	3,028	3,527	2,583	2,011			2,011	
1972	817	5,323	6,140	319	498	2,278	3,045	3,543	2,597	2,068			2,068	
1973	1,003	5,121	6,124	391	612	2,189	2,932	3,544	2,580	2,137			2,137	
1974	909	5,202	6,111	355	554	2,224	2,978	3,532	2,579	2,055			2,055	
1975	757	4,593	5,350	295	462	1,957	2,636	3,098	2,252	2,519			2,519	
1976	885	5,384	6,269	345	540	2,305	3,079	3,619	2,650	2,447			2,447	
1977	994	4,506	5,500	388	606	1,918	2,588	3,194	2,306	2,358			2,358	
1978	176	5,177	5,353	69	107	2,213	2,964	3,071	2,282	2,446			2,446	
1979	1,070	7,213	8,283	417	653	3,109	4,104	4,756	3,527	2,493			2,493	
1980	835	5,495	6,330	326	509	2,353	3,142	3,651	2,679	2,506			2,506	
1981	1,464	5,240	6,704	571	893	2,241	2,999	3,892	2,812	2,368			2,368	
1982	1,447	5,024	6,471	564	883	2,146	2,878	3,761	2,710	2,254			2,254	
1983	942	4,215	5,157	367	575	1,790	2,425	3,000	2,157	2,494			2,494	
1984	1,078	4,501	5,579	420	658	1,916	2,585	3,243	2,336	2,443			2,443	
1985	1,069	4,764	5,833	417	652	2,039	2,725	3,377	2,456	2,619			2,619	
1986	953	4,807	5,760	372	581	2,062	2,745	3,326	2,434	2,240			2,240	
1987	1,098	4,838	5,936	428	670	2,064	2,774	3,444	2,492	3,166			3,166	
1988	1,223	4,721	5,944	477	746	2,010	2,711	3,457	2,487	3,396			3,396	
1989	856	5,044	5,900	334	522	2,148	2,896	3,418	2,482	2,747			2,747	
1990	855	4,228	5,083	333	522	1,779	2,449	2,971	2,112	2,728			2,728	
1991	554	3,159	3,713	216	338	1,329	1,830	2,168	1,545	2,289	362		2,651	
1992	898	3,254	4,152	350	548	1,376	1,878	2,426	1,726	2,481	279		2,760	
1993	1,067	2,879	3,946	416	651	1,201	1,678	2,329	1,617	2,975	205		3,180	
1994	1,471	3,150	4,621	574	897	1,345	1,805	2,702	1,919	2,535	279		2,814	
1995	985	3,768	4,753	384	601	1,588	2,180	2,781	1,972	2,453	280		2,733	
1996	1,000	5,199	6,199	390	610	2,232	2,967	3,577	2,622	2,444	330		2,774	
1997	1,066	5,238	6,304	416	650	2,244	2,994	3,644	2,660	2,920	509		3,429	
1998	1,026	5,468	6,494	400	626	2,352	3,116	3,742	2,752	3,008	222		3,230	
1999	1,064	5,054	6,118	415	649	2,145	2,909	3,558	2,560	3,023	205		3,228	
2000	1,296	5,765	7,061	506	790	2,483	3,282	4,072	2,989	3,152	411		3,563	
2001	1,025	5,341	6,366	399	626	2,314	3,027	3,653	2,713	3,140	454		3,594	
2002	1,184	5,269	6,453	462	722	2,290	2,979	3,701	2,752	2,900	469		3,369	
2003	1,270	5,210	6,480	495	775	2,218	2,992	3,767	2,713	2,687	415		3,102	
2004	1,227	5,538	6,765	479	748	2,396	3,142	3,890	2,875	0	444	2,544	2,988	
2005	1,317	4,902	6,219	514	803	2,134	2,768	3,571	2,648	0	489	2,526	3,015	
2006	1,530	5,311	6,841	597	933	2,301	3,010	3,943	2,898	0	449	2,298	2,747	
2007	1,385	5,850	7,235	540	845	2,535	3,315	4,160	3,075	0	416	2,309	2,725	
2008	1,606	5,315	6,921	579	1,027	2,603	2,712	3,739	3,182	0	357	2,430	2,787	
2009	882	5,516	6,398	273	609	2,979	2,537	3,146	3,252	49	488	1,966	2,503	
														4,450

1/ For years 1966 - 2007 agricultural water use is divided with 39% used inside SMRW and 61% used outside SMRW, thereafter proportions are provided by Camp Pendleton.

2/ Prior to 1969 44% used inside the SMRW and 56% used outside the SMRW. For 1969 - 2007 Camp Supply water use inside SMRW equals 44% of sum of Camp.

Supply production plus Naval Weapons Station Import, less the NWS Import. Annual proportions provided by Camp Pendleton beginning 2008.

3/ Assumes no losses.

4/ For years 1966 - 2003 reclaimed use inside SMRW reported as recharged wastewater from ponds and recharge areas.

See prior reports from 2008 and earlier for additional information.

5/ Reclaimed use for irrigation of golf course, landscaping and park areas.

6/ All wastewater treated at Southern Regional Tertiary Treatment Plant (SRTTP) beginning 2008.

7/ Net Export equals the sum of Agriculture Out, Camp Supply Out, Reclaimed Out and export to Oceanside Outfall, minus wastewater return, as shown on Table A-8.

TABLE B-10

SANTA MARGARITA RIVER WATERSHED
 ANNUAL WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

Quantities in Acre Feet

WATER YEAR	PRODUCTION			USE				WASTEWATER
	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
2008	0	82	82	0	75	7	82	11
2009	0	74	74	0	67	7	74	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

WATER YEAR	PRODUCTION			USE					
	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
2008	210	2,180	2,390	408	251	1,827	2,486	(96)	2,390
2009	861	1,654	2,515	396	219	1,723	2,338	177	2,515

* Loss = Total production less total delivered

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE B-12

SANTA MARGARITA RIVER WATERSHED
MISCELLANEOUS WATER PRODUCTION AND IMPORTS

Quantities in Acre Feet

YEAR	IMPORT	PRODUCTION					
	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
2008	53.90	34.13	483.69	23.30	334.31	21.56	65.50
2009	50.90	34.13	492.26	23.30	347.51	25.36	67.86

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATERMASTER REPORT
WATER YEAR 2008-09

APPENDIX C
SUBSTANTIAL USERS OUTSIDE
ORGANIZED WATER SERVICE AREAS

September 2010

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA (Cont)								
Harris, Homer N. and Dolores G.	44444 Sage Road Aguanga, CA 92536	581-160-014	17.73	Total Of		8S/1E-18J(1)		
		581-160-015	7.42	17.00	Citrus & Grass	8S/1E-18J(2)		
		581-150-009	7.00	10.00	Fruit			
		581-180-022	30.00	6.00	Fruit	8S/1E-18H(1)	14.06	
		581-180-004	20.00	0.00		8S/1E-18H(2)	0.00	
		581-180-020	20.00	0.00				
		581-180-021	2.15	0.00		8S/1E-17M	30.47	
Valeywide Recreation and Parks District	901 W. Esplanade Ave San Jacinto, CA 92582	581-170-009	7.82	7.82	Grass	8S/1E-17E Used 8S/1E-17E owned by Harris	22.36	
Wilson Creek Farms	Sage Road Aguanga, CA 92536 m/t P. O. Box 2921 Hemet, CA 92546	581-170-012	190.40			8S/1E-17B	200.00	
		581-170-013	99.63	50.00	Row Crops			
		581-180-005	2.76					
		581-180-009	120.00	110.00	Row Crops			
		581-190-013	280.00					
Wilson Creek Development LLC	Sage Road Aguanga, CA 92536 m/t P. O. Box 2921 Hemet, CA 92546	581-190-014	40.00					
		581-070-002	160.00					
		581-070-005	640.00			8S/1E-9Q		350.00
		581-100-013	80.00					
		581-100-019	30.00					
		581-100-020	10.00					
		581-100-022	20.00					
		581-100-038	9.53					
581-100-039	9.23							
		581-100-040	8.91					
TOTAL AGUANGA GROUNDWATER AREA				570.27			1,910.89	600.00

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 2008-09	IRRIGATED CROP 2008-09	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	95.00	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	1.30	
						9S/2E-16M	108.00	
						9S/2E-16F1	22.00	
						9S/2E-16N1	93.00	
						9S/2E-16F2	0.00	
						9S/2E-16K - Diversion	0.00	
						113-140-04	503.24	
						113-140-05	45.09	
						113-140-06	93.94	
		114-020-09	37.16					
		114-030-08	331.79	9S/2E-22	0.00			
		114-030-26	42.87					
* Land leased from Arlie W. and Coral R. Bergman	37126 Hwy 79 Warner Springs, CA 92086	113-140-01 *	358.62	73.00	Potatoes	9S/2E-16B(1)	155.00	
						9S/2E-16B(2)	0.00	
		113-140-02 *	38.75			9S/2E-16G	0.00	
<hr/>								
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
<hr/>								
Lovingier Family Trust	35490 Highway 79 Warner Springs, CA 92086	114-120-042	78.41	Total of 	Pasture	9S/2E-35D1		
						9S/2E-35D1		
		114-070-007	76.42			9S/2E-27R1	Total of 415.42	
						9S/2E-27R2		
		114-080-014	42.51			9S/2E-27J		
		114-080-013	21.30	109.32				
<hr/>								
TOTAL TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA				297.32			832.72	38.00

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
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WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA
ANZA VALLEY

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	100.00	
Section 13	575-100-037	57.80	0.00				
Section 14	575-110-021	143.75	0.00		7S/3E-14D1	38.00	
	575-110-027	54.45	0.00				
	575-310-002	39.09	0.00		7S/3E-14C2	243.00	
	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				
	575-090-010	38.80	0.00				
Section 17	573-180-011	39.74	0.00				
Section 20	576-060-009	Total	Total				
	576-060-031						
	576-060-033	79.45					
	576-060-038	5.41	of				
	576-070-003	80.00					
	576-070-005	116.57	180.00	Potato			

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
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WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA
 ANZA VALLEY (Cont)

Agri-Empire, Inc. (Cont)

Section 21	576-100-061	37.71	0.00					
Section 22	576-100-061	37.71	0.00					
	576-110-001	160.00	38.00	Potato				
	576-110-002	28.00	0.00					
	576-110-004	50.00	0.00					
	576-110-006	19.29	0.00			7S/3E-21R3	156.00	
	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	70.00	Potato				
	575-130-008	18.56	0.00					
	575-130-009	20.06	0.00					
	575-130-010	20.07	0.00					
	575-130-011	19.19	0.00					
	575-130-012	18.18	0.00					
	575-130-013	19.02	0.00					
	575-130-014	19.00	0.00					
	575-130-015	17.58	0.00					
	575-120-018	20.45	0.00					
	575-120-019	20.45	0.00					
	575-120-032	4.69	0.00					
	575-120-033	4.68	0.00					
	575-120-034	4.68	0.00					
	575-120-035	4.28	0.00					
Section 23	575-140-019	105.04	60.00	Potato				

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
MURRIETA-TEMECULA GROUNDWATER AREA								
Louidar	c/o McMillan Farm Mgt.	943-040-011	20.00	18.00	Citrus	7S/2W-28L	248.00	
	29379 Rancho Cal. Rd	943-060-010	94.49	89.00	Citrus			
	#201	943-060-011	26.50	29.00	Citrus			
	Temecula, CA 92390							
Anza Grove	c/o McMillan Farm Mgt.	942-180-002	40.28	Total				
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	233.00	
Vail Lake USA LLC	29400 Rancho Cal. Road	917-240-019	54.13	0.00				
Mendoza, Bertha	Temecula, CA 92593	917-240-015	20.00	0.00				
		917-150-006	120.00	110.00	Citrus	8S/1W-21K(1)	262.00	
	38695 Highway 79			0.00		8S/1W-21K(2)		
	Warner Springs, CA 92086					8S/1W-21P(1)		
						8S/1W-21P(2)		
James A. and Maggie Carter Living Trust	Highway 79 S Temecula, CA	943-230-001	109.34	75.00	Grapes	8S/1W-25Q	0.00	
	m/t P. O. Box 28739	917-250-004	80.00	Total		8S/1W-25P	29.00	
	Santa Ana, CA 92799-8739	917-250-005	80.00	of		8S/1W-25N(1)Spring 3		0.00
		917-250-007	240.00		Grapes	8S/1W-36K Spring 4		0.00
				220.00		8S/1W-36H Spring 6		0.00
						8S/1W-36K(1)	60.00	
						8S/1W-36K(2)	58.00	
						8S/1W-36K(3)	92.00	
						8S/1W-36L - Stream Diversion		145.00

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
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MURRIETA-TEMECULA GROUNDWATER AREA (Cont)

Regency Properties	44051 Rainbow Cyn Rd.	922-220-002	86.11	Total		8S/2W-19(D)	304.71	
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. and Carol J.	25471 Hayes Ave Murrieta, CA 92362	909-260-036 909-260-042	8.87 4.31	7.00 3.50	Pasture Pasture	7S/3W-29G	39.90	

TOTAL MURRIETA-TEMECULA GROUNDWATER AREA **856.50** **1,326.61** **145.00**

SANTA MARGARITA RIVER BELOW GORGE

DE LUZ CREEK

Ezor, Albert E.	40922 DeLuz Road Fallbrook, CA 92028	101-271-17	47.79	12.00 2.00	Avocados Vegetables	8S/4W-29D(1) 8S/4W-29D(2)	36.80 Total	
Prestininzi, Pete and Dorothy N.	2525 E. Mission Road Fallbrook, CA 92028 Richmond Truck Trail and DeLuz Murrieta Road	101-220-12 101-210-53	31.63 50.44	6.00 12.00	Pasture & Flowers Avocados and Citrus	8S/4W-20A(1) 8S/4W-20H(1) 8S/4W-20H(2) 8S/4W-20A(2) 8S/4W-20H(3) 8S/4W-20A - Diversion	16.00 16.00 14.00 0.00	
Varela, Alfred	41125 DeLuz Rd Fallbrook, CA 92028	101-210-11	15.23	8.50 0.50	Avocados Citrus	8S/4W-20Q(1) 8S/4W-20Q(2)	21.60 Total	

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 2008-09	IRRIGATED CROP 2008-09	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 Fallbrook, CA 92028 m/t 26051 Glen Canyon Dr. Laguna Hills, CA 92653	101-210-12	30.28	10.00 18.00 2.00	Avocados Citrus Row crops	8S/4W-20Q(1) 8S/4W-20Q(2) 8S/4W-20Q(3)	Total of 66.20	
Wagner Family Trust	41128 DeLuz Fallbrook, CA 92028	101-210-23 101-210-22	17.19 4.55	15.00 3.00	Avocados Persimmons	8S/4W-20P(1) 8S/4W-20P(2) 8S/4W-20P(3)	0.00 0.00 39.30	
Chambers, Robert R. and Clytia M.	m/t 11439 Laurelcrest Dr. Studio City, CA 91604 40888 DeLuz-Murrieta Rd.	101-571-03 102-130-42	41.72 73.14	20.00 5.00 20.00	Flowers Fruit Flowers	8S/4W-28A 8S/4W-28A - Diversion 9S/4W-9B(1)* 9S/4W-9B(2)* 9S/4W-9B(3)*	55.00 32.00 1.00 33.00	7.00
* Well located in bedrock complex and outside the Court's jurisdiction								
Welburn, Douglas J. and Sue	40787 DeLuz Murrieta Rd. Fallbrook, CA 92028 40751 DeLuz Murrieta Rd	101-571-08	26.98	8.00 1.50	Gourds/Melons Fruit Trees	8S/4W-28G1	35.00	
Nezami, Mohammed Bluebird Ranch	2193 Calle Rociada Fallbrook, CA m/t P. O. Box 1089 Fallbrook, CA 92088	101-312-02 101-312-01	58.17 82.29	45.00 5.00 42.00	Flowers Avocados Flowers	8S/4W-31K(1) 8S/4W-31K(2) 8S/4W-31K(3) 8S/4W-31L 8S/4W-31L - Diversion	Total of 162.18	31.48
Vanginkel, Norman and Deborah	39452 DeLuz Road Fallbrook, CA 92028 m/t 20664 Calle De La Ladera Yorba Linda, CA 92887	101-312-03 102-052-04 102-731-02	80.00 22.04 4.26	25.00 10.00	Nursery Stock Avocados	8S/4W-31J(2) 8S/4W-31J(3) 8S/4W-31J(4) 8S/4W-31J(5)	20.00 2.00 60.00 0.00	
Rose Family 1985 Trust	William and Joanne Rose 39985 Daily Road Fallbrook, CA 92028	101-430-27 101-430-30	2.73 16.39	Total of 7.00	Avocados			
Ross Lake LLC		101-500-01 101-480-14	16.62 13.20	7.00 6.00 3.00	Limes Persimmons Flowers	8S/4W-34- Lake Diversion		7.00
SUBTOTAL DELUZ CREEK				293.50			610.08	45.48

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
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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		9.00
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SUBTOTAL SANDIA CREEK

55.00

0.00

9.00

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	918-040-11 918-060-17	120.00 40.00	5.00 14.00	Citrus Avocados	8S/3W-33Q1 8S/3W-33Q(2) 8S/3W-33Q - Diversion	4.31 0.00	43.10
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SUBTOTAL SANTA MARGARITA RIVER

19.00

4.31

43.10

TOTAL SANTA MARGARITA RIVER BELOW GORGE

367.50

614.39

97.58

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 2008-09	IRRIGATED CROP 2008-09	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
LOWER MURRIETA								
Ronnenberg Family Trust	c/o Cliff Ronnenberg 11292 Western Avenue Stanton, CA 90680	571-020-046	81.09	0.00				
		571-020-047	40.80	0.00				
		571-020-048	36.75	0.00				
(Sage Ranch Nursery)	42522 E. Benton Rd. Aguanga, CA	571-020-049	148.86	0.00		7S/1E-7D	5.50	
		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. Temecula, CA 92390 m/t 12881 Bradley Avenue Sylmar, CA 91342	915-120-18	37.74	10.00	Pasture	7S/1W-10R(1) 7S/1W-10R(2) 7S/1W-10R(3) 7S/1W-10R(4) 7S/1W-10R(5) 7S/1W-10R(6) 7S/1W-10R(7)	Total of 38.00 Domestic	
TOTAL LOWER MURRIETA				410.00			43.50	100.00
GRAND TOTAL				2,899.59			5,604.11	986.18
GRAND TOTAL Not including Cahuilla Indian Reservation				2,899.59			5,561.11	980.58

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATERMASTER REPORT
WATER YEAR 2008-09

APPENDIX D
WATER QUALITY DATA

September 2010

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 7S/3W-20C09	06/16/89	1300	775	122	39	100	2	178	66	372	40	
	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) 7S/3W-20C09	12/03/99	---	---	---	---	---	---	---	---	---	---	32
	07/12/00	---	---	---	---	---	---	---	---	---	---	21
	08/04/00	1290	790	110	36	99	---	180	110	320	---	21
	10/24/01	---	---	---	---	---	---	---	---	---	---	17
	03/06/02	---	---	---	---	---	---	---	---	---	---	15
	07/11/02	---	780	---	---	---	---	---	---	---	310	---
	10/03/03	---	800	113	---	---	---	---	---	---	332	---
	04/21/04	---	---	---	---	---	---	---	---	---	---	11
	01/27/05	---	980	160	47	---	---	---	---	---	440	---
	03/30/05	---	---	---	---	---	---	---	---	---	---	35
	01/26/06	---	1700	1000	160	48	130	1.6	240	130	---	46
	01/30/06	---	---	---	---	---	---	---	---	---	---	49
	House Well 7S/3W-20G06	06/16/89	660	345	34	3	95	2	87	60	153	---
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) 7S/3W-20G06	12/30/97	---	---	---	---	---	---	---	---	---	---	<2
	03/18/98	---	---	---	---	---	---	---	---	---	---	<2
	04/15/98	660	360	30	3	94	1	91	62	130	---	<2
	06/10/98	---	---	---	---	---	---	---	---	---	---	<2
	10/01/98	---	---	---	---	---	---	---	---	---	---	<2
	12/23/98	---	---	---	---	---	---	---	---	---	---	<2
	02/17/99	---	---	---	---	---	---	---	---	---	---	<2
	03/17/99	---	---	---	---	---	---	---	---	---	---	<2
	06/09/99	---	---	---	---	---	---	---	---	---	---	<2
	09/01/99	---	---	---	---	---	---	---	---	---	---	<2
	12/22/99	---	---	---	---	---	---	---	---	---	---	ND
	03/15/00	640	370	29	3	92	2	82	61	130	---	<2
	06/07/00	---	---	---	---	---	---	---	---	---	---	<2
	09/27/00	---	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	---	<2
	03/06/02	---	---	---	---	---	---	---	---	---	---	<2
	07/11/02	---	---	440	---	---	---	---	---	---	170	---
10/03/03	630	380	34	3	103	---	87	---	140	---	ND	
04/21/04	---	---	---	---	---	---	---	---	---	---	---	<2
South Well 7S/3W-20D	09/07/90	690	405	62	17	68	2	83	56	229	---	4
	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) 7S/3W-20D	03/11/98	---	---	---	---	---	---	---	---	---	---	<2
	04/08/98	820	500	73	18	67	2	92	73	250	3	
	06/03/98	---	---	---	---	---	---	---	---	---	---	3
	10/01/98	---	---	---	---	---	---	---	---	---	---	3
	12/16/98	---	---	---	---	---	---	---	---	---	---	2
	03/10/98	---	---	---	---	---	---	---	---	---	---	2
	06/09/99	---	---	---	---	---	---	---	---	---	---	2
	09/22/99	---	---	---	---	---	---	---	---	---	---	<2
	12/15/99	---	---	---	---	---	---	---	---	---	---	ND
	02/09/00	810	460	55	14	84	1	99	63	210	<2	
	05/03/00	---	---	---	---	---	---	---	---	---	---	<2
	08/04/00	780	440	47	9	100	---	99	48	210	<2	
	08/23/00	---	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	---	<2
	03/20/02	---	---	---	---	---	---	---	---	---	---	4
	07/11/02	---	---	460	---	---	---	---	---	---	180	---
	10/03/03	---	---	460	59	---	---	---	---	---	207	---
	04/21/04	---	---	---	---	---	---	---	---	---	---	<2
	01/27/05	---	---	610	110	28	---	---	---	---	300	---
	03/30/05	---	---	---	---	---	---	---	---	---	---	5
	01/26/06	800	440	42	9.1	110	1.2	120	65	---	---	1.2
	04/12/06	---	---	---	---	---	---	---	---	---	---	6.1
	05/10/06	---	---	---	---	---	---	---	---	---	---	1.6
	06/14/06	---	---	---	---	---	---	---	---	---	---	1.4
	07/12/06	---	---	---	---	---	---	---	---	---	---	<1
	08/09/06	---	---	---	---	---	---	---	---	---	---	1.4
	09/13/06	---	---	---	---	---	---	---	---	---	---	1.5
	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
South Well (Cont) 7S/3W-20D	11/14/07	---	---	---	---	---	---	---	---	---	1.4
	12/04/07	---	---	---	---	---	---	---	---	---	1.2
	01/24/08	---	---	---	---	---	---	---	---	---	4.6
	03/26/08	---	---	---	---	---	---	---	---	---	3.9
	04/23/08	---	---	---	---	---	---	---	---	---	4.1
	06/09/08	---	---	---	---	---	---	---	---	---	4.1
	07/14/08	---	---	---	---	---	---	---	---	---	5.1
	09/08/08	---	---	---	---	---	---	---	---	---	4.9
	01/19/09	---	---	---	---	---	---	---	---	---	6.7
North Well 7S/3W-18J02	06/16/89	730	390	40	7	98	2	98	45	201	<1
	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

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) 7S/3W-18J02	10/24/01	---	---	---	---	---	---	---	---	---	<2	
	03/06/02	---	---	---	---	---	---	---	---	---	<2	
	07/11/02	---	420	---	---	---	---	---	---	180	---	
	10/03/03	---	440	53	---	---	---	---	---	---	---	
	04/21/04	---	---	---	---	---	---	---	---	---	<2	
	01/27/05	---	440	59	10	---	---	---	---	---	230	---
	03/30/05	---	---	---	---	---	---	---	---	---	---	<2
	01/26/06	---	820	450	60	11	96	2	120	52	---	1
	05/10/06	---	---	---	---	---	---	---	---	---	---	<1
	07/19/06	---	---	---	---	---	---	---	---	---	---	<1
	08/16/06	---	---	---	---	---	---	---	---	---	---	<1
	09/20/06	---	---	---	---	---	---	---	---	---	---	<1
	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
	12/04/07	---	---	---	---	---	---	---	---	---	---	1.5
	01/24/08	---	---	---	---	---	---	---	---	---	---	1.8
	03/26/08	---	---	---	---	---	---	---	---	---	---	2.5
	04/23/08	---	---	---	---	---	---	---	---	---	---	2.0
	05/19/08	---	---	---	---	---	---	---	---	---	---	2.2
	06/16/08	---	---	---	---	---	---	---	---	---	---	2.1
	07/21/08	---	---	---	---	---	---	---	---	---	---	<2
	09/15/08	---	---	---	---	---	---	---	---	---	---	2.0
	01/19/09	---	---	---	---	---	---	---	---	---	---	1
	02/23/09	---	---	---	---	---	---	---	---	---	---	<2
03/16/09	---	---	---	---	---	---	---	---	---	---	<2	
04/20/09	---	---	---	---	---	---	---	---	---	---	<2	
05/18/09	---	---	---	---	---	---	---	---	---	---	<2	
06/02/09	---	830	470	54	11	92	1.6	100	54	230	<2	
06/08/09	---	830	410	57	10	89	1.6	110	54	230	<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) 7S/3W-18J02	06/15/09	---	---	---	---	---	---	---	---	---	<1	
	07/07/09	870	490	51	9.8	87	1.5	110	56	220	---	
	07/20/09	830	460	54	10	90	1.7	110	52	220	<2	
	08/03/09	820	480	49	9.4	82	1.4	120	49	220	<2	
	08/25/09	---	---	---	---	---	---	---	---	---	1.2	
	09/08/09	800	460	55	11	97	1.7	120	52	220	<2	
	09/21/09	---	---	---	---	---	---	---	---	---	1.1	
New Clay Well 7S/3W-20	03/09/04	480	340	23	1	87	1	79	64	98	<2	
	01/26/06	590	310	20	1.2	93	1.2	85	57	---	<1	
	01/31/06	---	---	---	---	---	---	---	---	---	7.2	
	01/31/06	---	---	---	---	---	---	---	---	---	6.9	
	04/04/06	---	---	---	---	---	---	---	---	---	<1	
	04/12/06	---	---	---	---	---	---	---	---	---	<1	
	05/10/06	---	---	---	---	---	---	---	---	---	<1	
	06/07/06	---	---	---	---	---	---	---	---	---	<1	
	07/05/06	---	---	---	---	---	---	---	---	---	<1	
	08/02/06	---	---	---	---	---	---	---	---	---	<1	
	09/06/06	---	---	---	---	---	---	---	---	---	<1	
	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	
	07/05/07	---	---	---	---	---	---	---	---	---	<2	
	08/01/07	---	---	---	---	---	---	---	---	---	<2	
	08/15/07	---	510	270	13	<1	91	1	65	50	83	<2
	09/05/07	---	---	---	---	---	---	---	---	---	---	<2
	12/04/07	---	---	---	---	---	---	---	---	---	---	<2
	03/26/08	---	---	---	---	---	---	---	---	---	---	<1
	04/23/08	---	---	---	---	---	---	---	---	---	---	<1
	05/05/08	---	---	---	---	---	---	---	---	---	---	<1
	06/02/08	---	---	---	---	---	---	---	---	---	---	<1
	07/07/08	---	---	---	---	---	---	---	---	---	---	<1
09/02/08	---	---	---	---	---	---	---	---	---	---	<2	
12/04/07	---	---	---	---	---	---	---	---	---	---	<2	
03/26/08	---	---	---	---	---	---	---	---	---	---	<1	
04/23/08	---	---	---	---	---	---	---	---	---	---	<1	
05/05/08	---	---	---	---	---	---	---	---	---	---	<1	
06/02/08	---	---	---	---	---	---	---	---	---	---	<1	
07/07/08	---	---	---	---	---	---	---	---	---	---	<1	
09/02/08	---	---	---	---	---	---	---	---	---	---	<2	
01/19/09	---	---	---	---	---	---	---	---	---	---	<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
Lynch Well 7S/3W-17R02	06/16/89	760	410	70	17	55	1	86	30	262	8
Morris Well 7S/3W-19R	09/07/90	530	280	38	7	68	3	50	49	168	3
Alson Well 7S/3W-7M	06/06/90	1520	915	138	46	110	1	250	81	433	31
	07/21/98	1260	880	100	37	120	<1	180	92	330	23
	09/09/98	1200	850	110	39	120	<1	180	100	320	23
	05/03/00	---	---	---	---	---	---	---	---	---	20
	05/19/00	1290	800	97	36	110	<1	180	96	330	19
	11/28/01	1290	750	93	33	110	<1	180	96	310	17
	03/06/02	---	---	---	---	---	---	---	---	---	20
	07/01/02	---	650	---	---	---	---	---	---	270	---
	10/03/03	880	550	80	26	95	---	ND	ND	259	ND
	01/27/05	1100	640	100	32	110	---	150	81	320	---
	01/26/06	1500	870	120	41	120	1.2	230	120	---	18
	04/12/06	---	---	---	---	---	---	---	---	---	19
	05/10/06	---	---	---	---	---	---	---	---	---	18
	06/28/06	---	---	---	---	---	---	---	---	---	20
	07/26/06	---	---	---	---	---	---	---	---	---	20
	08/23/06	---	---	---	---	---	---	---	---	---	18
	09/27/06	---	---	---	---	---	---	---	---	---	21
	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 7S/3W-34G1	06/01/88	810	495	76	15	79	8	116	16	314	---
	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
	06/03/08	---	620	---	---	---	---	---	---	---	<2
	08/11/08	1000	550	91	18	110	2.9	150	36	300	<2
	09/09/08	---	620	---	---	---	---	---	---	---	---
	01/08/09	---	840	---	---	---	---	---	---	---	---
06/25/09	---	810	---	---	---	---	---	---	---	<2	
No. 102 8S/3W-2Q1	01/04/89	695	370	9	2	134	1	101	25	195	<1
	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 7S/3W-25M1	07/06/89	500	280	30	6	66	2	71	22	134	14
	03/17/93	480	310	17	2	80	2	67	22	110	14
No. 106 7S/3W-26R1	06/29/88	920	485	38	5	143	3	182	66	70	16
	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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) 7S/3W-26R1	05/01/01	490	300	7	<1	96	<1	70	23	100	8
	07/10/01	---	---	---	---	---	---	---	---	---	12
	07/03/02	---	---	---	---	---	---	---	---	---	8
	07/07/03	---	---	---	---	---	---	---	---	---	6.8
	05/11/04	530	310	9	<1	93	1	80	25	88	8
	07/13/04	---	---	---	---	---	---	---	---	---	8
	07/07/05	---	---	---	---	---	---	---	---	---	6.5
	07/19/06	---	---	---	---	---	---	---	---	---	6.1
	05/02/07	550	290	8.8	<1	91	<1	84	26	85	3.7
	07/03/07	---	---	---	---	---	---	---	---	---	6
	07/07/08	---	370	---	---	---	---	---	---	---	12
	01/13/09	---	440	---	---	---	---	---	---	---	---
	04/16/09	---	310	---	---	---	---	---	---	---	---
	07/01/09	---	340	---	---	---	---	---	---	---	6.8
No. 107 7S/3W-26J1	04/11/88	490	365	19	4	73	2	69	22	116	15
	05/29/91	950	535	63	15	104	3	130	120	171	11
No. 108 7S/3W-25E1	05/25/88	780	455	51	11	96	2	120	68	153	14
	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
	02/13/08	---	---	---	---	---	---	---	---	---	1.4
	08/06/08	---	400	---	---	---	---	---	---	---	---
02/05/09	---	340	---	---	---	---	---	---	---	2.2	
05/08/09	730	380	7.2	<1	130	<1	170	9.4	60	<2.0	
08/05/09	---	370	---	---	---	---	---	---	---	---	
No. 109 8S/2W-17J1	06/01/88	1400	920	136	35	120	4	100	300	296	---
	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

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) 8S/2W-17J1	04/14/99	---	---	---	---	---	---	---	---	---	---	12
	04/11/00	---	---	---	---	---	---	---	---	---	---	13
	06/21/00	1330	870	120	28	130	4	120	280	270	3.2	
	04/10/01	---	---	---	---	---	---	---	---	---	---	13
	06/11/03	1400	970	140	32	130	4	130	340	290	12	
	06/19/03	1400	970	150	32	120	4.2	130	340	290	12	
	01/07/04	---	---	---	---	---	---	---	---	---	---	13
	01/11/05	---	---	---	---	---	---	---	---	---	---	13
	01/04/06	---	---	---	---	---	---	---	---	---	---	12
	07/12/06	1300	930	130	30	130	4.8	130	280	280	12	
	01/10/07	---	---	---	---	---	---	---	---	---	---	13
	01/04/08	---	---	---	---	---	---	---	---	---	---	13
	07/07/08	---	810	---	---	---	---	---	---	---	---	---
	01/13/09	---	860	---	---	---	---	---	---	---	---	16
	04/02/09	---	810	---	---	---	---	---	---	---	---	---
	07/06/09	---	770	---	---	---	---	---	---	---	---	---
No. 110 8S/1W-06K1	03/31/88	1100	630	70	23	132	6	115	163	268	3	
	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	
	03/04/08	980	560	59	21	95	4.6	110	160	190	2.5	
	01/20/09	---	610	---	---	---	---	---	---	---	---	
	04/02/09	---	550	---	---	---	---	---	---	---	---	
07/09/09	---	560	---	---	---	---	---	---	---	---		

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
 WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l								
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3	
No. 113	03/28/88	700	400	41	12	87	2	11	20	192	18	
7S/2W-25H01	03/21/91	570	290	21	5	79	2	88	17	119	11	
	03/03/94	700	410	46	13	86	2	120	25	189	19	
	04/27/95	---	---	---	---	---	---	---	---	---	24	
	03/20/97	880	500	53	15	96	2	140	33	200	22	
	07/20/98	---	---	---	---	---	---	---	---	---	23	
	09/16/98	---	---	---	---	---	---	---	---	---	22	
	02/25/99	---	---	---	---	---	---	---	---	---	19	
	04/14/99	---	---	---	---	---	---	---	---	---	17	
	06/03/99	---	---	---	---	---	---	---	---	---	21	
	09/14/99	---	---	---	---	---	---	---	---	---	22	
	10/21/99	---	---	---	---	---	---	---	---	---	25	
	11/02/99	---	---	---	---	---	---	---	---	---	22	
	12/14/99	---	---	---	---	---	---	---	---	---	23	
	01/11/00	---	---	---	---	---	---	---	---	---	18	
	03/07/00	810	470	75	16	59	2	70	94	200	11	
	04/11/00	---	---	---	---	---	---	---	---	---	---	23
	05/03/00	---	---	---	---	---	---	---	---	---	---	24
	06/21/00	---	---	---	---	---	---	---	---	---	---	23
	09/13/00	---	---	---	---	---	---	---	---	---	---	23
	10/06/00	---	---	---	---	---	---	---	---	---	---	21
	02/14/01	---	---	---	---	---	---	---	---	---	---	16
	05/30/01	---	---	---	---	---	---	---	---	---	---	23
	06/12/01	---	---	---	---	---	---	---	---	---	---	22
	08/01/01	---	---	---	---	---	---	---	---	---	---	22
	11/13/01	---	---	---	---	---	---	---	---	---	---	22
	05/01/02	---	---	---	---	---	---	---	---	---	---	19
	08/06/02	---	---	---	---	---	---	---	---	---	---	20
	11/05/02	---	---	---	---	---	---	---	---	---	---	21
	02/07/03	---	---	---	---	---	---	---	---	---	---	22
	03/05/03	1000	610	65	19	110	2.5	160	41	260	26	
08/05/03	---	---	---	---	---	---	---	---	---	---	21	
11/13/03	---	---	---	---	---	---	---	---	---	---	24	
02/10/04	---	---	---	---	---	---	---	---	---	---	24	
05/04/04	---	---	---	---	---	---	---	---	---	---	23	
08/10/04	---	---	---	---	---	---	---	---	---	---	24	
11/17/04	---	---	---	---	---	---	---	---	---	---	25	
02/09/05	---	---	---	---	---	---	---	---	---	---	25	

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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) 7S/2W-25H01	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
	02/12/08	---	---	---	---	---	---	---	---	---	---	22
	05/06/08	---	540	---	---	---	---	---	---	---	---	21
	08/11/08	---	530	---	---	---	---	---	---	---	---	21
	11/06/08	---	570	---	---	---	---	---	---	---	---	24
	02/05/09	---	530	---	---	---	---	---	---	---	---	21
	03/03/09	930	520	56	15	97	2.1	150	41	210	---	22
	05/11/09	---	---	---	---	---	---	---	---	---	---	19
08/04/09	---	520	---	---	---	---	---	---	---	---	20	
No. 118 8S/3W-11B	08/08/90	715	480	14	1	162	1	120	79	101	---	1
	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
09/08/08	---	670	---	---	---	---	---	---	---	---	<2	
11/06/08	1100	640	71	150	150	1.9	150	140	250	---	ND	
12/05/08	---	660	---	---	---	---	---	---	---	---	---	
03/03/09	---	620	---	---	---	---	---	---	---	---	---	
06/04/09	---	610	---	---	---	---	---	---	---	---	---	

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. 119 8S/2W-19J	07/16/96	450	280	44	9	35	<1	39	18	180	15
	08/14/97	---	---	---	---	---	---	---	---	---	12
	12/24/97	---	320	---	---	---	---	---	---	---	3.1 as N
	03/04/98	---	380	---	---	---	---	---	---	---	3.3 as N
	06/04/98	---	---	---	---	---	---	---	---	---	3.8 as N
	06/12/98	---	400	---	---	---	---	---	---	---	---
	09/16/98	---	---	---	---	---	---	---	---	---	3.7 as N
	01/08/99	---	430	---	---	---	---	---	---	---	---
	04/13/99	---	---	---	---	---	---	---	---	---	28
	06/02/99	---	560	---	---	---	---	---	---	---	4.8 as N
	07/27/99	940	640	103	21	58	1	70	150	264	30
	09/14/99	---	---	---	---	---	---	---	---	---	22
	09/14/99	---	---	---	---	---	---	---	---	---	4.8 as N
	10/26/99	---	---	---	---	---	---	---	---	---	24
	11/02/99	---	---	---	---	---	---	---	---	---	22
	12/14/99	---	560	---	---	---	---	---	---	---	22
	04/04/00	---	---	---	---	---	---	---	---	---	20
	12/14/00	---	---	---	---	---	---	---	---	---	4.6 as N
	03/29/01	---	---	---	---	---	---	---	---	---	20
	06/20/01	---	---	---	---	---	---	---	---	---	4.2 as N
	09/14/01	---	---	---	---	---	---	---	---	---	4.2 as N
	09/28/01	---	---	---	---	---	---	---	---	---	18
	11/16/01	---	---	---	---	---	---	---	---	---	16
	05/23/02	---	480	---	---	---	---	---	---	---	18
	07/24/02	770	490	81	15	49	1.1	51	90	240	19
	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	
02/12/08	---	---	---	---	---	---	---	---	---	15	
05/14/08	---	520	---	---	---	---	---	---	---	13	
07/08/08	810	520	88	17	57	1.4	66	120	250	14	
08/11/08	---	480	---	---	---	---	---	---	---	13	
11/17/08	---	520	---	---	---	---	---	---	---	16	
02/05/09	---	460	---	---	---	---	---	---	---	13	
05/11/09	---	560	---	---	---	---	---	---	---	12	
08/04/09	---	540	---	---	---	---	---	---	---	14	

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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. 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	
	06/05/08	690	400	11	<1	140	104	89	66	140	10	
	06/05/08	---	400	---	---	---	---	---	---	---	10	
	09/15/08	---	350	---	---	---	---	---	---	---	---	
	08/21/09	---	500	---	---	---	---	---	---	---	11	
	No. 121	10/27/89	900	475	63	14	99	2	109	28	290	<1
	7S/3W-34J	05/19/92	1000	560	72	17	120	3	170	56	270	<1
07/18/97		---	---	---	---	---	---	---	---	---	ND	
07/24/97		---	640	---	---	---	---	---	---	---	ND	
08/20/97		---	---	---	---	---	---	---	---	---	ND	
09/03/97		---	---	---	---	---	---	---	---	---	ND	
06/19/02		---	---	---	---	---	---	---	---	---	ND	
No. 122		06/23/97	---	---	---	---	---	---	---	---	---	6
8S/2W-20P1	07/25/97	660	460	64	13	44	1	61	65	190	8	
	10/10/97	---	---	---	---	---	---	---	---	---	9	
	12/23/97	---	400	---	---	---	---	---	---	---	1.8 as N	
	03/25/98	---	450	---	---	---	---	---	---	---	2.2 as N	
	06/03/98	---	---	---	---	---	---	---	---	---	2.4 as N	
	06/05/98	---	460	---	---	---	---	---	---	---	---	
	09/17/98	---	---	---	---	---	---	---	---	---	2.2 as N	
	01/08/99	---	450	---	---	---	---	---	---	---	---	
	06/03/99	---	470	---	---	---	---	---	---	---	2.1 as N	
	04/13/99	---	---	---	---	---	---	---	---	---	9	
	09/21/99	---	---	---	---	---	---	---	---	---	2.1 as N	
	03/07/00	---	---	---	---	---	---	---	---	---	16	
	04/04/00	---	---	---	---	---	---	---	---	---	9	
	06/28/00	780	470	79	16	62	1	73	100	210	11	

ND - None Detected

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
 WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 122 (Cont) 8S/2W-20P2	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
	03/03/08	---	---	---	---	---	---	---	---	---	8.5
	03/07/08	---	620	---	---	---	---	---	---	---	---
	10/08/08	---	620	---	---	---	---	---	---	---	---
	01/20/09	---	680	---	---	---	---	---	---	---	---
	03/10/09	---	---	---	---	---	---	---	---	---	8.9
	04/16/09	---	660	---	---	---	---	---	---	---	---
07/14/09	---	670	---	---	---	---	---	---	---	---	
No. 123 8S/1W-7B	06/06/90	1100	690	69	27	132	6	130	170	281	4
	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	

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 (Cont) 8S/1W-7B	06/05/07	---	---	---	---	---	---	---	---	---	2.2
	07/05/07	---	---	---	---	---	---	---	---	---	2.5
	08/07/07	---	---	---	---	---	---	---	---	---	2.2
	09/05/07	---	---	---	---	---	---	---	---	---	2.1
	09/06/07	---	---	---	---	---	---	---	---	---	2
	10/03/07	---	---	---	---	---	---	---	---	---	2
	12/13/07	---	---	---	---	---	---	---	---	---	1.9
	01/10/08	---	---	---	---	---	---	---	---	---	1.4
	02/13/08	---	---	---	---	---	---	---	---	---	1.1
	03/03/08	---	---	---	---	---	---	---	---	---	1.3
	03/07/08	---	540	---	---	---	---	---	---	---	---
	04/08/08	---	---	---	---	---	---	---	---	---	2.2
	05/12/08	---	---	---	---	---	---	---	---	---	2.4
	06/23/08	---	---	---	---	---	---	---	---	---	2.7
	07/08/08	---	---	---	---	---	---	---	---	---	2.9
	08/12/08	---	---	---	---	---	---	---	---	---	2.6
	09/15/08	---	---	---	---	---	---	---	---	---	2.7
	11/06/08	---	---	---	---	---	---	---	---	---	2.6
	12/05/08	---	---	---	---	---	---	---	---	---	2
	01/07/09	---	---	640	---	---	---	---	---	---	---
02/04/09	---	---	---	---	---	---	---	---	---	---	1.6
03/09/09	980	610	62	21	97	4.8	98	180	110	<2.0	
04/02/09	---	600	---	---	---	---	---	---	---	<2.0	
05/07/09	---	---	---	---	---	---	---	---	---	<2.0	
06/01/09	---	---	---	---	---	---	---	---	---	<2.0	
07/09/09	---	---	590	---	---	---	---	---	---	<2.0	
08/05/09	---	---	---	---	---	---	---	---	---	<2.0	
No. 124 8S/2W-11R1	06/20/90	660	380	38	4	92	3	97	48	153	13
	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	

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. 124 8S/2W-11R1	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	
	10/28/08	780	490	52	6.5	84	3.1	91	84	150	---	1.8	
	01/13/09	---	390	---	---	---	---	---	---	---	---	---	
	04/07/09	---	330	---	---	---	---	---	---	---	---	---	
	07/09/09	---	320	---	---	---	---	---	---	---	---	---	
No. 125 8S/2W-12H	06/20/90	740	425	17	5	132	3	99	54	186	---	4	
	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
	06/10/08	770	460	17	4.6	150	2.4	93	64	190	---	2.7	
	09/15/08	---	370	---	---	---	---	---	---	---	---	---	
	12/05/08	---	450	---	---	---	---	---	---	---	---	---	
03/04/09	---	440	---	---	---	---	---	---	---	---	---		
06/01/09	---	560	---	---	---	---	---	---	---	---	---	<2.0	
No. 126 8S/2W-15H	05/04/88	480	290	4	<1	106	<1	53	14	64	---	<1	
	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	

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
 WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l								
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3	
No. 126 (Cont) 8S/2W-15H	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	
	11/14/07	---	---	---	---	---	---	---	---	---	---	1.9
	08/07/08	---	280	---	---	---	---	---	---	---	---	---
	02/04/09	---	280	---	---	---	---	---	---	---	---	---
05/06/09	---	280	---	---	---	---	---	---	---	---	---	
08/04/09	---	270	---	---	---	---	---	---	---	---	---	
No. 128 7/3W-36M	07/06/89	400	230	27	3	54	2	59	7	101	25	
	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	

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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. 129 7S/2W-20L	11/29/89	430	260	16	3	66	2	71	16	92	9	
	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 8S/2W-11R	02/17/88	650	365	16	1	132	1	69	64	0	4	
	02/14/91	640	365	4	<1	132	1	68	56	122	---	
	04/24/91	---	---	---	---	---	---	---	---	---	3	
	02/09/94	650	410	3	<1	148	1	81	72	146	4	
	05/16/95	---	---	---	---	---	---	---	---	---	4	
	02/05/97	780	450	4	<1	170	<1	78	82	150	5	
	05/14/97	---	---	---	---	---	---	---	---	---	4	
	04/14/99	---	---	---	---	---	---	---	---	---	5	
	02/10/00	750	440	4	<1	170	<1	76	77	170	5	
	04/12/00	---	---	---	---	---	---	---	---	---	5	
	05/25/00	---	---	---	---	---	---	---	---	---	6	
	05/24/01	---	---	---	---	---	---	---	---	---	6	
	05/24/02	---	---	---	---	---	---	---	---	---	5	
	02/19/03	820	460	4.1	<1	170	<1	87	96	180	5	
	05/04/04	---	---	---	---	---	---	---	---	---	5.1	
	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	
	05/07/08	---	440	---	---	---	---	---	---	---	4.1	
08/12/08	---	470	---	---	---	---	---	---	---	---		
11/09/08	---	560	---	---	---	---	---	---	---	---		
02/11/09	840	440	4.6	<1	170	<1	91	110	150	4.8		
05/11/09	---	480	---	---	---	---	---	---	---	3.5		
08/31/09	---	470	---	---	---	---	---	---	---	---		

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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. 131 8S/1W-12J	03/10/88	530	270	4	<1	108	1	57	52	31	1
	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
	06/04/08	---	390	---	---	---	---	---	---	---	1.5
	09/15/08	---	330	---	---	---	---	---	---	---	---
	12/03/08	---	430	---	---	---	---	---	---	---	---
	03/04/09	640	370	6	<1	130	1.2	71	77	130	<2.0
03/04/09	---	380	---	---	---	---	---	---	---	---	
06/02/09	---	360	---	---	---	---	---	---	---	<2.0	
No. 132 8S/1W-07D	04/18/88	1000	620	94	13	103	6	109	153	235	2
	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	

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
 WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l								
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3	
No. 132 (Cont) 8S/1W-07D	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
	05/06/08	---	670	---	---	---	---	---	---	---	---	3.6
	08/12/08	---	690	---	---	---	---	---	---	---	---	---
	11/06/08	---	650	---	---	---	---	---	---	---	---	---
	02/05/09	---	570	---	---	---	---	---	---	---	---	---
	05/11/09	---	590	---	---	---	---	---	---	---	---	<2.0
08/05/09	---	600	---	---	---	---	---	---	---	---	---	
No. 133 8S/1W-7C	03/28/90	970	605	50	20	112	5	120	131	235	---	3
	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
	03/03/08	---	---	---	---	---	---	---	---	---	---	2.1
	03/07/08	---	480	---	---	---	---	---	---	---	---	---
	07/08/08	---	470	---	---	---	---	---	---	---	---	---
	01/07/09	---	540	---	---	---	---	---	---	---	---	---
03/04/09	---	---	---	---	---	---	---	---	---	---	2.6	
04/02/09	---	460	---	---	---	---	---	---	---	---	---	
07/09/09	---	450	---	---	---	---	---	---	---	---	---	

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 8S/2W-6F	10/30/90	460	240	19	2	74	2	71	13	113	18	
	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	
01/08/08	---	---	---	---	---	---	---	---	---	---	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. 138 (Cont) 8S/2W-6F	10/08/08	430	220	12	59	82	1.1	59	11	32	18
	01/08/09	---	---	---	---	---	---	---	---	---	18
	01/12/09	---	280	---	---	---	---	---	---	---	---
	04/08/09	---	250	---	---	---	---	---	---	---	---
	07/06/09	---	240	---	---	---	---	---	---	---	---
No. 139 7S/2W-32G	12/29/87	460	295	24	7	65	1	60	11	104	7
	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
	04/15/08	550	340	40	14	43	1.9	80	10	150	14
	07/17/08	---	330	---	---	---	---	---	---	---	---
	10/08/08	---	320	---	---	---	---	---	---	---	---
	01/13/09	---	390	---	---	---	---	---	---	---	---
	07/06/09	---	290	---	---	---	---	---	---	---	---
04/08/09	---	310	---	---	---	---	---	---	---	5.8	
No. 140 7S/2W-33F	02/18/88	560	325	33	10	65	2	77	14	153	13
	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
	04/08/08	630	340	26	9.5	79	1.9	110	21	140	2.7
	04/08/08	---	350	---	---	---	---	---	---	---	2.7
	07/07/08	---	360	---	---	---	---	---	---	---	---
	01/07/09	---	400	---	---	---	---	---	---	---	---
04/15/09	---	380	---	---	---	---	---	---	---	4.6	
07/06/09	---	360	---	---	---	---	---	---	---	---	

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 8S/2W-11P	01/06/88	780	440	64	11	82	3	65	91	217	13
	01/30/92	820	500	63	13	95	3	79	110	238	19
	03/30/95	840	490	58	11	100	3	70	97	241	14
	03/25/97	---	---	---	---	---	---	---	---	---	15
	03/26/98	760	480	62	12	90	3	69	86	230	16
	01/04/99	---	---	---	---	---	---	---	---	---	14
	02/12/99	---	---	---	---	---	---	---	---	---	19
	10/21/99	---	---	---	---	---	---	---	---	---	17
	11/03/99	---	---	---	---	---	---	---	---	---	14
	12/14/99	---	---	---	---	---	---	---	---	---	14
	06/20/00	---	---	---	---	---	---	---	---	---	15
	01/04/01	700	450	52	6	84	3	75	70	190	15
	09/28/01	---	---	---	---	---	---	---	---	---	18
	11/08/02	---	---	---	---	---	---	---	---	---	15
	09/16/03	---	---	---	---	---	---	---	---	---	19
	01/13/04	760	490	65	11	84	3.1	70	90	220	21
	01/06/05	---	---	---	---	---	---	---	---	---	18
	01/06/06	---	---	---	---	---	---	---	---	---	16
	06/04/08	---	410	---	---	---	---	---	---	---	11
	12/05/08	---	480	---	---	---	---	---	---	---	---
03/04/09	---	440	---	---	---	---	---	---	---	---	
06/02/09	---	390	---	---	---	---	---	---	---	10	
No. 143 8S/2W-17J	01/15/88	670	345	8	2	134	1	91	57	95	11
	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	

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 143 (Cont) 8S/2W-17J	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
	01/04/08	---	---	---	---	---	---	---	---	---	7.1
	01/08/09	---	---	---	---	---	---	---	---	---	9
	02/04/09	---	300	---	---	---	---	---	---	---	---
	05/11/09	---	290	---	---	---	---	---	---	---	---
	08/05/09	---	300	---	---	---	---	---	---	---	---
No. 144 7S/3W-27D3	09/14/88	610	335	8	<1	114	1	95	33	92	<1
	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
	08/11/08	---	320	---	---	---	---	---	---	---	<2
	02/09/09	---	340	---	---	---	---	---	---	---	---
	05/08/09	---	360	---	---	---	---	---	---	---	---
08/05/09	---	370	---	---	---	---	---	---	---	<2	
No. 145 7S/3W-28C	10/04/90	800	490	43	8	110	2	110	78	171	<1
	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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. 145 (Cont) 7S/3W-28C	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	
	01/04/08	---	---	---	---	---	---	---	---	---	---	<2	
	08/11/08	---	360	---	---	---	---	---	---	---	---	---	
	10/08/08	720	400	37	3.2	100	1.3	95	56	150	---	ND	
	01/06/09	---	---	---	---	---	---	---	---	---	---	---	ND
	02/03/09	---	390	---	---	---	---	---	---	---	---	---	
	05/08/09	---	410	---	---	---	---	---	---	---	---	---	
	08/05/09	---	400	---	---	---	---	---	---	---	---	---	
No. 146 7S/3W-28	12/10/96	900	500	57	23	98	<1	100	64	280	---	15	
	03/02/00	---	---	---	---	---	---	---	---	---	---	4	
No. 149 8S/1W-2C	06/15/93	---	---	---	---	---	---	---	---	---	---	5	
	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	
	03/11/08	---	550	---	---	---	---	---	---	---	---	---	
	07/08/08	---	590	---	---	---	---	---	---	---	---	---	
	01/08/09	---	590	---	---	---	---	---	---	---	---	2.6	
03/04/09	900	590	52	20	100	3.6	93	170	210	---	2.5		
04/02/09	---	570	---	---	---	---	---	---	---	---	---		
07/13/09	---	560	---	---	---	---	---	---	---	---	---		
No. 149A 7S/3W-28A	08/26/88	950	540	71	211	96	1	115	47	302	---	18	
	10/31/91	800	480	36	13	122	3	93	110	195	---	---	
No. 150 7S/3W-27P	09/29/88	1950	1235	134	29	225	2	290	220	390	---	15	
	12/21/91	1000	590	74	17	108	4	130	110	207	---	---	

ND - None Detected

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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. 151 7S/3W-34B	09/20/88 Abandoned	5780	3410	280	114	840	5	1660	670	369	<1
No. 151 8S/2W-2G	07/25/91	860	485	53	16	103	4	90	130	183	---
	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
	05/12/09	530	380	1.4	1	110	<1	36	7.7	140	<2.0
No. 152 8S/1W-5K2	01/11/02	860	550	64	20	77	6	75	190	160	<2
	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
	04/08/08	---	510	---	---	---	---	---	---	---	---
	01/02/09	---	580	---	---	---	---	---	---	---	ND
	04/06/09	---	620	---	---	---	---	---	---	---	---
07/13/09	---	610	---	---	---	---	---	---	---	---	
No. 153 8S/1W-5K3	12/29/93	804	485	53	18	92	5	86	120	214	<1
	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
	04/08/08	920	560	62	23	79	4.3	100	170	170	1.9
	01/02/09	---	570	---	---	---	---	---	---	---	---
	04/06/09	---	610	---	---	---	---	---	---	---	<2.0
	07/13/09	---	590	---	---	---	---	---	---	---	---

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. 154 8S/1W-5L2	01/28/94	930	530	46	20	106	6	89	130	214	3
No. 155 7S/3W-28C	09/16/93	680	355	22	2	108	1	90	64	104	<1
	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. 156 7S/3W-18	08/11/08	670	350	48	13	78	2.2	70	62	190	1.9
	08/11/08	---	370	---	---	---	---	---	---	---	1.7
	05/08/09	---	400	---	---	---	---	---	---	---	---
	08/05/09	---	410	---	---	---	---	---	---	---	1.5
No. 157 8S/1W-5L	04/13/99	930	600	59	21	110	7	95	150	240	<2
	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
	04/08/08	1100	640	68	24	110	4.3	130	170	230	2.6
	07/08/08	---	580	---	---	---	---	---	---	---	---
	01/02/09	---	560	---	---	---	---	---	---	---	---
	04/06/09	---	640	---	---	---	---	---	---	---	<2.0
07/13/09	---	590	---	---	---	---	---	---	---	---	

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 8S/1W-5K	06/21/94	1090	620	67	23	124	7	120	170	259	---
	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
	04/08/08	1300	760	77	25	140	6.4	150	180	280	3.5
	07/08/08	---	750	---	---	---	---	---	---	---	---
	01/02/09	---	640	---	---	---	---	---	---	---	---
	04/06/09	---	650	---	---	---	---	---	---	---	<2.0
	07/13/09	---	670	---	---	---	---	---	---	---	---
	No. 201 7S/2W-27J	03/28/91	530	315	19	6	83	2	83	16	110
03/11/93		460	300	8	2	87	1	51	20	146	<1
No. 202 7S/2W-36J1	12/11/88	740	440	47	18	84	3	97	48	223	17
No. 203 8S/1W-6P1	05/18/88	960	580	50	39	110	4	96	115	275	---
	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
06/04/08	---	520	---	---	---	---	---	---	---	4.3	
09/16/08	---	450	---	---	---	---	---	---	---	---	
12/02/08	---	500	---	---	---	---	---	---	---	---	
03/04/09	---	470	---	---	---	---	---	---	---	---	
06/01/09	---	440	---	---	---	---	---	---	---	2.7	

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
 WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 204	05/22/91	740	425	50	12	85	3	120	18	198	19
7S/2W-26G	05/13/94	690	375	37	7	85	3	130	19	125	19
No. 205	03/28/88	500	290	23	3	81	2	83	27	107	21
7S/3W-35A	03/13/91	490	275	22	3	75	2	62	23	113	21
	03/03/94	510	275	20	2	72	2	72	24	104	20
	04/26/95	---	---	---	---	---	---	---	---	---	22
	03/25/97	480	270	20	2	75	2	66	18	110	21
	05/09/01	410	270	21	3	67	1	60	17	120	23
	11/13/01	---	---	---	---	---	---	---	---	---	21
	02/19/02	---	---	---	---	---	---	---	---	---	20
	05/14/02	---	---	---	---	---	---	---	---	---	18
	08/27/02	---	---	---	---	---	---	---	---	---	20
	11/20/02	---	---	---	---	---	---	---	---	---	18
	01/08/03	---	---	---	---	---	---	---	---	---	4.5 as N
	03/31/03	---	---	---	---	---	---	---	---	---	18
	06/11/03	---	---	---	---	---	---	---	---	---	18
	09/16/03	---	---	---	---	---	---	---	---	---	21
	12/04/03	---	---	---	---	---	---	---	---	---	20
	03/09/04	---	---	---	---	---	---	---	---	---	18
	06/09/04	---	---	---	---	---	---	---	---	---	18
	09/01/04	---	---	---	---	---	---	---	---	---	19
	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
	04/15/09	500	290	19	2	71	1.4	68	18	120	20
	07/14/09	---	270	---	---	---	---	---	---	---	20
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 7S/2W-35M	09/01/88	680	415	44	15	77	3	119	14	186	18	
	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 7S/2W-28J	05/22/91	790	435	40	14	105	2	150	35	162	8
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 8S/2W-12K	04/15/59	1366	---	101	23	150	10	149	200	275	3	
	01/18/63	400	926	99	30	17.5	4.5	145	255	329	4	
	11/30/67	1415	890	136	5	152	10	146	230	305	3	
	07/26/68	1250	825	96	22	144	8	130	190	290	5	
	09/06/68	1310	840	82	26	132	5	142	222	276	12	
	07/19/73	1200	579	84	21.4	149	6.8	122	237	301	19.7	
	08/08/75	1140	695	84	14	150	6	101	190	287	15	
	06/22/76	1240	675	76	26	142	7	101	205	278	36	
	10/13/76	1120	640	92	22	100	6	110	170	262	5	
	06/16/77	1130	610	84	18	114	6	110	170	259	11	
	05/20/80	580	340	30	8	75	4	51	67	152	9	
	04/03/86	800	540	65	17	86	4.5	75	112	235	3.5	
	07/15/86	830	560	72	19	86	4	87	118	250	4	
	03/28/88	1030	575	76	22	93	5	99	143	247	4	
	09/25/91	1040	600	74	20	120	5	120	160	238	5	
	09/19/94	645	460	52	14	79	4	70	100	198	2	
	09/16/96	---	---	---	---	---	---	---	---	---	---	3
	09/16/98	---	---	---	---	---	---	---	---	---	---	3
	12/15/98	---	---	---	---	---	---	---	---	---	---	2
	01/04/99	---	---	---	---	---	---	---	---	---	---	2
02/03/99	---	---	---	---	---	---	---	---	---	---	2	
04/08/99	---	---	---	---	---	---	---	---	---	---	3	
06/02/99	---	---	---	---	---	---	---	---	---	---	3	
09/07/99	---	---	---	---	---	---	---	---	---	---	4	
10/21/99	---	---	---	---	---	---	---	---	---	---	5	

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) 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
	08/12/08	---	---	590	---	---	---	---	---	---	---	7.6
	03/05/09	---	---	520	---	---	---	---	---	---	---	---
	06/02/09	---	---	570	---	---	---	---	---	---	---	---
08/05/09	---	---	---	---	---	---	---	---	---	---	4.9	
No. 211 8S/2W-20R1	04/08/97	720	400	67	14	54	1	59	65	220	---	13
	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
	12/09/08	---	480	---	---	---	---	---	---	---	---	22
	03/09/09	---	560	---	---	---	---	---	---	---	---	17
06/02/09	---	480	---	---	---	---	---	---	---	---	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. 212 8S/2W-11N	03/28/88	640	330	42	2	74	3	81	33	146	14
	09/25/91	600	320	41	2	82	4	86	35	146	14
No. 215 7S/2W-34M	08/15/90	650	380	40	13	71	3	100	14	162	11
	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
	12/02/08	---	370	---	---	---	---	---	---	---	---
	03/09/09	---	380	---	---	---	---	---	---	---	---
	06/04/09	---	300	---	---	---	---	---	---	---	---
No. 216 8S/2W-7W	06/01/88	480	280	25	4	65	2	71	11	134	---
	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
	10/03/07	---	---	---	---	---	---	---	---	---	17
04/23/09	---	---	---	---	---	---	---	---	---	14	
No. 217 8S/2W-17M1	03/28/88	580	285	8	1	108	1	81	20	113	15
	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 217 (Cont) 8S/2W-17M1	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
	05/06/08	---	400	---	---	---	---	---	---	---	14
	08/12/08	---	430	---	---	---	---	---	---	---	---
	05/11/09	---	400	---	---	---	---	---	---	---	13
	08/05/09	---	400	---	---	---	---	---	---	---	---
No. 231 8S/2W-20B6	08/15/90	1280	805	126	18	120	5	100	310	244	9
	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
	03/07/08	---	900	---	---	---	---	---	---	---	2.4
No. 232 8S/2W-11J3	08/15/90	960	590	71	19	110	5	98	130	235	30
	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	

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) 8S/2W-11J3	10/06/99	---	---	---	---	---	---	---	---	---	---	30	
	11/17/99	---	---	---	---	---	---	---	---	---	---	32	
	12/14/99	---	---	---	---	---	---	---	---	---	---	32	
	01/18/00	---	---	---	---	---	---	---	---	---	---	31	
	02/29/00	---	---	---	---	---	---	---	---	---	---	10	
	03/21/00	---	---	---	---	---	---	---	---	---	---	25	
	04/11/00	---	---	---	---	---	---	---	---	---	---	29	
	05/25/00	---	---	---	---	---	---	---	---	---	---	26	
	06/21/00	---	---	---	---	---	---	---	---	---	---	26	
	07/11/00	---	---	---	---	---	---	---	---	---	---	25	
	09/13/00	920	590	65	17	105	4	91	150	210	---	21	
	10/06/00	---	---	---	---	---	---	---	---	---	---	---	18
	11/08/00	---	---	---	---	---	---	---	---	---	---	---	17
	12/13/00	---	---	---	---	---	---	---	---	---	---	---	20
	01/04/01	---	---	---	---	---	---	---	---	---	---	---	19
	02/28/01	---	---	---	---	---	---	---	---	---	---	---	10
	04/10/01	---	---	---	---	---	---	---	---	---	---	---	20
	10/10/01	---	---	---	---	---	---	---	---	---	---	---	26
	05/14/02	---	---	---	---	---	---	---	---	---	---	---	22
	08/06/02	---	---	---	---	---	---	---	---	---	---	---	4*
	01/08/03	---	---	---	---	---	---	---	---	---	---	---	6.0 as N
	03/31/03	---	---	---	---	---	---	---	---	---	---	---	11
	06/10/03	---	---	---	---	---	---	---	---	---	---	---	31
	07/08/03	---	---	---	---	---	---	---	---	---	---	---	30
	08/20/03	---	---	---	---	---	---	---	---	---	---	---	28
	09/16/03	1100	680	67	18	110	4.3	100	150	240	---	---	33
	10/14/03	---	---	---	---	---	---	---	---	---	---	---	31
	01/14/04	---	---	---	---	---	---	---	---	---	---	---	23
	02/10/04	---	---	---	---	---	---	---	---	---	---	---	21
	04/14/04	---	---	---	---	---	---	---	---	---	---	---	25
	05/06/04	---	---	---	---	---	---	---	---	---	---	---	26
	06/22/04	---	---	---	---	---	---	---	---	---	---	---	25
	07/14/04	---	---	---	---	---	---	---	---	---	---	---	25
08/10/04	---	---	---	---	---	---	---	---	---	---	---	31	
09/08/04	---	---	---	---	---	---	---	---	---	---	---	26	

* Sample may have been switched with Well 233

WATERMASTER
 SANTA MARGARITA RIVER WATERSHED

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)	10/26/04	---	---	---	---	---	---	---	---	---	---	15
8S/2W-11J3	11/18/04	---	---	---	---	---	---	---	---	---	---	26
	12/07/04	---	---	---	---	---	---	---	---	---	---	16
	01/10/05	---	---	---	---	---	---	---	---	---	---	20
	02/14/05	---	---	---	---	---	---	---	---	---	---	14
	03/11/05	---	---	---	---	---	---	---	---	---	---	11
	04/13/05	---	---	---	---	---	---	---	---	---	---	25
	06/08/05	---	---	---	---	---	---	---	---	---	---	24
	07/12/05	---	---	---	---	---	---	---	---	---	---	22
	08/02/05	---	---	---	---	---	---	---	---	---	---	18
	09/20/05	---	---	---	---	---	---	---	---	---	---	19
	10/18/05	---	---	---	---	---	---	---	---	---	---	18
	11/08/05	---	---	---	---	---	---	---	---	---	---	18
	12/06/05	---	---	---	---	---	---	---	---	---	---	19
	01/04/06	---	---	---	---	---	---	---	---	---	---	15
	02/14/06	---	---	---	---	---	---	---	---	---	---	18
	03/13/06	---	---	---	---	---	---	---	---	---	---	8.3
	04/18/06	---	---	---	---	---	---	---	---	---	---	12
	05/12/06	---	---	---	---	---	---	---	---	---	---	15
	06/22/06	---	---	---	---	---	---	---	---	---	---	11
	07/19/06	---	---	---	---	---	---	---	---	---	---	13
	08/15/06	---	---	---	---	---	---	---	---	---	---	14
	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
	10/03/07	---	---	---	---	---	---	---	---	---	---	13
	12/05/07	---	---	---	---	---	---	---	---	---	---	12
	01/08/08	---	---	---	---	---	---	---	---	---	---	11
	02/13/08	---	---	---	---	---	---	---	---	---	---	6.9
	03/04/08	---	---	---	---	---	---	---	---	---	---	9.7
	03/07/08	---	610	---	---	---	---	---	---	---	---	---
	04/08/08	---	---	---	---	---	---	---	---	---	---	13
	05/07/08	---	---	---	---	---	---	---	---	---	---	12
	07/10/08	---	580	---	---	---	---	---	---	---	---	---
	07/28/08	---	---	---	---	---	---	---	---	---	---	12
	08/12/08	---	---	---	---	---	---	---	---	---	---	13

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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) 8S/2W-11J3	12/03/08	---	---	---	---	---	---	---	---	---	---	14
	01/13/09	---	660	---	---	---	---	---	---	---	---	14
	02/05/09	---	---	---	---	---	---	---	---	---	---	13
	03/04/09	---	---	---	---	---	---	---	---	---	---	12
	04/02/09	---	580	---	---	---	---	---	---	---	---	13
	05/11/09	---	---	---	---	---	---	---	---	---	---	11
	06/02/09	---	---	---	---	---	---	---	---	---	---	11
	07/13/09	---	580	---	---	---	---	---	---	---	---	12
08/05/09	---	---	---	---	---	---	---	---	---	---	12	
No. 233 (Old 112) 8S/2W-12K2	06/15/88	900	535	71	21	100	5	96	136	247	---	4
	03/27/91	1020	580	66	19	114	5	95	140	247	---	12
	03/03/94	740	425	50	14	75	4	71	100	186	---	2
	04/27/95	---	---	---	---	---	---	---	---	---	---	6
	03/27/97	880	510	57	15	100	4	81	120	220	---	4
	01/04/99	---	---	---	---	---	---	---	---	---	---	5
	02/03/99	---	---	---	---	---	---	---	---	---	---	4
	04/08/99	---	---	---	---	---	---	---	---	---	---	4
	06/03/99	---	---	---	---	---	---	---	---	---	---	4
	07/20/99	---	---	---	---	---	---	---	---	---	---	5
	08/11/99	---	---	---	---	---	---	---	---	---	---	4
	09/07/99	---	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	---	5
	11/03/99	---	---	---	---	---	---	---	---	---	---	4
	04/11/00	970	570	64	18	110	4	85	150	230	---	4
	10/06/00	---	---	---	---	---	---	---	---	---	---	3
	10/10/01	---	---	---	---	---	---	---	---	---	---	4
	08/06/02	---	---	---	---	---	---	---	---	---	---	26*
	01/13/03	---	---	---	---	---	---	---	---	---	---	1 as N
	07/07/03	---	---	---	---	---	---	---	---	---	---	2.7
07/13/04	---	---	---	---	---	---	---	---	---	---	3	
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	
08/13/08	---	530	---	---	---	---	---	---	---	---	6.1	
02/05/09	---	570	---	---	---	---	---	---	---	---	---	
04/02/09	960	580	70	20	88	4.7	100	160	200	---	6.8	
05/11/09	---	610	---	---	---	---	---	---	---	---	---	
08/04/09	---	570	---	---	---	---	---	---	---	---	5	

* Sample might have been switched with Well 232

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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) 8S/2W-11P	03/31/88	840	480	54	15	100	4	61	109	241	18
	03/27/91	1020	605	69	19	114	5	77	138	256	37
	06/20/95	---	---	---	---	---	---	---	---	---	11
	09/26/96	---	---	---	---	---	---	---	---	---	9
	02/04/97	---	---	---	---	---	---	---	---	---	12
	04/25/97	840	500	56	15	95	4	77	120	230	8
	01/19/99	---	---	---	---	---	---	---	---	---	12
	02/12/99	---	---	---	---	---	---	---	---	---	16
	04/21/99	---	---	---	---	---	---	---	---	---	15
	06/03/99	---	---	---	---	---	---	---	---	---	16
	07/27/99	---	---	---	---	---	---	---	---	---	18
	08/19/99	---	---	---	---	---	---	---	---	---	17
	09/21/99	---	---	---	---	---	---	---	---	---	16
	10/26/99	---	---	---	---	---	---	---	---	---	13
	04/13/00	900	550	64	18	10	4	70	150	220	13
	07/06/00	---	---	---	---	---	---	---	---	---	12
	07/12/01	---	---	---	---	---	---	---	---	---	7
	08/02/01	---	---	---	---	---	---	---	---	---	<2
	11/20/02	---	---	---	---	---	---	---	---	---	3
	12/11/02	850	520	62	17	80	3.7	74	170	170	4
	11/04/03	---	---	---	---	---	---	---	---	---	10
	11/05/04	---	---	---	---	---	---	---	---	---	10
	11/03/05	---	---	---	---	---	---	---	---	---	12
	12/06/05	890	620	70	19	89	4.1	85	180	200	12
	11/08/06	---	---	---	---	---	---	---	---	---	14
	11/16/07	---	---	---	---	---	---	---	---	---	16
	08/12/08	---	610	---	---	---	---	---	---	---	---
11/06/08	---	570	---	---	---	---	---	---	---	20	
12/03/08	960	660	83	21	89	4.9	87	160	230	20	
02/05/09	---	590	---	---	---	---	---	---	---	---	
05/07/09	---	620	---	---	---	---	---	---	---	---	
08/04/09	---	590	---	---	---	---	---	---	---	---	
No. 235 (Old 137) 8S/3W-1Q1	06/24/88	460	310	40	10	41	2	58	10	140	15
	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 235 (Old 137) 8S/3W-1Q1	06/24/88	460	310	40	10	41	2	58	10	140	15
	06/20/90	420	230	22	4	56	2	50	6	128	18
	06/10/93	370	235	15	2	65	2	51	9	113	17
	07/16/96	410	230	16	2	60	1	48	8.9	110	20
	06/09/97	---	---	---	---	---	---	---	---	---	17
	06/03/99	390	240	13	1	63	1	46	6.7	98	17
	11/03/99	---	---	---	---	---	---	---	---	---	16
	11/09/00	---	---	---	---	---	---	---	---	---	15
	11/20/01	---	---	---	---	---	---	---	---	---	13
	06/11/02	380	210	10	<1	62	1.2	48	7.2	100	16
	11/05/02	---	---	---	---	---	---	---	---	---	17
	11/18/03	---	---	---	---	---	---	---	---	---	11
	11/18/05	---	---	---	---	---	---	---	---	---	18
	06/22/05	380	230	9.4	<1	68	1.1	49	7.3	96	16
	11/08/05	---	---	---	---	---	---	---	---	---	17
	11/14/06	---	---	---	---	---	---	---	---	---	16
	06/11/08	400	210	11	1	72	1.4	48	8.4	100	15
	07/07/08	---	200	---	---	---	---	---	---	---	---
	01/13/09	---	260	---	---	---	---	---	---	---	---
	04/07/09	---	210	---	---	---	---	---	---	---	---
07/13/09	---	200	---	---	---	---	---	---	---	---	
No. 301 7S/3W-18Q1	07/29/92	500	290	20	6	80	1	45	56	143	<1
	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 7S/3W-18H	04/11/88	690	360	36	6	100	1	77	65	192	<1
	05/15/91	760	425	58	9	87	2	83	72	220	<1
	05/14/92	---	270	12	2	90	<1	48	48	---	---
	05/05/94	870	530	69	16	84	2	110	88	238	<1
	05/16/95	---	---	---	---	---	---	---	---	---	<1
	07/16/96	530	320	---	---	---	---	60	54	---	2
	05/13/97	560	500	73	14	94	2	110	86	240	<2
	07/27/99	---	---	---	---	---	---	---	---	---	<2

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) 7S/3W-18H	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 7S/3W-27H	08/15/90	690	370	19	3	119	2	140	25	73	5
	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	

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. 309 (Cont) 7S/3W-27H	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
	01/08/08	---	---	---	---	---	---	---	---	---	---	5.4
	08/12/08	---	470	---	---	---	---	---	---	---	---	---
	01/06/09	---	---	---	---	---	---	---	---	---	---	6.7
	02/03/09	---	450	---	---	---	---	---	---	---	---	---
	04/01/09	---	---	25	2.9	---	---	---	---	---	---	---
	05/11/09	---	460	---	---	---	---	---	---	---	---	---
	08/04/09	---	450	---	---	---	---	---	---	---	---	---

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-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
	09/01/09	457	253	10.7	0.483	77.7	0.53	65.6	17.4	91	0.08 as N
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	

* - Alkalinity as CaCO3

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-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	
	09/10/08	480	278	37.2	4.67	62.4	1.14	41.2	11.4	160	---		
08/04/09	543	329	50	5.49	55.5	1.12	38.7	18.4	194	1.78	as N		
8S/2W-29A01	08/02/89	346	207	31	11	24	0.4	18	7.0	131	2.0	as N	
	07/24/90	354	193	32	11	25	0.4	24	6.7	133	2.0	as N	
	07/18/91	361	194	32	10	26	0.4	25	6.0	134	1.8	as N	
	08/15/94	363	216	33	12	25	0.5	24	7.7	132	2.6	as N	
	08/31/95	363	208	32	11	23	0.4	21	8.1	137	2.6	as N	
	08/28/96	---	---	---	---	---	---	---	---	---	2.9	as N	
	08/12/97	368	238	32	12	24	0.44	22	7.4	138	3.05	as N	
	08/19/98	411	246	36	11	31	0.45	25	8.2	153	2.94	as N	
	08/25/99	375	222	33	12	23	0.39	20	6.7	---	3.81	as N	
	08/22/00	374	237	33	12	24	0.42	18	7.3	---	3.48	as N	
	08/21/01	374	236	34	12	24	0.46	20	7.3	---	3.56	as N	
08/02/05	382	243	38.7	11.6	27.1	0.53	27.6	7.7	---	2.79	as N		
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	
	08/04/09	394	245	29.8	11.3	32.2	0.64	34.5	7.38	133	0.81	as N	

* - Alkalinity as CaCO3

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-29B02	03/01/90	456	257	5.5	0.14	89	0.8	66	22	100	---
	03/06/90	456	256	5.9	0.13	90	0.7	66	20	99	<0.1 as N
8S/2W-29B03	03/06/90	478	275	14	1.9	84	0.8	65	16	123	<0.1 as N
8S/2W-29B05	03/02/90	397	229	29	9.5	43	1.2	35	4.9	141	1.8 as N
8S/2W-29B06	03/02/90	406	259	34	11	38	0.8	38	10	143	---
	03/06/90	427	240	32	11	40	1.0	40	8.1	148	1.2 as N
8S/2W-29B07	03/07/90	396	230	8.6	2.5	71	0.9	51	11	102	<0.1 as N
	08/16/90	371	199	8.4	1.8	69	0.8	50	14	106	<0.1 as N
8S/2W-29B08	03/07/90	464	272	31	9.4	52	1.2	58	12	134	0.45 as N
	08/16/90	458	261	34	9.1	48	1.1	59	17	135	0.4 as N
8S/2W-29B09	03/07/90	343	210	21	9.2	39	1.0	24	6.7	131	1.3 as N
	08/17/90	317	197	26	10	26	1.1	22	3.4	130	1.6 as N
8S/2W-29B10	08/19/98	367	223	12	0.64	75	0.62	50	10	121	<.05 as N
	08/26/99	393	219	12	0.72	68	0.56	46	11	---	<.05 as N
	08/22/00	393	228	12	0.76	69	0.58	43	11	---	<.05 as N
	08/21/01	398	231	11	0.62	72	0.57	49	15	---	.04 as N
	08/12/03	387	239	11.3	0.65	75.1	0.57	47.2	18.4	---	2.41as N
	08/18/04	390	232	11.2	0.64	72.6	0.64	48	20.8	---	<.06 as N
	08/02/05	404	242	12.5	0.67	69.9	0.65	47.2	23.2	---	<.06 as N
	08/03/06	381	222	12.3	0.77	62.8	0.54	40.3	17.3	110	<.06 as N
	09/04/07	430	237	12.1	0.70	78.3	0.65	47.2	27.5	107	<.06 as N
	09/15/08	420	242	11.2	0.664	77.3	0.59	45.3	29.6	106	E.03 as N
08/04/09	381	217	12.1	0.76	66	0.64	39.9	23.7	108	E.03 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
	08/04/09	497	281	33	8.51	51	0.98	52.6	16.6	140	2.33 as N

* - Alkalinity as CaCO3

E - estimated

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-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 CaCO3

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 CaCO3

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 (Cont)	08/14/87	332	207	29	5.6	25	4.8	28	8.0	96	3.5 as N
	07/20/89	338	204	30	5.6	26	5.0	29	7.0	98	3.3 as N
	07/31/91	337	109	31	5.5	25	4.5	31	6.3	99	3.5 as N
	07/16/91	335	209	31	5.9	26	4.7	32	6.3	99	3.5 as N
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 CaCO3

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) (Bldg 220001)	10/60	1060	639	66.5	24.0	116.0	4.5	160	110.0	264.0	trace
	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 (Bldg 220001) (Continued)	06/93	1290	764	68.3	27.5	149.0	---	168	130.0	265.0	<0.4
	03/94	1210	783	100.0	37.1	100.0	---	145	167.0	---	2.2
	08/94	1160	741	87.5	35.5	96.1	---	141	187.0	---	4.23
	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
	04/98	1200	790	83.0	31.0	101.0	3.0	165	156.0	240.0	ND
	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
	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 (Bldg 230073) (Previously reported as 10S/4W-18M4)	06/89	1156	688	74.6	24.4	67.9	---	130	138.0	197.0
01/90		1120	630	86.4	32.3	101.0	---	156	166.0	210.0	<0.05
04/90		1160	720	98.8	34.8	107.0	---	152	146.0	218.0	1.4
01/91		1202	---	84.1	40.5	117.0	---	162	153.0	---	<0.04
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
05/00		1020	709	81.0	33.0	94.0	4.0	146	149.0	220.0	ND
08/00		1160	728	83.0	33.0	89.0	4.0	161	178.0	232.0	ND
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

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 (Bldg 23073) Previously reported as 10S/4W-18M4	11/01	1290	737	91.0	37.0	118.0	3.0	181	207.0	256.0	0
	02/02	1260	781	89.0	36.0	123.0	4.6	170	189.0	255.0	1.3
	04/02	1250	755	90.0	37.0	116.0	4.1	175	195.0	200.0	1
	05/02	1290	750	92.0	38.0	110.0	4.0	157	194.0	180.0	0.6
	07/02	1260	753	90.0	37.0	114.0	4.0	171	196.0	200.0	0
	01/03	1350	816	96.0	40.0	131.0	4.6	160	201.0	193.0	0
	04/03	1210	738	95.0	27.0	118.0	3.9	175	210.0	192.0	0
	10/03	1290	752	91.0	37.0	134.0	5.0	167	193.0	199.0	0
	01/04	1230	717	93.0	38.0	111.0	6.0	159	194.0	173.0	0
	04/04	1280	722	82.0	36.0	112.0	6.0	168	213.0	180.0	2.2
	07/04	1080	739	88.0	37.0	92.0	7.0	156	198.0	190.0	0
	11/04	1230	563	91.0	38.0	124.0	4.8	172	215.0	175.0	0
	01/05	1240	687	96.0	39.0	124.0	4.0	172	215.0	190.0	0
	04/07	1240	770	98.0	40.0	100.0	3.8	160	220.0	240.0	0
	04/08	1370	908	100	42	110	3.7	180	240	234	<2
04/09	1300	800	97	39	120	3.7	140	200	220	8.7	
10S/5W-23J1 (Bldg 230001)	05/56	1090	685	61.5	24.3	142.0	---	142	110.0	293.0	0.06
	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	

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 (Bldg 230001) (Continued)	12/99	1190	699	83.0	30.0	118.0	3.0	100	158.0	278.0	ND
	02/00	1110	723	81.0	30.0	116.0	3.0	90	163.0	293.0	ND
	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
	02/02	1220	724	86.0	31.0	124.0	2.6	146	156.0	293.0	ND
	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
	10/02	1300	701	87.0	31.0	141.0	2.9	157	170.0	257.0	ND
	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
	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	
04/08	1210	718	90	32	100	2.5	150	170	274	<2	
04/09	1200	720	90	32	110	2.6	130	160	250	<2	
10S/4W-18E3 (Bldg 230093)	06/89	1166	758	80.5	28.1	67.4	---	132	157	198.0	9.5
	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

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 (Bldg 230093) (Continued)	03/97	1116	673	87.0	36.0	110.0	---	147	113	213.0	<2 as N
	06/97	1131	779	90.0	37.0	99.0	<5.0	151	177	199.0	<2 as N
	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
	09/01	1330	791	96.0	42.0	115.0	4.0	173	209	224.0	1
	03/02	1320	778	102.0	44.0	123.0	4.4	196	229	242.0	1
	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
	04/03	1210	783	99.0	42.0	129.0	3.9	176	229	191.0	1.3
	10/03	1320	775	97.0	41.0	126.0	5.0	168	231	174.0	0
	01/04	1270	763	101.0	42.0	106.0	6.0	162	220	180.0	0
	04/04	1320	781	96.0	43.0	105.0	6.0	179	250	195.0	0
	07/04	1370	784	100.0	43.0	89.0	6.0	169	219	203.0	0
	10/04	1300	857	99.0	42.0	88.0	6.0	188	245	210.0	0
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	
04/08	1270	816	92	40	100	3.4	150	220	202	4.7	
04/09	1300	840	100	43	120	3.8	150	220	230	<2	
10S/4W-7R2 (Bldg 260003)	06/89	1281	765	76.5	25.1	82.4	---	149	153	209.0	10.3
	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

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 (Bldg 260003) (Continued)	02/97	1200	720	84.0	36.0	130.0	---	150	152	240	<1 as N
	03/97	1143	708	83.0	35.0	130.0	---	152	137	240	<2 as N
	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
	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
	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
	12/02	1120	617	73.0	32.0	102.0	3.6	132	164	174	0.4
	01/03	1150	689	76.0	34.0	113.0	3.6	135	165	185	ND
	04/03	1190	717	82.0	37.0	122.0	4.0	164	182	209	ND
	05/03	1190	---	---	---	---	---	156	182	---	---
	10/03	1250	737	81.0	37.0	130.0	5.0	163	201	192	0
	01/04	1240	694	86.0	39.0	107.0	6.0	153	182	185	0
	04/04	1320	750	84.0	40.0	108.0	6.0	170	210	220	0
	07/04	1100	761	92.0	41.0	88.0	7.0	172	204	205	0
	10/04	1280	893	93.0	41.0	88.0	6.0	179	222	ND	0
	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	
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	
04/08	1290	888	91	39	100	3.4	160	230	207	2.6	
10S/4W-7R3 (Bldg 260002)	04/09	1300	830	100	45	110	4.5	170	240	220	<2

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2 (Bldg 260071)	08/56	1060	882	78.0	30.0	112.0	---	150	82	326.0	---
	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 (Bldg 260071) (Continued)	05/81	1000	645	72.4	21.7	105.0	3.5	128	123	209.8	<0.5 as N
	05/82	1330	811	100.8	35.9	176.0	1.6	269	198	263.5	<0.5 as N
	03/83	890	669	77.2	23.7	95.0	3.4	132	136	209.8	0.65 as N
	12/83	1000	610	70.4	23.7	123.0	2.6	136	150	224.0	0.5 as N
	05/84	1100	671	77.2	24.6	116.0	2.7	133	155	244.0	0.2 as N
	09/84	1300	650	6.6	29.0	120.0	2.6	200	170	250.0	12
	11/84	1100	671	81.6	23.4	124.0	2.7	149	175	249.0	1.2 as N
	05/86	1592	994	104.7	39.7	167.3	4.4	232	167	301.8	<1 as N
	06/89	1137	826	79.1	28.5	85.5	---	157	158	246.0	12.6
	01/90	1290	772	96.3	38.6	116.0	---	184	179	252.0	0.9/1.2
	04/90	1320	817	109.0	42.1	128.0	---	177	167	249.0	5.4
	01/91	401	---	87.3	44.4	103.1	---	205	179	---	1.07
	03/93	1500	824	92.6	33.1	136.0	---	194	154	277.0	1.8
	03/94	1370	827	103.0	36.4	135.0	---	163	145	---	0.9
	08/94	1270	762	91.1	35.5	129.0	---	162	172	---	5.64
	06/95	1260	771	100.0	35.8	127.0	---	197	178	---	2.8
	06/96	1300	751	96.0	36.0	120.0	---	162	174	247.0	1.1
	02/97	1300	830	100.0	41.0	150.0	---	186	161	186.0	<2 as N
	06/97	1323	831	94.0	36.0	140.0	<5.0	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
	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
	05/99	1170	711	75.0	32.0	85.0	4.0	ND	180	268.0	ND
	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
	02/01	1140	707	85.0	35.0	107.0	2.0	152	179	232.0	4.9
	04/01	1190	718	88.0	37.0	112.0	3.0	153	193	218.0	5
	09/01	1200	729	89.0	38.0	106.0	3.0	158	192	201.0	4.6
	11/01	1210	693	90.0	38.0	106.0	3.0	169	209	214.0	5.4
02/02	1190	726	94.0	39.0	106.0	2.7	147	184	218.0	5.9	
04/02	1190	724	91.0	38.0	107.0	2.9	153	204	173.0	6.6	
07/02	1200	755	88.0	37.0	107.0	3.1	162	201	180.0	6	

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2 (Bldg 260071) (Continued)	10/02	1250	722	91.0	38.0	99.0	2.6	150	197	177	6.2
	01/03	1260	781	95.0	39.0	119.0	3.2	144	204	169	4.5
	04/03	1310	776	93.0	38.0	125.0	3.0	178	217	185	4.1
	04/04	1660	890	112.0	47.0	143.0	4.0	208	162	370	ND
	07/04	1460	785	98.0	38.0	109.0	4.0	186	191	275	3.4
	05/06	1380	870	100.0	41.0	110.0	2.3	180	240	210	3.0
	04/07	1300	812	99.0	41.0	110.0	2.5	160	230	220	5.2
	04/09	1300	830	100	43	110	2.9	170	260	190	4.7
10S/4W-7A2 (Bldg 260073)	05/56	920	651	59.0	22.0	100.0	---	104	94	213.0	---
	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

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 (Bldg 260073) (Continued)	02/76	820	533	68.8	20.5	76.0	3.0	106	88	214.7	2.2 as N
	09/76	900	585	48.0	45.0	98.0	2.3	116	112	258.6	3.0 as N
	03/77	900	585	70.0	23.0	76.0	2.8	123	113	195.0	2.6 as N
	01/78	950	618	64.0	24.0	100.0	2.7	124	108	200.0	4.3 as N
	10/78	1050	683	74.0	20.0	80.0	3.0	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	
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	
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

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 (Bldg 260073) (Continued)	02/01	1200	753	92.0	40.0	100.0	3.0	164	212	195	ND
	04/01	1210	736	91.0	40.0	103.0	5.0	159	217	183	4.2
	09/01	1200	741	93.0	41.0	98.0	4.0	153	202	183	7.6
	11/01	1220	750	92.0	41.0	106.0	4.0	170	228	189	8.0
	02/02	1230	769	99.0	43.0	101.0	4.2	173	218	195	7.9
	04/02	1260	793	101.0	45.0	102.0	4.5	170	229	160	8.5
	07/02	1350	784	98.0	43.0	103.0	4.3	183	239	159	4.8
	10/02	1370	788	102.0	45.0	104.0	4.3	175	241	167	3.4
	01/03	1330	825	108.0	45.0	121.0	5.4	180	231	168	2.4
	04/03	1260	721	90.0	40.0	102.0	4.3	170	228	153	9.9
	10/03	1340	791	94.0	41.0	121.0	6.0	180	268	144	3
	01/04	1390	800	99.0	46.0	105.0	7.0	173	264	136	4.1
	04/04	1270	739	86.0	42.0	98.0	6.0	160	252	160	5.1
	07/04	1390	764	97.0	45.0	87.0	7.0	176	262	163	3.7
	10/04	1290	943	95.0	44.0	84.0	7.0	178	267	0	3.6
	01/05	1030	610	76.0	35.0	93.0	3.8	136	194	155	6.9
	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
	11/05	1170	790	94.7	41.2	97.9	3.7	138	199	156	7.53
	04/06	1140	704	91.0	39.0	98.0	4.5	150	220	180	7.3
04/07	1200	716	97	44	97	3.7	160	240	190	4.2	
04/08	1270	900	98	45	97	3.8	180	260	170	14	
04/09	1200	780	94	42	100	3.7	130	230	180	22	
10S/5W-23G3 (Bldg 33926)	06/91	1160	684	83.4	28.3	125.0	---	145	124	223	<0.04
	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 (Bldg 330924)	06/89	1207	698	75.6	22.8	84.0	---	138	137	231	<0.4
	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
	06/98	1170	658	79.0	28.0	123.0	2.0	157	151	293	ND
	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
	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
	04/02	1180	682	84.0	31.0	124.0	2.9	151	155	230	ND
	07/02	1210	706	80.0	29.0	127.0	2.9	156	156	221	ND
	10/02	1210	669	83.0	30.0	122.0	2.9	151	162	206	8
	01/03	1320	801	97.0	34.0	140.0	2.8	154	180	245	ND
	04/03	1330	743	89.0	32.0	133.0	2.8	165	183	234	ND
	10/03	1210	712	87.0	31.0	135.0	4.0	155	177	204	ND
	04/04	1320	713	85.0	32.0	121.0	5.0	165	167	228	ND
	07/04	1070	703	89.0	32.0	101.0	5.0	147	173	230	ND
	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	
07/05	1170	750	83.0	29.0	114.0	2.7	139	ND	210	ND	
11/05	1260	750	91.9	29.6	119.0	3.1	144	171	225	ND	
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	
04/08	1270	792	91	30	110	2.6	160	190	175	<2	
04/09	1300	800	100	34	120	2.7	160	200	260	<2	

ND - None Detected

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 (Bldg 230063)	01/90	1030	540	*96.0	26.6	94.8	---	141	130	200	0.7
	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
	04/01	1100	612	83.0	29.0	106.0	3.0	131	146	238	3.5
	09/01	1150	679	89.0	31.0	103.0	2.0	142	156	241	3.2
	11/01	1130	658	87.0	30.0	104.0	2.0	148	169	262	3.4
	02/02	1120	674	85.0	30.0	112.0	3.2	140	160	257	3.1
	04/02	1120	682	89.0	32.0	106.0	2.7	142	167	205	2.8
	07/02	1150	676	83.0	30.0	111.0	2.7	145	64	205	2.3
	10/02	1220	711	87.0	31.0	110.0	2.7	149	175	203	ND
	01/03	1210	713	91.0	33.0	106.0	2.7	138	165	197	2
	05/03	1230	728	93.0	33.0	112.0	2.9	155	183	181	2.2
10/03	1190	741	93.0	33.0	123.0	3.0	188	212	179	0 as N	
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

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)	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
	02/01	1230	753	89.0	39.0	113.0	2.0	170	198	220	2.7
	04/01	1230	726	89.0	39.0	115.0	4.0	160	191	243	2.9
	09/01	1210	735	89.0	39.0	107.0	4.0	153	185	217	5.3
	11/01	1240	725	89.0	39.0	117.0	3.0	168	205	220	5.6
	02/02	1250	765	97.0	43.0	109.0	3.4	155	198	234	4.7
	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
	10/02	1380	787	99.0	43.0	113.0	3.7	170	216	203	2.8
	01/03	1370	810	101.0	44.0	134.0	4.0	155	194	217	ND
	04/03	1440	789	93.0	40.0	125.0	3.6	177	205	216	2.1
	10/03	1370	820	91.0	40.0	130.0	4.0	175	235	180	4.3
	01/04	1350	747	97.0	42.0	114.0	6.0	168	226	184	2.1
	04/04	1400	766	92.0	42.0	112.0	6.0	162	228	198	2
	07/04	1410	784	98.0	43.0	92.0	6.0	171	231	200	3.8
	11/04	1290	831	100.0	43.0	134.0	4.2	176	224	203	ND
	01/05	1310	804	102.0	44.0	125.0	3.7	184	241	200	2.7
	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
	11/05	1180	785	92.5	40.4	97.1	3.8	138	202	174	5.93 as N
	04/06	1280	786	98.0	43.0	110.0	3.3	160	220	233	7.1
	04/07	1400	784	98.0	43.0	110.0	3.4	165	230	230	5
	04/08	1230	840	88	40	98	3.4	160	250	169	7.1
	11/09	---	---	---	---	---	---	---	---	---	<2

ND - None Detected

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23G4 (Bldg 330925)	06/99	1070	668	69.0	23.0	106.0	1.7	163	144	305	ND
	08/99	1090	657	72.0	25.0	115.0	2.0	180	153	317	ND
	10/99	1150	716	79.0	27.0	140.0	2.0	120	140	305	ND
	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
	04/01	1170	701	81.0	29.0	128.0	2.0	154	149	282	ND
	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
	10/02	1180	649	78.0	27.0	115.0	2.1	135	138	217	ND
	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
	10/03	1160	647	80.0	27.0	136.0	3.0	152	155	216	ND
	04/04	1140	604	66.0	24.0	117.0	3.0	147	133	215	ND
	08/04	1180	657	68.0	24.0	99.0	4.0	140	114	245	ND
	10/04	1170	712	85.0	29.0	97.0	5.0	160	172	ND	ND
02/05	1070	661	84.0	29.0	125.0	3.3	154	148	185	ND	
07/05	1050	655	72.0	23.0	118.0	2.0	127	ND	202	ND	
11/05	1080	665	75.9	23.2	121.0	2.0	135	125	227	ND	
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	
04/08	1150	672	73	25	120	1.8	150	130	250	<2	
04/09	1100	670	76	26	120	2.1	150	140	250	<2	
10S/5W-23K3 (Bldg 330923)	06/99	1150	700	75.0	27.0	106.0	2.2	163	155	317	ND
	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
	02/01	1240	758	85.0	31.0	136.0	3.0	167	152	305	ND
	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

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

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 (Bldg 330923) (Continued)	10/01	1330	746	87.0	32.0	134.0	3.0	166	156	293	ND
	02/02	1190	720	83.0	29.0	140.0	3.5	150	155	281	ND
	04/02	1210	691	82.0	29.0	127.0	2.7	145	142	231	ND
	07/02	1230	738	81.0	29.0	134.0	3.1	167	151	240	ND
	10/02	1270	716	85.0	30.0	137.0	2.9	150	162	221	ND
	01/03	1340	826	100.0	35.0	141.0	2.6	156	185	252	0.4
	04/03	1350	733	85.0	30.0	129.0	2.6	162	171	235	ND
	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
	04/04	1240	706	78.0	28.0	121.0	4.0	163	170	220	ND
	07/04	1040	729	84.0	30.0	99.0	5.0	158	169	240	ND
	10/04	1180	857	86.0	30.0	97.0	5.0	159	172	235	ND
	02/05	1160	685	87.0	31.0	125.0	3.7	159	168	210	ND
	04/05	1230	760	91.0	30.0	122.0	2.6	149	148	213	ND
	07/05	1170	755	83.0	29.0	115.0	2.6	135	ND	210	ND
	11/05	1230	735	92.8	29.5	123.0	3.0	141	165	332	ND
	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
	04/08	1250	754	91	32	110	2.5	160	180	184	ND
	04/09	1200	760	92	33	120	2.7	160	180	250	<2
10S/5W-26C3 (Bldg 220002)	09/01	1410	819	101.0	38.0	138.0	3.0	173	175	296	ND
	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
	07/02	1450	829	101.0	37.0	137.0	3.3	187	193	260	ND
	10/02	1400	793	98.0	35.0	143.0	3.4	179	195	248	ND
	01/03	1300	806	94.0	33.0	144.0	2.0	163	180	235	ND
	04/03	1290	759	94.0	33.0	137.0	3.1	182	198	230	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-26C3	04/03	1290	759	94.0	32.0	137.0	3.1	182	198	230	ND
(Bldg 220002)	10/03	1340	761	90.0	31.0	146.0	4.0	162	188	210	ND
(Continued)	01/04	1320	743	94.0	32.0	124.0	5.0	182	212	203	ND
	04/04	1350	731	90.0	32.0	127.0	5.0	184	197	235	ND
	07/04	1100	773	91.0	32.0	98.0	5.0	167	197	215	ND
	10/04	1290	826	93.0	32.0	106.0	5.0	187	185	ND	ND
	02/05	1260	735	101.0	35.0	127.0	3.7	175	188	215	ND
	04/05	1300	760	98.0	33.0	122.0	2.8	160	184	200	ND
	07/05	1450	1260	97.0	33.0	119.0	2.9	154	ND	200	ND
	11/05	1240	795	99.0	32.0	122.0	2.9	159	169	202	ND
	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
	04/08	1260	694	80	29	140	2.7	180	150	286	<2

ND - None Detected

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	41.90	11.20	76.90	10.10	---	---	---	.23 @N
Cahuilla Creek Below Highway 371	02/28/05	476	337	34.20	10.10	51.90	3.69	36.9	---	---	.64 @N
Unnamed Tributary to Cahuilla Creek	02/14/05	783	529	64.00	17.50	80.70	8.94	35.2	---	---	3.05@N

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2008-09

APPENDIX E.1

**COOPERATIVE WATER RESOURCE
MANAGEMENT AGREEMENT
REQUIRED FLOWS AND ACCOUNTS
CALENDAR YEAR 2009**

September 2010

APPENDIX E.1

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

JANUARY 2009 - ABOVE NORMAL YEAR

DAY	10-Day Moving Average of										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE			
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Flow Less Required cfs	MWD cfs	WR-34 Make-Up Discharge MWD AF	Climatic Credits Earned /2 cfs	Input /3 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF	
1	10.0	11				9.9	19.7	0.0	6.3	12.5	0.0	0.0	5,000.0	
2	10.0	11				9.8	19.4	0.0	6.3	12.5	0.0	0.0	5,000.0	
3	10.0	11				9.6	19.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
4	10.0	11				9.6	19.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
5	9.8	11				9.6	19.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
6	9.8	11				9.6	19.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
7	9.8	11				9.6	19.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
8	9.9	11				9.5	18.9	0.0	6.3	12.5	0.0	0.0	5,000.0	
9	10.0	10				9.7	19.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
10	11.0	11				10.1	20.0	0.0	6.3	12.5	0.0	0.0	5,000.0	
11	10.0	10	10.8	10.6	0.2	10.0	19.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
12	10.0	10	10.7	10.6	0.1	10.0	19.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
13	11.0	11	10.7	10.6	0.1	10.1	20.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
14	9.8	10	10.6	10.6	0.0	10.7	21.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
15	11.0	11	10.6	10.6	0.0	11.6	23.0	0.0	6.3	12.5	0.0	0.0	5,000.0	
16	11.0	11	10.6	10.6	0.0	11.8	23.4	0.0	6.3	12.5	0.0	0.0	5,000.0	
17	11.0	11	10.6	10.6	0.0	11.9	23.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
18	11.0	12	10.7	10.6	0.1	11.9	23.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
19	11.0	12	10.9	10.6	0.3	11.9	23.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
20	9.8	10	10.8	10.6	0.2	11.2	22.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
21	9.8	10	10.8	10.6	0.2	10.8	21.5	0.0	6.3	12.5	0.0	0.0	5,000.0	
22	10.0	11	10.9	10.6	0.3	11.4	22.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
23	10.0	11	10.9	10.6	0.3	11.4	22.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
24	9.9	10	10.9	10.6	0.3	10.8	21.4 *	0.0	6.3	12.5	0.0	0.0	5,000.0	
25	11.0	11	10.9	10.6	0.3	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
26	10.0	11	10.9	10.6	0.3	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
27	10.0	11	10.9	10.6	0.3	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
28	10.0	10	10.7	10.6	0.1	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
29	11.0	11	10.6	10.6	0.0	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
30	11.0	11	10.7	10.6	0.1	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
31	11.0	11	10.8	10.6	0.2	10.2	20.2 **	0.0	6.3	12.5	0.0	0.0	5,000.0	
TOTAL SFD	319.6	335.0	226.0	222.6	3.4	323.7		0.0	195.3		0.0			
TOTAL AF	633.9	664.5	448.3	441.5	6.7	642.1	642.1	0.0	387.4		0.0			

Monthly totals are rounded to the nearest tenth of an acre foot.
 1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 0 Climatic Credit.
 2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
 3 - Art. 17 - 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.
 No Climatic Credits can be earned during an Above Normal Year.
 Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.
 * 10.5 AF supplied from WR-34, 7.6 AF supplied from potable connection to WR-34 outlet pipe, and 3.33 from System River Meter on Murrieta Creek because of MWD operational shutdown.
 ** 14 AF supplied from potable connection to WR-34 outlet pipe, and 6.15 AF from System River Meter 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

FEBRUARY 2009 - ABOVE NORMAL YEAR

DAY	USGS Daily Website Discharge				10-Day Moving Average of Website Discharge		Minimum Flow Maintenance Requirement		Moving Average Less Required Flow		WR-34 Make-Up Discharge		Climatic Credits Earned		GROUNDWATER ACCOUNT BALANCE		Cumulative GW Account Balance
	Discharge	Discharge	Discharge	Discharge	Discharge	Average of Discharge	Requirement	Flow	Flow	MWD	MWD	AF	AF	AF	AF	AF	
1	11.0	11.0	11.0	11.0	10.8	10.6	10.6	0.2	10.2	20.2 *	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
2	11.0	11.0	11.0	11.0	10.8	10.6	10.6	0.2	10.2	20.2 *	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
3	11.0	11.0	11.0	11.0	10.9	10.6	10.6	0.3	10.2	20.2 *	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
4	11.0	11.0	11.0	11.0	10.9	10.6	10.6	0.3	10.4	20.7 **	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
5	11.0	11.0	11.0	11.0	10.9	10.6	10.6	0.3	10.9	21.6	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
6	99.0	99.0	99.0	99.0	19.7	10.6	10.6	9.1	3.5	7.0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
7	262.0	262.0	262.0	262.0	44.9	10.6	10.6	34.3	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
8	101.0	101.0	101.0	101.0	53.9	10.6	10.6	43.3	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
9	214.0	214.0	214.0	214.0	74.2	10.6	10.6	63.6	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
10	86.0	86.0	86.0	86.0	81.7	10.6	10.6	71.1	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
11	25.0	25.0	25.0	25.0	83.1	10.6	10.6	72.5	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
12	9.0	9.0	9.0	9.0	82.9	10.6	10.6	72.3	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
13	13.0	13.0	13.0	13.0	83.1	10.6	10.6	72.5	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
14	101.0	101.0	101.0	101.0	92.1	10.6	10.6	81.5	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
15	19.0	19.0	19.0	19.0	92.9	10.6	10.6	82.3	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
16	453.0	453.0	453.0	453.0	128.3	10.6	10.6	117.7	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
17	274.0	274.0	274.0	274.0	129.5	10.6	10.6	118.9	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
18	73.0	73.0	73.0	73.0	126.7	10.6	10.6	116.1	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
19	30.0	30.0	30.0	30.0	108.3	10.6	10.6	97.7	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
20	15.0	15.0	15.0	15.0	101.2	10.6	10.6	90.6	0.0	0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
21	11.0	11.0	11.0	11.0	99.8	10.6	10.6	89.2	1.9	3.8	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
22	11.0	11.0	11.0	11.0	100.0	10.6	10.6	89.4	5.3	10.5	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
23	11.0	11.0	11.0	11.0	99.8	10.6	10.6	89.2	6.7	13.2	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
24	11.0	11.0	11.0	11.0	90.8	10.6	10.6	80.2	7.5	14.8	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
25	10.0	10.0	10.0	10.0	89.9	10.6	10.6	79.3	7.9	15.7	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
26	11.0	11.0	11.0	11.0	45.7	10.6	10.6	35.1	9.1	18.0	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
27	10.0	10.0	10.0	10.0	19.3	10.6	10.6	8.7	9.4	18.7	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
28	11.0	11.0	11.0	11.0	13.1	10.6	10.6	2.5	9.7	19.3	0.0	0.0	6.3	12.5	0.0	0.0	5,000.0
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL SFD	1,915.0	1,915.0	1,915.0	1,915.0	1,915.2	296.8	1,618.4	112.8	223.7	223.7	0.0	0.0	176.4	349.9	0.0	0.0	
TOTAL AF	3,798.3	3,798.3	3,798.3	3,798.3	3,798.7	588.7	3,210.0	223.7	223.7	223.7	0.0	0.0	349.9	349.9	0.0	0.0	

Monthly totals are rounded to the nearest tenth of an acre foot.

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 0 Climatic Credit.

2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.

No Climatic Credits can be earned during an Above Normal Year.

3 - Art. 17 - 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.

Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

* 14 AF supplied from potable connection to WR-34 outlet pipe, and 6.15 from system River Meter on Murrieta Creek because of MWD operational shutdown.

** 11.4 AF supplied from WR-34, 6.4 AF supplied from potable connection to WR-34 outlet pipe, and 2.86 AF supplied from System River Meter 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

MARCH 2009 - ABOVE NORMAL YEAR

DAY	10-Day Moving										CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE			
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD /MWD cfs /AF	Climatic Credits Earned /2 cfs /AF	Input /3 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF		
1	11.0	11	11.2	10.6	0.6	9.9	19.7	0.0	6.3	12.5	0.0	0.0	5,000.0	
2	10.0	10	10.7	10.6	0.1	9.9	19.7	0.0	6.3	12.5	0.0	0.0	5,000.0	
3	11.0	11	10.7	10.6	0.1	10.1	20.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
4	11.0	11	10.7	10.6	0.1	10.2	20.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
5	11.0	11	10.7	10.6	0.1	10.2	20.3	0.0	6.3	12.5	0.0	0.0	5,000.0	
6	11.0	11	10.7	10.6	0.1	10.2	20.3	0.0	6.3	12.5	0.0	0.0	5,000.0	
7	10.0	10	10.7	10.6	0.1	10.2	20.3	0.0	6.3	12.5	0.0	0.0	5,000.0	
8	11.0	11	10.7	10.6	0.1	10.6	21.0	0.0	6.3	12.5	0.0	0.0	5,000.0	
9	11.0	11	10.8	10.6	0.2	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
10	11.0	11	10.8	10.6	0.2	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
11	11.0	11	10.8	10.6	0.2	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
12	11.0	11	10.9	10.6	0.3	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
13	11.0	11	10.9	10.6	0.3	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
14	11.0	11	10.9	10.6	0.3	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
15	11.0	11	10.9	10.6	0.3	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
16	11.0	11	10.9	10.6	0.3	10.9	21.6	0.0	6.3	12.5	0.0	0.0	5,000.0	
17	11.0	11	11.0	10.6	0.4	10.7	21.3	0.0	6.3	12.5	0.0	0.0	5,000.0	
18	11.0	11	11.0	10.6	0.4	10.7	21.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
19	10.0	10	10.9	10.6	0.3	10.6	21.1	0.0	6.3	12.5	0.0	0.0	5,000.0	
20	10.0	10	10.8	10.6	0.2	10.6	21.0	0.0	6.3	12.5	0.0	0.0	5,000.0	
21	10.0	10	10.7	10.6	0.1	10.6	21.0	0.0	6.3	12.5	0.0	0.0	5,000.0	
22	11.0	11	10.7	10.6	0.1	10.7	21.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
23	11.0	11	10.7	10.6	0.1	10.7	21.2	0.0	6.3	12.5	0.0	0.0	5,000.0	
24	10.0	10	10.6	10.6	0.0	10.8	21.4	0.0	6.3	12.5	0.0	0.0	5,000.0	
25	11.0	11	10.6	10.6	0.0	10.9	21.7	0.0	6.3	12.5	0.0	0.0	5,000.0	
26	11.0	11	10.6	10.6	0.0	11.0	21.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
27	11.0	11	10.6	10.6	0.0	11.0	21.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
28	11.0	11	10.6	10.6	0.0	11.0	21.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
29	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
30	11.0	11	10.8	10.6	0.2	11.0	21.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
31	11.0	11	10.9	10.6	0.3	11.0	21.8	0.0	6.3	12.5	0.0	0.0	5,000.0	
TOTAL SFD	335.0	335.0	334.2	328.6	5.6	330.9		0.0	195.3		0.0			
TOTAL AF	664.5	664.5	662.9	651.8	11.1	656.3	656.3	0.0	387.4		0.0	0.0		

Monthly totals are rounded to the nearest tenth of an acre foot.

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 0 Climatic Credit.

2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs. No Climatic Credits can be earned during an Above Normal Year.

3 - Art. 17 - 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. Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E.1

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

APRIL 2009 - ABOVE NORMAL YEAR

DAY	USGS				10-Day Moving		Moving Average		WR-34 Make-Up		Climatic Credits		CAMP PENDLETON				Cumulative Account Balance AF
	Official Discharge cfs	Daily Website Discharge cfs	Average of Website Discharge cfs	Minimum Flow Maintenance Requirement/1 cfs	Flow Less Required cfs	MWD Discharge cfs	MWD AF	Discharge MWD AF	Earned /2 cfs	Input /3 cfs	Input AF	Output cfs	Output AF	Input AF	Output AF		
1	11.0	11	10.9	10.6	0.3	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
2	11.0	11	10.9	10.6	0.3	10.8	21.5	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
3	11.0	11	11.0	10.6	0.4	10.7	21.3	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
4	10.0	10	10.9	10.6	0.3	10.7	21.2	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
5	10.0	10	10.8	10.6	0.2	10.7	21.2	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
6	10.0	10	10.7	10.6	0.1	10.8	21.5	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
7	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
8	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
9	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
10	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
11	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
12	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
13	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
14	11.0	11	10.7	10.6	0.1	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
15	11.0	11	10.8	10.6	0.2	11.0	21.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
16	11.0	11	10.9	10.6	0.3	10.9	21.6	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
17	11.0	11	11.0	10.6	0.4	10.8	21.4	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
18	11.0	11	11.0	10.6	0.4	10.6	21.0	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
19	11.0	11	11.0	10.6	0.4	10.5	20.9	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
20	11.0	11	11.0	10.6	0.4	10.5	20.9	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
21	11.0	11	11.0	10.6	0.4	10.5	20.8	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
22	11.0	11	11.0	10.6	0.4	10.4	20.6	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
23	11.0	11	11.0	10.6	0.4	10.3	20.5	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
24	12.0	12	11.1	10.6	0.5	10.3	20.4	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
25	11.0	11	11.1	10.6	0.5	10.0	19.9	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
26	11.0	11	11.1	10.6	0.5	9.9	19.7	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
27	11.0	11	11.1	10.6	0.5	9.8	19.4	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
28	11.0	11	11.1	10.6	0.5	9.7	19.3	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
29	11.0	11	11.1	10.6	0.5	9.7	19.3	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
30	8.2	8.2	10.8	10.6	0.2	7.2	14.3	0.0	6.3	12.5	0.0	0.0	6.3	12.5	0.0	5,000.0	
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TOTAL SFD	325.2	325.2	327.2	318.0	9.2	314.3		0.0	189.0		0.0						
TOTAL AF	645.0	645.0	649.0	630.7	18.3	623.4	623.4	0.0	374.9		0.0						

Monthly totals are rounded to the nearest tenth of an acre foot.

1 - Minimum Flow Maintenance Requirement equals 11.5 cfs less 0.9 cfs CAP Credit less 0 Climatic Credit.

2 - Climatic Credits equal the WR-34 Discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.

No Climatic Credits can be earned during an Above Normal Year.

3 - Art. 17 - 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. Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E.1

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

MAY 2009 - ABOVE NORMAL YEAR

DAY	10-Day Moving										CAMP PENDLETON				Cumulative GW Account Balance AF
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	Average of Website Discharge cfs	Minimum Flow Maintenance Requirement/1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD cfs	MWD AF	Climatic Credits Earned /2 cfs	Input /3 cfs	Input AF	Output cfs	Output AF			
1	5.6	5.6				5.2	10.3	0.0	0.2	0.4	0.0	0.0	5,000.0		
2	5.7	5.7				5.3	10.6	0.0	0.2	0.4	0.0	0.0	5,000.0		
3	6.3	6.3				5.8	11.5	0.0	0.2	0.4	0.0	0.0	5,000.0		
4	7.8	7.8				6.5	12.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
5	5.8	5.5				5.0	10.0	0.0	0.2	0.4	0.0	0.0	5,000.0		
6	4.5	4.1				3.7	7.4	0.0	0.2	0.4	0.0	0.0	5,000.0		
7	3.2	3.2				2.9	5.8	0.0	0.2	0.4	0.0	0.0	5,000.0		
8	3.0	3.0				2.7	5.4	0.0	0.2	0.4	0.0	0.0	5,000.0		
9	3.1	3.1				2.8	5.6	0.0	0.2	0.4	0.0	0.0	5,000.0		
10	3.1	3.1				2.8	5.6	0.0	0.2	0.4	0.0	0.0	5,000.0		
11	3.0	3.0		4.5	3.0	2.8	5.6	0.0	0.2	0.4	0.0	0.0	5,000.0		
12	2.9	2.9		4.2	3.0	2.8	5.6	0.0	0.2	0.4	0.0	0.0	5,000.0		
13	2.9	2.9		3.9	3.0	3.3	6.6	0.0	0.2	0.4	0.0	0.0	5,000.0		
14	3.1	3.1		3.4	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
15	3.1	3.1		3.2	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
16	3.1	3.1		3.1	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
17	3.1	3.1		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
18	3.1	3.1		3.1	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
19	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
20	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
21	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
22	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
23	3.0	3.0		3.1	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
24	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
25	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
26	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
27	3.1	3.1		3.0	3.0	3.5	7.0	0.0	0.2	0.4	0.0	0.0	5,000.0		
28	3.0	3.0		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
29	3.2	3.2		3.0	3.0	3.5	6.9	0.0	0.2	0.4	0.0	0.0	5,000.0		
30	3.2	3.2		3.1	3.0	3.0	6.0	0.0	0.2	0.4	0.0	0.0	5,000.0		
31	3.9	4.0		3.2	3.0	4.3	8.5	0.0	0.2	0.4	0.0	0.0	5,000.0		
TOTAL SFD	112.8	112.2		67.8	63.0	114.8		0.0	6.2		0.0				
TOTAL AF	223.7	222.5		134.4	125.0	227.8	227.8	0.0	12.3		0.0				

Monthly totals are rounded to the nearest tenth of an acre foot.

1 - Minimum flow maintenance requirement was reduced to 5.7 for the first 4 days of May and then to 3.0 cfs at request of USMC Camp Pendleton to assist in data collection.

2 - Art. 7(b) not applicable for months of May through December.

3 - Art. 17 - 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.

Input to groundwater account shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

* 7.4 AF supplied from WR-34 and 4.1 AF supplied from potable connection to WR-34 outlet pipe because of MWD shutdown on San Diego Pipeline #5.

** Water supplied from potable connection to WR-34 outlet pipe because of MWD shutdown on San Diego Pipeline #5.

*** 2.1 AF supplied from WR-34 and 3.4 AF supplied from potable connection to WR-34 outlet pipe because of MWD shutdown on San Diego Pipeline #5.

**** 5.5 AF supplied from WR-34 and 1.5 AF from potable connection to WR-34 outlet pipe.

APPENDIX E.1

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

JUNE 2009 - ABOVE NORMAL YEAR

DAY	CAMP PENDLETON										GROUNDWATER ACCOUNT BALANCE		Cumulative GW Account Balance AF
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD MWD AF cfs	Climatic Credits Earned /2 cfs	Input cfs	Input AF	Output cfs	Output AF		
1	11.0	12				11.4	22.6	0.0	0.0	0.0	0.0	0.0	5,000.0
2	11.0	12				11.4	22.6	0.0	0.0	0.0	0.0	0.0	5,000.0
3	11.0	12				11.4	22.6	0.0	0.0	0.0	0.0	0.0	5,000.0
4	11.0	11				11.6	23.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	12.0	12				12.1	24.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	12.0	12				12.2	24.2	0.0	0.0	0.0	0.0	0.0	5,000.0
7	11.0	11				12.0	23.8	0.0	0.0	0.0	0.0	0.0	5,000.0
8	11.0	11				11.9	23.6	0.0	0.0	0.0	0.0	0.0	5,000.0
9	11.0	11				11.9	23.6	0.0	0.0	0.0	0.0	0.0	5,000.0
10	12.0	12				12.1	24.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	12.0	12		11.5	0.1	12.2	24.2	0.0	0.0	0.0	0.0	0.0	5,000.0
12	12.0	12		11.5	0.1	12.0	23.8	0.0	0.0	0.0	0.0	0.0	5,000.0
13	12.0	12		11.6	0.1	11.7	23.3	0.0	0.0	0.0	0.0	0.0	5,000.0
14	11.0	11		11.5	0.0	11.7	23.2	0.0	0.0	0.0	0.0	0.0	5,000.0
15	11.0	11		11.5	0.0	11.8	23.5	0.0	0.0	0.0	0.0	0.0	5,000.0
16	12.0	12		11.5	0.0	12.0	23.9	0.0	0.0	0.0	0.0	0.0	5,000.0
17	11.0	11		11.5	0.0	11.8	23.5	0.0	0.0	0.0	0.0	0.0	5,000.0
18	11.0	11		11.5	0.0	11.7	23.2	0.0	0.0	0.0	0.0	0.0	5,000.0
19	11.0	11		11.5	0.0	11.7	23.2	0.0	0.0	0.0	0.0	0.0	5,000.0
20	12.0	12		11.5	0.0	12.1	24.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	12.0	12		11.5	0.0	12.3	24.4	0.0	0.0	0.0	0.0	0.0	5,000.0
22	12.0	12		11.5	0.0	12.3	24.4	0.0	0.0	0.0	0.0	0.0	5,000.0
23	12.0	12		11.5	0.0	12.3	24.4	0.0	0.0	0.0	0.0	0.0	5,000.0
24	11.0	11		11.5	0.0	11.8	23.5	0.0	0.0	0.0	0.0	0.0	5,000.0
25	11.0	11		11.5	0.0	11.7	23.2	0.0	0.0	0.0	0.0	0.0	5,000.0
26	12.0	12		11.5	0.0	12.3	24.3	0.0	0.0	0.0	0.0	0.0	5,000.0
27	11.0	11		11.5	0.0	11.9	23.6	0.0	0.0	0.0	0.0	0.0	5,000.0
28	11.0	11		11.5	0.0	11.7	23.2	0.0	0.0	0.0	0.0	0.0	5,000.0
29	11.0	11		11.5	0.0	11.7	23.2	0.0	0.0	0.0	0.0	0.0	5,000.0
30	12.0	12		11.5	0.0	12.3	24.4	0.0	0.0	0.0	0.0	0.0	5,000.0
31													
TOTAL SFD	343.0	346.0	230.4	230.0	0.4	357.5	709.1	0.0	0.0	0.0	0.0	0.0	
TOTAL AF	680.3	686.3	457.0	456.2	0.8	709.1	709.1	0.0	0.0	0.0	0.0	0.0	

Monthly totals are rounded to the nearest tenth of an acre foot.

1 - Flow was increased to 11.5 at the request of Camp Pendleton to make up for reduced flows during May.

2 - Art. 7(b) not applicable for months of May through December.

APPENDIX E.1

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

JULY 2009 - ABOVE NORMAL YEAR

DAY	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE											
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD MWD cfs AF	Climatic Credits Earned /2 cfs AF	Input cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	12.0	12				12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
2	12.0	12				12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
3	12.0	12				12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
4	12.0	12				12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
5	12.0	12				12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
6	12.0	12				12.5	24.7	0.0	0.0	0.0	0.0	5,000.0
7	11.0	11				11.9	23.6	0.0	0.0	0.0	0.0	5,000.0
8	11.0	11				11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
9	11.0	11				11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
10	11.0	11				11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
11	11.0	11				11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
12	12.0	12			11.5	12.4	24.5	0.0	0.0	0.0	0.0	5,000.0
13	12.0	12			11.5	12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
14	12.0	12			11.5	12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
15	12.0	12			11.5	12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
16	12.0	12			11.5	12.5	24.8	0.0	0.0	0.0	0.0	5,000.0
17	11.0	11			11.5	11.8	23.4	0.0	0.0	0.0	0.0	5,000.0
18	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
19	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
20	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
21	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
22	12.0	12			11.5	12.4	24.6	0.0	0.0	0.0	0.0	5,000.0
23	12.0	12			11.5	12.6	25.0	0.0	0.0	0.0	0.0	5,000.0
24	12.0	12			11.5	12.6	25.0	0.0	0.0	0.0	0.0	5,000.0
25	12.0	12			11.5	12.6	25.0	0.0	0.0	0.0	0.0	5,000.0
26	12.0	12			11.5	12.6	25.0	0.0	0.0	0.0	0.0	5,000.0
27	11.0	11			11.5	11.9	23.6	0.0	0.0	0.0	0.0	5,000.0
28	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
29	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
30	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
31	11.0	11			11.5	11.7	23.2	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	357.0	357.0	241.5	241.5	0.0	376.1	746.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF	708.1	708.1	479.0	479.0	0.0	746.0	746.0	0.0	0.0	0.0	0.0	0.0

Monthly totals are rounded to the nearest tenth of an acre foot.

1 - Flow was increased to 11.5 at the request of Camp Pendleton to make up for reduced flows during May.

2 - Art. 7(b) not applicable for months of May through December.

APPENDIX E.1

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

AUGUST 2009 - ABOVE NORMAL YEAR

DAY	CAMP PENDLETON										GROUNDWATER ACCOUNT BALANCE		Cumulative GW Account Balance AF
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement/1 cfs	Moving Average Less Required Flow cfs	WR-34 Make-Up Discharge MWD MWD AF	Climatic Credits Earned /2 cfs AF	Input /3 cfs	Input AF	Output cfs	Output AF		
1	8.3	7.7	8.5	16.9	0.0	8.5	0.0	1.1	2.2	0.0	0.0	0.0	5,000.0
2	7.3	6.3	7.3	14.5	0.0	7.3	0.0	1.1	2.2	0.0	0.0	0.0	5,000.0
3	7.5	6.4	7.5	14.8	0.0	7.5	0.0	1.1	2.2	0.0	0.0	0.0	5,000.0
4	7.5	6.5	7.6	15.0	0.0	7.6	0.0	1.1	2.2	0.0	0.0	0.0	5,000.0
5	7.6	6.6	7.7	15.2	0.0	7.7	0.0	1.1	2.2	0.0	0.0	0.0	5,000.0
6	4.7	4.7	4.8	9.6	0.0	4.8	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
7	3.1	3.1	3.5	6.9	0.0	3.5	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
8	3.0	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
9	3.1	3.1	3.5	6.9	0.0	3.5	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
10	3.2	3.2	3.5	6.9	0.0	3.5	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
11	3.3	3.3	3.1	6.1	0.0	3.1	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
12	3.0	3.0	3.4	6.8	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
13	3.1	3.1	3.5	6.9	0.0	3.5	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
14	3.1	3.1	3.4	6.8	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
15	3.0	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
16	3.0	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
17	3.0	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
18	3.0	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
19	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
20	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
21	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
22	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
23	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
24	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
25	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
26	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
27	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
28	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
29	3.2	3.0	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
30	3.1	2.9	3.4	6.7	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
31	3.2	3.0	3.4	6.8	0.0	3.4	0.0	4.6	9.1	0.0	0.0	0.0	5,000.0
TOTAL SFD	121.3	114.0	68.2	63.0	5.2	128.1	0.0	125.1		0.0			
TOTAL AF	240.6	226.1	135.2	125.0	10.2	254.0	254.0	248.1					0.0

Monthly totals are rounded to the nearest tenth of an acre foot.
 1 - Flow was decreased for the first four days to 6.5 cfs at the request of Camp Pendleton to make up for reduced flows during May and to reduce CAP credit accumulation.
 For the balance of the month the flow was reduced to 3.0 cfs.
 2 - Art. 7(b) not applicable for months of May through December.
 3 - Foregone make-up water credited to groundwater account but cumulative balance did not increase due to account balance maximum of 5,000 AF.

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

SEPTEMBER 2009 - ABOVE NORMAL YEAR

DAY	CAMP PENDLETON										GROUNDWATER ACCOUNT BALANCE		
	USGS Official Discharge cfs	USGS Daily Website Discharge cfs	10-Day Moving Average of Website Discharge cfs	Minimum Flow Maintenance Requirement /1 cfs	Moving Average Flow Less Required cfs	MWD / MWD Discharge cfs	WR-34 Make-Up Discharge MWD / MWD cfs	Climatic Credits Earned /2 cfs	Input /3 cfs	Input AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	3.4	3.2				3.5	6.9	0.0	4.4	8.7	0.0	0.0	5,000.0
2	3.3	3.1				3.2	6.6	0.0	4.4	8.7	0.0	0.0	5,000.0
3	3.2	3.2				3.3	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
4	2.9	2.9				3.0	6.0	0.0	4.4	8.7	0.0	0.0	5,000.0
5	3.0	3.0				3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
6	3.0	3.0				3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
7	3.0	3.0				3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
8	3.0	3.0				3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
9	3.0	3.0				3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
10	3.0	3.0				3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
11	3.0	3.0		3.0	0.0	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
12	3.0	3.0		3.0	0.0	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
13	3.0	3.0		3.0	(0.0)	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
14	2.9	2.9		3.0	(0.0)	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
15	3.0	3.0		3.0	(0.0)	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
16	2.9	2.9		3.0	(0.0)	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
17	3.0	3.0		3.0	(0.0)	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
18	2.9	2.9		3.0	(0.0)	3.1	6.1	0.0	4.4	8.7	0.0	0.0	5,000.0
19	3.0	3.0		3.0	(0.0)	3.1	6.2	0.0	4.4	8.7	0.0	0.0	5,000.0
20	3.0	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
21	3.0	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
22	3.0	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
23	2.8	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
24	2.8	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
25	2.8	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
26	2.8	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
27	2.8	3.0		3.0	(0.0)	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
28	2.8	3.0		3.0	0.0	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
29	2.8	3.0		3.0	0.0	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
30	2.8	3.0		3.0	0.0	3.2	6.3	0.0	4.4	8.7	0.0	0.0	5,000.0
31	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL SFD	88.9	90.1	59.7	60.0	(0.3)	94.1	186.7	0.0	132.0	261.8	0.0	0.0	
TOTAL AF	176.3	178.7	118.5	119.0	(0.6)	186.7	186.7	0.0					

Monthly totals are rounded to the nearest tenth of an acre foot.
 1 - Flow was decreased at the request of Camp Pendleton to 3.0 cfs to make up for reduced flows during May and to reduce CAP credit accumulation.
 2 - Art. 7(b) not applicable for months of May through December.
 3 - Foregone make-up water credited to groundwater account but cumulative balance did not increase due to account balance maximum of 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 2009 - ABOVE NORMAL YEAR

DAY	CAMP PENDLETON GROUNDWATER ACCOUNT BALANCE										Cumulative Account Balance	
	USGS Official Discharge	USGS Daily Website Discharge	10-Day Moving Average of Website Discharge	Minimum Flow Maintenance Requirement /1	Moving Average Less Required Flow	WR-34 Make-Up Discharge	Climatic Credits Earned /2	Input /3	Input	Output	Output	AF
	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	AF	AF
1	2.8	3.0	3.0			3.2	6.3	4.7	9.3	0.0	0.0	5,000.0
2	2.8	2.8	3.0			3.2	6.3	4.7	9.3	0.0	0.0	5,000.0
3	3.0	3.0	3.0			3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
4	3.0	3.0	3.0			3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
5	3.0	3.0	3.0			3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
6	3.0	3.0	3.0			3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
7	3.1	3.1	3.1			3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
8	3.1	3.1	3.1			3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
9	3.0	3.0	3.0			3.3	6.6	4.7	9.3	0.0	0.0	5,000.0
10	3.0	3.0	3.0			3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
11	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
12	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
13	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
14	3.1	3.1	3.1	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
15	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
16	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
17	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
18	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
19	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
20	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
21	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
22	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
23	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
24	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
25	3.0	3.0	3.0	3.0	0.0	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
26	2.9	2.9	3.0	3.0	(0.0)	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
27	2.9	2.9	3.0	3.0	(0.0)	3.3	6.5	4.7	9.3	0.0	0.0	5,000.0
28	3.0	3.0	3.0	3.0	(0.0)	3.3	6.6	4.7	9.3	0.0	0.0	5,000.0
29	3.0	3.0	3.0	3.0	(0.0)	3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
30	3.0	3.0	3.0	3.0	(0.0)	3.4	6.7	4.7	9.3	0.0	0.0	5,000.0
31	3.2	3.2	3.0	3.0	0.0	3.1	6.2	4.7	9.3	0.0	0.0	5,000.0
TOTAL SFD	92.9	93.1	63.1	63.0	0.1	102.1		145.7		0.0		
TOTAL AF	184.3	184.7	125.2	125.0	0.2	202.6	202.6	289.0	289.0	0.0	0.0	0.0

Monthly totals are rounded to the nearest tenth of an acre foot.
 1 - Flow was decreased at the request of Camp Pendleton to 3.0 cfs to make up for reduced flows during May and to reduce CAP credit accumulation.
 2 - Art. 7(b) not applicable for months of May through December.
 3 - Foregone make-up water credited to groundwater account but cumulative balance did not increase due to account balance maximum of 5,000 AF.
 * 3.7 AF supplied by WR-34 and 2.5 AF from potable connection to WR-34 Outlet Pipe.

APPENDIX E.1

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

NOVEMBER 2009 - ABOVE NORMAL YEAR

DAY	10-Day Moving Average of Website Discharge										Minimum Flow Maintenance Requirement /1		Moving Average Less Required Flow		WR-34 Make-Up Discharge		Climatic Credits Earned /2		GROUNDWATER ACCOUNT BALANCE			
	USGS Official Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	AF	Output cfs	Output AF	Cumulative GW Account Balance AF
1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	11.5	0.0	0.0	5,000.0
3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	11.5	0.0	0.0	5,000.0
4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
10	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
11	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
12	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
13	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
14	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
15	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
16	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	11.5	0.0	0.0	5,000.0
17	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
18	3.3	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
19	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
20	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
21	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
22	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
23	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
24	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
25	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	11.5	0.0	0.0	5,000.0
26	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	11.5	0.0	0.0	5,000.0
27	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
28	3.3	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
29	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	11.5	0.0	0.0	5,000.0
30	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	11.5	0.0	0.0	5,000.0
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL SFD	92.8	90.1	60.0	60.0	60.0	60.0	60.0	60.0	0.0	95.4	0.0	174.0	0.0	0.0	0.0	0.0	0.0	0.0	345.1	0.0	0.0	0.0
TOTAL AF	184.1	178.7	119.0	119.0	119.0	119.0	119.0	119.0	0.0	189.3	0.0	345.1	0.0	0.0	0.0	0.0	0.0	0.0	345.1	0.0	0.0	0.0

Monthly totals are rounded to the nearest tenth of an acre foot.
 1 - Flow was decreased at the request of Camp Pendleton to 3.0 cfs to make up for reduced flows during May and to reduce CAP credit accumulation.
 2 - Art. 7(b) not applicable for months of May through December.
 3 - Foregone make-up water credited to groundwater account but cumulative balance did not increase due to account balance maximum of 5,000 AF.
 * - Water supplied from potable connection to WR-34 Outlet Pipe due to EMWD Shutdown on San Diego Pipeline #5.
 ** - 4.1 AF supplied from potable connection to WR-34 outlet pipe and 2.4 AF from WR-34 due to EMWD Shutdown on San Diego Pipeline #5.

APPENDIX E.1

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

DECEMBER 2009 - ABOVE NORMAL YEAR

DAY	10-Day Moving Average of										WR-34 Make-Up Discharge				Climatic Credits Earned /2				GROUNDWATER ACCOUNT BALANCE			
	USGS Official Discharge	USGS Daily Website Discharge	USGS Daily Website Discharge	Minimum Flow Maintenance Requirement /1	Moving Average Flow Less Required	MWD	MWD	MWD	MWD	MWD	AF	AF	AF	AF	Input /3	Output	Output	Output	AF	AF	Cumulative GW Account Balance	
	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	AF	AF	AF	
1	3.5	3.4	3.4			3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
2	3.5	3.5	3.5			3.5	6.9				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
3	3.3	3.3	3.3			3.4	6.7				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
4	3.3	3.3	3.3			3.4	6.7				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
5	3.3	3.3	3.3			3.3	6.6				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
6	3.3	3.3	3.3			3.3	6.6				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
7	435.0	435	435			1.5	3.0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
8	96.0	96	96			0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
9	15.0	15	15			0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
10	5.8	5.8	5.8			0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
11	1.1	1.1	1.1			0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
12	306.0	306	306		53.7	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
13	479.0	479	479		83.9	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
14	44.0	44	44		134.8	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
15	10.0	10	10		138.9	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
16	2.5	2.5	2.5		135.6	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
17	3.4	3.4	3.4		136.2	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
18	4.1	4.1	4.1		136.1	0.0	0				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
19	3.5	3.5	3.5		93.0	2.4	4.7				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
20	3.3	3.3	3.3		83.8	3.4	6.8				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
21	3.3	3.3	3.3		82.6	2.9	5.8				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
22	3.1	3.1	3.1		85.7	2.8	5.5				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
23	3.4	3.4	3.4		82.6	2.7	5.3				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
24	3.4	3.4	3.4		52.3	2.8	5.5				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
25	3.3	3.3	3.3		8.1	3.2	6.4				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
26	3.4	3.4	3.4		4.0	3.2	6.4				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
27	3.3	3.3	3.3		0.7	3.2	6.3				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
28	3.4	3.4	3.4		0.0	3.2	6.3				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
29	3.3	3.3	3.3		0.1	3.2	6.3				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
30	3.2	3.2	3.2		0.0	3.1	6.2				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
31	3.5	3.7	3.7		0.0	3.1	6.1				0.0	0.0	0.0	7.1	14.1	0.0	0.0	14.1	0.0	5,000.0		
TOTAL SFD	1,465.5	1,465.6	1,465.6	69.3	1,159.5	67.4	220.1															
TOTAL AF	2,906.8	2,907.0	2,437.3	137.5	2,299.9	133.7	133.7														436.6	

Monthly totals are rounded to the nearest tenth of an acre foot.
 1 - Flow was decreased at the request of Camp Pendleton to 3.3 cfs to make up for reduced flows during May and to reduce CAP credit accumulation.
 2 - Art. 7(b) not applicable for months of May through December.
 3 - Foregone make-up water credited to groundwater account but cumulative balance did not increase due to account balance maximum of 5,000 AF.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2008-09

APPENDIX E.2

**COOPERATIVE WATER RESOURCE
MANAGEMENT AGREEMENT**

PALA PARK GROUNDWATER MONITORING WELL

September 2010

Site Description

Pala Park Groundwater Monitoring Well (8S/2W-19A1-6)

LOCATION: Latitude 33° 28' 19.67", longitude 117° 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	12/27/2006 to present
8S/2W-19A2	332819117070602	09/30/2006 to present	12/27/2006 to present
8S/2W-19A3	332819117070603	09/30/2006 to present	12/27/2006 to present
8S/2W-19A4	332819117070604	09/30/2006 to present	12/27/2006 to present
8S/2W-19A5	332819117070605	09/30/2006 to present	12/27/2006 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.

WELL SUMMARY INFORMATION:

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

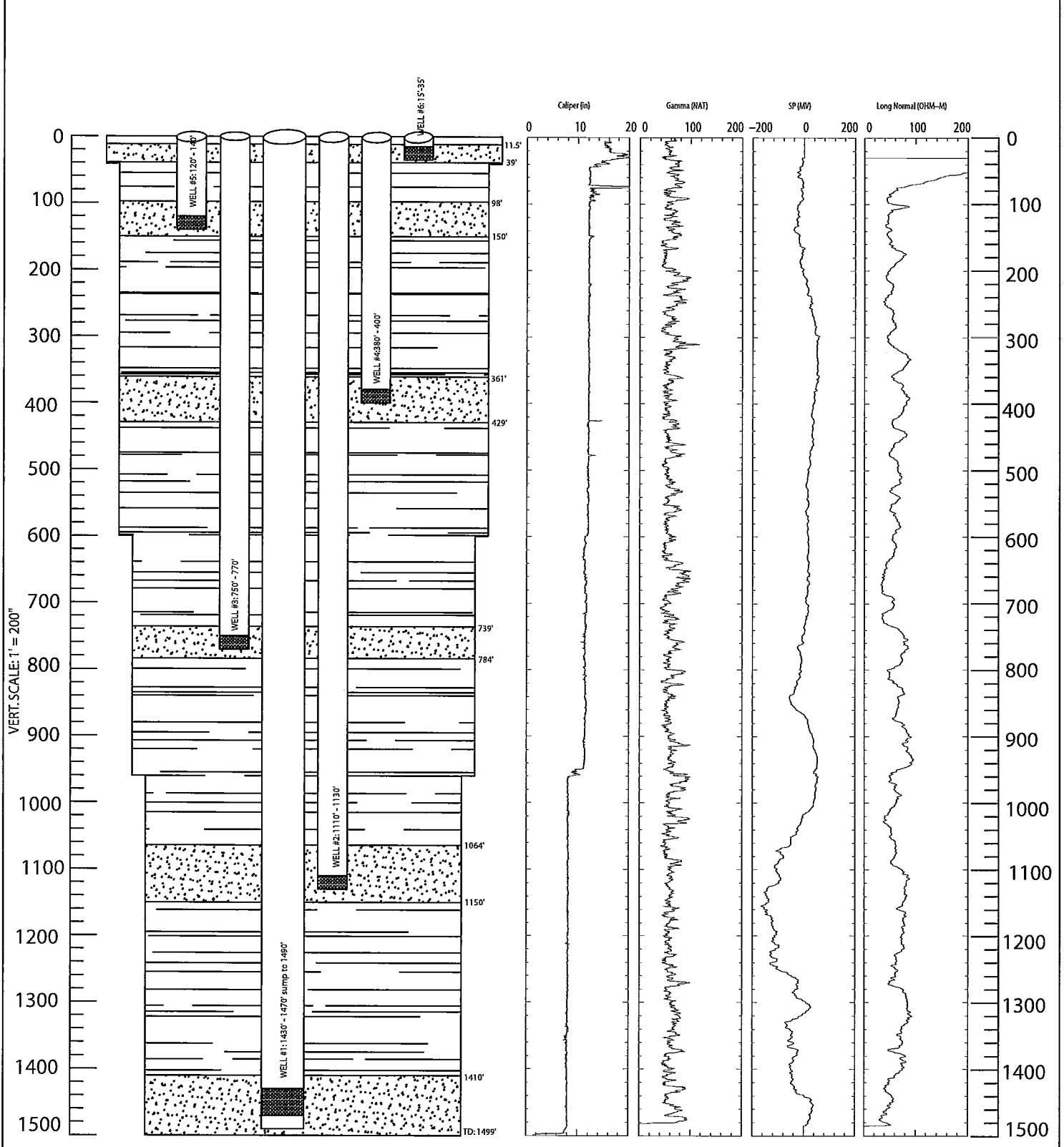
ROAD LOG: Key intersection is the intersection of CA-79 and Interstate Highway 15. Directions given are from Interstate Highway 15 North.

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.

ADDITIONAL INFORMATION:

Additional information for Pala Park Groundwater Monitoring Well can be found in Santa Margarita River Watershed 2007 Annual Watermaster Report including geophysical logs; core, shaker, and sieve lithological logs; and well completion reports. Information can also be found at the following web site: <http://ca.water.usgs.gov/temecula/>.

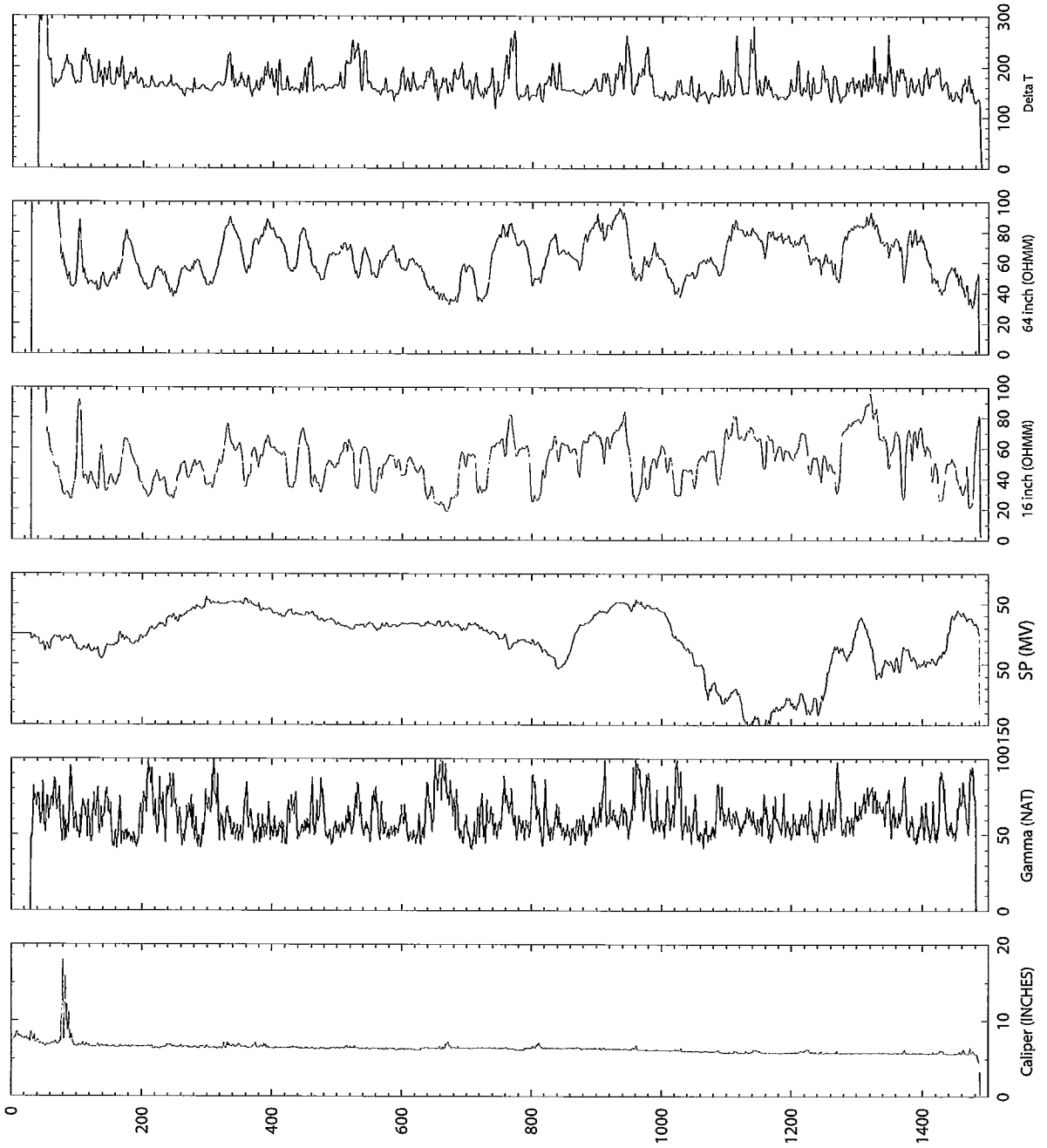
SITE I.D.: 3328191170706 01-06	COMPLETION DATE: 9/30/06
STATION NAME: 08S/02W-19A 01-06	TOTAL DEPTH: 1499'
USGS SITE: TMPP- Temecula Pala Park	WELL FINISH: VAULT
OWNER: Rancho California Water Agency	



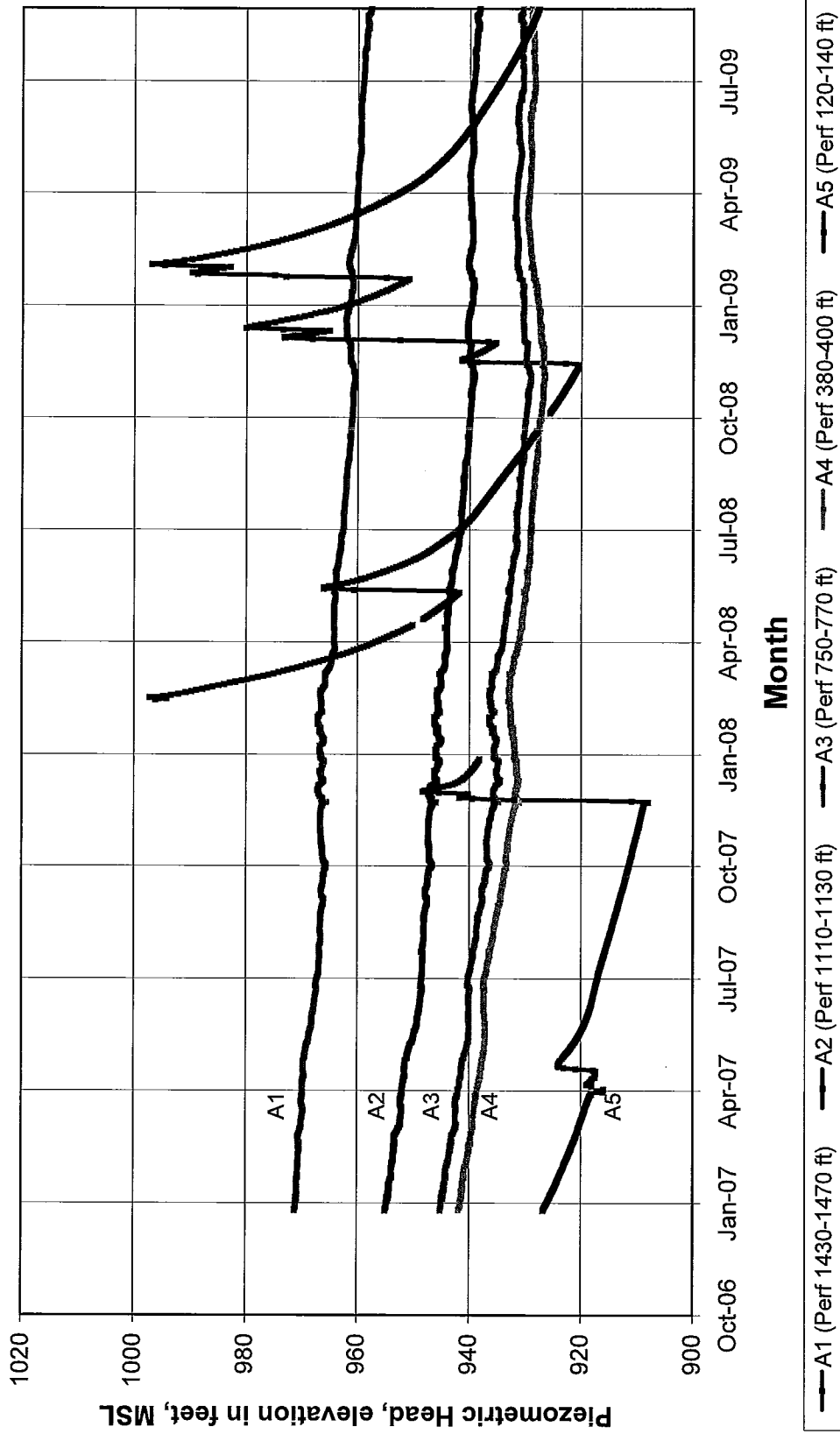
DRILL TYPE: HYDRAULIC MUD ROTARY	DRILLER: USGS WESTERN REGION CREW
CASING TYPE: SCHD. 80 PVC 20' SEC.	SCREEN TYPE: SCHD. 80 1.5"x0.02"SLOTS
GROUT: PUREGOLD GROUT @ 30% SOLIDS	SAND: RMC LONESTAR #3
BOREHOLE DIA: 15":0'-41'; 12.25":41'-600'; 10.5":600'-960'; 8.5":960'-1499'	E2-3

TMPP

Pacific Surveys Logs



**Piezometric Head for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
December 27, 2006 through September 30, 2009**



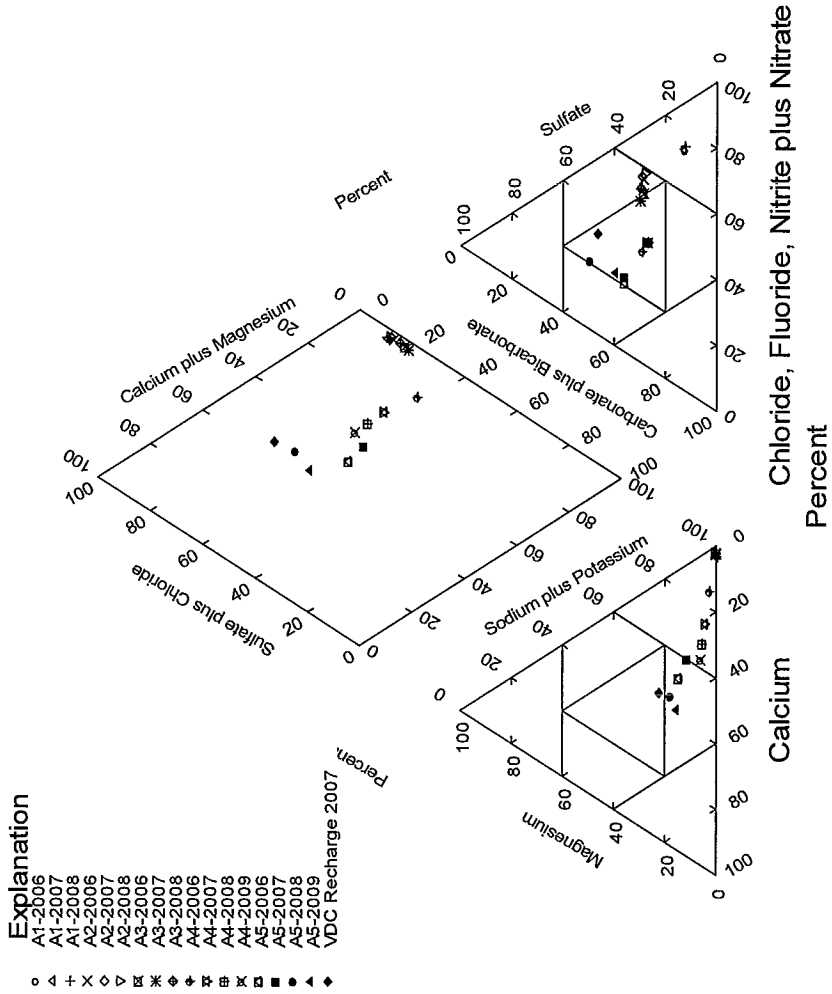
**End-of Month Piezometric Head for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
(elevation in feet, MSL)**

October 2006 through September 2009

Month	Well A1	Well A2	Well A3	Well A4	Well A5
Oct 06	---	---	---	---	---
Nov	---	---	---	---	---
Dec	970.97	954.73	944.95	941.54	926.31
Jan 07	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
Oct	966.47	947.27	936.82	932.97	910.16
Nov	965.56	945.91	934.77	931.17	907.93
Dec	966.19	945.53	934.87	931.51	938.87
Jan 08	966.58	945.57	935.68	932.18	---
Feb	966.64	945.74	936.34	932.92	990.70
Mar	964.54	944.35	934.79	931.71	963.22
Apr	964.15	943.91	933.45	930.56	948.24
May	963.78	943.12	932.52	929.58	960.88
Jun	962.96	942.00	931.55	929.03	945.64
Jul	962.35	941.37	931.37	928.83	938.27
Aug	961.88	940.86	930.74	928.18	933.20
Sep	961.24	940.12	930.21	927.64	928.37
Oct	960.73	939.62	929.45	926.74	923.70
Nov	961.37	940.01	929.91	926.84	941.33
Dec	962.17	940.36	930.44	927.41	976.14
Jan 09	960.88	939.14	930.34	928.01	953.31
Feb	961.24	939.84	931.38	929.02	982.94
Mar	960.34	939.64	931.76	929.53	960.46
Apr	959.98	939.92	931.39	929.10	948.52
May	959.61	939.56	931.25	929.11	941.61
Jun	959.46	939.83	931.20	928.82	937.06
Jul	958.83	938.98	930.43	928.39	932.94
Aug	958.24	938.57	930.50	928.68	929.33
Sep	957.20	937.87	930.43	928.81	926.62

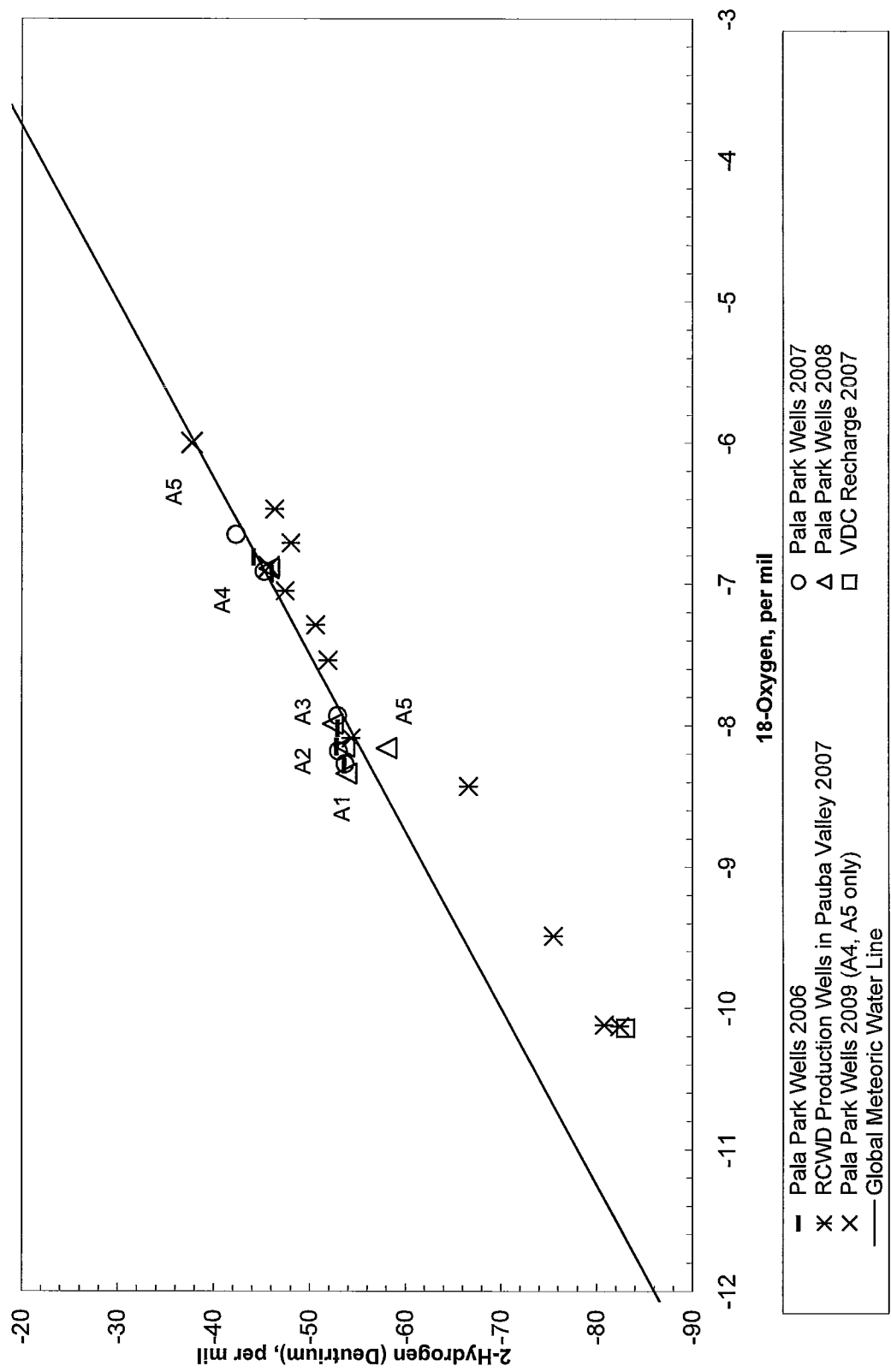
Tri-Linear Diagram

Pala Park Wells



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

Stable Isotope Diagram Pala Park Well (8S/2W-19A1-6)



Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 11/8/2006	Well A2 11/2/2006	Well A3 11/1/2006	Well A4 11/6/2006	Well A5 11/8/2006
3	Sampling date						
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		665	821	750	831	687
95	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius		M	M	M	M	0.00002
300	Dissolved oxygen, water, unfiltered, calculated, milligrams per liter		0.40	0.29	0.30	0.53	6.2
400	pH, water, unfiltered, field, standard units		9.4	9.7	9.4	8.6	7.8
602	Total nitrogen, water, filtered, milligrams per liter		9.5	9.7	9.4	8.6	8
607	Organic nitrogen, water, filtered, milligrams per liter			0.08	0.04 E	0.05 E	
608	Ammonia, water, filtered, milligrams per liter as nitrogen		0.028	0.041	0.046	0.041	< 0.020
613	Nitrite, water, filtered, milligrams per liter as nitrogen	1 (a)		0.010	0.011	0.008	0.004
623	Nitrate, water, filtered, milligrams per liter as nitrogen			0.12	0.09 E	0.04 E	0.13
631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen			< 0.06	0.05 E	0.05 E	2.60
660	Orthophosphate, water, filtered, milligrams per liter			3.33	1.88	1.88	0.741
666	Phosphorus, water, filtered, milligrams per liter			2.41	1.02	1.32	0.67
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus			0.765	1.08	0.614	0.242
900	Hardness, water, milligrams per liter as calcium carbonate		8	9	8	57	160
904	Calcium, water, filtered, milligrams per liter		3.14	3.32	2.62	18.7	44.9
915	Magnesium, water, filtered, milligrams per liter		0.106	0.058	0.288	2.45	12.1
925	Sodium, water, filtered, milligrams per liter		127	152	138	145	81.4
930	Sodium adsorption ratio, water, number		19	23	22	8.4	2.8
932	Sodium fraction of cations, water, percent in equivalents of major cations		97	97	97	84	52
936	Potassium, water, filtered, milligrams per liter			0.96	1.26	2.39	2.10
940	Chloride, water, filtered, milligrams per liter		138	131	112	87.1	40.1
945	Sulfate, water, filtered, milligrams per liter		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	13.0	14.6	17.2	28.3
1000	Arsenic, water, filtered, micrograms per liter	10 (c)	25.7	20.4	17.1	6.0	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		23.0	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		95.3	127	82.4	54.3	4.1
1130	Lithium, water, filtered, micrograms per liter	1000 (n)	4	5	4	7	6
1145	Selenium, micrograms per liter	50 (o)					
4022	Terbutylazine, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 11/8/2006	Well A2 11/2/2006	Well A3 11/1/2006	Well A4 11/6/2006	Well A5 11/8/2006
	Sampling date						
4025	Hexazinone, water, filtered, recoverable, micrograms per liter					< 0.026	< 0.026
4029	Bromacil, water, filtered, recoverable, micrograms per liter					< 0.006	0.036
4035	Simazine, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
4036	Prometryn, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01
4037	Prometon, water, filtered, recoverable, micrograms per liter					< 0.014	< 0.014
4040	2-Chloro-4-isopropylamino-6-amino-s-triazine, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
4095	Fonofos, water, filtered, recoverable, micrograms per liter					0.58	11.14
7000	Tritium, water, unfiltered, picocuries per liter		-0.19	0.35	0.45		
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						
34248	Benz(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
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						
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						
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
34476	Trichloroethene, water, filtered, recoverable, micrograms per liter						
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	1,1,1-Trichloroethene, water, unfiltered, recoverable, micrograms per liter	5				< 0.04	< 0.04
34516	1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	1				< 0.10	< 0.10
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					< 0.14	< 0.14
34698	Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter					< 0.4	< 0.4
34698	Naphthalene, water, unfiltered, recoverable, micrograms per liter						
34699	trans-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				< 0.1	< 0.1

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 11/8/2006	Well A2 11/2/2006	Well A3 11/1/2006	Well A4 11/6/2006	Well A5 11/8/2006
	Sampling date						
34704	cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter					< 0.06	< 0.06
38454	Dicoflthos, water, filtered, recoverable, micrograms per liter	0.5				< 0.08	< 0.08
38775	Dichlorvos, water, filtered, recoverable, micrograms per liter					< 0.01	< 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	Melachlor, water, filtered, recoverable, micrograms per liter					< 0.010	< 0.010
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
49933	C-14, water, filtered, percent modern			17.27	13.56	63.16	
49934	C-14, counting error, water, filtered, percent modern						
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						
50359	Metaxyl, water, filtered, recoverable, micrograms per liter						
61209	Perchlorate, water, unfiltered, recoverable, micrograms per liter	6				< 0.053	< 0.053
61585	Cyfluthrin, water, filtered, recoverable, micrograms per liter					< 0.046	< 0.046
61586	Cypermethrin, water, filtered, recoverable, micrograms per liter					< 0.03	< 0.03
61591	Fenamiphos, water, filtered, recoverable, micrograms per liter					< 0.026	< 0.026
61593	Iprodione, water, filtered, recoverable, micrograms per liter					< 0.011	< 0.011
61594	Isofenphos, water, filtered, recoverable, micrograms per liter					< 0.007	< 0.007
61596	Metaxyl, water, filtered, recoverable, micrograms per liter					< 0.009	< 0.009
61598	Methidathion, water, filtered, recoverable, micrograms per liter					< 0.033	< 0.033
61599	Myzobutanil, water, filtered, recoverable, micrograms per liter					< 0.008	< 0.008
61601	Phosmet, water, filtered, recoverable, micrograms per liter					< 0.035	< 0.035
61610	Tribuophos, water, filtered, recoverable, micrograms per liter					< 0.006	< 0.006
61618	2-Chloro-2,6-diethylacetamide, water, filtered, recoverable, micrograms per liter					< 0.01	< 0.01
61620	2-Ethyl-6-methylaniline, water, filtered, recoverable, micrograms per liter					< 0.004	< 0.004
61623	3,4-Dichloroaniline, water, filtered, recoverable, micrograms per liter					< 0.005	< 0.005
61633	4-Chloro-2-methylphenol, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
61635	Azinphos-methyl oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.06	< 0.06
61636	Chlorpyrifos oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.02	< 0.02
61644	Ethion monoxon, water, filtered, recoverable, micrograms per liter					< 0.053	< 0.053
61645	Fenamiphos sulfone, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
61646	Fenamiphos sulfoxide, water, filtered, recoverable, micrograms per liter					< 0.039	< 0.039
61652	Malaonoxon, water, filtered, recoverable, micrograms per liter					< 0.02	< 0.02
61664	Methyl paraoxon, water, filtered, recoverable, micrograms per liter					< 0.03	< 0.03
61666	Phorate oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.05	< 0.05
61668	Phosmet oxygen analog, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
61674	Terbufos oxygen analog sulfone, water, filtered, recoverable, micrograms per liter						
61705	Diethoxyphenol, water, filtered, recoverable, micrograms per liter						
61706	Monooxyphenol, water, filtered, recoverable, micrograms per liter						
62005	Cotinine, water, filtered, recoverable, micrograms per liter						

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

Code	Parameter	MCL	Well A1 11/8/2006	Well A2 11/2/2006	Well A3 11/1/2006	Well A4 11/6/2006	Well A5 11/8/2006
	Sampling date						
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	Isoborned, 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-Sitogastanol, 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	Tricosan, water, filtered, recoverable, micrograms per liter						
62091	Triethyl citrate, water, filtered, recoverable, micrograms per liter						
62092	Triphenyl phosphate, water, filtered, recoverable, micrograms per liter						
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	Desulfinyfipronil amide, water, filtered, recoverable, micrograms per liter					< 0.029	0.008 E
62854	Total nitrogen, (NH3+NO2+NO3+Organic), filtered, milligrams per liter					< 0.012	< 0.012
63790	Perchlorate, water, filtered, recoverable, micrograms per liter	6					
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 E	446 E	404 E	477 E	433
70303	Residue, water, filtered, tons per acre-foot		0.04	0.05	0.06	0.05	
71846	Ammonia, water, filtered, milligrams per liter as NH4				0.184 E	0.174 E	11.5
71851	Nitrate, water, filtered, milligrams per liter	45 (q)			0.038	0.025	0.012
71856	Nitrite, water, filtered, milligrams per liter				0.310	0.517	0.025
71865	Iodide, water, filtered, milligrams per liter				0.31	0.42	0.06
71870	Bromide, water, filtered, milligrams per liter				46.61	60.97	83.74
72019	Depth to water level, feet below land surface				70.00	73.36	

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 11/8/2006	Well A2 11/2/2006	Well A3 11/1/2006	Well A4 11/6/2006	Well A5 11/8/2006
	Sampling date						
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	0.70
76002	Rn-222, 2-sigma combined uncertainty, water, unfiltered, picocuries per liter						
77041	Carbon disulfide, water, unfiltered, micrograms per liter					0.10	< 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					< 0.04	< 0.04
77173	1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.06	< 0.06
77220	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter					< 0.1	< 0.1
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	o-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					< 0.40	< 0.40
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
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
81532	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
82081	C-13/C-12 ratio, water, unfiltered, per mil			-16.29	-16.37	-10.71	< 1
82082	Deuterium/Protium ratio, water, unfiltered, per mil		-53.80	-52.80	-52.90	-46.00	-44.10
82085	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil		-8.28	-8.15	-8.02	-6.93	-6.81
82303	Rn-222, water, unfiltered, picocuries per liter						
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
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

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
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Code	Parameter	MCL	Well A1 11/8/2006	Well A2 11/2/2006	Well A3 11/1/2006	Well A4 11/6/2006	Well A5 11/8/2006
	Sampling date						
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	Propylamide, 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
83795	m-Xylene plus p-Xylene, water, unfiltered, recoverable, micrograms per liter		647	820	727	< 0.08	< 0.08
90095	Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter, at 25 degrees Celsius					810	674
90851	Triholmethanes, water, unfiltered, calcd, micrograms per liter						M
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						
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 schedule, water, unfiltered, percent recovery					62.5	62.3
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. EPA STORET 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. 1017.
- (g) MCL shown for U.S. EPA STORET No. 1094.
- (h) MCL shown for U.S. EPA STORET No. 1042.
- (i) MCL shown for U.S. EPA STORET No. 1059.
- (j) MCL shown for U.S. EPA STORET No. 1067.
- (k) MCL shown for U.S. EPA STORET 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.
- (q) MCL shown for U.S. EPA STORET No. 71850.

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.

V--Biased results from contamination.

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

Code	Parameter	MCL	Well A1 9/27/2007	Well A2 9/20/2007	Well A3 9/25/2007	Well A4 9/25/2007	Well A5 9/20/2007
3	Sampling date						
10	Temperature, water, degrees Celsius		25.5	21.0	21.1	21.1	21.0
28	Agency analyzing sample, code		80020	80020	80020	80020	80020
59	Flow rate, instantaneous, gallons per minute		653	789	786	686	685
95	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius		M	M	M	0.00001	0.00001
191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter		< 0.2	< 0.2	0.1	0.1	5.7
300	Dissolved oxygen, water, unfiltered, milligrams per liter		9.5	9.4	9.1	8.3	7.9
400	pH, water, unfiltered, field, standard units		9.6	9.4	9.2	8.3	7.9
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	< 0.020
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						2.12
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		0.066	1.41	6.03	1.02	3.07
666	Phosphorus, water, filtered, milligrams per liter						
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus		0.021	0.459	1.97	0.332	1.00
900	Hardness, water, milligrams per liter as calcium carbonate		10	8	10	89	130
904	Noncarb hardness, water filtered field, milligrams per liter as calcium carbonate						
915	Calcium, water, filtered, milligrams per liter		3.87	2.87	3.64	29.5	38.0
925	Magnesium, water, filtered, milligrams per liter		0.029	0.078	0.337	3.56	9.29
930	Sodium, water, filtered, milligrams per liter		132	151	169	116	90.7
931	Sodium adsorption ratio, water, number		18	24	23	5.3	3.4
932	Sodium fraction of cations, water, percent in equivalents of major cations		97	97	97	73	59
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	131	121	80.8	44.1
945	Sulfate, water, filtered, milligrams per liter	600	33.3	95.2	101	79.9	108
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	14.8	17.7	24.3
1000	Arsenic, water, filtered, micrograms per liter	10 (c)	31.3	18.7	13.1	4.5	4.0
1005	Barium, water, filtered, micrograms per liter	1000 (d)	4	3	3	14	22
1010	Beryllium, micrograms per liter	4 (e)					
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)	0.09 E	0.31	0.2	0.21	1.10
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	0.22 E	0.70	0.87	1.70
1048	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	0.4	0.9	2.8	12.4	0.7
1057	Thallium, micrograms per liter	2 (i)	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
1060	Molybdenum, micrograms per liter		208	251	208	11.5	6.8
1065	Nickel, micrograms per liter	100 (j)	0.07	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		28.1	17.3	20.3	257	201
1085	Vanadium, micrograms per liter		78.6	32.2	7.3	1.1	21.5
1090	Zinc, micrograms per liter	5000 (l)	< 0.6	0.70	0.70	1.0	2.8
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)	43.1	100	139	27.0	3.3
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	0.08	0.09	0.05 E	7.5
4022	Terbutylazine, water, filtered, recoverable, micrograms per liter						

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 9/27/2007	Well A2 9/20/2007	Well A3 9/25/2007	Well A4 9/25/2007	Well A5 9/20/2007
	Sampling date						
4025	Hexazinone, water, filtered, recoverable, micrograms per liter						
4029	Bromadiolol, water, filtered, recoverable, micrograms per liter						
4035	Simazine, water, filtered, recoverable, micrograms per liter						
4036	Promethyn, 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		0.6	0.3	-0.6	0.3	8.3
29801	Uranium, natural, micrograms per liter		0.06	0.13	0.43	2.17	2.16
30217	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate		46	58	92	132	158
32101	Dibromomethane, water, unfiltered, recoverable, micrograms per liter		< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
32102	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		< 0.1	< 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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
32106	Trichloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.02	< 0.04	< 0.04	< 0.04	0.04 V
34010	Toluene, water, unfiltered, recoverable, micrograms per liter	150	< 0.02	0.02 V	0.04 E	< 0.02	< 0.02
34030	Benzene, water, unfiltered, recoverable, micrograms per liter	1	< 0.02	0.03 E	0.02 E	< 0.02	< 0.02
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	0.2 (p)					
34248	Benz[a]pyrene, water, filtered, recoverable, micrograms per liter						
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	0.1 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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
34409	Isophorone, water, filtered, recoverable, micrograms per liter						
34413	Bromomethane, water, unfiltered, recoverable, micrograms per liter		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
34418	Chloromethane, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	0.6 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	Tetrachloroethane, 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	1	< 0.06	< 0.04	< 0.04	< 0.04	< 0.04
34516	1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
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	< 0.02	< 0.02	< 0.02	< 0.02
34551	1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
34566	1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5	< 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						
34688	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

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 9/27/2007	Well A2 9/20/2007	Well A3 9/25/2007	Well A4 9/25/2007	Well A5 9/20/2007
	Sampling date						
34704	cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter						
38454	Dicoflthos, water, filtered, recoverable, micrograms per liter	0.5	< 0.10	< 0.06	< 0.06	< 0.06	< 0.06
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	0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
39175	Vinyl chloride, water, unfiltered, recoverable, micrograms per liter	5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
39180	Trichloroethene, water, unfiltered, recoverable, micrograms per liter						
39381	Dieldrin, water, filtered, recoverable, micrograms per liter						
39415	Melolachlor, 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		< 0.1	< 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						
49933	C-14, water, filtered, percent modem		3.44		17.52	67.68	88.09
49934	C-14, counting error, water, filtered, percent modem		0.12		0.22	0.31	0.37
49991	Methyl acrylate, water, unfiltered, recoverable, micrograms per liter		< 0.6	< 0.4	< 0.4	< 0.4	< 0.4
49999	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
50000	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
50002	Bromoethane, water, unfiltered, recoverable, micrograms per liter		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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		< 0.06	< 0.04	< 0.04	< 0.04	< 0.04
50305	Caffeine, water, filtered, recoverable, micrograms per liter						
50359	Metolaxyl, water, filtered, recoverable, micrograms per liter						
61209	Perchlorate, water, unfiltered, recoverable, micrograms per liter	6	< 0.5	< 0.5	< 1	< 1	< 0.5
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	Metolaxyl, water, filtered, recoverable, micrograms per liter						
61598	Methidathion, water, filtered, recoverable, micrograms per liter						
61599	Mydobutanil, 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-methylaminine, 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						
61648	Fenamiphos sulfoxide, water, filtered, recoverable, micrograms per liter						
61652	Malaaxon, 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	Diethoxyethylphenol, water, filtered, recoverable, micrograms per liter						
61706	Monooethoxyethylphenol, water, filtered, recoverable, micrograms per liter						
62005	Cotinine, water, filtered, recoverable, micrograms per liter						

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 9/27/2007	Well A2 9/20/2007	Well A3 9/25/2007	Well A4 9/25/2007	Well A5 9/20/2007
	Sampling date						
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	Diethoxydiphenol, 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-Stigmasterol, 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		0.04 E	0.06	0.11	0.04 E	2.21
63790	Perchlorate, water, filtered, recoverable, micrograms per liter		<0.1	0.7	0.26	<0.1	0.23
70301	Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter		358	460	471	397	429
70301	Residue, water, filtered, sum of constituents, milligrams per liter		354 E	439 E	475 E	410 E	425 E
70303	Residue, water, filtered, tons per acre-foot						
71848	Ammonia, water, filtered, milligrams per liter as NH4		0.03	0.03	0.07	0.04	
71851	Nitrate, water, filtered, milligrams per liter	45 (Q)					9.37
71856	Nitrite, water, filtered, milligrams per liter						0.008
71865	Iodide, water, filtered, milligrams per liter						
71870	Bromide, water, filtered, milligrams per liter						
72019	Depth to water level, feet below land surface		0.31	0.40	0.36	0.26	0.12

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 9/27/2007	Well A2 9/20/2007	Well A3 9/25/2007	Well A4 9/25/2007	Well A5 9/20/2007
	Sampling date						
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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
75985	Trilium 2-sigma combined uncertainty, water, unfiltered, picocuries per liter		1.0	1.0	1.0	1.0	1.0
76002	Rn-222, 2-sigma combined uncertainty, water, unfiltered, picocuries per liter		20	21	18	19	21
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-Dichloropropene, 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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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	< 0.06	< 0.06	< 0.06	< 0.06
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		< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
81552	Acetone, water, unfiltered, recoverable, micrograms per liter		< 4	< 6	< 6	< 6	< 6
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		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
81577	Diisopropyl ether, water, unfiltered, recoverable, micrograms per liter		< 0.06	< 0.06	< 0.06	< 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	< 1	< 1	< 1	< 1
82081	C-13/C-12 ratio, water, unfiltered, per mil		-19.11		-14.90	-14.87	-15.57
82082	Deuterium/Protium ratio, water, unfiltered, per mil		-53.70	-53.00	-52.90	-45.20	-42.30
82085	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil		-8.27	-8.18	-7.93	-6.91	-6.65
82303	Rn-222, water, unfiltered, picocuries per liter		320	270	200	210	280
82346	Ethion, water, filtered, recoverable, micrograms per liter		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
82625	1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter						
82630	Methibuzin, 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						
82664	Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82687	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						

Source: USGS California Water Science Center.

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

Code	Parameter	MCL	Well A1 9/27/2007	Well A2 9/20/2007	Well A3 9/25/2007	Well A4 9/25/2007	Well A5 9/20/2007
	Sampling date						
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	DCPA, 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	< 0.08
90095	Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius		667	794	805	694	686
90851	Triholmethanes, water, unfiltered, calcd, micrograms per liter						M
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						
99832	1,2-Dichloroethane-d4, surrogate, Schedule 2090, water, unfiltered, percent recovery		127	130	134	133	131
99833	Toluene-d8, surrogate, Schedule 2090, water, unfiltered, percent recovery		93.6	95.0	96.8	97.6	93.6
99834	1-Bromo-4-fluorobenzene, surrogate, VOC schedules, water, unfiltered, percent recovery		71.0	72.1	73.4	73.9	73.8
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 NWMS data parameter number except as follows:

- (a) MCL shown for U.S. EPA STORET No. 620.
- (b) MCL shown for U.S. EPA STORET 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. 1094.
- (h) MCL shown for U.S. EPA STORET No. 1042.
- (i) MCL shown for U.S. EPA STORET No. 1059.
- (j) MCL shown for U.S. EPA STORET No. 1067.
- (k) MCL shown for U.S. EPA STORET 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.
- (q) MCL shown for U.S. EPA STORET No. 71850.

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.

V--Biased results from contamination.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
April 2008**

Code	Parameter	MCL	Well A1 4/22/2008	Well A2 4/23/2008	Well A3 4/23/2008	Well A4 4/23/2008	Well A5 4/23/2008
3	Sampling date						
10	Temperature, water, degrees Celsius		22.4	24.9	24.4	22.5	20.1
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		656	772	756	670	642
191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter		M	M	M	0.00001	0.00003 E
300	Dissolved oxygen, water, unfiltered, milligrams per liter						
400	pH, water, unfiltered, field, standard units		9.2	9.3	9.3	8.1	7.6
403	pH, water, unfiltered, laboratory, standard units		9.6	9.5	9.3	8.2	7.7
602	Total nitrogen, water, filtered, milligrams per liter						2.5 E
607	Organic nitrogen, water, filtered, milligrams per liter				0.05 E		
608	Ammonia, water, filtered, milligrams per liter as nitrogen		0.027	0.029	0.045	0.023	< 0.020
613	Nitrite, water, filtered, milligrams per liter as nitrogen		< 0.002	< 0.002	0.002 E	< 0.002	< 0.002
618	Nitrate, water, filtered, milligrams per liter as nitrogen	1 (a)	< 0.14	< 0.14		< 0.14	0.08 E
623	Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen		< 0.04	< 0.04	< 0.04	< 0.04	2.41
631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen		0.044	0.071	1.78	1.29	0.533
660	Orthophosphate, water, filtered, milligrams per liter		< 0.04	0.24	0.56	0.41	0.17
666	Phosphorus, water, filtered, milligrams per liter		0.014	0.251	0.579	0.420	0.174
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus		9 E	7	7	100	160
900	Hardness, water, milligrams per liter as calcium carbonate						61
904	Noncarb hardness, water filtered field, milligrams per liter as calcium carbonate						
915	Calcium, water, filtered, milligrams per liter		3.48	2.60	2.58	33.0	44.2
925	Magnesium, water, filtered, milligrams per liter		0.014 E	0.079	0.180	4.13	13.1
930	Sodium, water, filtered, milligrams per liter		119	144	141	94.0	61.8
931	Sodium adsorption ratio, water, number		18 E	24	23	4.1	2.5
932	Sodium fraction of cations, water, percent in equivalents of major cations		97 E	98	97	67	45
935	Potassium, water, filtered, milligrams per liter		0.33	0.72	0.99	2.17	1.99
940	Chloride, water, filtered, milligrams per liter		140	130	118	79.8	36.9
945	Sulfate, water, filtered, milligrams per liter		33.3	86.5	90.5	76.4	141
950	Fluoride, water, filtered, milligrams per liter	2 (b)	4.62	3.39	0.94	0.29	0.39
955	Silica, water, filtered, milligrams per liter		19.3	18.4	14.1	18.1	28.6
1000	Arsenic, water, filtered, micrograms per liter	10 (c)	31.2	19.3	13.1	4.7	1.1
1005	Barium, water, filtered, micrograms per liter	1000 (d)	4.7	4.0	2.3	14.9	40.8
1010	Beryllium, micrograms per liter	4 (e)					
1020	Boron, water, filtered, micrograms per liter		125	130	91	98	120
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	< 8	9	< 8	5 E	< 8
1049	Lead, micrograms per liter						
1056	Manganese, water, filtered, micrograms per liter	50	0.4	1.5	1.0	16.4	0.5
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		27.3	18.1	19.4	299	226
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)	35.6	115	87.8	10.8	1.4 E
1130	Lithium, water, filtered, micrograms per liter		5	5	4	8	6
1145	Selenium, micrograms per liter	50 (o)					
4022	Terbutylazine, water, filtered, recoverable, micrograms per liter						

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
April 2008**

Code	Parameter	MCL	Well A1 4/22/2008	Well A2 4/23/2008	Well A3 4/23/2008	Well A4 4/23/2008	Well A5 4/23/2008
	Sampling date						
4025	Hexazinone, water, filtered, recoverable, micrograms per liter						
4029	Bromacil, water, filtered, recoverable, micrograms per liter					<0.4	<0.4
4035	Simazine, water, filtered, recoverable, micrograms per liter						
4036	Promethyn, 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						<0.2
4095	Fonofos, water, filtered, recoverable, micrograms per liter						
7000	Tritium, water, unfiltered, picocuries per liter		-0.35	-0.13	0.32	0.26	10.78
22703	Uranium, natural, micrograms per liter						
29801	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate		46	56	68	129	108
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	150				<0.02	0.04 E
34010	Toluene, water, unfiltered, recoverable, micrograms per liter	1				<0.02	<0.02
34030	Benzene, water, unfiltered, recoverable, micrograms per liter					<0.02	<0.02
34215	Acrylonitrile, water, filtered, recoverable, micrograms per liter					<0.4	<0.4
34221	Anthracene, water, filtered, recoverable, micrograms per liter					<0.1	<0.1
34248	Benz[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				<0.1	<0.1
34311	Chloroethane, water, unfiltered, recoverable, micrograms per liter	300				<0.02	<0.02
34371	Ethylbenzene, water, unfiltered, recoverable, micrograms per liter					<0.1	<0.1
34377	Fluoranthene, water, filtered, recoverable, micrograms per liter					<0.04	<0.04
34396	Hexachloroethane, water, unfiltered, recoverable, micrograms per liter					<0.1	<0.1
34409	Isophorone, water, filtered, recoverable, micrograms per liter					M	M
34413	Chloromethane, water, unfiltered, recoverable, micrograms per liter					<0.4	<0.4
34423	Dichloromethane, water, unfiltered, recoverable, micrograms per liter					<0.1	<0.1
34443	Naphthalene, water, filtered, recoverable, micrograms per liter	5				<0.04	<0.04
34462	Phenanthrene, water, filtered, recoverable, micrograms per liter					<0.1	<0.1
34466	Phenol, water, filtered, recoverable, micrograms per liter					<0.1	<0.1
34470	Pyrene, water, filtered, recoverable, micrograms per liter					<0.2	<0.2
34475	Tetrachloroethene, water, unfiltered, recoverable, micrograms per liter	5				<0.1	<0.1
34476	Tetrachloroethane, water, filtered, recoverable, micrograms per liter					<0.04	<0.04
34488	Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter	150				<0.1	<0.1
34496	1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	5				<0.08	<0.08
34501	1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6				<0.04	<0.04
34506	1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	200				<0.02	<0.02
34511	1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	5				<0.06	<0.06
34516	1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	1				<0.10	<0.10
34536	1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	600				<0.10	<0.10
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	5				<0.04	<0.04
34571	1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5				<0.02	<0.02
34572	1,4-Dichlorobenzene, water, filtered, recoverable, micrograms per liter					<0.02	<0.02
34686	Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter					<0.1	<0.1
34696	Naphthalene, water, unfiltered, recoverable, micrograms per liter					<0.14	<0.14
34699	trans-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				<0.2	<0.2

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
April 2008**

Code	Parameter	MCL	Well A1 4/22/2008	Well A2 4/23/2008	Well A3 4/23/2008	Well A4 4/23/2008	Well A5 4/23/2008
	Sampling date						
34704	cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter						
38454	Dichlorophos, water, filtered, recoverable, micrograms per liter	0.5					
38775	Dichlorovos, 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		43	52	68		< 0.1
39175	Vinyl chloride, water, unfiltered, recoverable, micrograms per liter	0.5					122
39180	Trichloroethene, water, unfiltered, recoverable, micrograms per liter	5					104
39381	Dieldrin, water, filtered, recoverable, micrograms per liter						< 0.02
39415	Mexolachlor, water, filtered, recoverable, micrograms per liter						< 0.1
39532	Malathion, water, filtered, recoverable, micrograms per liter						< 0.1
39572	Diazinon, water, filtered, recoverable, micrograms per liter						< 0.1
39632	Atrazine, water, filtered, recoverable, micrograms per liter						< 0.1
39702	Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter						< 0.1
46342	Alachlor, water, filtered, recoverable, micrograms per liter						< 0.1
49286	Acetochlor, water, filtered, recoverable, micrograms per liter						
49295	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
49933	C-14, water, filtered, percent modern		2.91	14.29		69.32	88.12
49934	C-14, counting error, water, filtered, percent modern		0.11	0.21		0.35	0.41
49991	Methyl acrylate, water, unfiltered, recoverable, micrograms per liter						< 0.6
49999	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter						< 0.1
50000	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter						< 0.1
50002	Bromoethene, water, unfiltered, recoverable, micrograms per liter						< 0.1
50004	tert-Butyl ethyl ether, water, unfiltered, recoverable, micrograms per liter						< 0.04
50005	Methyl tert-pentyl ether, water, unfiltered, recoverable, micrograms per liter						< 0.06
50305	Caffeine, water, filtered, recoverable, micrograms per liter						< 0.1
50359	Metolaxyl, water, filtered, recoverable, micrograms per liter						< 0.1
61209	Perchlorate, water, unfiltered, recoverable, micrograms per liter						
61585	Cyfluthrin, water, filtered, recoverable, micrograms per liter	6					
61586	Oxpermethrin, water, filtered, recoverable, micrograms per liter						
61591	Fenamiphos, water, filtered, recoverable, micrograms per liter						
61593	Iprodione, water, filtered, recoverable, micrograms per liter						
61594	Isophos, water, filtered, recoverable, micrograms per liter						
61596	Metolaxyl, water, filtered, recoverable, micrograms per liter						
61598	Methidathion, water, filtered, recoverable, micrograms per liter						
61599	Mydbutanil, 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-dichloroacetanilide, water, filtered, recoverable, micrograms per liter						
61620	2-Ethyl-6-methylamine, 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	Malaaxon, 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	Diethoxyphenol, water, filtered, recoverable, micrograms per liter						< 1
61706	Monoehtoxyphenol, water, filtered, recoverable, micrograms per liter						< 1
62005	Cotinine, water, filtered, recoverable, micrograms per liter						< 0.400

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
April 2008**

Code	Parameter	MCL	Well A1 4/22/2008	Well A2 4/23/2008	Well A3 4/23/2008	Well A4 4/23/2008	Well A5 4/23/2008
	Sampling date						
62054	1-Methylnaphthalene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62055	2,6-Dimethylnaphthalene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62056	2-Methylnaphthalene, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62057	3-beta-Coprostanol, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
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					< 0.1	< 0.1
62061	4-Octylphenol, water, filtered, recoverable, micrograms per liter					< 0.16	< 0.16
62062	4-tert-Octylphenol, water, filtered, recoverable, micrograms per liter					< 1	< 1
62063	5-Methyl-1H-benzotriazole, water, filtered, recoverable, micrograms per liter					< 0.08	< 0.08
62064	Acetophenone, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
62065	Acetyl hexamethyl tetrahydro naphthalene, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62066	9,10-Anthraquinone, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62067	Benzophenone, water, filtered, recoverable, micrograms per liter					< 2	< 2
62068	beta-Sitosterol, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62070	Camphor, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62071	Carbazole, water, filtered, recoverable, micrograms per liter					< 1	< 1
62072	Cholesterol, water, filtered, recoverable, micrograms per liter					< 0.04	< 0.04
62073	D-Limonene, water, filtered, recoverable, micrograms per liter					< 0.5	< 0.5
62075	Hexahydrohexamethyl cyclopentabenzopyran, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
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					< 0.2	< 0.2
62079	Isouquinoline, water, filtered, recoverable, micrograms per liter					< 0.2	< 0.2
62080	Menthol, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62081	Methyl salicylate, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62082	DEET, water, filtered, recoverable, micrograms per liter					< 5	< 5
62083	Diethoxydiphenyl ether, water, filtered, recoverable, micrograms per liter					< 0.18	< 0.18
62084	p-Cresol, water, filtered, recoverable, micrograms per liter					< 1	< 1
62085	4-Nonylphenol, water, filtered, recoverable, micrograms per liter					< 1	< 1
62086	beta-Sitogastanol, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
62087	Tris(2-chloroethyl) phosphate, water, filtered, recoverable, micrograms per liter					< 0.1	< 0.1
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					< 0.1	< 0.1
62092	Triphenyl phosphate, water, filtered, recoverable, micrograms per liter					< 0.4	< 0.4
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	Desulfinyfipronil amide, water, filtered, recoverable, micrograms per liter						
62170	Desulfinyfipronil, water, filtered, recoverable, micrograms per liter						
62854	Total nitrogen, (NH3+NO2+NO3+Organic), filtered, milligrams per liter						
63790	Perchlorate, water, filtered, recoverable, micrograms per liter						
70300	Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter	6	356	437	430	407	429
70301	Residue, water, filtered, sum of constituents, milligrams per liter	1500	347 E	419	412 E	383 E	402 E
70303	Residue, water, filtered, tons per acre-foot		0.04	0.04	0.06	0.03	
71846	Ammonia, water, filtered, milligrams per liter as NH4						
71851	Nitrate, water, filtered, milligrams per liter	45 (g)					
71856	Nitrite, water, filtered, milligrams per liter				0.006 E		
71865	Iodide, water, filtered, milligrams per liter		0.399	0.666	0.489	0.025	0.005
71870	Bromide, water, filtered, milligrams per liter		0.33	0.40	0.38	0.27	0.06
72019	Depth to water level, feet below land surface		53.42	72.96	83.30	86.32	66.09

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
April 2008**

Code	Parameter	MCL	Well A1 4/22/2008	Well A2 4/23/2008	Well A3 4/23/2008	Well A4 4/23/2008	Well A5 4/23/2008
	Sampling date						
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	Trifluoromethane, water, unfiltered, recoverable, micrograms per liter		0.58	0.58	0.58	0.58	0.64
76002	Rn-222, 2-sigma combined uncertainty, water, unfiltered, picocuries per liter						
77041	Carbon disulfide, water, unfiltered, micrograms per liter					< 0.06	< 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					< 0.6	< 0.6
77125	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					< 0.04	< 0.04
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					< 0.06	< 0.06
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					< 0.04	< 0.04
77652	1,1,2-Trichloro-1,2,2-trifluoroethane, water, unfiltered, recoverable, micrograms per liter	0.05				< 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					< 0.4	< 0.4
81552	Acetone, water, unfiltered, recoverable, micrograms per liter					< 4	< 4
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					< 0.2	< 0.2
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
82081	C-13/C-12 ratio, water, unfiltered, per mil		-19.70	-16.90		-14.89	-16.88
82082	Deuterium/Protium ratio, water, unfiltered, per mil		-53.80	-53.60		-45.70	-58.00
82095	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil		-8.34	-8.15		-6.89	-8.16
82303	Rn-222, water, unfiltered, picocuries per liter						
82346	Ethion, water, filtered, recoverable, micrograms per liter						
82625	1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter					< 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						
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						

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
April 2008**

Code	Parameter	MCL	Well A1 4/22/2008	Well A2 4/23/2008	Well A3 4/23/2008	Well A4 4/23/2008	Well A5 4/23/2008
	Sampling date						
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					< 1	< 1
82682	DCPA, 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						
82795	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		645	757	732	668	631
90851	Triholmethanes, water, unfiltered, calcd, micrograms per liter						M
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					129	130
99832	1,2-Dichloroethane-d4, surrogate, Schedule 2090, water, unfiltered, percent recovery					90.9	91.5
99833	Toluene-d8, surrogate, Schedule 2090, water, unfiltered, percent recovery						
99834	1-Bromo-4-fluorobenzene, surrogate, VOC schedules, water, unfiltered, percent recovery					78.9	75.6
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. EPA STORET 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.
- (h) MCL shown for U.S. EPA STORET No. 1042.
- (i) MCL shown for U.S. EPA STORET No. 1059.
- (j) MCL shown for U.S. EPA STORET No. 1067.
- (k) MCL shown for U.S. EPA STORET No. 1077.
- (l) MCL shown for U.S. EPA STORET No. 1082.
- (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.
- (q) MCL shown for U.S. EPA STORET No. 71850.

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.

V--Biased results from contamination.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
August 2009**

Code	Parameter	MCL	Well A1	Well A2	Well A3	Well A4	Well A5
	Sampling date						8/4/2009
3	Sampling depth, feet						8/4/2009
10	Temperature, water, degrees Celsius					20.8	19
28	Agency analyzing sample, code					80020	80020
59	Flow rate, instantaneous, gallons per minute						601
95	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius					0.00001	0.00002
191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter						
300	Dissolved oxygen, water, unfiltered, milligrams per liter						
400	pH, water, unfiltered, field, standard units					8.1	7.7
403	pH, water, unfiltered, laboratory, standard units					8.2	7.7
453	Bicarbonate, water, filtered, incremental titration, field, milligrams per liter					151	148
602	Total nitrogen, water, filtered, milligrams per liter						2.9 E
607	Organic nitrogen, water, filtered, milligrams per liter						0.07 E
608	Ammonia, water, filtered, milligrams per liter as nitrogen					0.024	0.01 E
613	Nitrite, water, filtered, milligrams per liter as nitrogen					< 0.002	< 0.002
618	Nitrate, water, filtered, milligrams per liter as nitrogen	1 (a)					
623	Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen					< 0.1	0.08 E
631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen					< 0.04	2.86
660	Orthophosphate, water, filtered, milligrams per liter					1.28	0.870
666	Phosphorus, water, filtered, milligrams per liter					0.41	0.29
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus					0.419	0.284
900	Hardness, water, milligrams per liter as calcium carbonate					110	170
904	Noncarb hardness, water filtered field, milligrams per liter as calcium carbonate						44
905	Noncarb hardness, water filtered lab, milligrams per liter as calcium carbonate						38
915	Calcium, water, filtered, milligrams per liter					38.4	48.3
925	Magnesium, water, filtered, milligrams per liter					4.54	10.8
930	Sodium, water, filtered, milligrams per liter					86.2	55.0
931	Sodium adsorption ratio, water, number					3.5	1.9
932	Sodium fraction of cations, water, percent in equivalents of major cations					62	42
935	Potassium, water, filtered, milligrams per liter					1.98	1.86
940	Chloride, water, filtered, milligrams per liter					78.5	35.1
945	Sulfate, water, filtered, milligrams per liter	600				76.3	103
950	Fluoride, water, filtered, milligrams per liter	2 (b)				0.23	0.21
955	Silica, water, filtered, milligrams per liter					18.5	26.6
1000	Arsenic, water, filtered, micrograms per liter	10 (c)				4.7	1.4
1005	Barium, water, filtered, micrograms per liter	1000 (d)				21.0	49.7
1010	Beryllium, micrograms per liter	4 (e)					
1020	Boron, water, filtered, micrograms per liter	5 (f)				105	128
1025	Cadmium, micrograms per liter	50 (g)					
1030	Chromium, micrograms per liter	1000 (h)					
1035	Cobalt, micrograms per liter	300					
1040	Copper, micrograms per liter					5	< 4
1046	Iron, water, filtered, micrograms per liter						
1049	Lead, micrograms per liter	50					
1056	Manganese, water, filtered, micrograms per liter	2 (i)				20.3	< 0.2
1057	Thallium, micrograms per liter						
1060	Molybdenum, micrograms per liter	100 (j)					
1065	Nickel, micrograms per liter	100 (k)					
1075	Silver, micrograms per liter					343	257
1080	Strontium, water, filtered, micrograms per liter						
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)				6.6	< 4
1130	Lithium, water, filtered, micrograms per liter					7	7

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
August 2009**

Code	Sampling date	Parameter	MCL	Well A1	Well A2	Well A3	Well A4	Well A5
1145		Selenium, micrograms per liter	50 (c)				8/4/2009	8/4/2009
4022		Terbutylazine, 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						
29801		Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate					129	127
30217		Dibromomethane, water, unfiltered, recoverable, micrograms per liter						
32101		Bromodichloromethane, water, unfiltered, recoverable, micrograms per liter						
32102		Tetrachloromethane, water, unfiltered, recoverable, micrograms per liter	0.5					
32103		1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter						
32104		Tribromomethane, water, unfiltered, recoverable, micrograms per liter						
32105		Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter						
32106		Trichloromethane, water, unfiltered, recoverable, micrograms per liter	150					
34010		Toluene, water, unfiltered, recoverable, micrograms per liter						
34030		Benzene, water, unfiltered, recoverable, micrograms per liter	1					
34215		Acrylonitrile, water, unfiltered, recoverable, micrograms per liter						
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					
34311		Chloroethane, water, unfiltered, recoverable, micrograms per liter	300					
34371		Ethylbenzene, water, unfiltered, recoverable, micrograms per liter						
34377		Fluoranthene, water, filtered, recoverable, micrograms per liter						
34396		Hexachloroethane, water, unfiltered, recoverable, micrograms per liter						
34409		Isophorone, water, filtered, recoverable, micrograms per liter						
34413		Bromomethane, water, unfiltered, recoverable, micrograms per liter						
34418		Chloromethane, water, unfiltered, recoverable, micrograms per liter						
34423		Dichloromethane, water, unfiltered, recoverable, micrograms per liter	5					
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					
34476		Tetrachloroethane, water, filtered, recoverable, micrograms per liter						
34488		Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter	150					
34496		1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	5					
34501		1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6					
34506		1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	200					
34511		1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	5					
34516		1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	1					
34536		1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	600					
34541		1,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter	5					
34546		trans-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	10					
34551		1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5					
34566		1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter						
34571		1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5					
34572		1,4-Dichlorobenzene, water, filtered, recoverable, micrograms per liter						
34668		Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter						

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
August 2009**

Code	Sampling date	Parameter	MCL	Well A1	Well A2	Well A3	Well A4	Well A5
34696		Naphthalene, water, unfiltered, recoverable, micrograms per liter						
34699		trans-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				8/4/2009	8/4/2009
34704		cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5					
38454		Dicrophtos, 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					124	121
39175		Vinyl chloride, water, unfiltered, recoverable, micrograms per liter	0.5					
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						
46342		Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter						
49260		Alachlor, water, filtered, recoverable, micrograms per liter						
49295		Acetochlor, water, filtered, recoverable, micrograms per liter						
49393		1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
49934		C-14, water, filtered, percent modern						
49934		C-14, counting error, water, filtered, percent modern						
49991		Methyl acrylate, water, unfiltered, recoverable, micrograms per liter						
49999		1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter						
50000		1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter						
50002		Bromoethene, water, unfiltered, recoverable, micrograms per liter						
50004		tert-Butyl ethyl ether, water, unfiltered, recoverable, micrograms per liter						
50005		Methyl tert-penyl ether, water, unfiltered, recoverable, micrograms per liter						
50305		Caffeine, water, filtered, recoverable, micrograms per liter						
50359		Metolaxyl, water, filtered, recoverable, micrograms per liter				6		
61209		Perchlorate, water, unfiltered, 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		Imidathion, water, filtered, recoverable, micrograms per liter						
61594		Isofenphos, water, filtered, recoverable, micrograms per liter						
61596		Metolaxyl, 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 monooxon, 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		Diethoxycyphenol, water, filtered, recoverable, micrograms per liter						

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
August 2009**

Code	Sampling date	Parameter	MCL	Well A1	Well A2	Well A3	Well A4	Well A5
61706		Monothoxycyclophenol, water, filtered, recoverable, micrograms per liter					8/4/2009	8/4/2009
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-Antraquinone, 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		Isosquilloline, 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		Diethoxydiphenol, 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-Stigmasterol, 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		Flpronil, water, filtered, recoverable, micrograms per liter						
62167		Flpronil sulfide, water, filtered, recoverable, micrograms per liter						
62168		Flpronil sulfone, water, filtered, recoverable, micrograms per liter						
62169		Desulfinylflpronil amide, water, filtered, recoverable, micrograms per liter						
62170		Desulfinylflpronil, water, filtered, recoverable, micrograms per liter						
62854		Total nitrogen, (NH3+NO2+NO3+Organic), filtered, milligrams per liter						
63790		Perchlorate, water, filtered, recoverable, micrograms per liter	6					
70300		Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter	1500				389	396
70301		Residue, water, filtered, sum of constituents, milligrams per liter					381	368 E
70303		Residue, water, filtered, tons per acre-foot						
71846		Ammonia, water, filtered, milligrams per liter as NH4					0.03	0.01 E
71851		Nitrate, water, filtered, milligrams per liter						
71856		Nitrite, water, filtered, milligrams per liter	45 (q)					
71865		Iodide, water, filtered, milligrams per liter					0.035	0.004

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
August 2009**

Code	Sampling date	Parameter	MCL	Well A1	Well A2	Well A3	Well A4	Well A5
71870		Bromide, water, filtered, milligrams per liter					8/4/2009	8/4/2009
72019		Depth to water level, feet below land surface					0.27	0.06
73547		trans-1,4-Dichloro-2-butene, water, unfiltered, recoverable, micrograms per liter						
73570		Ethyl methacrylate, water, unfiltered, recoverable, micrograms per liter						
75985		Tritium 2-sigma combined uncertainty, water, unfiltered, picocuries per liter						
76002		Rn-222, 2-sigma combined uncertainty, water, unfiltered, picocuries per liter						
77041		Carbon disulfide, water, unfiltered, micrograms per liter						
77093		cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6					
77103		n-Butyl methyl ketone, water, unfiltered, recoverable, micrograms per liter						
77128		Styrene, water, unfiltered, recoverable, micrograms per liter	100					
77135		o-Xylene, water, unfiltered, recoverable, micrograms per liter						
77168		1,1-Dichloropropane, water, unfiltered, recoverable, micrograms per liter						
77170		2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter						
77173		1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter						
77220		2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter						
77221		1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter						
77222		1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter						
77223		Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter						
77224		n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter						
77226		1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter						
77275		2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter						
77277		4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter						
77297		Bromochloromethane, water, unfiltered, recoverable, micrograms per liter						
77342		n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter						
77350		sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter						
77353		tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter						
77356		4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter						
77424		Iodomethane, water, unfiltered, recoverable, micrograms per liter						
77443		1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter						
77562		1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter						
77613		1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter						
77651		1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter	0.05					
77652		1,1,2-Trichloro-1,2,2-trifluoroethane, water, unfiltered, recoverable, micrograms per liter						
78032		Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter						
78109		3-Chloropropane, water, unfiltered, recoverable, micrograms per liter						
78133		Isobutyl methyl ketone, water, unfiltered, recoverable, micrograms per liter						
81552		Acetone, water, unfiltered, recoverable, micrograms per liter						
81555		Bromobenzene, water, unfiltered, recoverable, micrograms per liter						
81576		Diethyl ether, water, unfiltered, recoverable, micrograms per liter						
81577		Diisopropyl ether, water, unfiltered, recoverable, micrograms per liter						
81593		Methyl acrylonitrile, water, unfiltered, recoverable, micrograms per liter						
81595		Ethyl methyl ketone, water, unfiltered, recoverable, micrograms per liter						
81597		Methyl methacrylate, water, unfiltered, recoverable, micrograms per liter						
81607		Tetrahydrofuran, water, unfiltered, recoverable, micrograms per liter						
82081		C-13/C-12 ratio, water, unfiltered, per mil						
82082		Deuterium/Protium ratio, water, unfiltered, per mil						
82085		Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil					-45.30	-37.70
82303		Rn-222, water, unfiltered, picocuries per liter					-6.88	-6.00
82346		Ethion, water, filtered, recoverable, micrograms per liter						
82625		1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter						
82650		Methibuzin, water, filtered, recoverable, micrograms per liter						
82660		2,6-Diethylaniline, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter						
82661		Trifluoralin, 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						

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Pala Park Well (8S/2W-19A1-6)
August 2009**

Code	Sampling date	Parameter	MCL	Well A1	Well A2	Well A3	Well A4	Well A5
82664		Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					8/4/2009	8/4/2009
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		Bentfluralin, 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		DCPA, 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					676	611
90095		Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius						
90851		Triholomethanes, water, unfiltered, calcd, micrograms per liter						
99563		Bisphenol A-d3, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery						
99564		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						
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						
99894		Diazinon-d10, surrogate, Schedule 2003, water, filtered, percent recovery						
99895		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 NWS data parameter number except as follows:

- (a) MCL shown for U.S. EPA STORET No. 620.
- (b) MCL shown for U.S. EPA STORET 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.
- (h) MCL shown for U.S. EPA STORET No. 1042.
- (i) MCL shown for U.S. EPA STORET No. 1059.
- (j) MCL shown for U.S. EPA STORET No. 1067.
- (k) MCL shown for U.S. EPA STORET 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.
- (q) MCL shown for U.S. EPA STORET No. 71850.

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.
 V--Biased results from contamination.

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATERMASTER REPORT
WATER YEAR 2008-09

APPENDIX E.3

**COOPERATIVE WATER RESOURCE
MANAGEMENT AGREEMENT**

WOLF VALLEY GROUNDWATER MONITORING WELL

September 2010

Site Description

Wolf Valley Groundwater Monitoring Well (8S/2W-20J1-2)

LOCATION: Latitude 33° 27' 47", longitude 117° 06' 11", in Riverside County, California. Well is located in a residential neighborhood along the north side of Wolf Valley Road approximately 130 feet northeast of the intersection with Nightingale Road.

SITE INFORMATION: Land-surface altitude is 1076.23 feet above mean sea level from 24000 scale topographic map.

INSTRUMENTATION: None

WATER-LEVEL RECORD:

State well number	USGS station number	Intermittent water-level	Daily water-level
8S/2W-20J1	332747117061101	03/05/1990 to present	no data
8S/2W-20J2	332747117061102	03/05/1990 to present	no data

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.

MEASURING POINT: The measuring point of water levels measured manually is from the top of the PVC casing.

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

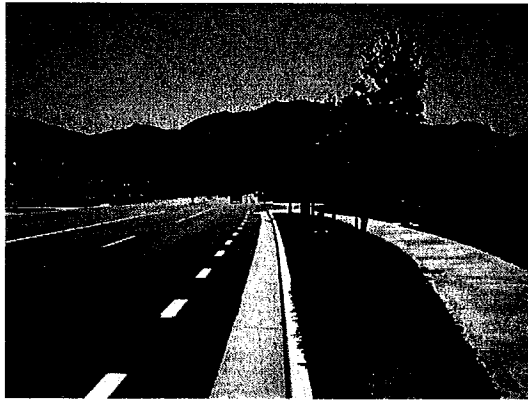
WELL SUMMARY INFORMATION:

State well number	USGS station number	Hole depth (ft)	Perforation depth (ft)	Casing size and type	Date drilled
8S/2W-20J1	332747117061101	590	555-575	2" PVC	2/17/1990
8S/2W-20J2	332747117061102	590	160-180	2" PVC	2/18/1990

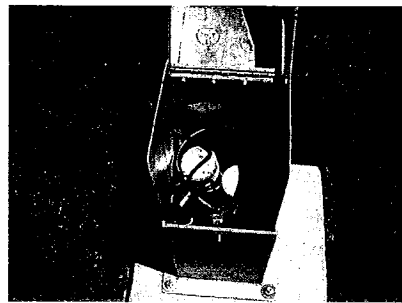
ADDITIONAL INFORMATION:

Additional information can be found at the following web site:
<http://ca.water.usgs.gov/temecula/>.

WELL CONSTRUCTION
 MONITOTING WELLS VW5-20J1 and 2VW5-0J2



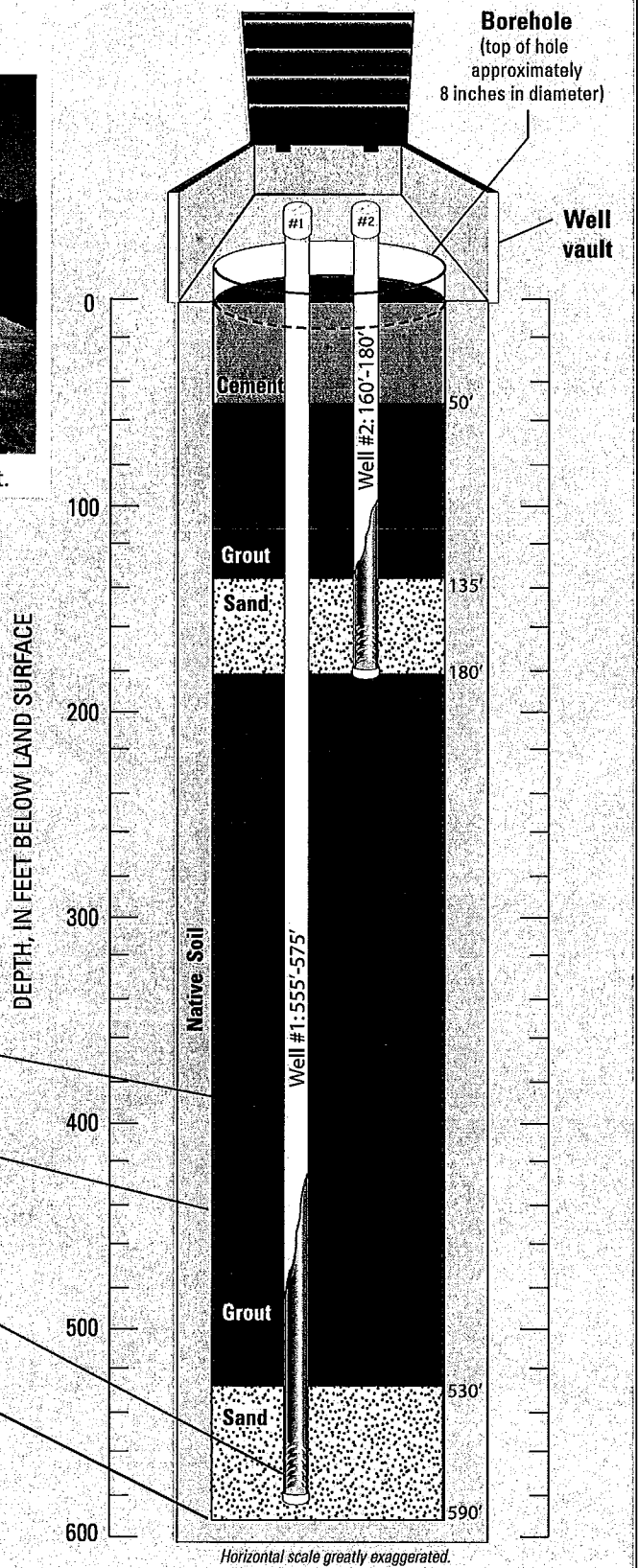
View of vault located in grass, looking West.

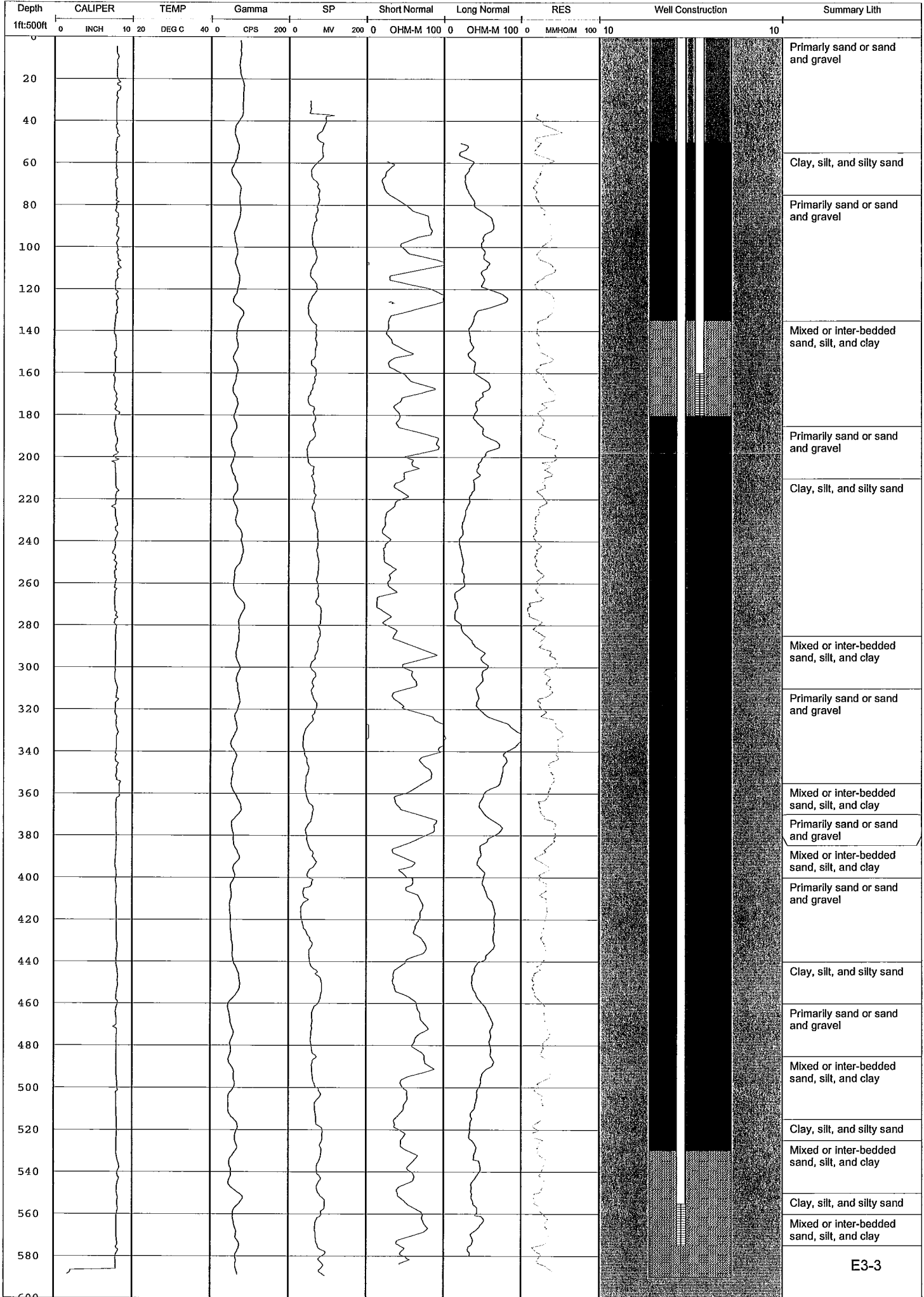


View of wells inside vault.

Drill method: hydraulic mud rotary

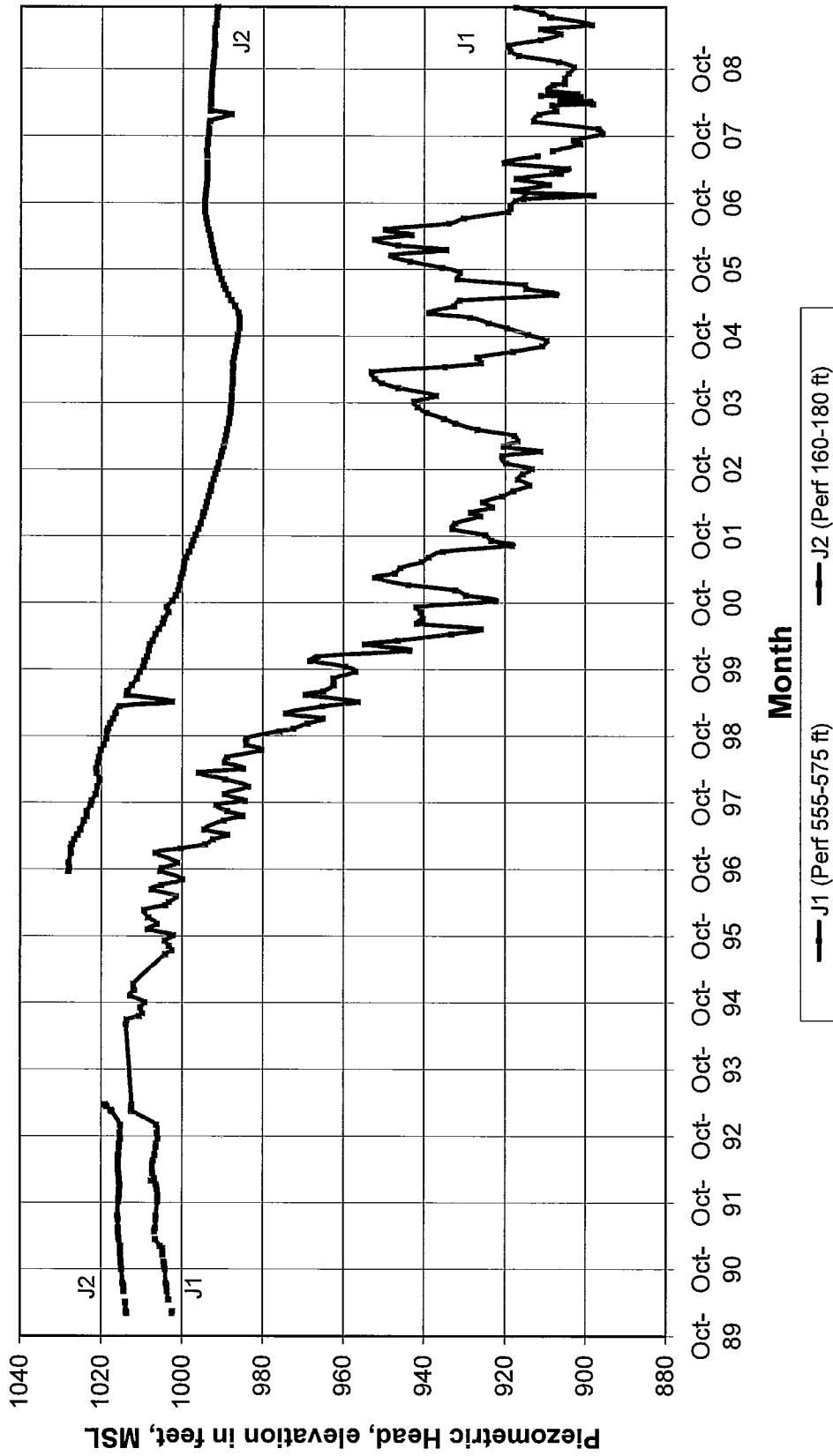
- Well casing**
(2 inches in diameter)
- Borehole**
(bottom of hole approximately 8 inches in diameter)
- Well screen**
(0.020 x 1.5 inch slots)
- Total Depth: 590 feet**





E3-3

**Piezometric Head for Multiple Depth Monitoring Well
 Wolf Valley Well (8S/2W-20J1-2)
 March 5, 1990 through September 30, 2009**

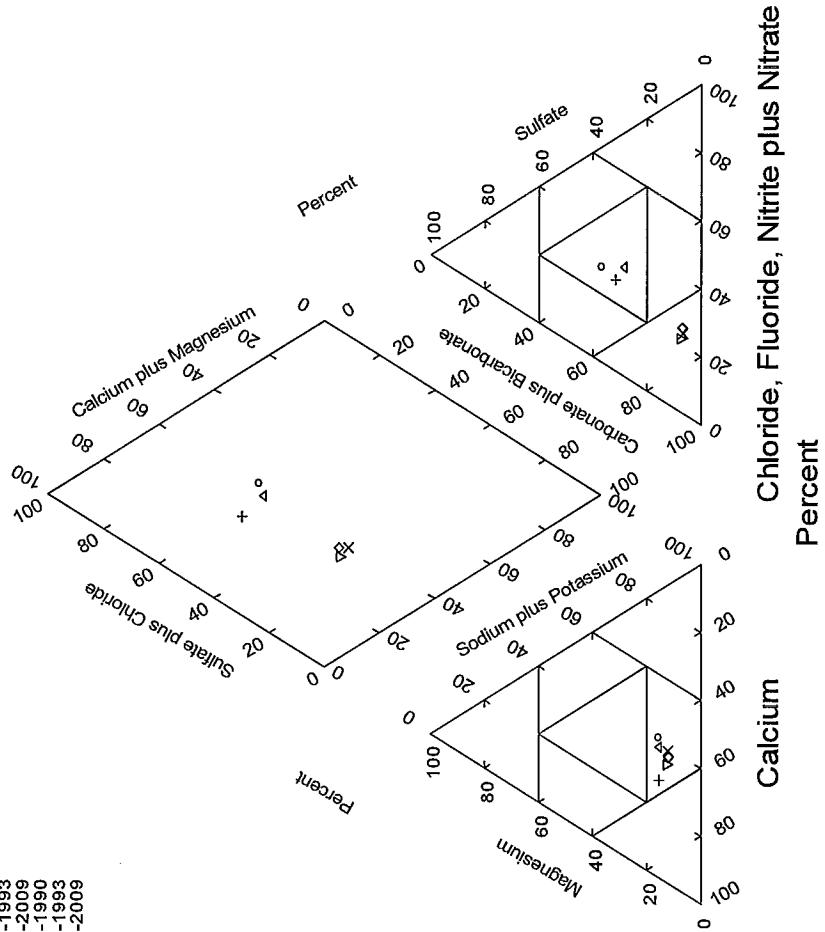


Tri-Linear Diagram

Wolf Valley Wells

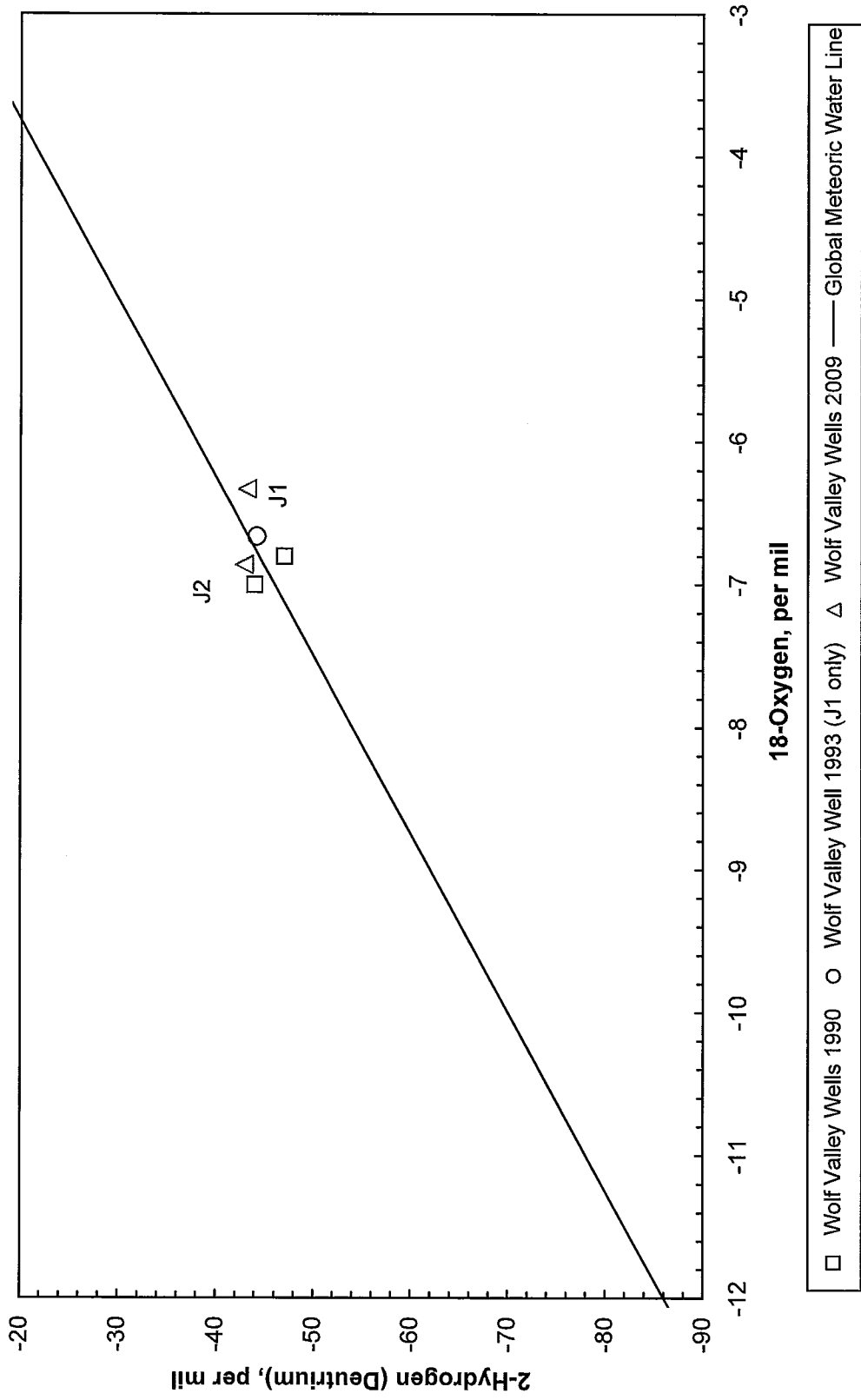
Explanation

- J1-1990
- △ J1-1993
- +
- × J1-2009
- J2-1990
- △ J2-1993
- J2-2009



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

**Stable Isotope Diagram
Wolf Valley Well (8S/2W-20J1-2)**



Source: USGS California Water Science Center.

Water Quality Data for Multiple Depth Monitoring Well
Wolf Valley Well (8S/2W-20J1-2)

Code	Parameter	MCL		Well J1		Well J2	
		8/15/1990	8/4/2009	12/20/1993	8/15/1990	12/20/1993	8/4/2009
3	Sampling date						
10	Temperature, water, degrees Celsius	20.5	21.8	20	19	19	20.8
28	Agency analyzing sample, code	80020	80020	80020	80020	80020	80020
59	Flow rate, instantaneous, gallons per minute						
95	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius	1150	898	863	0.00003	400	423
191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter	0.00002		0.00002			
300	Dissolved oxygen, water, unfiltered, milligrams per liter						
400	pH, water, unfiltered, field, standard units	7.8	7.5	7.8	7.6	7.6	7.5
403	pH, water, unfiltered, laboratory, standard units	8.1	7.6	7.7	7.6	7.6	7.5
405	Carbon dioxide, water, unfiltered, milligrams per liter	7.2			7.7		
453	Bicarbonate, water, filtered, incremental titration, field, milligrams per liter		253				193
602	Total nitrogen, water, filtered, milligrams per liter	1.5			1.7		
607	Organic nitrogen, water, filtered, milligrams per liter						
608	Ammonia, water, filtered, milligrams per liter as nitrogen						
613	Nitrite, water, filtered, milligrams per liter as nitrogen	< 0.01	< 0.020	< 0.01	< 0.01	< 0.01	0.012 E
618	Nitrate, water, filtered, milligrams per liter as nitrogen						< 0.002
623	Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen	0.2	< 0.01		0.5		< 0.01
631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen	1.3	3.42	3.6	1.2	1.2	1.58
660	Orthophosphate, water, filtered, milligrams per liter	0.123		0.092	0.675	0.307	
666	Phosphorus, water, filtered, milligrams per liter	0.04	0.03 E		0.23		0.09
671	Orthophosphate, water, filtered, milligrams per liter as phosphorus	0.04	0.029	0.03	0.22	0.1	0.096
900	Noncarb hardness, water filtered field, milligrams per liter as calcium carbonate	340		270	130	130	
905	Noncarb hardness, water filtered lab, milligrams per liter as calcium carbonate	110		71			
915	Calcium, water, filtered, milligrams per liter	100	102	80	42	42	43.5
925	Magnesium, water, filtered, milligrams per liter	22	17.1	16	6.3	6	6.02
930	Sodium, water, filtered, milligrams per liter	110	59.2	76	38	35	32.6
931	Sodium adsorption ratio, water, number	2.6		2	1.4	1.3	
932	Sodium fraction of cations, water, percent in equivalents of major cations	41		38	39	37	
935	Potassium, water, filtered, milligrams per liter	2.3	1.51	1.4	0.8	0.8	0.84
940	Chloride, water, filtered, milligrams per liter	110	71.9	86	27	29	24.4
945	Sulfate, water, filtered, milligrams per liter	200	129	112	12	12	13.0
950	Fluoride, water, filtered, milligrams per liter	0.5	0.08 E	0.7	0.7	0.7	0.28
1000	Arsenic, water, filtered, micrograms per liter	25	29.0	23	28	25	28.3
1005	Barium, water, filtered, micrograms per liter		1.2	2		1	1.0
1010	Beryllium, micrograms per liter		65.9	61		40	42.8
1020	Boron, water, filtered, micrograms per liter	110	59	70	60	50	37
1025	Cadmium, micrograms per liter			< 0.5		< 0.5	
1030	Chromium, micrograms per liter	5 (f)		< 1		< 1	
1035	Cobalt, micrograms per liter	50 (g)		< 5		< 5	
1040	Copper, micrograms per liter	1000 (h)		< 3		< 3	
1046	Iron, water, filtered, micrograms per liter			< 10		< 10	
1049	Lead, micrograms per liter	300	2 E	< 3	< 3	< 3	< 4
1056	Manganese, water, filtered, micrograms per liter			< 10		< 10	
1057	Thallium, micrograms per liter	50	< 0.2	5	< 1	< 1	0.2 E
1060	Molybdenum, micrograms per liter	2 (i)					
1065	Nickel, micrograms per liter	100 (j)		< 10		< 10	
1075	Silver, micrograms per liter	100 (k)		< 10		< 10	
1080	Strontium, water, filtered, micrograms per liter		479	310		170	175
1085	Vanadium, micrograms per liter			18		15	
1090	Zinc, micrograms per liter	5000 (l)		< 3		4	
1095	Antimony, micrograms per liter	6 (m)					
1106	Aluminum, water, filtered, micrograms per liter		< 4.0				< 4.0
1130	Lithium, water, filtered, micrograms per liter		8	7		5	5

Source: USGS California Water Science Center.

Water Quality Data for Multiple Depth Monitoring Well
Wolf Valley Well (8S/2W-20J1-2)

Code	Parameter	MCL	Well J1			Well J2		
			8/15/1990	12/20/1993	8/4/2009	8/15/1990	12/20/1993	8/4/2009
	Sampling date							
1145	Selenium, micrograms per liter	50 (g)						
4022	Terbutylazine, water, filtered, recoverable, micrograms per liter							< 1
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	Promethyn, 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						4.0	5.5
22703	Uranium, natural, micrograms per liter							
29801	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, lab, milligrams per liter as calcium carbonate						215	163
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					< 0.06	< 0.06
32103	1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter						< 0.1	< 0.1
32104	Tribromomethane, water, unfiltered, recoverable, micrograms per liter						< 0.10	< 0.10
32105	Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter						< 0.1	< 0.1
32106	Trichloroethane, water, unfiltered, recoverable, micrograms per liter						< 0.04	< 0.04
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							
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
34311	Chloroethane, water, unfiltered, recoverable, micrograms per liter						< 0.1	< 0.1
34371	Ethylbenzene, water, unfiltered, recoverable, micrograms per liter	300					< 0.04	< 0.04
34377	Fluoranthene, water, filtered, recoverable, micrograms per liter							
34396	Hexachloroethane, water, unfiltered, recoverable, micrograms per liter						< 0.1	< 0.1
34409	Isophorone, water, filtered, recoverable, micrograms per liter						< 0.4	< 0.4
34413	Bromomethane, water, unfiltered, recoverable, micrograms per liter						< 0.1	< 0.1
34418	Chloromethane, water, unfiltered, recoverable, micrograms per liter						< 0.4	< 0.4
34423	Dichloromethane, water, unfiltered, recoverable, micrograms per liter						< 0.1	< 0.1
34443	Naphthalene, water, filtered, recoverable, micrograms per liter	5					< 0.04	< 0.04
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
34476	Tetrachloroethene, water, filtered, recoverable, micrograms per liter							
34478	Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter	150					0.05 E	0.15
34496	1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	5					< 0.04	< 0.04
34501	1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	6					< 0.02	< 0.02
34506	1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	200					< 0.02	< 0.02
34511	1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter	5					< 0.06	< 0.06
34516	1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter	1					< 0.10	< 0.10
34536	1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	600					< 0.02	< 0.02
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					< 0.04	< 0.04
34566	1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter						< 0.02	< 0.02
34571	1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter	5					< 0.02	< 0.02
34572	1,4-Dichlorobenzene, water, filtered, recoverable, micrograms per liter							
34668	Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter						< 0.10	< 0.10
34696	Naphthalene, water, unfiltered, recoverable, micrograms per liter						< 0.2	< 0.2

Source: USGS California Water Science Center.

Water Quality Data for Multiple Depth Monitoring Well
 Wolf Valley Well (8S/2W-20J1-2)

Code	Parameter	MCL	Well J1		Well J2	
			8/15/1990	12/20/1993	8/15/1990	12/20/1993
	Sampling date					
34699	trans-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				8/4/2009
34704	cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter	0.5				< 0.10
38454	Dicofthops, water, filtered, recoverable, micrograms per liter					< 0.10
38775	Dichlorvos, water, filtered, recoverable, micrograms per liter					
38933	Chlorpyrifos, water, filtered, recoverable, micrograms per liter					
39036	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate		240	200	160	150
39086	Alkalinity, water, filtered, incremental titration, field, milligrams per liter as calcium carbonate	0.5				207
39175	Vinyl chloride, water, unfiltered, recoverable, micrograms per liter	5				< 0.1
39381	Trichloroethene, water, unfiltered, recoverable, micrograms per liter					< 0.02
39415	Diieldrin, water, filtered, recoverable, micrograms per liter					
39532	Metolachlor, water, filtered, recoverable, micrograms per liter					
39572	Maliathion, water, filtered, recoverable, micrograms per liter					
39632	Diazinon, water, filtered, recoverable, micrograms per liter					
39702	Atrazine, water, filtered, recoverable, micrograms per liter					
46342	Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter					< 0.1
49260	Alachlor, water, filtered, recoverable, micrograms per liter					
49295	Acetochlor, water, filtered, recoverable, micrograms per liter					
49333	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					
49334	C-14, water, filtered, percent modern					96.47
49391	C-14, counting error, water, filtered, percent modern					0.320
49991	Methyl acrylate, water, unfiltered, recoverable, micrograms per liter					< 0.6
49999	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1
50000	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1
50002	Bromoethene, water, unfiltered, recoverable, micrograms per liter					< 0.1
50004	tert-Butyl ethyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.04
50005	Methyl tert-pentyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.06
50305	Caffeine, water, filtered, recoverable, micrograms per liter					
50359	Metolaxyl, water, filtered, recoverable, micrograms per liter					
61209	Perchlorate, water, unfiltered, recoverable, micrograms per liter	6				
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	Metolaxyl, 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	Tribuophos, 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 monooxon, 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	Diethoxychlophenol, water, filtered, recoverable, micrograms per liter					
61706	Monoethoxychlophenol, water, filtered, recoverable, micrograms per liter					

Source: USGS California Water Science Center.

Water Quality Data for Multiple Depth Monitoring Well
Wolf Valley Well (8S/2W-20J1-2)

Code	Parameter	MCL	Well J1		Well J2
			8/15/1990	12/20/1993	
	Sampling date				
62005	Cotinine, water, filtered, recoverable, micrograms per liter				8/4/2009
62054	1-Methylnaphthalene, water, filtered, recoverable, micrograms per liter				8/4/2009
62055	2,6-Dimethylnaphthalene, water, filtered, recoverable, micrograms per liter				8/4/2009
62056	2-Methylnaphthalene, water, filtered, recoverable, micrograms per liter				8/4/2009
62057	3-beta-Coprostanol, water, filtered, recoverable, micrograms per liter				8/4/2009
62058	3-Methyl-1H-indole, water, filtered, recoverable, micrograms per liter				8/4/2009
62059	3-tert-Butyl-4-hydroxyanisole, water, filtered, recoverable, micrograms per liter				8/4/2009
62060	4-Cumylphenol, water, filtered, recoverable, micrograms per liter				8/4/2009
62061	4-Octylphenol, water, filtered, recoverable, micrograms per liter				8/4/2009
62062	4-tert-Octylphenol, water, filtered, recoverable, micrograms per liter				8/4/2009
62063	5-Methyl-1H-benzotriazole, water, filtered, recoverable, micrograms per liter				8/4/2009
62064	Acetophenone, water, filtered, recoverable, micrograms per liter				8/4/2009
62065	Acetyl hexamethyl tetrahydro naphthalene, water, filtered, recoverable, micrograms per liter				8/4/2009
62066	9,10-Antraquinone, water, filtered, recoverable, micrograms per liter				8/4/2009
62067	Benzophenone, water, filtered, recoverable, micrograms per liter				8/4/2009
62068	beta-Sitosterol, water, filtered, recoverable, micrograms per liter				8/4/2009
62070	Camphor, water, filtered, recoverable, micrograms per liter				8/4/2009
62071	Carbazole, water, filtered, recoverable, micrograms per liter				8/4/2009
62072	Cholesterol, water, filtered, recoverable, micrograms per liter				8/4/2009
62073	D-Limonene, water, filtered, recoverable, micrograms per liter				8/4/2009
62075	Hexahydrohexamethyl cyclopentabenzopyran, water, filtered, recoverable, micrograms per liter				8/4/2009
62076	Indole, water, filtered, recoverable, micrograms per liter				8/4/2009
62077	Isoborneol, water, filtered, recoverable, micrograms per liter				8/4/2009
62078	Isopropylbenzene, water, filtered, recoverable, micrograms per liter				8/4/2009
62079	Isoquinoline, water, filtered, recoverable, micrograms per liter				8/4/2009
62080	Menthol, water, filtered, recoverable, micrograms per liter				8/4/2009
62081	Methyl salicylate, water, filtered, recoverable, micrograms per liter				8/4/2009
62082	DEET, water, filtered, recoverable, micrograms per liter				8/4/2009
62083	Diethoxymethylphenol, water, filtered, recoverable, micrograms per liter				8/4/2009
62084	p-Cresol, water, filtered, recoverable, micrograms per liter				8/4/2009
62085	4-Nonylphenol, water, filtered, recoverable, micrograms per liter				8/4/2009
62086	beta-Stigmasterol, water, filtered, recoverable, micrograms per liter				8/4/2009
62087	Tris(2-chloroethyl) phosphate, water, filtered, recoverable, micrograms per liter				8/4/2009
62088	Tris(dichloroisopropyl) phosphate, water, filtered, recoverable, micrograms per liter				8/4/2009
62089	Tributyl phosphate, water, filtered, recoverable, micrograms per liter				8/4/2009
62090	Triclosan, water, filtered, recoverable, micrograms per liter				8/4/2009
62091	Triethyl citrate, water, filtered, recoverable, micrograms per liter				8/4/2009
62092	Triphenyl phosphate, water, filtered, recoverable, micrograms per liter				8/4/2009
62093	Tris(2-butoxyethyl) phosphate, water, filtered, recoverable, micrograms per liter				8/4/2009
62166	Fipronil, water, filtered, recoverable, micrograms per liter				8/4/2009
62167	Fipronil sulfide, water, filtered, recoverable, micrograms per liter				8/4/2009
62168	Fipronil sulfone, water, filtered, recoverable, micrograms per liter				8/4/2009
62169	Desulfinfipronil amide, water, filtered, recoverable, micrograms per liter				8/4/2009
62170	Desulfinfipronil, water, filtered, recoverable, micrograms per liter				8/4/2009
62854	Total nitrogen, (NH3+NO2+NO3+Organic), filtered, milligrams per liter				8/4/2009
63790	Perchlorate, water, filtered, recoverable, micrograms per liter				8/4/2009
70300	Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter	1500	596	216	265
70301	Residue, water, filtered, sum of constituents, milligrams per liter		717	255	247
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 (g)			
71856	Nitrite, water, filtered, milligrams per liter				
71865	Iodide, water, filtered, milligrams per liter				
71870	Bromide, water, filtered, milligrams per liter				
72019	Depth to water level, feet below land surface		72.28		

Source: USGS California Water Science Center.

Water Quality Data for Multiple Depth Monitoring Well
Wolf Valley Well (8S/2W-20J1-2)

Code	Parameter	MCL	Well J1		Well J2	
			8/15/1990	12/20/1993	8/15/1990	12/20/1993
	Sampling date					
73547	trans-1,4-Dichloro-2-butene, water, unfiltered, recoverable, micrograms per liter					8/4/2009
73570	Ethyl methacrylate, water, unfiltered, recoverable, micrograms per liter					< 0.4
75985	Tritium 2-sigma combined uncertainty, water, unfiltered, picocuries per liter					< 0.1
76002	Rn-222, 2-sigma combined uncertainty, water, unfiltered, picocuries per liter					
77041	Carbon disulfide, water, unfiltered, micrograms per liter					
77093	cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter	6				< 0.04
77103	n-Butyl methyl ketone, water, unfiltered, recoverable, micrograms per liter					< 0.02
77128	Styrene, water, unfiltered, recoverable, micrograms per liter	100				< 0.6
77135	o-Xylene, water, unfiltered, recoverable, micrograms per liter					< 0.04
77168	1,1-Dichloropropene, water, unfiltered, recoverable, micrograms per liter					< 0.04
77170	2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.04
77173	1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.06
77220	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter					< 0.1
77221	1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.02
77222	1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1
77223	Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04
77224	n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04
77226	1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.04
77275	2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter					< 0.02
77277	4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter					< 0.02
77297	Bromochloromethane, water, unfiltered, recoverable, micrograms per liter					< 0.06
77342	n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.1
77350	sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.02
77353	tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter					< 0.06
77356	4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter					< 0.06
77424	Iodomethane, water, unfiltered, recoverable, micrograms per liter					< 0.80
77443	1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter					< 0.12
77462	1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter					< 0.12
77613	1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter	0.05				< 0.04
77651	1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter					< 0.1
77652	1,1,2-Trichloro-1,2,2-trifluoroethane, water, unfiltered, recoverable, micrograms per liter					< 0.04
78032	Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.1
78109	3-Chloropropene, water, unfiltered, recoverable, micrograms per liter					< 0.08
78133	Isobutyl methyl ketone, water, unfiltered, recoverable, micrograms per liter					< 0.4
81552	Acetone, water, unfiltered, recoverable, micrograms per liter					< 4
81555	Bromobenzene, water, unfiltered, recoverable, micrograms per liter					< 0.02
81576	Diethyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.1
81577	Diisopropyl ether, water, unfiltered, recoverable, micrograms per liter					< 0.06
81593	Methyl acrylonitrile, water, unfiltered, recoverable, micrograms per liter					< 0.2
81595	Ethyl methyl ketone, water, unfiltered, recoverable, micrograms per liter					< 1.6
81597	Methyl methacrylate, water, unfiltered, recoverable, micrograms per liter					< 0.2
81607	Tetrahydrofuran, water, unfiltered, recoverable, micrograms per liter					< 1
82081	C-13/C-12 ratio, water, unfiltered, per mil					-14.99
82082	Deuterium/Protium ratio, water, unfiltered, per mil					-44.2
82085	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil					-43.20
82303	Rn-222, water, unfiltered, picocuries per liter					-6.86
82346	Ethion, water, filtered, recoverable, micrograms per liter					-6.33
82625	1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter					< 1.0
82630	Meinbutzin, water, filtered, recoverable, micrograms per liter					
82660	2,6-Diethylamine, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					
82661	Trifluoroin, 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					
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					

Source: USGS California Water Science Center.

**Water Quality Data for Multiple Depth Monitoring Well
Wolf Valley Well (8S/2W-20J1-2)**

Code	Parameter	MCL	Well J1		Well J2	
			8/15/1990	12/20/1993	12/20/1993	8/15/1990
	Sampling date					
82673	Benzflurin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					8/4/2009
82675	Terbutos, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					
82676	Propylamide, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					
82680	Carbanil, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter					
82682	DCPA, 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					
82687	Azinphos-methyl, 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
90095	Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius		1130	868	404	408
90851	Trihalomethanes, water, unfiltered, calcd, micrograms per liter					433
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, unfiltered, percent recovery					
99832	1,2-Dichloroethane-d4, surrogate, Schedule 2090, water, unfiltered, percent recovery			131		133
99833	Toluene-d8, surrogate, Schedule 2090, water, unfiltered, percent recovery			86.4		85.7
99834	1-Bromo-4-fluorobenzene, surrogate, VOC schedules, water, unfiltered, percent recovery			85.9		87.2
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 NWMS 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.
- (h) MCL shown for U.S. EPA STORET No. 1042.
- (i) MCL shown for U.S. EPA STORET No. 1059.
- (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.
- (q) MCL shown for U.S. EPA STORET No. 71850.

Code--Data parameter number used in USGS National Water Information System (NWMS).

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.

V--Biased results from contamination.

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATERMASTER REPORT
WATER YEAR 2008-09

APPENDIX F

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

September 2010

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.

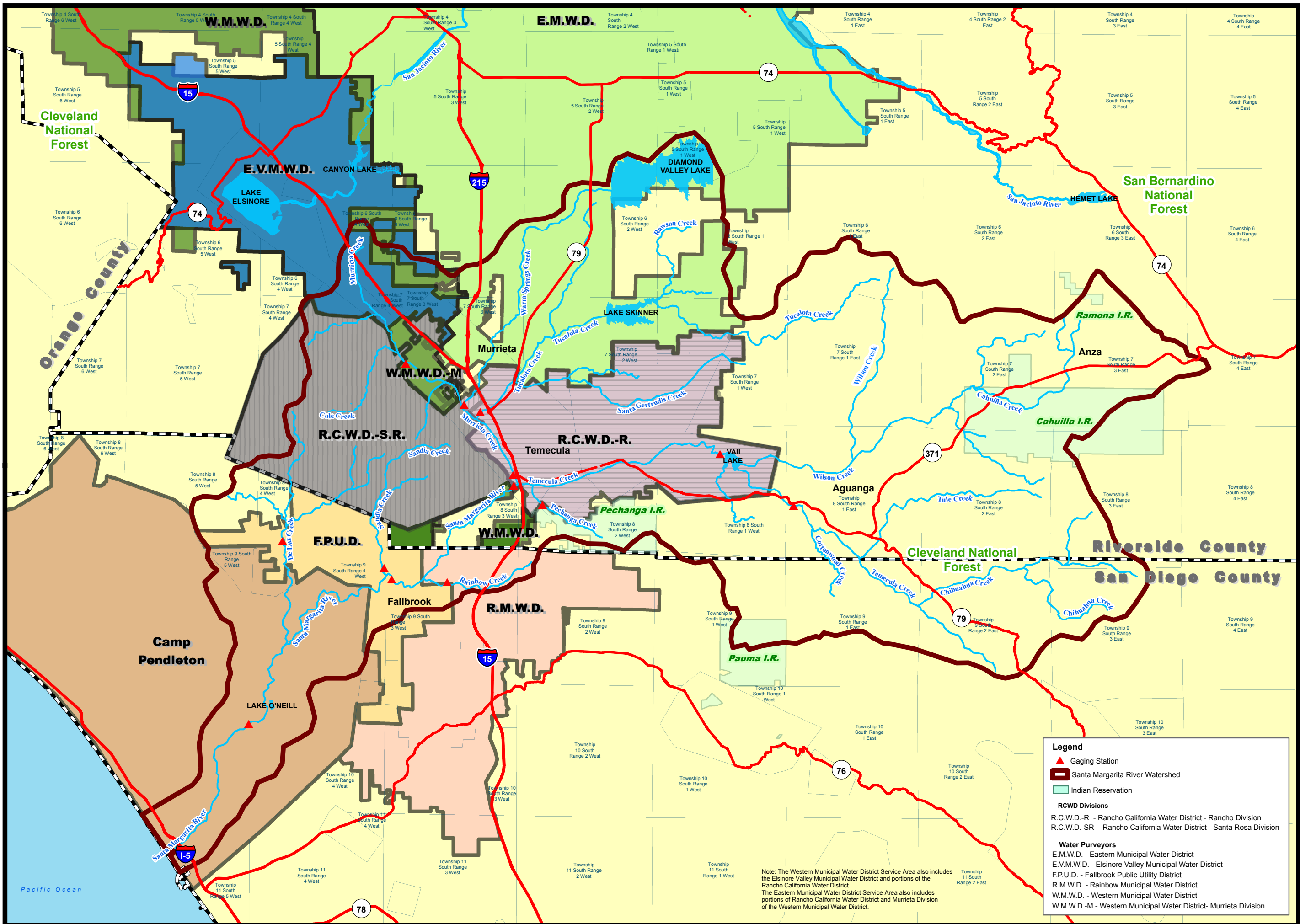
Section 9, Threats to Water Supply: In the absence of CWRMA implementation, and with respect to Subsection 9.3 (Potential Overdraft Conditions) and as noted in the foregoing comments to Sections 4 and 7, Camp Pendleton is seriously concerned regarding the apparent excessive pumping in the Upper Basin.



Map Produced by:
 Rancho California Water District
 Geographic Information Systems
 March 2009



1 inch = 4 miles
 0 0.5 1 2 3 Miles



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

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.

Major Water Purveyors

Santa Margarita River Watershed Watermaster