

WATERMASTER
SANTA MARGARITA RIVER WATERSHED
169 PARKSHORE AVE, SUITE 110
FOLSOM, CA 95630

December 23, 2020

Honorable Gonzalo P. Curiel
United States District Court
Southern District of California
221 West Broadway, Suite 2190
San Diego, CA 92101

Re: *U.S.A. v. Fallbrook Public Utility District, et al.*, Civil No. 51-cv-1247-GPC-RBB
Supplemental Information Annual Watermaster Report for Water Year 2018-19

Dear Judge Curiel:

In accordance with Section II of the Order for the Appointment of a Watermaster, Powers and Duties, dated March 13, 1989 ("Order"); the final Annual Watermaster Report for the Water Year 2018-19 was submitted to the Court on November 25, 2020. Due to a clerical error data intended to be included in the Report was not included. That information is attached to this letter and should be made part of the 2018-2019 final Annual Watermaster Report.

Copies of this letter and the attached data were provided on December 23, 2020, to the parties listed on the Watermaster distribution list provided below. In addition, two copies of the supplemental data have been made available for inspection at the Fallbrook Public Utility District, 990 East Mission Road, Fallbrook, CA and Rancho California Water District, 42135 Winchester Road, Temecula, CA. Additionally, copies of the supplemental data have also been made available at the Anza Station of the State Department of Forestry and Fire Protection, 56560 Highway 371, Anza, CA and the Hamilton School/Library in Anza, CA. The report will be provided to any party requesting a copy.

As indicated above the PDF file for the supplemental data is contained on the enclosed CD. Please make arrangements for posting the PDF files on the electronic docket.

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If you have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Preszler". The signature is written in a cursive style with a large, prominent initial "M".

Michael J. Preszler, P.E.
Watermaster

Enclosures

cc (w/ Hardcopy of Encl.): Honorable Ruben B. Brooks and
Distribution List – Attached

Honorable Gonzalo P. Curiel
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Supplemental Data has been delivered to:

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Winchester, CA 92596

Archie McPhee
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Fallbrook, CA 92028

Barbara Booth
3883 Ridgemoor Drive
Studio City, CA 91604

Bluebird Ranch, c/o Abraham Poladian
P.O. Box 1089
Fallbrook, CA 92088

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ATTACHMENT

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Aguanga, and Anza groundwater basins, and salt balance issues in the upper Watershed. Additional threats have been recently identified, including high concentrations of nitrates in both Anza Valley and Murrieta-Temecula areas, arsenic, fluoride and manganese in the Murrieta-Temecula area, as well as the discovery of the quagga mussel in imported supplies.

Section 10 - The United States Geological Survey (USGS) monitored surface water quality at the Temecula gaging station on the SMR.

Groundwater samples from wells were analyzed for water quality by CPEN, Western Municipal Water District - Murrieta Division (WMWD), RCWD, the Pechanga Band (Pechanga), and in the Domenigoni Valley during 2018-19. The two primary constituents of interest are nitrates and total dissolved solids (TDS). The Basin Plan Objective for TDS of 750 mg/l met or exceeded in the eight wells sampled at CPEN. Two wells sampled by RCWD showed TDS concentrations exceeding 750 mg/l. Several wells and West Dam weirs sampled in the Domenigoni Valley showed TDS and nitrate exceedances.

Section 11 - The CWRMA between CPEN and RCWD was approved by the District Court on August 20, 2002. During the 2019 calendar year, RCWD discharged 3,720 AF into the SMR to meet flow requirements under the CWRMA.

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

Section 13 – The actual Watermaster costs for 2018-19 were \$836,054 (total operating expenses less depreciation) compared to the Court approved budget of \$791,733, resulting in an unfavorable variance of \$44,321. A total Watermaster budget for WY 2020-21 is proposed to be \$814,811. This budget includes \$551,691 for the Watermaster Office and \$263,120 for operation of gaging stations and groundwater monitoring by USGS.

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In addition to net deliveries through member agencies, MWD, pursuant to a Court Order, imported 554 AF¹ of water into the SMRW for irrigation of lands in Domenigoni Valley during 2018-19.

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

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

Exportations from the SMRW include water pumped at CPEN 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 potable water is returned to the Watershed for treatment at the Southern Region Tertiary Treatment Plant. Recycled water is used for irrigation both within and outside the Watershed. Treated wastewater in excess of recycled use is exported for discharge at the Oceanside Outfall. Wastewater from the Fallbrook area and the Naval Weapons Station Seal Beach, Detachment Fallbrook (NWS) is exported by the FPUD and wastewater in the EVMWD is exported by EVMWD. RCWD exports water into the San Mateo Creek Watershed.

EMWD uses a 24-inch pipeline along Winchester Road to transport wastewater from the Temecula Valley Regional Water Reclamation Facility (TVRWRF) to areas within the Watershed for reuse as well as for export of up to 10 million gallons per day (MGD) from the Watershed. EMWD uses a second, 48-inch pipeline along Palomar Valley for delivery of recycled water for reuse and export from the Watershed. RCWD also delivers wastewater to the Palomar Pipeline under an agreement with EMWD to provide coordinated operation of their respective wastewater systems and thus such wastewater originating from RCWD can also be reused or exported through the operation of the Palomar Pipeline by EMWD. The exported wastewater can be reused outside the Watershed, delivered to storage facilities or discharged to Temescal Creek. In 2018-19, EMWD's export of wastewater that was discharged to Temescal Creek was 2,959 AF. During 2018-19, RCWD had no deliveries of wastewater to the Palomar Pipeline and thus no export of wastewater for discharge to Temescal Creek can be attributed to wastewater originating from RCWD.

The following paragraphs describe imports and exports during 2018-19 and during the period 1966 through 2019. A discussion of MWD's Lake Skinner and Diamond Valley Lake operations is also provided.

¹ Low amount of San Diego Canal water reported is due to meter error. Flow meter was replaced October 2019. See Appendix Table A-4 2016-2018 quantities for more representative amounts of San Diego Canal water delivered by MWD for irrigation use in the Domenigoni Basin.

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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 Lake Riverside Estates for the period 1989 through 2018 are shown on Appendix Table B-12.

7.2.6 Metropolitan Water District of Southern California

Pursuant to a Court Order, MWD imported 554¹ AF of water into the SMRW for irrigation of lands in Domenigoni Valley in 2018-19. 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 elevation 1,400 feet. This production is shown on Appendix Table A-4, and production for the period 1966 through 2019 is shown on Appendix Table B-5.

7.2.7 Rainbow Municipal Water District

RMWD is located in San Diego County in the south-central part of the Watershed. In 2018-19, the District imported a total of 13,934 AF of water as shown on Appendix Table A-6. However, most of the District is in the San Luis Rey River Watershed and only about 8.4% of the District's imported supply was delivered to the portion of the service area inside the SMRW. As shown on Appendix Table A-6, total deliveries of imported water in the SMRW in 2018-19 amounted to 1,170 AF.

RMWD import production for the period 1966 through 2019 is shown on Appendix Table B-7.

7.2.8 Rancho California Water District

RCWD serves water to a 99,600 acre service area in the central portion of the Watershed. RCWD produced water from 45 wells in 2018-19, and also imported water as shown on Appendix Table A-7. Use is shown under the categories of agriculture, commercial and domestic. In 2018-19, well production of native water included 17,374 AF from the Murrieta-Temecula Groundwater Area. A portion of the groundwater amounting to 175 AF (rounded) was exported for use in the San Mateo Watershed, resulting in a net well production of 17,200 AF.

Import supplies totaled 35,687 AF of which 16,068 AF were used for direct use; 12,958 AF were recharged; 3,719 AF was Cyclic Deposits; and 2,942 AF were discharged by RCWD to the SMR from MWD Service Connection WR-34 during 2018-19, pursuant to the CWRMA. A portion of that import amounting to 325 AF was exported from the SMRW to the San Mateo Watershed, resulting in net import to the Watershed of 35,362 AF.

¹ Low amount of San Diego Canal water reported is due to meter error. Flow meter was replaced October 2019. See Appendix Table A-4 2016-2018 quantities for more representative amounts of San Diego Canal water delivered by MWD for irrigation use in the Domenigoni Basin.

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 SMR near Temecula gaging station during 2018-19. 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 on Table 10.1 for 2018-19.

Surface water quality data collected by the USGS in 2004-05 for Cahuilla Creek are shown on Appendix Table D-12. No surface water quality data for Cahuilla Creek were collected in 2018-19.

Surface water quality data collected in prior years by CPEN, EMWD, and RCWD are listed in earlier Watermaster reports.

10.2 Groundwater Quality

During 2018-19, water quality data was collected from wells at WMWD – Murrieta Division, RCWD, Pechanga Indian Reservation, and CPEN.

WMWD – Murrieta Division sampled one well in 2018-19 as shown in Appendix Table D-3. The New Clay Well was subjected to twelve standard chemical analysis. Concentrations of nitrates were below the MCL of 45 mg/l, or 10 mg/l as nitrogen (as N), with results reported to be below the laboratory detection limit.

Water quality data for RCWD wells are shown on Appendix Table D-4. Samples were collected from 42 wells during 2018-19. Nitrate concentrations ranged up to 6.5 mg/l as nitrogen (as N), with the MCL being 10 mg/l (as N). Samples from two wells (Wells 109 and 119) showed TDS concentrations exceeding 750 mg/l, the Basin Plan objective. Wells 122, 158, and 233, which showed TDS concentrations exceeding 750 mg/l in prior years, showed reduced TDS concentrations for 2018-19, ranging from 450 to 740 mg/l.

Beginning in October 2017, groundwater samples were taken from 24 monitoring and production wells in the Domenigoni Basin, and from seepage weirs in the Owen (West) Dam as part of a Domenigoni Basin Groundwater Monitoring Plan. The West Dam includes five seepage weirs that outlet to an unlined channel in the Domenigoni Basin area. Seepage Weirs 1, 2 and 3 are located on the north end of the West Dam. Seepage Weirs 4 and 5 are located on the south end of the West Dam. All effluent from the 5 weirs is routed through lined channels to a pipe. The outlet deposits effluent into an unlined channel. Weir flow data from 2000 to present is maintained by MWD. Results from the monitoring plan are shown in Appendix Table D-11. Samples from several wells and West Dam weirs showed TDS and nitrate exceedances.

TABLE 5.2
SANTA MARGARITA RIVER WATERSHED
IMPORTS/EXPORTS
 2018-19
 Quantities in Acre Feet^{1/}

NET IMPORTS

EXPORTS
3/

YEAR MONTH	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	MWD 2/, 10/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD	U. S. NAVAL WS	WESTERN MWD 3/	TOTAL NET IMPORTS	----- CAMP PENDLETON -----			U.S. NAVAL WS	EASTERN MWD 7/	ELSINORE VALLEY MWD	FALLBROOK PUD 8/	RANCHO CAL WD 9/	TOTAL EXPORTS
											EXPORTS 5/	WASTEWATER RETURNS 6/	NET EXPORT						
2018																			
OCT	1,335	612	434	95	180	107	3,184	3	3	5,953	545	133	411	0	911	132	66	18	1,538
NOV	1,325	535	409	72	124	161	2,441	5	3	5,074	451	107	344	0	871	121	66	19	1,421
DEC	1,015	388	262	14	72	44	1,216	3	2	3,017	378	78	300	0	1,059	122	66	10	1,556
2019																			
JAN	790	319	158	15	64	36	1,140	6	2	2,530	385	78	307	0	1,130	120	63	6	1,627
FEB	698	255	120	10	38	33	941	5	1	2,100	377	70	308	0	1,140	112	80	1	1,640
MAR	556	223	0	7	62	57	1,245	5	2	2,159	434	91	343	0	1,266	119	211	3	1,941
APR	677	278	193	46	133	97	2,419	7	2	3,852	486	114	373	0	1,170	118	64	14	1,737
MAY	1,188	626	293	42	128	54	2,370	8	2	4,711	495	118	377	0	1,040	127	89	21	1,653
JUNE	1,144	499	265	72	177	128	3,784	26	2	6,098	542	130	412	0	876	121	54	20	1,483
JULY	1,346	681	421	71	205	156	5,610	9	4	8,502	551	130	420	1	937	130	54	17	1,559
AUG	1,677	748	493	54	143	170	5,896	4	3	9,189	576	137	439	0	884	133	67	19	1,540
SEPT	1,702	705	471	58	205	128	5,114	4	3	8,389	571	136	435	0	840	129	44	27	1,475
TOTAL	13,453	5,870	3,519	554	1,529	1,170	35,362	85	30	61,573	5,790	1,323	4,467	1	12,122	1,484	922	175	19,171

1/ Totals may not add due to rounding.

2/ MWD direct deliveries in Domenigoni Valley as shown on Table A-4.

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

4/ All exports are wastewater except as noted for CPEN and RCWD.

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

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

7/ 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.

8/ Includes 804 Af of wastewater and 118 AF of SMRW production served outside the watershed.

9/ Includes groundwater used in San Mateo Watershed and wastewater exported via Palomar Valley Pipeline. Wastewater exported via Palomar Valley Pipeline in 2018-19 was zero.

10/ Low amount of San Diego Canal water reported is due to meter error. Flow meter was replaced October 2019. See Appendix Table A-4 2016-2018 quantities for more representative amounts of San Diego Canal water delivered by MWD for irrigation use in the Domenigoni Basin.

TABLE 5.4
SANTA MARGARITA RIVER WATERSHED
IMPORTS/EXPORTS

NET IMPORTS

Quantities in Acre Feet^{1/}

EXPORTS

6/

WATER YEAR	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 2/	MWD 3/, 11/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD 4/	U.S. NAVAL WS	WESTERN MWD 5/	TOTAL IMPORTS	----- CAMP PENDLETON -----			U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 8/	RANCHO CAL WD 9/	TOTAL EXPORTS
											EXPORTS	WASTEWATER RETURNS	NET EXPORT						
1966	1,604	N/R	3,351	0	0	1,308	0	0	24	6,287	3,251	974	2,277	0	0	0	0	N/R	2,277
1967	1,630	N/R	2,852	0	0	1,095	0	0	20	5,597	3,180	1,243	1,937	0	0	0	0	N/R	1,937
1968	1,464	N/R	3,423	0	0	1,377	0	0	27	6,291	3,368	1,214	2,154	0	0	0	0	N/R	2,154
1969	1,741	N/R	2,837	0	0	1,253	0	0 E	25	5,856	3,276	1,170	2,106	0	0	0	0	N/R	2,106
1970	1,417	N/R	3,538	0	0	1,689	0	0 E	31	6,675	3,809	1,113	2,696	0	0	0	0	N/R	2,696
1971	1,383	N/R	3,405	0	0	1,650	0	76 E	34	6,548	3,527	1,090	2,437	0	0	0	0	N/R	2,437
1972	1,470	N/R	3,916	0	0	2,037	0	115 E	34	7,572	3,543	1,168	2,375	0	0	0	0	N/R	2,375
1973	1,533	N/R	3,210	0	0	1,616	0	115 E	30	6,504	3,544	1,187	2,357	0	0	0	0	N/R	2,357
1974	1,601	N/R	3,967	0	0	2,049	0	115 E	36	7,768	3,532	1,140	2,392	0	0	0	0	N/R	2,392
1975	1,969	N/R	3,597	0	0	1,247	0	115 E	34	6,962	3,098	1,530	1,568	0	0	0	0	N/R	1,568
1976	2,493	N/R	4,627	0	0	2,239	119	115 E	35	9,628	3,619	1,497	2,122	0	0	0	0	N/R	2,122
1977	2,947	N/R	5,212	0	0	2,343	1,845	115 E	24	12,486	3,194	1,416	1,778	0	0	0	0	N/R	1,778
1978	2,551	569	5,202	0	0	2,188	5,774	115 E	26	16,425	3,071	1,283	1,788	0	0	0	0	N/R	1,788
1979	1,894	712	5,723	0	0	2,348	7,009	115 E	24	17,824	4,756	1,427	3,329	0	0	0	0	N/R	3,329
1980	1,192	696	6,404	0	0	2,489	10,126	115 E	25	21,047	3,651	1,405	2,246	0	0	0	0	N/R	2,246
1981	716	798	8,543	0	0	3,153	15,282	115 E	34	28,642	3,892	1,249	2,643	0	0	0	0	N/R	2,643
1982	1,112	678	7,079	0	0	2,460	13,378	115 E	34	24,856	3,761	1,273	2,488	0	0	0	0	N/R	2,488
1983	1,211	658	6,720	0	0	2,190	5,752	115 E	26	16,672	3,000	1,242	1,758	26 E	0	0	1,003	N/R	2,787
1984	699	816	8,506	0	0	3,068	6,716	115 E	26	19,946	3,243	1,120	2,123	26 E	0	0	1,032	N/R	3,181
1985	679	808	7,831	0	0	3,410	7,158	102	27	20,015	3,377	1,200	2,177	26 E	0	0	1,060	N/R	3,263
1986	760	882	8,585	0	0	2,945	11,174	94	34	24,474	3,326	981	2,345	16 P	0	0	1,096	N/R	3,457
1987	1,155	938	8,656	0	0	3,390	7,564	116	36	21,855	3,444	1,799	1,645	26	0	4	1,129	N/R	2,805
1988	2,047	1,032	8,033	0	0	2,985	17,854	120	36	32,108	3,457	1,872	1,585	26	0	55	1,154	N/R	2,820
1989	3,746	1,341	9,066	0	0	3,003	22,895	128	23	40,202	3,418	1,446	1,972	23	0	74	1,181	N/R	3,250
1990	5,601	2,255	10,103	0	0	3,818	22,030	145	22	43,974	2,971	1,451	1,520	27	0	114	1,271	N/R	2,932
1991	9,479	2,421	7,962	0	0	2,904	21,238	109	21	44,134	2,168	1,219	949	13	0	134	960	N/R	2,056
1992	8,593	2,190	7,893	0	0	2,277	16,931	99	25	38,008	2,426	1,548	878	7	0	140	1,083	N/R	2,108
1993	5,393	2,964 R	6,925	0	0	1,965	11,411	117	31	28,806	2,329	1,926	403	16	705	150	1,255	N/R	2,529
1994	7,150	3,232 R	7,250	0	0	1,651	16,386	73	37	35,779	2,702	1,501	1,201	5	3,159	170	1,068	N/R	5,603
1995	4,625	3,127 R	6,538	547	0	1,661	15,108	125	29	31,760	2,781	1,611	1,170	12	3,908	185	1,153	N/R	6,428
1996	4,960	4,197 R	7,993	1,005	0	1,815	23,600	100	35	43,705	3,577	1,493	2,084	5	2,993	213	1,035	N/R	6,330
1997	3,284	4,296 R	7,894	3,521	0	1,429	26,992	109	30	47,555	3,643	1,932	1,711	6	3,201	226	1,021	N/R	6,165
1998	5,117	5,100	6,382	5,023	0	1,601	19,584	97	31	42,935	3,742	2,073	1,669	8	4,513	247	1,482	N/R	7,919
1999	4,327	6,133 R	7,430	3,781	0	1,727	34,490	111	41	58,040	3,558	2,130	1,428	5	4,133	254	1,377	N/R	7,197
2000	7,256	7,174 R	9,365	712	0	2,217	55,409	104	42	82,279	4,072	2,115	1,957	7	3,649	279	1,419	N/R	7,311
2001	5,948	6,215 R	8,398	689	0	1,804	41,823	73	59	65,009	3,653	2,075	1,578	8	4,457	310	1,392	N/R	7,745
2002	8,117	7,596	9,580	595	0	1,676	54,148	97	64	81,873	3,701	1,950	1,751	9	5,325	412	1,225	N/R	8,722
2003	9,062	7,091	9,130	495	102	1,510	50,744	88	42	78,264	3,767	1,688	2,079	10	7,636	483	1,359	64	11,631
2004	9,138	8,438	11,749	766	330	1,888	62,408	73	50	94,840	4,951 7/	0	4,951	8	9,115	600	1,329	312	16,315
2005	10,858	8,215	8,108	556	75	1,610	47,614	40	62	77,138	4,625 7/	0	4,625	16	11,676	927	1,417	1,574	20,235
2006	14,161	9,819	10,573	506	316	1,851	60,611	64	66	97,967	4,912 7/	0	4,912	8	10,906	938	1,395	1,379	19,538
2007	15,398	10,811	12,292	660	723	2,262	63,818	70	45	106,079	5,152 7/	0	5,152	12	10,553	837	891	364	17,809
2008	14,952	9,951	8,920	493	2,180	1,790	50,683	82	54	89,105	4,774 7/	0	4,774	11	12,789	901	799	361	19,635
2009	14,472	9,075	8,557	607	1,654	1,852	50,270	74	51	86,612	5,362 10/	1,119	4,243	12	12,027	1,069	829	367	18,547
2010	13,552	7,926	7,183	385	1,462	1,453	40,894	69	62	72,986	5,143 10/	1,075	4,068	7	11,829	1,120	926	318	18,268

TABLE 5.4
SANTA MARGARITA RIVER WATERSHED
IMPORTS/EXPORTS

NET IMPORTS

Quantities in Acre Feet^{1/}

EXPORTS
6/

WATER YEAR	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 2/	MWD 3/, 11/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD 4/	U.S. NAVAL WS	WESTERN MWD 5/	TOTAL IMPORTS	----- CAMP PENDLETON -----			U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 8/	RANCHO CAL WD 9/	TOTAL EXPORTS
											EXPORTS	WASTEWATER RETURNS	NET EXPORT						
2011	14,392	7,425	6,234	336	1,642	1,492	39,411	45	52	71,029	5,516 10/	1,441	4,075	8	12,381	1,130	901	302	18,797
2012	15,063	7,398	7,254	466	1,371	1,892	41,900	48	48	75,440	5,595 10/	1,672	3,923	9	12,550	1,205	928	284	18,898
2013	15,751	7,158	7,357	892	1,365	1,713	40,571	47	35	74,889	5,367 10/	1,254	4,113	3	11,775	1,245	900	289	18,325
2014	15,884	7,413	7,578	1,074	1,407	1,732	46,603	58	35	81,785	5,375 10/	1,099	4,276	6	11,744	1,307	896	289	18,518
2015	13,877	5,992	5,919	1,090	820	1,333	33,573	44	29	62,677	4,837 10/	1,127	3,710	3	11,698	1,328	1,086	251	18,076
2016	13,602	5,889	5,395	1,186	1,290	1,298	35,478	62	42	64,242	4,502 10/	1,178	3,324	1	10,778	1,431	724	202	16,460
2017	13,441	5,970	4,576	1,128	1,711	1,186	40,334	67	30	68,444	4,917 10/	1,213	3,704	1	11,982	1,468	791	163	18,109
2018	15,007	6,378	5,377	1,194	1,820	1,271	43,977	65	29	75,119	5,517 10/	1,170	4,347	0	10,918	1,489	731	176	17,661
2019	13,453	5,870	3,519	554	1,529	1,170	35,362	85	30	61,573	5,790 10/	1,323	4,467	1	12,122	1,484	922	175	19,171

1/ Totals may not add due to rounding.

2/ Includes DeLuz Heights MWD prior to 1991.

3/ MWD direct deliveries in Domenigoni Valley plus miscellaneous maintenance releases beginning 2009.

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

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

6/ All exports are wastewater except as noted for CPEN, FPUD, and RCWD.

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

8/ Includes wastewater and SMRW production served outside the watershed.

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

10/ Includes export of native water plus recycled water.

11/ Low amount of San Diego Canal water reported is due to meter error. Flow meter was replaced October 2019. See Appendix Table A-4 2016-2018 quantities for more representative amounts of San Diego Canal water delivered by MWD for irrigation use in the Domenigoni Basin.

N/R - Not Reported

P - Partial year data

E - Estimate

R - Revised

TABLE A-4
 SANTA MARGARITA RIVER WATERSHED
 MONTHLY WATER PRODUCTION AND USE

**METROPOLITAN WATER DISTRICT
 DELIVERIES IN DOMENIGONI VALLEY**

2018-19
 Quantities in Acre Feet^{1/}

MONTH YEAR	PRODUCTION			USE					
	WELLS 4/	IMPORT TO SMRW 5/	TOTAL IN SMRW 4/	AG	COMM/ DOM 2/	GW RECHARGE	TOTAL DELIVERED	LOSS 3/	TOTAL USE
2018									
OCT	0	95	95	95	0	0	95	0	95
NOV	0	72	72	72	0	0	72	0	72
DEC	0	14	14	14	0	0	14	0	14
2019									
JAN	0	15	15	15	0	0	15	0	15
FEB	0	10	10	10	0	0	10	0	10
MAR	0	7	7	7	0	0	7	0	7
APR	0	46	46	46	0	0	46	0	46
MAY	0	42	42	42	0	0	42	0	42
JUNE	0	72	72	72	0	0	72	0	72
JULY	0	71	71	71	0	0	71	0	71
AUG	0	54	54	54	0	0	54	0	54
SEPT	0	58	58	58	0	0	58	0	58
TOTAL	0	554	554	554	0	0	554	0	554

1/ Totals may not add due to rounding.

2/ Construction water.

3/ Points of delivery located at metered pumps on San Diego Canal and thus the losses in the MWD system are zero.

4/ The table shows only San Diego Canal water delivered directly by MWD for agricultural irrigation in Domenigoni Basin pursuant to the Court Order. The annual report to the State Water Resources Control Board filed by the Domenigoni-Bartons shows approximately 1,771 AF delivered under MWD's obligations pursuant to the Court Order (including San Diego Canal water, EMWD recycled water and EMWD domestic water) and 639 AF of groundwater pumped. These totals do not include water deliveries to other Domenigoni Basin landowners under the Court Order or the landowners' groundwater production.

5/ Low amount of San Diego Canal water reported is due to meter error. Flow meter was replaced October 2019. See 2016-2018 quantities for more representative amounts.

TABLE B-5
 SANTA MARGARITA RIVER WATERSHED
 ANNUAL WATER PRODUCTION AND USE

**METROPOLITAN WATER DISTRICT
 DELIVERIES IN DOMENIGONI VALLEY**

Quantities in Acre Feet^{1/}

WATER YEAR	PRODUCTION			USE						
	WELLS	IMPORT TO SMRW	TOTAL IN SMRW	AG 4/, 5/	COMM/ DOM 2/	GW RECHARGE	TOTAL DELIVERED	LOSS 3/	TOTAL USE	
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	354	193	0	547	0	547	
1996	0	1,005	1,005	763	242	0	1,005	0	1,005	
1997	0	3,521	3,521	591	2,891	39	3,521	0	3,521	
1998	0	5,023	5,023	193	4,403	427	5,023	0	5,023	
1999	0	3,781	3,781	404	2,978	399	3,781	0	3,781	
2000	0	712	712	92	356	264	712	0	712	
2001	0	689	689	505	0	184	689	0	689	
2002	0	595	595	569	26	0	595	0	595	
2003	0	496	495	495	0	0	495	0	495	
2004	0	766	766	766	0	0	766	0	766	
2005	0	556	556	556	0	0	556	0	556	
2006	0	506	506	506	0	0	506	0	506	
2007	0	660	660	660	0	0	660	0	660	

TABLE B-5
 SANTA MARGARITA RIVER WATERSHED
 ANNUAL WATER PRODUCTION AND USE
 METROPOLITAN WATER DISTRICT
 DELIVERIES IN DOMENIGONI VALLEY

Quantities in Acre Feet^{1/}

WATER YEAR	PRODUCTION				USE					
	WELLS	IMPORT TO SMRW	TOTAL IN SMRW		AG 4/, 5/	COMM/ DOM 2/	GW RECHARGE	TOTAL DELIVERED	LOSS 3/	TOTAL USE
2008	0	493	493		493	0	0	493	0	493
2009	0	465	465		465	0	0	465	0	465
2010	0	372	372		372	0	0	372	0	372
2011	0	336	336		336	0	0	336	0	336
2012	0	466	466		466	0	0	466	0	466
2013	0	892	892		892	0	0	892	0	892
2014	0	1,074	1,074		1,074	0	0	1,074	0	1,074
2015	0	1,090	1,039		1,090	0	0	1,090	0	1,090
2016	0	1,186	1,186		1,186	0	0	1,186	0	1,186
2017	0	1,128	1,128		1,128	0	0	1,128	0	1,128
2018	0	1,194	1,194		1,194	0	0	1,194	0	1,194
2019	0	554	554		554	0	0	554	0	554

1/ Totals may not add due to rounding.

2/ Construction Water.

3/ Points of delivery located at metered pumps on San Diego Canal and thus the losses in the MWD system are zero.

4/ The table shows only San Diego Canal water delivered directly by MWD for agricultural irrigation in Domenigoni Basin pursuant to the Court Order. These totals do not include other water deliveries to the Domenigoni Basin landowners under MWD's obligations pursuant to the Court Order or the landowners' groundwater production.

5/ Low amount of San Diego Canal water reported is due to meter error. Flow meter was replaced October 2019. See 2016-2018 quantities for more representative amounts.

TABLE D-11
Santa Margarita River Watershed
Water Quality Data

Water Quality Samples of Domenigoni Valley

Site and Date (3)	Specific Conductance (umho/cm)	Total Dissolved Solids (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Bicarbonate (as CaCO3) (mg/l)	Nitrate as N
Boer-2 (B2)										
8/9/12 12:04 PM	3,300	2,000	340.0	93.0	160.0	9.4	410.0	760.0	400.0	39.00
8/2/18 10:50 AM	560	290	25.0	9.5	57.0	3.2	100.0	46.0	55.0	0.13
1/30/19 1:37 PM	3,400	2,100	340.0	94.0	170.0	18.0	430.0	720.0	380.0	21.00
1/30/19 1:38 PM	2,850	2,110	345.0	98.0	183.0	14.0	400.0	670.0	370.0	20.80
D-10										
8/2/18 6:55 AM	4,500	3,000	390.0	120.0	290.0	11.0	300.0	1,400.0	530.0	7.40
1/24/19 8:20 AM	4,400	3,300	440.0	130.0	370.0	9.9	310.0	1,100.0	540.0	11.00
1/24/19 8:21 AM	4,460	3,400	446.0	133.0	424.0	8.0	400.0	1,500.0	565.0	10.20
D-4										
2/22/12 9:33 AM	2,700	1,800	370.0	120.0	170.0	7.2	130.0	1,100.0	650.0	44.00
8/9/12 9:10 AM	3,100	2,100	340.0	100.0	160.0	7.7	120.0	990.0	680.0	25.00
10/26/17 12:00 AM	2,200	1,600	280.0	78.0	160.0	7.5	120.0	630.0	610.0	3.80
10/26/17 3:30 PM	2,500	1,600	260.0	72.0	130.0	8.6	89.0	530.0	600.0	3.50
10/26/17 3:34 PM	2,277	-	-	-	-	-	-	-	-	-
3/27/18 12:00 AM	1,643	-	-	-	-	-	-	-	-	-
3/29/18 8:50 AM	2,600	1,700	260.0	78.0	140.0	8.5	110.0	760.0	520.0	6.00
8/2/18 7:25 AM	3,100	2,100	320.0	96.0	150.0	9.7	110.0	1,100.0	350.0	6.50
1/24/19 8:50 AM	2,200	1,800	290.0	79.0	130.0	7.6	93.0	600.0	560.0	5.50
12/17/19 11:48 AM	2,800	1,700	280.0	81.0	140.0	9.2	120.0	680.0	400.0	4.80
D-6										
2/22/12 9:26 AM	3,000	1,900	290.0	90.0	340.0	7.3	320.0	870.0	510.0	48.00
8/9/12 9:34 AM	3,500	2,300	270.0	76.0	310.0	7.7	320.0	820.0	530.0	43.00
10/26/17 12:00 AM	6,360	4,900	670.0	210.0	820.0	9.0	570.0	2,530.0	800.0	11.00
10/26/17 2:57 PM	6,035	-	-	-	-	-	-	-	-	-
10/26/17 3:00 PM	6,200	4,900	620.0	180.0	630.0	14.0	440.0	1,800.0	850.0	10.00
3/29/18 12:00 AM	3,436	-	-	-	-	-	-	-	-	-
3/29/18 7:53 AM	5,600	4,400	500.0	180.0	550.0	13.0	590.0	1,800.0	700.0	14.00
8/2/18 7:51 AM	5,200	4,000	460.0	170.0	500.0	12.0	530.0	1,500.0	650.0	11.00
1/24/19 12:45 PM	6,700	4,500	540.0	180.0	520.0	11.0	480.0	1,400.0	710.0	14.00
1/24/19 12:46 PM	5,880	4,440	546.0	183.0	570.0	8.0	610.0	1,900.0	688.0	13.90
12/17/19 11:34 AM	8,100	4,500	490.0	190.0	510.0	14.0	440.0	1,600.0	360.0	12.00
D-8										
2/22/12 9:46 AM	1,700	1,100	160.0	40.0	170.0	4.7	210.0	360.0	290.0	71.00
8/9/12 10:09 AM	2,200	1,500	190.0	54.0	200.0	6.1	240.0	470.0	380.0	73.00
10/27/17 12:00 AM	2,879	-	-	-	-	-	-	-	-	-
10/27/17 3:04 PM	2,879	-	-	-	-	-	-	-	-	-
10/27/17 3:05 PM	2,900	2,000	280.0	86.0	200.0	8.2	290.0	580.0	440.0	13.00
3/27/18 12:00 AM	2,157	-	-	-	-	-	-	-	-	-
3/28/18 1:20 PM	3,220	2,200	329.0	94.0	280.0	7.0	410.0	760.0	394.0	18.30
3/28/18 1:25 PM	3,200	2,200	290.0	91.0	270.0	8.8	410.0	760.0	400.0	33.00
8/1/18 11:25 AM	3,700	2,200	280.0	91.0	210.0	8.1	370.0	830.0	670.0	13.00
8/1/18 11:26 AM	3,000	2,360	338.0	102.0	254.0	7.0	416.0	846.0	481.0	13.70
1/24/19 9:45 AM	3,300	2,400	310.0	87.0	270.0	8.1	370.0	600.0	410.0	22.00
12/17/19 9:45 AM	4,100	2,300	320.0	97.0	280.0	10.0	450.0	760.0	400.0	20.00
DPB-Dom										
2/22/12 10:32 AM	2,600	1,500	270.0	59.0	300.0	8.1	140.0	100.0	1,600.0	50.00
8/9/12 11:25 AM	2,100	1,400	160.0	54.0	190.0	5.3	190.0	330.0	420.0	170.00
8/2/18 9:47 AM	1,300	840	89.0	33.0	120.0	4.3	100.0	300.0	210.0	13.00
1/24/19 1:45 PM	1,200	820	87.0	31.0	130.0	3.9	88.0	220.0	230.0	13.00
MO-1										
1994	-	1,763	-	-	-	-	-	-	-	7.20
1995	-	1,875	-	-	-	-	-	-	-	9.10
1996	-	1,530	-	-	-	-	-	-	-	6.20
1997	-	1,000	-	-	-	-	-	-	-	4.80
1998	-	660	-	-	-	-	-	-	-	1.30
8/16/12 11:26 AM	1,500	1,000	100.0	37.0	160.0	5.3	120.0	270.0	400.0	7.00
3/2/15 12:00 AM	1,200	810	85.9	30.2	140.0	4.9	100.0	250.0	250.0	8.58
10/25/17 12:00 AM	1,240	840	97.0	33.0	160.0	4.8	120.0	260.0	260.0	8.30
10/25/17 10:47 AM	1,356	-	-	-	-	-	-	-	-	-
10/25/17 10:50 AM	1,400	860	88.0	30.0	130.0	5.4	100.0	240.0	250.0	8.00
3/27/18 12:00 AM	1,781	-	-	-	-	-	-	-	-	-
3/27/18 1:00 PM	1,600	1,000	110.0	39.0	150.0	6.2	140.0	340.0	340.0	7.20

Notes:
(1) Historic values of NO3 were converted to Nitrate as N, where applicable
(2) "ND" indicates not detected above minimum testing threshold
(3) The monitoring plan will be transitioning to every 6 months. Future sampling may add locations at the recreation ponds just downstream of the DVL West Dam and other locations at and close to the West Dam to further investigate the occurrence of high nitrates and TDS

TABLE D-11
Santa Margarita River Watershed
Water Quality Data

Water Quality Samples of Domenigoni Valley

Site and Date (3)	Specific Conductance (umho/cm)	Total Dissolved Solids (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Bicarbonate (as CaCO3) (mg/l)	Nitrate as N
7/31/18 2:05 PM	1,900	2,800	130.0	47.0	150.0	6.5	150.0	360.0	460.0	4.80
1/23/19 9:53 AM	2,100	1,400	200.0	69.0	200.0	8.1	150.0	370.0	780.0	2.30
MO-2										
1994	-	1,093	-	-	-	-	-	-	-	20.30
1995	-	981	-	-	-	-	-	-	-	20.00
1996	-	920	-	-	-	-	-	-	-	15.60
1997	-	864	-	-	-	-	-	-	-	14.00
1998	-	942	-	-	-	-	-	-	-	19.00
8/16/12 10:00 AM	1,000	670	56.0	20.0	140.0	2.7	79.0	170.0	320.0	3.16
3/2/15 11:26 AM	1,000	650	58.7	21.4	140.0	3.2	88.0	170.0	280.0	2.48
10/25/17 12:00 AM	980	640	62.0	22.0	150.0	ND	87.0	180.0	260.0	2.70
10/25/17 3:00 PM	1,090	-	-	-	-	-	-	-	-	-
10/25/17 3:05 PM	1,000	640	56.0	20.0	120.0	3.1	77.0	160.0	260.0	2.80
3/27/18 12:00 AM	1,272	-	-	-	-	-	-	-	-	-
3/28/18 9:00 AM	1,000	640	56.0	21.0	130.0	3.1	79.0	180.0	270.0	2.20
7/31/18 9:55 AM	1,000	670	51.0	19.0	110.0	2.8	79.0	180.0	260.0	1.60
1/22/19 12:05 PM	970	630	58.0	21.0	120.0	3.2	89.0	170.0	280.0	1.50
12/16/19 9:40 AM	1,000	440	55.0	21.0	120.0	3.1	87.0	180.0	240.0	1.30
MO-3										
1994	-	992	-	-	-	-	-	-	-	2.40
1995	-	967	-	-	-	-	-	-	-	3.40
1996	-	936	-	-	-	-	-	-	-	3.30
1997	-	880	-	-	-	-	-	-	-	2.90
1998	-	900	-	-	-	-	-	-	-	5.50
8/16/12 3:43 PM	2,900	1,900	280.0	80.0	150.0	6.7	110.0	960.0	270.0	19.42
3/3/15 12:00 AM	2,400	1,700	274.0	77.7	150.0	6.8	120.0	780.0	480.0	6.55
10/26/17 12:00 AM	2,256	-	-	-	-	-	-	-	-	-
10/26/17 1:05 PM	2,600	1,700	270.0	75.0	140.0	8.0	82.0	530.0	510.0	5.30
3/27/18 12:00 AM	3,094	-	-	-	-	-	-	-	-	-
3/28/18 11:15 AM	2,600	1,900	310.0	91.0	150.0	9.5	110.0	800.0	690.0	3.90
3/28/18 11:20 AM	2,590	1,980	348.0	95.0	157.0	9.0	113.0	827.0	683.0	3.50
8/1/18 9:25 AM	3,000	1,800	280.0	84.0	140.0	8.5	120.0	770.0	740.0	3.30
1/23/19 2:02 PM	2,600	1,900	320.0	88.0	150.0	8.3	110.0	750.0	660.0	3.80
MO-30C										
10/25/17 12:00 AM	2,630	-	-	-	-	-	-	-	-	-
10/25/17 1:56 PM	2,630	-	-	-	-	-	-	-	-	-
10/25/17 2:00 PM	2,900	1,700	310.0	95.0	130.0	47.0	91.0	270.0	1,400.0	0.14
3/27/18 12:00 AM	2,949	-	-	-	-	-	-	-	-	-
3/27/18 11:10 AM	2,500	1,700	310.0	94.0	150.0	41.0	93.0	320.0	220.0	ND
3/27/18 11:15 AM	2,540	1,690	330.0	84.0	147.0	24.0	89.9	297.0	1,230.0	ND
7/31/18 10:20 AM	2,800	1,700	280.0	78.0	130.0	23.0	89.0	310.0	1,400.0	ND
1/22/19 1:05 PM	2,700	1,700	340.0	86.0	140.0	26.0	96.0	280.0	1,300.0	ND
MO-32B										
8/16/12 9:20 AM	1,000	680	61.0	32.0	110.0	21.0	120.0	160.0	190.0	7.68
3/2/15 9:09 AM	1,200	720	79.1	37.8	130.0	19.0	140.0	150.0	240.0	9.03
10/25/17 12:00 AM	1,140	650	97.0	110.0	140.0	120.0	150.0	160.0	220.0	9.00
10/25/17 10:50 AM	1,200	760	79.0	51.0	120.0	43.0	140.0	140.0	230.0	9.10
10/25/17 11:33 AM	1,310	-	-	-	-	-	-	-	-	-
3/27/18 12:00 AM	1,327	-	-	-	-	-	-	-	-	-
3/27/18 10:55 AM	1,200	770	38.0	44.0	52.0	50.0	150.0	160.0	220.0	8.90
7/31/18 10:30 AM	1,200	780	70.0	31.0	110.0	13.0	150.0	150.0	230.0	8.60
1/22/19 1:30 PM	1,100	710	80.0	40.0	130.0	25.0	160.0	160.0	230.0	8.40
MO-5B										
10/25/17 12:00 AM	2,970	2,600	440.0	130.0	200.0	4.8	120.0	1,610.0	150.0	1.40
10/25/17 4:00 PM	2,900	2,700	360.0	120.0	160.0	5.6	91.0	1,400.0	150.0	1.40
10/25/17 4:19 PM	3,017	-	-	-	-	-	-	-	-	-
3/27/18 12:00 AM	3,590	-	-	-	-	-	-	-	-	-
3/27/18 11:30 AM	3,000	2,700	380.0	120.0	180.0	5.8	100.0	1,200.0	150.0	1.30
7/31/18 10:05 AM	3,900	2,800	340.0	120.0	160.0	5.1	93.0	1,800.0	140.0	1.00
1/22/19 12:45 PM	3,600	2,900	420.0	130.0	170.0	4.8	85.0	1,400.0	150.0	0.96
12/16/19 10:08 AM	3,900	2,600	430.0	130.0	170.0	5.8	110.0	1,400.0	150.0	0.84
MO-6										
1994	-	4,910	-	-	-	-	-	-	-	31.10

Notes:
(1) Historic values of NO3 were converted to Nitrate as N, where applicable
(2) "ND" indicates not detected above minimum testing threshold
(3) The monitoring plan will be transitioning to every 6 months. Future sampling may add locations at the recreation ponds just downstream of the DVL West Dam and other locations at and close to the West Dam to further investigate the occurrence of high nitrates and TDS

TABLE D-11
Santa Margarita River Watershed
Water Quality Data

Water Quality Samples of Domenigoni Valley

Site and Date (3)	Specific Conductance (umho/cm)	Total Dissolved Solids (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Bicarbonate (as CaCO3) (mg/l)	Nitrate as N
1995	-	5,305	-	-	-	-	-	-	-	42.00
1996	-	5,170	-	-	-	-	-	-	-	27.50
1997	-	5,150	-	-	-	-	-	-	-	18.00
1998	-	5,150	-	-	-	-	-	-	-	25.00
8/17/12 10:18 AM	2,300	1,500	150.0	58.0	210.0	4.9	290.0	450.0	390.0	2.05
3/2/15 12:00 AM	2,200	1,300	153.0	59.4	220.0	4.9	230.0	470.0	380.0	4.52
10/27/17 12:00 AM	1,536	-	-	-	-	-	-	-	-	-
10/27/17 12:54 PM	1,536	-	-	-	-	-	-	-	-	-
10/27/17 12:55 PM	1,700	960	94.0	37.0	140.0	3.8	120.0	290.0	290.0	0.81
3/27/18 12:00 AM	1,630	-	-	-	-	-	-	-	-	-
3/29/18 10:40 AM	1,300	840	85.0	35.0	140.0	3.7	120.0	290.0	330.0	0.78
8/2/18 8:00 AM	1,200	750	75.0	30.0	130.0	3.4	100.0	230.0	260.0	0.73
8/2/18 8:25 AM	1,160	724	76.0	30.0	139.0	ND	106.0	219.0	284.0	0.60
1/24/19 2:23 PM	1,000	740	76.0	30.0	120.0	3.4	96.0	190.0	290.0	0.62
1/24/19 2:24 PM	1,160	748	75.0	30.0	136.0	3.0	110.0	210.0	282.0	0.60
12/17/19 1:18 PM	1,600	860	99.0	40.0	140.0	4.1	140.0	290.0	250.0	0.79
MW-1 (D-7)										
1994	-	ND	-	-	-	-	-	-	-	15.90
1995	-	ND	-	-	-	-	-	-	-	12.20
1996	-	ND	-	-	-	-	-	-	-	13.10
1997	-	ND	-	-	-	-	-	-	-	16.80
1998	-	ND	-	-	-	-	-	-	-	10.30
10/27/17 12:00 AM	4,329	-	-	-	-	-	-	-	-	-
10/27/17 2:44 PM	4,329	-	-	-	-	-	-	-	-	-
10/27/17 2:45 PM	4,800	3,600	470.0	150.0	320.0	12.0	480.0	1,100.0	530.0	22.00
3/27/18 12:00 AM	5,188	-	-	-	-	-	-	-	-	-
3/29/18 8:15 AM	4,300	3,300	470.0	150.0	260.0	12.0	580.0	1,100.0	470.0	3.00
8/2/18 7:25 AM	5,000	3,100	430.0	140.0	260.0	11.0	550.0	1,100.0	460.0	23.00
8/2/18 7:31 AM	4,020	2,980	500.0	146.0	270.0	9.0	550.0	1,100.0	476.0	22.50
1/24/19 8:00 AM	4,700	3,100	480.0	140.0	240.0	9.3	440.0	870.0	500.0	24.00
1/24/19 8:01 AM	4,340	3,030	468.0	144.0	274.0	9.0	550.0	1,100.0	508.0	23.20
MW-2										
1994	-	-	-	-	-	-	-	-	-	0.70
10/27/17 12:00 AM	4,434	-	-	-	-	-	-	-	-	-
10/27/17 1:59 PM	4,434	-	-	-	-	-	-	-	-	-
10/27/17 2:00 PM	4,600	3,000	350.0	140.0	290.0	8.5	400.0	150.0	1,200.0	130.00
3/27/18 12:00 AM	7,564	-	-	-	-	-	-	-	-	-
3/29/18 9:30 AM	6,760	4,000	567.0	234.0	452.0	8.0	807.0	319.0	1,150.0	246.00
3/29/18 9:38 AM	6,000	4,500	530.0	220.0	420.0	11.0	800.0	340.0	1,200.0	300.00
8/1/18 2:04 PM	5,000	2,800	320.0	140.0	300.0	8.5	560.0	210.0	890.0	110.00
1/24/19 12:46 PM	4,800	3,200	440.0	160.0	310.0	8.9	470.0	220.0	980.0	170.00
12/17/19 12:00 PM	8,500	4,000	530.0	200.0	380.0	11.0	630.0	280.0	1,200.0	240.00
Stiefel 1 (S1)										
8/9/12 10:40 AM	2,600	1,900	300.0	80.0	170.0	8.4	150.0	620.0	760.0	52.00
10/27/17 3:20 PM	2,600	1,600	260.0	74.0	150.0	8.7	97.0	490.0	680.0	5.10
3/27/18 12:00 AM	1,686	-	-	-	-	-	-	-	-	-
3/29/18 9:30 AM	2,600	1,600	270.0	77.0	150.0	9.0	120.0	580.0	760.0	4.30
8/2/18 8:30 AM	2,900	1,700	280.0	80.0	160.0	9.4	130.0	600.0	780.0	3.30
8/2/18 8:33 AM	2,310	1,850	302.0	82.0	165.0	8.0	134.0	544.0	788.0	2.70
1/24/19 12:32 PM	2,100	1,600	270.0	73.0	140.0	7.6	110.0	480.0	770.0	3.20
12/17/19 11:20 AM	2,800	1,600	270.0	78.0	150.0	9.4	130.0	560.0	720.0	4.10
WTC New										
3/29/18 10:56 AM	2,090	1,270	199.0	58.0	165.0	6.0	202.0	320.0	395.0	21.80
3/29/18 11:00 AM	2,100	1,300	180.0	54.0	150.0	7.1	210.0	350.0	390.0	27.00
8/2/18 8:47 AM	2,400	1,400	190.0	59.0	160.0	7.5	230.0	390.0	390.0	28.00
8/2/18 8:52 AM	2,020	1,310	204.0	59.0	174.0	6.0	225.0	352.0	390.0	26.40
1/30/19 12:28 PM	2,100	1,300	180.0	55.0	150.0	7.2	210.0	340.0	420.0	25.00
12/17/19 1:05 PM	2,300	1,300	190.0	55.0	140.0	7.6	210.0	320.0	400.0	24.00
WCT-3										
8/9/12 10:50 AM	1,900	1,200	180.0	49.0	150.0	6.6	200.0	260.0	440.0	110.00
WM-B										
1997	-	722	-	-	-	-	-	-	-	3.00
1998	-	851	-	-	-	-	-	-	-	7.20

Notes:
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Water Quality Samples of Domenigoni Valley

Site and Date (3)	Specific Conductance (umho/cm)	Total Dissolved Solids (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Bicarbonate (as CaCO3) (mg/l)	Nitrate as N
8/16/12 12:45 PM	3,300	2,300	370.0	100.0	140.0	9.7	93.0	750.0	1,100.0	ND
3/2/15 12:45 PM	3,200	2,100	396.0	106.0	160.0	10.0	110.0	740.0	1,100.0	ND
10/26/17 12:00 AM	3,223	-	-	-	-	-	-	-	-	-
10/26/17 10:09 AM	3,223	-	-	-	-	-	-	-	-	-
10/26/17 10:10 AM	3,900	2,700	390.0	130.0	150.0	16.0	88.0	1,000.0	810.0	0.41
3/27/18 12:00 AM	4,097	-	-	-	-	-	-	-	-	-
3/27/18 2:57 PM	3,300	2,800	410.0	150.0	170.0	18.0	120.0	1,300.0	720.0	0.37
7/31/18 1:07 PM	3,600	2,700	360.0	130.0	150.0	16.0	110.0	1,200.0	790.0	0.22
1/23/19 8:37 AM	3,600	2,700	440.0	150.0	170.0	18.0	90.0	1,100.0	760.0	0.26
1/23/19 8:38 AM	3,200	3,300	439.0	151.0	177.0	16.0	110.0	1,400.0	772.0	ND
12/16/19 1:26 PM	790	2,600	410.0	150.0	160.0	19.0	120.0	1,100.0	600.0	ND
WM-D										
1997	-	ND	-	-	-	-	-	-	-	11.10
1998	-	ND	-	-	-	-	-	-	-	3.60
10/26/17 12:00 AM	2,780	2,000	390.0	110.0	170.0	9.4	110.0	520.0	1,130.0	0.42
10/26/17 9:15 AM	3,300	2,000	350.0	100.0	140.0	11.0	70.0	370.0	1,300.0	0.18
3/27/18 12:00 AM	3,451	-	-	-	-	-	-	-	-	-
3/28/18 8:00 AM	2,800	2,000	360.0	110.0	150.0	10.0	100.0	610.0	1,300.0	ND
WM-F										
1997	-	ND	-	-	-	-	-	-	-	5.00
1998	-	ND	-	-	-	-	-	-	-	4.80
10/26/17 12:00 AM	911	-	-	-	-	-	-	-	-	-
10/26/17 8:05 AM	940	580	60.0	17.0	90.0	5.8	97.0	91.0	180.0	2.50
3/27/18 12:00 AM	1,251	-	-	-	-	-	-	-	-	-
3/27/18 2:00 PM	1,000	660	74.0	21.0	100.0	6.6	100.0	160.0	240.0	2.80
7/31/18 11:50 AM	1,100	710	74.0	22.0	93.0	6.3	97.0	160.0	270.0	1.80
1/22/19 3:00 PM	1,240	752	95.0	28.0	117.0	6.0	110.0	160.0	415.0	1.10
1/22/19 3:05 PM	1,100	790	100.0	29.0	110.0	6.6	110.0	170.0	430.0	1.30
12/16/19 11:58 AM	1,100	600	87.0	26.0	100.0	7.0	110.0	160.0	310.0	1.60
WM-G										
1998	-	1,140	-	-	-	-	-	-	-	0.80
8/16/12 1:30 PM	1,500	910	110.0	45.0	150.0	24.0	240.0	170.0	250.0	4.97
10/26/17 12:00 AM	1,110	700	71.0	21.0	150.0	4.7	140.0	200.0	120.0	12.00
10/26/17 11:45 AM	1,200	710	67.0	19.0	120.0	5.1	120.0	190.0	120.0	12.00
3/27/18 12:00 AM	1,306	-	-	-	-	-	-	-	-	-
3/28/18 10:08 AM	1,000	630	57.0	17.0	120.0	4.9	110.0	200.0	100.0	15.00
8/1/18 8:15 AM	1,100	660	56.0	17.0	110.0	4.7	120.0	210.0	110.0	11.00
1/23/19 11:31 AM	1,000	690	63.0	18.0	120.0	5.4	120.0	200.0	110.0	12.00
12/16/19 2:52 PM	970	580	51.0	15.0	110.0	4.8	110.0	200.0	120.0	12.00
WM-HA										
1997	-	911	-	-	-	-	-	-	-	51.40
1998	-	1,260	-	-	-	-	-	-	-	59.50
8/16/12 2:35 PM	3,100	1,900	220.0	85.0	250.0	5.5	390.0	290.0	490.0	81.29
3/3/15 1:47 PM	3,000	1,800	249.0	98.6	200.0	5.8	420.0	220.0	450.0	74.52
10/26/17 12:00 AM	3,802	-	-	-	-	-	-	-	-	-
10/26/17 11:45 AM	4,500	2,500	330.0	130.0	240.0	8.0	420.0	370.0	690.0	100.00
10/26/17 1:57 PM	3,802	-	-	-	-	-	-	-	-	-
3/27/18 12:00 AM	5,009	-	-	-	-	-	-	-	-	-
3/28/18 12:15 PM	4,100	2,800	390.0	170.0	230.0	7.6	580.0	630.0	670.0	74.00
3/28/18 12:20 PM	4,200	2,760	454.0	179.0	247.0	7.0	592.0	624.0	673.0	71.50
8/1/18 10:30 AM	4,900	2,700	310.0	130.0	250.0	7.7	550.0	480.0	560.0	100.00
1/23/19 3:10 PM	4,400	2,700	420.0	170.0	250.0	7.1	550.0	600.0	680.0	81.00
12/17/19 8:28 AM	4,800	3,000	360.0	170.0	250.0	8.2	530.0	610.0	730.0	80.00
WM-K										
1997	-	1,960	-	-	-	-	-	-	-	18.50
1998	-	1,400	-	-	-	-	-	-	-	6.50
8/17/12 12:00 AM	9,400	5,800	670.0	290.0	760.0	17.0	1,100.0	2,600.0	700.0	20.10
3/3/15 11:10 AM	6,900	6,200	813.0	315.0	820.0	16.0	1,100.0	2,900.0	770.0	21.90
10/27/17 12:00 AM	7,413	-	-	-	-	-	-	-	-	-
10/27/17 9:45 AM	7,800	6,200	780.0	290.0	720.0	24.0	670.0	2,000.0	810.0	14.00
3/27/18 12:00 AM	8,855	-	-	-	-	-	-	-	-	-
3/28/18 2:35 PM	7,500	6,100	640.0	300.0	710.0	18.0	920.0	2,500.0	800.0	16.00
8/1/18 1:15 PM	7,100	5,900	650.0	260.0	640.0	13.0	850.0	2,800.0	470.0	13.00
8/1/18 1:21 PM	6,620	5,960	723.0	282.0	723.0	11.0	827.0	2,650.0	767.0	12.50

Notes:
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Santa Margarita River Watershed
Water Quality Data

Water Quality Samples of Domenigoni Valley

Site and Date (3)	Specific Conductance (umho/cm)	Total Dissolved Solids (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Bicarbonate (as CaCO3) (mg/l)	Nitrate as N
1/24/19 11:35 AM	8,400	5,700	690.0	270.0	670.0	18.0	560.0	1,800.0	790.0	12.00
12/17/19 10:18 AM	10,000	5,700	710.0	260.0	650.0	21.0	610.0	1,900.0	800.0	12.00
12/17/19 10:25 AM	6,700	5,700	700.0	240.0	690.0	17.0	870.0	2,800.0	640.0	12.00
WM-L										
1997	-	ND	-	-	-	-	-	-	-	61.30
1998	-	ND	-	-	-	-	-	-	-	16.00
10/27/17 12:00 AM	2,867	-	-	-	-	-	-	-	-	-
10/27/17 8:24 AM	2,867	-	-	-	-	-	-	-	-	-
10/27/17 8:27 AM	3,000	2,000	240.0	67.0	270.0	9.0	270.0	440.0	500.0	17.00
3/27/18 12:00 AM	6,563	-	-	-	-	-	-	-	-	-
3/28/18 1:45 PM	5,500	4,000	450.0	170.0	510.0	12.0	770.0	1,400.0	690.0	20.00
8/1/18 11:55 AM	4,200	2,900	320.0	100.0	340.0	11.0	600.0	1,100.0	610.0	18.00
8/1/18 11:59 AM	3,890	2,790	398.0	112.0	427.0	8.0	564.0	918.0	532.0	18.10
1/24/19 9:51 AM	6,900	4,700	580.0	190.0	520.0	11.0	680.0	1,200.0	710.0	14.00
WM-M										
1997	-	1,240	-	-	-	-	-	-	-	11.00
1998	-	1,620	-	-	-	-	-	-	-	19.00
8/17/12 12:00 AM	-	-	-	-	-	-	360.0	-	-	-
8/17/12 12:20 PM	2,800	1,900	250.0	73.0	170.0	7.5	-	600.0	310.0	14.45
3/3/15 10:30 AM	3,300	2,100	331.0	90.5	190.0	8.2	370.0	810.0	230.0	17.16
10/27/17 12:00 AM	3,520	2,400	400.0	110.0	230.0	8.2	450.0	1,050.0	280.0	19.00
10/27/17 11:57 AM	3,201	-	-	-	-	-	-	-	-	-
10/27/17 12:00 PM	3,300	2,400	360.0	110.0	190.0	9.8	340.0	800.0	250.0	20.00
3/27/18 12:00 AM	4,393	-	-	-	-	-	-	-	-	-
3/29/18 12:25 PM	3,400	2,600	370.0	110.0	210.0	12.0	390.0	1,000.0	280.0	22.00
8/2/18 10:10 AM	4,900	2,400	360.0	110.0	210.0	10.0	440.0	1,100.0	260.0	20.00
1/25/19 9:46 AM	4,000	1,800	380.0	110.0	200.0	10.0	360.0	830.0	310.0	20.00
12/17/19 12:55 PM	3,300	2,600	390.0	110.0	210.0	8.4	490.0	960.0	240.0	24.00
12/17/19 2:53 PM	4,000	2,500	360.0	110.0	200.0	10.0	440.0	830.0	240.0	23.00
DVL Weir 1										
8/1/18 9:23 AM	880	-	-	-	-	-	-	-	-	-
1/22/19 11:56 AM	1,000	660	77.0	26.0	83.0	10.0	96.0	250.0	140.0	0.80
12/16/19 11:09 AM	990	640	75.0	27.0	78.0	9.9	91.0	260.0	110.0	0.87
DVL Weir 2										
8/1/18 9:32 AM	1,330	-	-	-	-	-	-	-	-	-
1/22/19 12:08 PM	1,500	1,100	120.0	74.0	91.0	7.7	100.0	590.0	28.0	4.20
12/16/19 11:29 AM	1,900	1,200	130.0	81.0	89.0	9.0	97.0	680.0	15.0	3.60
DVL Weir 3										
8/1/18 9:40 AM	790	-	-	-	-	-	-	-	-	-
1/22/19 12:13 PM	1,100	760	110.0	33.0	72.0	4.4	88.0	370.0	100.0	ND
12/16/19 11:20 AM	1,100	690	100.0	31.0	70.0	4.9	85.0	340.0	100.0	ND
DVL Weir 4										
3/27/18 10:30 AM	6,000	5,900	340.0	490.0	290.0	30.0	200.0	3,300.0	ND	70.00
8/1/18 9:16 AM	4,000	-	-	-	-	-	-	-	-	-
1/22/19 11:38 AM	5,800	5,800	410.0	540.0	290.0	24.0	160.0	2,500.0	7.6	70.00
12/16/19 10:55 AM	8,600	5,700	400.0	490.0	260.0	29.0	190.0	2,600.0	ND	46.00
DVL Weir 5										
10/27/17 2:10 PM	4,200	3,900	200.0	320.0	160.0	13.0	76.0	2,000.0	ND	38.00
8/1/18 9:07 AM	2,537	-	-	-	-	-	-	-	-	-
1/22/19 11:25 AM	3,200	2,600	200.0	220.0	160.0	11.0	92.0	1,300.0	2.6	21.00
12/16/19 10:50 AM	4,600	2,400	220.0	270.0	150.0	12.0	100.0	1,600.0	ND	23.00

Notes:
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DVL Weir Outfall										
8/1/18 10:05 AM	4,200	3,900	220.0	310.0	190.0	17.0	130.0	2,500.0	ND	38.00
8/1/18 10:18 AM	3,329	-	-	-	-	-	-	-	-	-
1/23/19 9:01 AM	3,560	3,230	225.0	281.0	183.0	13.0	120.0	2,000.0	5.0	29.60
1/23/19 12:39 PM	3,900	3,100	240.0	290.0	180.0	16.0	110.0	1,500.0	7.5	26.00
12/16/19 9:55 AM	4,500	3,600	240.0	280.0	160.0	16.0	110.0	1,500.0	ND	23.00
EMWD RW System at Holland										
10/27/17 3:40 PM	1,300	700	48.0	16.0	150.0	22.0	240.0	130.0	91.0	5.90
San Diego Canal at WCT										
10/27/17 11:20 AM	600	330	34.0	13.0	51.0	3.3	69.0	95.0	100.0	0.23

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