

Water-Data Report 2011

11303500 San Joaquin River near Vernalis, CA

San Joaquin River Basin

LOCATION.--Lat 37°40'34", long 121°15'55" referenced to North American Datum of 1927, San Joaquin County, CA, Hydrologic Unit 18040002, in El Pescadero Grant, on left bank, 12 ft downstream from Airport Way bridge, 2.6 mi downstream from Stanislaus River, and 3.2 mi northeast of Vernalis.

DRAINAGE AREA.--13,536 mi², includes about 2,100 mi² in James Bypass.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1922 to current year (1922-23 and 1925-29, low-flow records only).

REVISED RECORDS.--WSP 831: 1936. WSP 931: 1940. WSP 1930: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is NGVD of 1929. See WSP 2130 for history of changes prior to Nov. 30, 1967.

REMARKS.--Records good except for estimated daily discharges, which are rated fair. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation; low flows consist mainly of return flow from irrigated areas. See schematic diagram of Sacramento-San Joaquin Delta available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 79,000 ft³/s, Dec. 9, 1950, elevation, 32.81 ft, present datum, including flow through breaks in levee, maximum elevation, 34.88 ft, Jan. 5, 1997; minimum daily discharge, 30 ft³/s, Aug. 10, 1961.

11303500 San Joaquin River near Vernalis, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,630	2,730	1,960	13,000	7,340	11,600	30,700	18,200	10,300	11,800	4,190	5,930
2	1,610	2,580	2,270	13,000	7,000	11,500	30,800	17,100	10,600	12,700	4,370	5,610
3	1,720	2,460	3,700	13,600	6,780	11,300	30,700	16,200	10,600	12,700	5,260	5,060
4	1,780	2,260	4,580	15,000	6,790	11,300	30,100	15,500	10,600	12,000	5,510	4,910
5	1,800	2,070	5,030	e14,600	6,800	11,200	29,600	14,900	11,300	10,200	5,320	4,860
6	1,810	1,990	5,240	14,600	6,880	10,800	29,400	14,500	11,500	9,190	5,250	4,710
7	1,820	1,980	5,290	15,000	6,870	10,400	29,400	14,500	11,300	9,610	5,090	4,610
8	2,010	2,010	5,060	15,400	6,830	10,200	29,500	14,400	11,200	10,500	5,180	4,410
9	2,260	1,970	4,700	15,500	6,800	10,200	29,000	14,300	11,000	11,000	5,070	3,980
10	2,340	1,890	4,800	15,000	6,950	10,200	28,600	13,900	10,900	11,100	5,050	3,750
11	2,450	1,820	4,820	14,400	7,250	10,200	28,500	13,500	10,800	11,200	4,950	3,550
12	2,420	1,750	4,510	13,700	7,370	10,100	28,200	13,100	11,100	10,200	4,920	3,380
13	2,320	1,700	4,200	13,100	7,410	9,840	28,000	12,700	11,400	9,860	4,960	3,210
14	2,270	1,680	4,040	12,400	7,410	9,350	28,000	12,300	11,200	10,100	5,010	3,530
15	2,120	1,680	4,130	e11,500	7,380	8,920	27,900	12,100	11,000	10,400	5,020	3,850
16	1,980	1,660	4,620	10,900	7,390	8,720	27,800	11,900	10,500	10,300	4,880	3,950
17	2,000	1,640	5,410	11,200	7,610	8,640	27,600	11,600	10,300	9,700	4,790	3,980
18	2,180	1,620	6,170	11,900	7,980	8,850	27,200	11,500	10,300	8,920	4,950	4,000
19	2,330	1,590	7,250	11,900	8,930	9,260	26,500	11,400	10,200	8,980	5,270	4,060
20	2,450	1,650	8,520	11,500	11,000	9,970	25,700	11,300	10,100	8,790	5,260	4,060
21	2,530	1,780	9,510	11,000	11,700	12,000	24,900	11,200	9,940	7,480	5,410	4,050
22	2,580	1,780	10,400	10,700	11,800	14,400	23,900	11,000	10,000	6,550	5,500	3,990
23	2,810	1,760	10,600	10,100	11,800	15,900	23,200	11,000	10,200	5,920	5,360	3,960
24	3,070	1,790	10,600	9,310	11,800	16,500	22,600	10,800	10,400	5,380	5,440	4,100
25	3,230	1,840	10,300	8,620	11,700	17,500	22,000	10,600	10,400	5,080	6,000	4,280
26	3,170	1,830	10,300	8,110	11,700	19,400	21,500	10,700	10,400	4,750	6,430	4,430
27	3,150	1,840	10,600	8,190	12,300	20,700	20,900	10,700	10,600	4,530	6,660	4,480
28	3,230	1,850	10,900	8,360	12,000	22,500	20,300	10,600	10,600	4,410	6,830	4,430
29	3,140	1,900	10,900	8,330	---	24,600	19,800	10,300	10,500	4,330	7,050	4,490
30	3,020	1,950	11,700	8,030	---	27,100	19,200	10,200	10,500	4,280	6,240	4,550
31	2,870	---	13,100	7,650	---	29,600	---	10,100	---	4,210	5,890	---
Total	74,100	57,050	215,210	365,600	243,570	422,750	791,500	392,100	319,740	266,170	167,110	128,160
Mean	2,390	1,902	6,942	11,790	8,699	13,640	26,380	12,650	10,660	8,586	5,391	4,272
Max	3,230	2,730	13,100	15,500	12,300	29,600	30,800	18,200	11,500	12,700	7,050	5,930
Min	1,610	1,590	1,960	7,650	6,780	8,640	19,200	10,100	9,940	4,210	4,190	3,210
Ac-ft	147,000	113,200	426,900	725,200	483,100	838,500	1,570,000	777,700	634,200	527,900	331,500	254,200

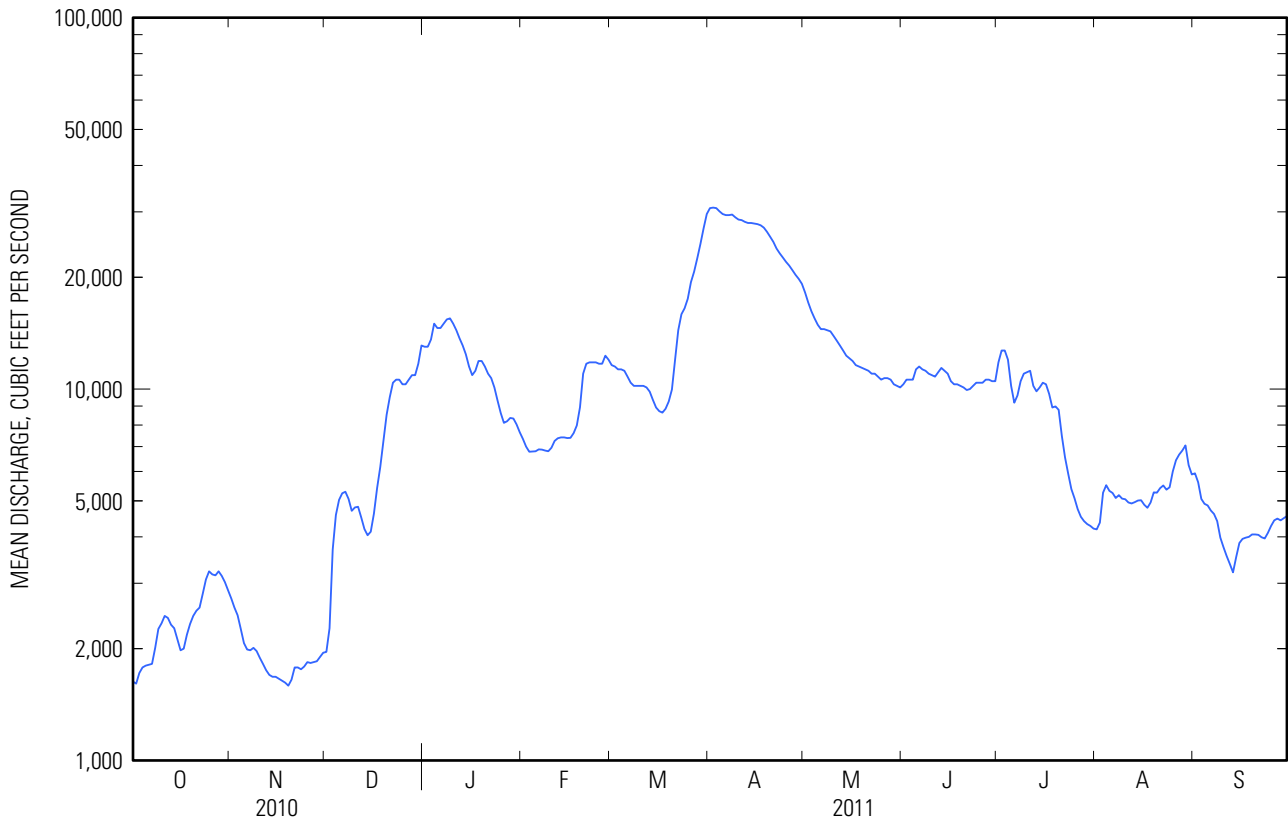
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,279	2,258	3,475	5,095	6,875	7,293	7,335	7,620	6,333	2,642	1,497	1,792
Max	13,320	10,680	25,130	30,380	35,060	40,040	36,450	31,770	36,650	19,230	9,035	11,310
(WY)	(1984)	(1984)	(1951)	(1997)	(1997)	(1983)	(1983)	(1983)	(1938)	(1983)	(1983)	(1983)
Min	246	430	506	804	758	444	200	380	118	92.8	124	179
(WY)	(1978)	(1978)	(1978)	(1962)	(1991)	(1961)	(1961)	(1961)	(1977)	(1977)	(1977)	(1977)

11303500 San Joaquin River near Vernalis, CA—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1924 - 2011	
Annual total	1,126,310		3,443,060			
Annual mean	3,086		9,433		4,525	
Highest annual mean					21,280	1983
Lowest annual mean					575	1977
Highest daily mean	13,100	Dec 31	30,800	Apr 2	70,000	Dec 9, 1950
Lowest daily mean	1,170	Jan 10	1,590	Nov 19	30	Aug 10, 1961
Annual seven-day minimum	1,190	Jan 7	1,650	Nov 14	59	Jul 19, 1961
Maximum peak flow			30,900	Apr 2	79,000	Dec 9, 1950
Maximum peak stage			27.23	Apr 2	34.88	Jan 5, 1997
Annual runoff (ac-ft)	2,234,000		6,829,000		3,278,000	
10 percent exceeds	5,280		18,600		12,000	
50 percent exceeds	2,460		8,920		2,100	
90 percent exceeds	1,300		2,050		725	



11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

CHEMICAL DATA: Water years 1951 to 1999, 2001 to current year.

BIOLOGICAL DATA: Water years 1974-81.

TURBIDITY: Water years 1972-84.

SEDIMENT DATA: Water years 1957 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1951 to May 1963, January 1973 to October 1981, June 1985 to September 2005.

WATER TEMPERATURE: March 1951 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1956 to current year.

INSTRUMENTATION.--Conductivity recorder, January 1973 to October 1981, June 1985 to September 2005. Water-temperature recorder, October 1961 to September 1963, December 1972 to September 1985, October 2005 to current year. Water-quality monitor, October 1985 to September 2005.

REMARKS.--Mean daily specific-conductance records, January 1973 to October 1981, provided by U.S. Bureau of Reclamation. Maximum and minimum specific-conductance values, June 1985 to September 1988, are available in files of the U.S. Geological Survey. Chemical concentration data collected by the U.S. Geological Survey National Water Quality Assessment Program (NAWQA).

Water-temperature records rated excellent. Interruption in record due to sensor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,350 microsiemens, Aug. 11, 1961; minimum daily, 60 microsiemens, June 21, 1953.

WATER TEMPERATURE: Maximum recorded, 35.5°C, Aug. 9, 1990; minimum recorded, 2.0°C, Dec. 26, 1987.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,590 mg/L, Dec. 25, 1964; minimum daily mean, 6 mg/L, Jan. 1, 1991.

SEDIMENT LOAD: Maximum daily, 54,100 tons, Dec. 25, 1964; minimum daily, 2 tons, Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 22.9°C, July 6; minimum recorded, 9.4°C, Jan. 15.

SEDIMENT CONCENTRATION: Maximum daily mean, 165 mg/L, Dec. 19; minimum daily mean, 24 mg/L, Apr. 21.

SEDIMENT LOAD: Maximum daily, 6,730 tons, Mar. 26; minimum daily, 129 tons, Nov. 28.

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm		Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)
			Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per cm (61726)					
10-25-2010	1210	765	--	--	3,250	11.3	113	7.7	369
10-25-2010	1215	765	.099	.076	3,250	11.3	113	7.7	369
11-08-2010	1150	766	--	--	2,000	10.6	104	7.8	628
12-14-2010	1140	763	--	--	4,050	11.5	108	7.7	353
12-14-2010	1145	763	.075	.057	4,050	11.5	108	7.7	353
12-29-2010	1130	758	--	--	10,900	9.6	87	7.5	175
12-29-2010	1135	758	.180	.141	10,900	9.6	87	7.5	175
01-13-2011	1120	770	--	--	13,100	15.1	127	7.4	219
01-13-2011	1125	770	.223	.175	13,100	15.1	127	7.4	219
01-25-2011	1130	768	--	--	8,630	12.4	109	7.5	279
01-25-2011	1135	768	.143	.111	8,630	12.4	109	7.5	279
02-09-2011	1120	768	--	--	6,800	14.2	125	7.7	284
02-09-2011	1125	768	.087	.064	6,800	14.2	125	7.7	284
02-28-2011	1150	769	--	--	12,000	10.5	91	7.7	256
02-28-2011	1155	769	.156	.121	11,900	10.5	91	7.7	256
03-16-2011	1030	767	--	--	8,720	9.7	92	7.6	338
03-16-2011	1035	767	.103	.079	8,720	9.7	92	7.6	338
03-30-2011	1310	768	--	--	27,200	8.0	77	7.1	178
03-30-2011	1315	768	.259	.203	27,200	8.0	77	7.1	178
04-19-2011	1220	762	--	--	26,400	8.1	82	7.1	139
04-19-2011	1225	762	.135	.105	26,500	8.1	82	7.1	139
04-26-2011	1140	766	--	--	21,500	8.6	84	7.2	139
05-11-2011	1150	762	--	--	13,600	9.6	95	7.4	142
06-02-2011	1240	766	--	--	10,700	--	--	7.9	154
06-21-2011	1300	756	--	--	9,920	9.9	105	7.4	132
06-21-2011	1305	756	.076	.057	9,930	9.9	105	7.4	132
07-06-2011	1130	759	--	--	9,130	8.2	93	7.6	175
08-02-2011	1220	759	--	--	4,320	11.5	125	8.1	361
08-09-2011	1210	760	--	--	5,090	10.2	99	7.9	255
08-09-2011	1215	760	.072	.056	5,090	10.2	107	7.9	255
08-23-2011	1240	756	--	--	5,340	10.1	105	7.7	206
09-07-2011	1200	758	--	--	4,600	9.6	100	7.5	247
09-20-2011	1120	757	--	--	4,050	9.9	104	7.7	306

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as CaCO ₃ (39086)
10-25-2010	1210	15.6	--	--	--	--	--	--	65
10-25-2010	1215	15.6	E 18	227	19.3	8.96	2.07	38.6	65
11-08-2010	1150	15.0	--	--	--	--	--	--	98
12-14-2010	1140	12.4	--	--	--	--	--	--	63
12-14-2010	1145	12.4	E 14	193	16.2	8.59	1.52	39.7	63
12-29-2010	1130	10.6	--	--	--	--	--	--	34
12-29-2010	1135	10.6	37	113	9.12	4.73	1.79	18.3	34
01-13-2011	1120	8.2	--	--	--	--	--	--	41
01-13-2011	1125	8.2	28	137	12.3	5.51	2.21	23.2	41
01-25-2011	1130	10.1	--	--	--	--	--	--	45
01-25-2011	1135	10.1	E 17	169	14.4	6.86	1.69	30.7	45
02-09-2011	1120	10.1	--	--	--	--	--	--	47
02-09-2011	1125	10.1	E 17	167	13.8	7.13	1.21	30.6	47
02-28-2011	1150	9.7	--	--	--	--	--	--	46
02-28-2011	1155	9.7	20	153	13.8	7.07	1.82	26.6	46
03-16-2011	1030	13.5	--	--	--	--	--	--	54
03-16-2011	1035	13.5	E 18	202	18.1	8.58	1.74	38.2	54
03-30-2011	1310	13.7	--	--	--	--	--	--	45
03-30-2011	1315	13.7	24	116	11.2	5.27	2.40	16.6	45
04-19-2011	1220	16.0	--	--	--	--	--	--	35
04-19-2011	1225	16.0	E 10	80	8.87	4.01	1.45	12.8	35
04-26-2011	1140	14.7	--	--	--	--	--	--	32
05-11-2011	1150	15.4	--	--	--	--	--	--	34
06-02-2011	1240	15.3	--	--	--	--	--	--	30
06-21-2011	1300	17.8	--	--	--	--	--	--	28
06-21-2011	1305	17.8	E 18	76	7.93	3.66	.94	11.8	28
07-06-2011	1130	21.7	--	--	--	--	--	--	32
08-02-2011	1220	19.4	--	--	--	--	--	--	51
08-09-2011	1210	14.0	--	--	--	--	--	--	37
08-09-2011	1215	17.9	E 13	147	13.4	6.81	1.31	25.1	37
08-23-2011	1240	17.1	--	--	--	--	--	--	40
09-07-2011	1200	17.3	--	--	--	--	--	--	44
09-20-2011	1120	17.5	--	--	--	--	--	--	50

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)
10-25-2010	1210	--	--	--	--	--	--	--	--	0.375
10-25-2010	1215	.56	41.4	.08	< .03	13.0	34.8	.29	.41	.173
11-08-2010	1150	--	84.8	--	--	--	68.7	--	--	.018
12-14-2010	1140	--	--	--	--	--	--	--	--	< .010
12-14-2010	1145	.71	44.1	.06	< .03	9.76	41.7	.17	.28	< .010
12-29-2010	1130	--	--	--	--	--	--	--	--	.014
12-29-2010	1135	1.30	16.9	.06	.06	10.8	19.2	.26	.50	.015
01-13-2011	1120	--	--	--	--	--	--	--	--	.046
01-13-2011	1125	.76	21.5	.06	< .03	13.4	23.2	.36	.50	.047
01-25-2011	1130	--	--	--	--	--	--	--	--	.022
01-25-2011	1135	.92	31.3	.08	.03	11.3	34.2	.24	.37	.023
02-09-2011	1120	--	--	--	--	--	--	--	--	< .010
02-09-2011	1125	2.07	34.6	.06	< .03	9.64	35.7	.12	.29	< .010
02-28-2011	1150	--	--	--	--	--	--	--	--	.070
02-28-2011	1155	.77	25.7	.11	< .03	11.3	31.3	.34	.48	.070
03-16-2011	1030	--	--	--	--	--	--	--	--	.097
03-16-2011	1035	.58	39.6	.05	< .03	10.0	42.6	.31	.41	.098
03-30-2011	1310	--	--	--	--	--	--	--	--	.032
03-30-2011	1315	.93	16.0	.06	< .03	13.6	17.3	.50	.61	.032
04-19-2011	1220	--	--	--	--	--	--	--	--	.023
04-19-2011	1225	.50	11.3	.07	< .03	10.0	12.2	.22	.33	.024
04-26-2011	1140	--	12.0	--	--	--	13.9	--	--	.040
05-11-2011	1150	--	12.6	--	--	--	14.2	--	--	.017
06-02-2011	1240	--	15.1	--	--	--	17.4	--	--	< .010
06-21-2011	1300	--	--	--	--	--	--	--	--	< .010
06-21-2011	1305	.92	12.1	< .04	< .03	10.8	12.9	.11	.30	.011
07-06-2011	1130	--	16.7	--	--	--	18.7	--	--	< .010
08-02-2011	1220	--	45.4	--	--	--	38.6	--	--	< .010
08-09-2011	1210	--	--	--	--	--	--	--	--	< .010
08-09-2011	1215	1.35	28.0	< .04	< .03	10.8	26.4	.34	.37	--
08-23-2011	1240	--	21.0	--	--	--	21.2	--	--	< .010
09-07-2011	1200	--	26.8	--	--	--	25.2	--	--	< .010
09-20-2011	1120	--	33.0	--	--	--	31.4	--	--	< .010

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 4 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Orthophosphate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, analytically determined, mg/L (62855)	Iron, water, filtered, µg/L (01046)
10-25-2010	1210	1.51	0.010	0.114	--	--	0.197	1.86	--
10-25-2010	1215	1.52	.010	.113	.074	.113	.198	--	25.2
11-08-2010	1150	1.71	.010	.133	--	--	.220	2.14	--
12-14-2010	1140	.63	.004	.084	--	--	.101	.79	--
12-14-2010	1145	.64	.004	.052	.127	.056	.115	--	22.5
12-29-2010	1130	.32	.007	.064	--	--	.198	.83	--
12-29-2010	1135	.32	.006	.064	.200	.075	.234	--	127
01-13-2011	1120	.55	.008	.075	--	--	.175	.98	--
01-13-2011	1125	.54	.008	.075	.119	.083	.165	--	105
01-25-2011	1130	.40	.005	.062	--	--	.158	.71	--
01-25-2011	1135	.40	.005	.062	.127	.068	.152	--	72.4
02-09-2011	1120	.37	.003	.037	--	--	.106	.61	--
02-09-2011	1125	.37	.003	.037	.178	.041	.115	--	52.1
02-28-2011	1150	.56	.010	.069	--	--	.168	1.01	--
02-28-2011	1155	.55	.009	.068	.101	.074	.178	--	80.5
03-16-2011	1030	.58	.012	.081	--	--	.149	.99	--
03-16-2011	1035	.58	.011	.081	.097	.089	.144	--	44.5
03-30-2011	1310	.32	.011	.089	--	--	.184	.86	--
03-30-2011	1315	.32	.011	.090	.104	.100	.208	--	180
04-19-2011	1220	.14	.005	.078	--	--	.162	.47	--
04-19-2011	1225	.14	.006	.078	.064	.082	.187	--	86.6
04-26-2011	1140	.19	.007	.087	--	--	.175	.49	--
05-11-2011	1150	.21	.004	.072	--	--	.139	.49	--
06-02-2011	1240	.38	.003	.035	--	--	.102	.67	--
06-21-2011	1300	.36	.003	.040	--	--	.133	.69	--
06-21-2011	1305	.36	.003	.040	.143	.041	.156	--	47.7
07-06-2011	1130	.48	.007	.056	--	--	.164	.91	--
08-02-2011	1220	1.01	.013	.057	--	--	.159	1.42	--
08-09-2011	1210	.72	.010	.046	--	--	.118	1.03	--
08-09-2011	1215	--	--	--	.226	.046	.116	--	25.7
08-23-2011	1240	.60	.006	.047	--	--	.053	.72	--
09-07-2011	1200	.72	.006	.054	--	--	.111	.91	--
09-20-2011	1120	1.15	.007	.062	--	--	.136	1.42	--

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 5 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Lithium, water, filtered, µg/L (01130)	Strontium, water, filtered, µg/L (01080)	Vanadium, water, filtered, µg/L (01085)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)	Selenium, water, filtered, µg/L (01145)	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (49295)	2,6-Diethyl-aniline, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82660)	2-Chloro-2',6'-diethyl-acetanilide, water, filtered, recoverable, µg/L (61618)
10-25-2010	1210	--	--	--	--	--	--	<.0360	<.0060	<.010
10-25-2010	1215	2.77	222	2.5	1.4	147	.20	--	--	--
11-08-2010	1150	--	--	--	--	--	--	<.0360	<.0060	<.010
12-14-2010	1140	--	--	--	--	--	--	<.0360	<.0060	<.010
12-14-2010	1145	3.48	189	1.4	.84	168	.31	--	--	--
12-29-2010	1130	--	--	--	--	--	--	<.0360	<.0060	<.010
12-29-2010	1135	2.20	106	2.1	.94	104	.17	--	--	--
01-13-2011	1120	--	--	--	--	--	--	<.0360	<.0060	<.010
01-13-2011	1125	4.11	128	2.4	1.2	119	.23	--	--	--
01-25-2011	1130	--	--	--	--	--	--	<.0360	<.0060	<.010
01-25-2011	1135	3.71	159	1.8	1.1	146	.27	--	--	--
02-09-2011	1120	--	--	--	--	--	--	<.0360	<.0060	<.010
02-09-2011	1125	2.86	151	1.7	.81	142	.31	--	--	--
02-28-2011	1150	--	--	--	--	--	--	<.0360	<.0060	<.010
02-28-2011	1155	3.17	147	2.2	1.0	140	.37	--	--	--
03-16-2011	1030	--	--	--	--	--	--	<.0360	<.0060	<.010
03-16-2011	1035	3.70	181	2.1	1.1	181	.46	--	--	--
03-30-2011	1310	--	--	--	--	--	--	<.0360	<.0060	<.010
03-30-2011	1315	2.97	111	3.1	1.2	74	.23	--	--	--
04-19-2011	1220	--	--	--	--	--	--	<.0360	<.0060	<.010
04-19-2011	1225	2.85	85.1	2.0	1.4	59	.15	--	--	--
04-26-2011	1140	--	--	--	--	--	--	<.0360	<.0060	<.010
05-11-2011	1150	--	--	--	--	--	--	E .0062	<.0060	<.010
06-02-2011	1240	--	--	--	--	--	--	E .0050	<.0060	<.010
06-21-2011	1300	--	--	--	--	--	--	<.0360	<.0060	<.010
06-21-2011	1305	1.84	83.3	1.9	.88	48	.12	--	--	--
07-06-2011	1130	--	--	--	--	--	--	<.0360	<.0060	<.010
08-02-2011	1220	--	--	--	--	--	--	<.0360	<.0060	<.010
08-09-2011	1210	--	--	--	--	--	--	<.0360	<.0060	<.010
08-09-2011	1215	2.48	168	1.8	.99	86	.26	--	--	--
08-23-2011	1240	--	--	--	--	--	--	<.0360	<.0060	<.010
09-07-2011	1200	--	--	--	--	--	--	E .0018	<.0060	<.010
09-20-2011	1120	--	--	--	--	--	--	<.0360	<.0060	<.010

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 6 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	2-Chloro-4-isopropyl-amino-6-amino-s-triazine, water, filtered, recoverable, µg/L (04040)	2-Ethyl-6-methyl-aniline, water, filtered, recoverable, µg/L (61620)	3,4-Dichloro-aniline, water, filtered, recoverable, µg/L (61625)	3,5-Di-chloro-aniline, water, filtered, recoverable, µg/L (61627)	4-Chloro-2-methyl-phenol, water, filtered, recoverable, µg/L (61633)	Aceto-chlor, water, filtered, recoverable, µg/L (49260)	Alachlor, water, filtered, recoverable, µg/L (46342)	alpha-Endo-sulfan, water, filtered, recoverable, µg/L (34362)	Atrazine, water, filtered, recoverable, µg/L (39632)
10-25-2010	1210	< .006	< .010	E .0057	< .004	< .0046	< .010	< .008	< .006	< .009
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	< .006	< .010	E .0034	< .004	< .0046	< .010	< .008	< .006	< .008
12-14-2010	1140	< .006	< .010	E .0054	< .004	< .0046	< .010	< .008	< .006	< .008
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	< .006	< .010	E .0051	< .004	< .0046	< .010	< .008	< .006	< .008
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	< .006	< .010	E .0052	< .004	< .0046	< .010	< .008	< .006	.006
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	< .006	< .010	E .0040	< .004	< .0046	< .010	< .008	< .006	< .008
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	< .006	< .010	E .0038	< .004	< .0046	< .010	< .008	< .006	< .008
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	< .006	< .010	< .0042	< .004	< .0046	< .010	< .008	< .006	< .008
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	< .006	< .010	E .0126	< .004	< .0046	< .010	< .008	< .006	< .008
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	< .006	< .010	E .0063	.002	< .0046	< .010	< .008	< .006	< .008
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	< .006	< .010	E .0029	< .004	< .0046	< .010	< .008	< .006	< .008
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	< .006	< .010	< .0042	< .004	< .0046	< .010	< .008	< .006	< .008
05-11-2011	1150	< .006	< .010	E .0059	< .004	< .0046	< .010	< .008	< .006	< .008
06-02-2011	1240	< .006	< .010	< .0042	< .004	< .0046	< .010	< .008	< .006	< .008
06-21-2011	1300	< .007	< .010	E .0051	< .004	< .0046	< .010	< .008	< .006	< .008
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	< .006	< .010	E .0050	< .004	< .0046	< .010	< .008	< .006	< .008
08-02-2011	1220	< .006	< .010	< .0042	< .004	< .0046	< .010	< .008	< .006	< .008
08-09-2011	1210	E .005	< .010	E .0041	< .004	< .0046	< .010	< .008	< .006	< .008
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	< .006	< .010	E .0033	< .004	< .0046	< .010	< .008	< .006	< .008
09-07-2011	1200	< .006	< .010	E .0029	< .004	< .0046	< .010	< .008	< .006	< .008
09-20-2011	1120	E .005	< .010	< .0042	< .004	< .0046	< .010	< .008	< .006	< .008

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 7 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Azinphos-methyl oxygen analog, water, filtered, recoverable, µg/L (61635)	Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82686)	Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82673)	Carbaryl, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82680)	Carbofuran, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82674)	Chlorpyrifos oxygen analog, water, filtered, recoverable, µg/L (61636)	Chlorpyrifos, water, filtered, recoverable, µg/L (38933)	cis-Permethrin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82687)
10-25-2010	1210	<.042	<.120	<.014	E.008	<.060	<.06	0.0072	<.010
10-25-2010	1215	--	--	--	--	--	--	--	--
11-08-2010	1150	<.042	<.120	<.014	E.006	<.060	<.06	.0039	<.010
12-14-2010	1140	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
12-14-2010	1145	--	--	--	--	--	--	--	--
12-29-2010	1130	<.042	<.120	<.014	E.009	<.060	<.06	<.0036	<.010
12-29-2010	1135	--	--	--	--	--	--	--	--
01-13-2011	1120	<.042	<.120	<.014	<.060	<.060	<.06	<.0056	<.010
01-13-2011	1125	--	--	--	--	--	--	--	--
01-25-2011	1130	<.042	<.120	<.014	<.060	<.060	<.06	.0063	<.010
01-25-2011	1135	--	--	--	--	--	--	--	--
02-09-2011	1120	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
02-09-2011	1125	--	--	--	--	--	--	--	--
02-28-2011	1150	E.034	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
02-28-2011	1155	--	--	--	--	--	--	--	--
03-16-2011	1030	<.042	<.120	.003	<.060	<.060	<.06	<.0036	<.010
03-16-2011	1035	--	--	--	--	--	--	--	--
03-30-2011	1310	<.042	<.120	<.014	<.060	<.060	<.06	.0054	<.010
03-30-2011	1315	--	--	--	--	--	--	--	--
04-19-2011	1220	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
04-19-2011	1225	--	--	--	--	--	--	--	--
04-26-2011	1140	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
05-11-2011	1150	<.042	<.120	<.014	<.060	<.060	<.06	<.0070	<.010
06-02-2011	1240	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
06-21-2011	1300	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
06-21-2011	1305	--	--	--	--	--	--	--	--
07-06-2011	1130	<.042	<.120	<.014	<.060	<.060	<.06	<.0036	<.010
08-02-2011	1220	<.042	<.120	<.014	<.060	<.060	<.06	.0059	<.010
08-09-2011	1210	<.042	<.120	<.014	<.060	<.060	<.06	.0076	<.010
08-09-2011	1215	--	--	--	--	--	--	--	--
08-23-2011	1240	<.042	<.120	<.014	<.060	<.060	<.06	.0065	<.010
09-07-2011	1200	<.042	<.120	<.014	E.003	<.060	<.06	.0073	<.010
09-20-2011	1120	<.042	<.120	<.014	<.060	<.060	<.06	.0055	<.010

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 8 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	cis-Propiconazole, water, filtered, recoverable, μg/L (79846)	Cyanazine, water, filtered, recoverable, μg/L (04041)	Cyfluthrin, water, filtered, recoverable, μg/L (61585)	Cypermethrin, water, filtered, recoverable, μg/L (61586)	DCPA, water, filtered (0.7 micron glass fiber filter), recoverable, μg/L (82682)	Desulfinyl-fipronil amide, water, filtered, recoverable, μg/L (62169)	Desulfinyl-fipronil, water, filtered, recoverable, μg/L (62170)	Diazinon, water, filtered, recoverable, μg/L (39572)	Dichlorvos, water, filtered, recoverable, μg/L (38775)
10-25-2010	1210	<.008	<.022	<.016	<.020	<.0076	<.029	<.012	<.0071	<.04
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	<.008	<.022	<.016	<.020	.0024	<.029	.004	<.0060	<.04
12-14-2010	1140	<.008	<.022	<.016	<.020	.0046	<.029	<.012	<.0060	<.04
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	<.008	<.022	<.016	<.020	.0053	<.029	.009	<.0060	<.04
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	<.008	<.022	<.016	<.020	.0037	<.029	<.012	<.0073	<.04
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	<.008	<.022	<.016	<.020	.0035	<.029	<.012	.0081	<.04
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	<.008	<.022	<.016	<.020	.0033	<.029	<.012	<.0060	<.04
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	E .008	<.022	<.016	<.020	.0019	<.029	<.012	<.0060	<.04
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	E .006	<.022	<.016	<.020	.0015	<.029	<.012	<.0060	<.04
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	E .017	<.022	<.016	<.020	.0007	<.029	<.012	<.0060	<.04
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	<.008	<.022	<.016	<.020	<.0076	<.029	<.012	<.0060	<.04
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	<.008	<.022	<.016	<.020	.0019	<.029	<.012	<.0060	<.04
05-11-2011	1150	<.008	<.022	<.016	<.020	.0032	<.029	<.012	<.0060	<.04
06-02-2011	1240	<.008	<.022	<.016	<.020	.0017	<.029	<.012	<.0060	<.04
06-21-2011	1300	<.008	<.022	<.016	<.020	<.0076	<.029	<.012	<.0060	<.04
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	<.008	<.022	<.016	<.020	<.0076	<.029	<.012	<.0060	<.04
08-02-2011	1220	<.008	<.022	<.016	<.020	<.0076	<.029	<.012	<.0060	M
08-09-2011	1210	<.008	<.022	<.016	<.020	.0024	<.029	<.012	<.0060	<.04
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	<.008	<.022	<.016	<.020	.0027	<.029	<.012	<.0060	<.04
09-07-2011	1200	<.008	<.022	<.016	<.020	.0020	<.029	<.012	<.0060	<.04
09-20-2011	1120	<.008	<.022	<.016	<.020	<.0076	<.029	<.012	<.0060	<.04

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 9 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Dicrotophos, water, filtered, recoverable, µg/L (38454)	Dieldrin, water, filtered, recoverable, µg/L (39381)	Dimethoate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82662)	Disulfoton sulfone, water, filtered, recoverable, µg/L (61640)	Disulfoton, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82677)	Endosulfan sulfate, water, filtered, recoverable, µg/L (61590)	EPTC, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82668)	Ethion monoxon, water, filtered, recoverable, µg/L (61644)	Ethion, water, filtered, recoverable, µg/L (82346)
10-25-2010	1210	<.08	<.008	<.0060	<.014	<.040	<.016	0.0040	<.021	<.008
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
12-14-2010	1140	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	<.08	<.008	E .0098	<.014	<.040	<.016	<.0056	<.021	<.008
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
05-11-2011	1150	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
06-02-2011	1240	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
06-21-2011	1300	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	<.08	<.008	E .0118	<.014	<.040	<.016	<.0056	<.021	<.008
08-02-2011	1220	<.08	<.008	E .0307	<.014	<.040	<.016	<.0056	<.021	<.008
08-09-2011	1210	<.08	<.008	E .0193	<.014	<.040	<.016	<.0056	<.021	<.008
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	<.08	<.008	E .0109	<.014	<.040	<.016	<.0056	<.021	<.008
09-07-2011	1200	<.08	<.008	E .0076	<.014	<.040	<.016	.0017	<.021	<.008
09-20-2011	1120	<.08	<.008	<.0060	<.014	<.040	<.016	<.0056	<.021	<.008

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 10 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Ethoprop, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82672)	Fenami-phos sulfone, water, filtered, recoverable, µg/L (61645)	Fenami-phos sulfoxide, water, filtered, recoverable, µg/L (61646)	Fenami-phos, water, filtered, recoverable, µg/L (61591)	Fipronil sulfide, water, filtered, recoverable, µg/L (62167)	Fipronil sulfone, water, filtered, recoverable, µg/L (62168)	Fipronil, water, filtered, recoverable, µg/L (62166)	Fonofos, water, filtered, recoverable, µg/L (04095)	Hexazinone, water, filtered, recoverable, µg/L (04025)
10-25-2010	1210	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	0.011
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	E .012
12-14-2010	1140	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	<.010
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.016
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	E .021
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	E .016
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.013
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	<.016	<.054	--	<.030	<.012	<.024	<.018	<.0048	.059
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.067
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.034
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.013
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.020
05-11-2011	1150	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.013
06-02-2011	1240	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	<.008
06-21-2011	1300	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.009
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	<.008
08-02-2011	1220	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	<.008
08-09-2011	1210	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.010
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.011
09-07-2011	1200	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.008
09-20-2011	1120	<.016	<.054	<.08	<.030	<.012	<.024	<.018	<.0048	.006

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 11 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Iprodione, water, filtered, recoverable, µg/L (61593)	Isofenphos, water, filtered, recoverable, µg/L (61594)	lambda-Cyhalothrin, water, filtered, recoverable, µg/L (61595)	Malaoxon, water, filtered, recoverable, µg/L (61652)	Malathion, water, filtered, recoverable, µg/L (39532)	Metalaxyl, water, filtered, recoverable, µg/L (61596)	Methidathion, water, filtered, recoverable, µg/L (61598)	Methyl paraoxon, water, filtered, recoverable, µg/L (61664)	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82667)
10-25-2010	1210	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
12-14-2010	1140	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	E .086	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	E .014	< .006	< .010	< .022	.009	< .014	< .012	< .014	< .008
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	E .060	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
05-11-2011	1150	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
06-02-2011	1240	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
06-21-2011	1300	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
08-02-2011	1220	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
08-09-2011	1210	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .009
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
09-07-2011	1200	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008
09-20-2011	1120	< .014	< .006	< .010	< .022	< .016	< .014	< .012	< .014	< .008

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 12 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Metolachlor, water, filtered, recoverable, µg/L (39415)	Metribuzin, water, filtered, recoverable, µg/L (82630)	Molinate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82671)	Myclobutanil, water, filtered, recoverable, µg/L (61599)	Oxyfluorfen, water, filtered, recoverable, µg/L (61600)	Pendimethalin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82683)	Phorate oxygen analog, water, filtered, recoverable, µg/L (61666)	Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82664)	Phosmet oxygen analog, water, filtered, recoverable, µg/L (61668)
10-25-2010	1210	0.009	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	.007	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
12-14-2010	1140	E .008	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	.012	< .012	< .0040	< .010	.001	.010	< .027	< .020	< .0511
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	.009	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	.008	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	.007	< .012	< .0040	< .010	< .006	.007	< .027	< .020	< .0511
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	.014	< .012	< .0040	< .010	< .006	.031	< .027	< .020	< .0511
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	.009	< .012	< .0040	< .010	.003	.026	< .027	< .020	< .0511
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	.010	< .012	< .0040	< .010	< .006	E .018	< .027	< .020	< .0511
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	.008	< .012	< .0040	< .010	< .006	.010	< .027	< .020	< .0511
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	.013	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
05-11-2011	1150	.034	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
06-02-2011	1240	.019	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
06-21-2011	1300	.026	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	.029	< .012	< .0040	.007	< .006	< .012	< .027	< .020	< .0511
08-02-2011	1220	.026	< .012	< .0040	.009	< .006	< .012	< .027	< .020	< .0511
08-09-2011	1210	.026	< .012	< .0040	.009	.006	< .012	< .027	< .020	< .0511
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	.015	< .012	< .0040	.010	< .006	< .012	< .027	< .020	< .0511
09-07-2011	1200	.011	< .012	< .0040	.006	< .006	< .012	< .027	< .020	< .0511
09-20-2011	1120	.006	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 13 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Phosmet, water, filtered, recoverable, µg/L (61601)	Prometon, water, filtered, recoverable, µg/L (04037)	Prometryn, water, filtered, recoverable, µg/L (04036)	Propanil, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82679)	Propargite, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82685)	Propyzamide, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82676)	Simazine, water, filtered, recoverable, µg/L (04035)	Tebu-thiuron, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82670)	Tefluthrin, water, filtered, recoverable, µg/L (61606)
10-25-2010	1210	<.140	<.012	<.007	<.010	<.020	<.0036	0.015	<.028	<.010
10-25-2010	1215	--	--	--	--	--	--	--	--	--
11-08-2010	1150	<.140	<.012	.325	<.010	<.020	<.0036	.011	<.028	<.010
12-14-2010	1140	<.140	<.012	.009	<.010	<.020	<.0036	.013	<.028	<.010
12-14-2010	1145	--	--	--	--	--	--	--	--	--
12-29-2010	1130	<.140	<.012	.017	<.010	<.020	<.0036	.050	<.028	<.010
12-29-2010	1135	--	--	--	--	--	--	--	--	--
01-13-2011	1120	<.140	<.012	.017	<.010	<.020	<.0036	.040	<.028	<.010
01-13-2011	1125	--	--	--	--	--	--	--	--	--
01-25-2011	1130	<.140	<.012	.009	<.010	<.020	<.0036	.015	<.028	<.010
01-25-2011	1135	--	--	--	--	--	--	--	--	--
02-09-2011	1120	<.140	<.012	.008	<.010	<.020	<.0036	.009	<.028	<.010
02-09-2011	1125	--	--	--	--	--	--	--	--	--
02-28-2011	1150	<.140	<.012	.032	<.010	<.020	<.0036	.047	<.028	<.010
02-28-2011	1155	--	--	--	--	--	--	--	--	--
03-16-2011	1030	<.140	<.012	.013	<.010	<.020	<.0036	.012	<.028	<.010
03-16-2011	1035	--	--	--	--	--	--	--	--	--
03-30-2011	1310	<.140	<.012	.005	<.010	<.020	<.0036	.022	<.028	<.010
03-30-2011	1315	--	--	--	--	--	--	--	--	--
04-19-2011	1220	<.140	<.012	.002	<.010	<.020	<.0036	.005	<.028	<.010
04-19-2011	1225	--	--	--	--	--	--	--	--	--
04-26-2011	1140	<.140	<.012	<.006	<.010	<.020	<.0036	<.008	<.028	<.010
05-11-2011	1150	<.140	<.012	.018	<.010	<.020	<.0036	.008	<.028	<.010
06-02-2011	1240	<.140	<.012	<.006	<.010	<.020	<.0036	.006	<.028	<.010
06-21-2011	1300	<.140	<.012	<.006	<.010	<.020	<.0036	.009	<.028	<.010
06-21-2011	1305	--	--	--	--	--	--	--	--	--
07-06-2011	1130	<.140	<.012	<.006	<.010	<.020	<.0036	.009	<.028	<.010
08-02-2011	1220	<.140	<.012	<.006	<.010	<.020	<.0036	.007	<.028	<.010
08-09-2011	1210	<.140	<.012	<.006	<.010	<.020	<.0036	.007	<.028	<.010
08-09-2011	1215	--	--	--	--	--	--	--	--	--
08-23-2011	1240	<.140	<.012	.006	<.010	<.020	<.0036	.006	<.028	<.010
09-07-2011	1200	<.140	<.012	<.006	<.010	<.020	<.0036	.007	<.028	<.010
09-20-2011	1120	<.140	<.012	<.006	<.010	<.020	<.0036	.005	<.028	<.010

11303500 San Joaquin River near Vernalis, CA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 14 of 14

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Terbufos oxygen analog sulfone, water, filtered, recoverable, µg/L (61674)	Terbufos, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82675)	Terbuthyl-azine, water, filtered, recoverable, µg/L (04022)	Thioben-carb, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82681)	trans-Propicon-azole, water, filtered, recoverable, µg/L (79847)	Tribuphos, water, filtered, recoverable, µg/L (61610)	Trifluralin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82661)	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
10-25-2010	1210	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
10-25-2010	1215	--	--	--	--	--	--	--	.56	3.10
11-08-2010	1150	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
12-14-2010	1140	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
12-14-2010	1145	--	--	--	--	--	--	--	.71	2.42
12-29-2010	1130	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
12-29-2010	1135	--	--	--	--	--	--	--	1.24	4.52
01-13-2011	1120	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
01-13-2011	1125	--	--	--	--	--	--	--	.76	4.92
01-25-2011	1130	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
01-25-2011	1135	--	--	--	--	--	--	--	.88	3.68
02-09-2011	1120	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
02-09-2011	1125	--	--	--	--	--	--	--	2.04	2.64
02-28-2011	1150	< .045	< .018	< .006	< .016	E .018	< .018	< .018	--	--
02-28-2011	1155	--	--	--	--	--	--	--	.77	3.55
03-16-2011	1030	< .045	< .018	< .006	< .016	E .006	< .018	.002	--	--
03-16-2011	1035	--	--	--	--	--	--	--	.58	3.09
03-30-2011	1310	< .045	< .018	< .006	< .016	E .033	< .018	< .018	--	--
03-30-2011	1315	--	--	--	--	--	--	--	.92	5.75
04-19-2011	1220	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
04-19-2011	1225	--	--	--	--	--	--	--	.50	3.44
04-26-2011	1140	< .045	< .018	< .006	< .016	< .010	< .018	.002	--	--
05-11-2011	1150	< .045	< .018	< .006	< .016	< .010	< .018	.005	--	--
06-02-2011	1240	< .045	< .018	< .006	< .016	< .010	< .018	.002	--	--
06-21-2011	1300	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
06-21-2011	1305	--	--	--	--	--	--	--	.92	2.37
07-06-2011	1130	< .045	< .018	< .006	< .016	< .010	< .018	.002	--	--
08-02-2011	1220	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
08-09-2011	1210	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
08-09-2011	1215	--	--	--	--	--	--	--	1.34	2.55
08-23-2011	1240	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
09-07-2011	1200	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--
09-20-2011	1120	< .045	< .018	< .006	< .016	< .010	< .018	< .018	--	--

11303500 San Joaquin River near Vernalis, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	9.8	9.4	9.5
16	---	---	---	---	---	---	---	---	---	10.0	9.8	9.9
17	---	---	---	---	---	---	---	---	---	10.4	10.0	10.2
18	---	---	---	---	---	---	---	---	---	10.7	10.3	10.4
19	---	---	---	---	---	---	---	---	---	10.6	10.5	10.6
20	---	---	---	---	---	---	---	---	---	10.7	10.3	10.5
21	---	---	---	---	---	---	---	---	---	10.7	10.2	10.5
22	---	---	---	---	---	---	---	---	---	10.6	10.3	10.6
23	---	---	---	---	---	---	---	---	---	10.6	10.4	10.5
24	---	---	---	---	---	---	---	---	---	10.7	10.2	10.5
25	---	---	---	---	---	---	---	---	---	10.8	10.4	10.6
26	---	---	---	---	---	---	---	---	---	10.8	10.4	10.5
27	---	---	---	---	---	---	---	---	---	10.5	10.3	10.4
28	---	---	---	---	---	---	---	---	---	10.3	10.1	10.2
29	---	---	---	---	---	---	---	---	---	10.2	10.0	10.1
30	---	---	---	---	---	---	---	---	---	10.3	10.0	10.2
31	---	---	---	---	---	---	---	---	---	10.4	10.0	10.2
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

11303500 San Joaquin River near Vernalis, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

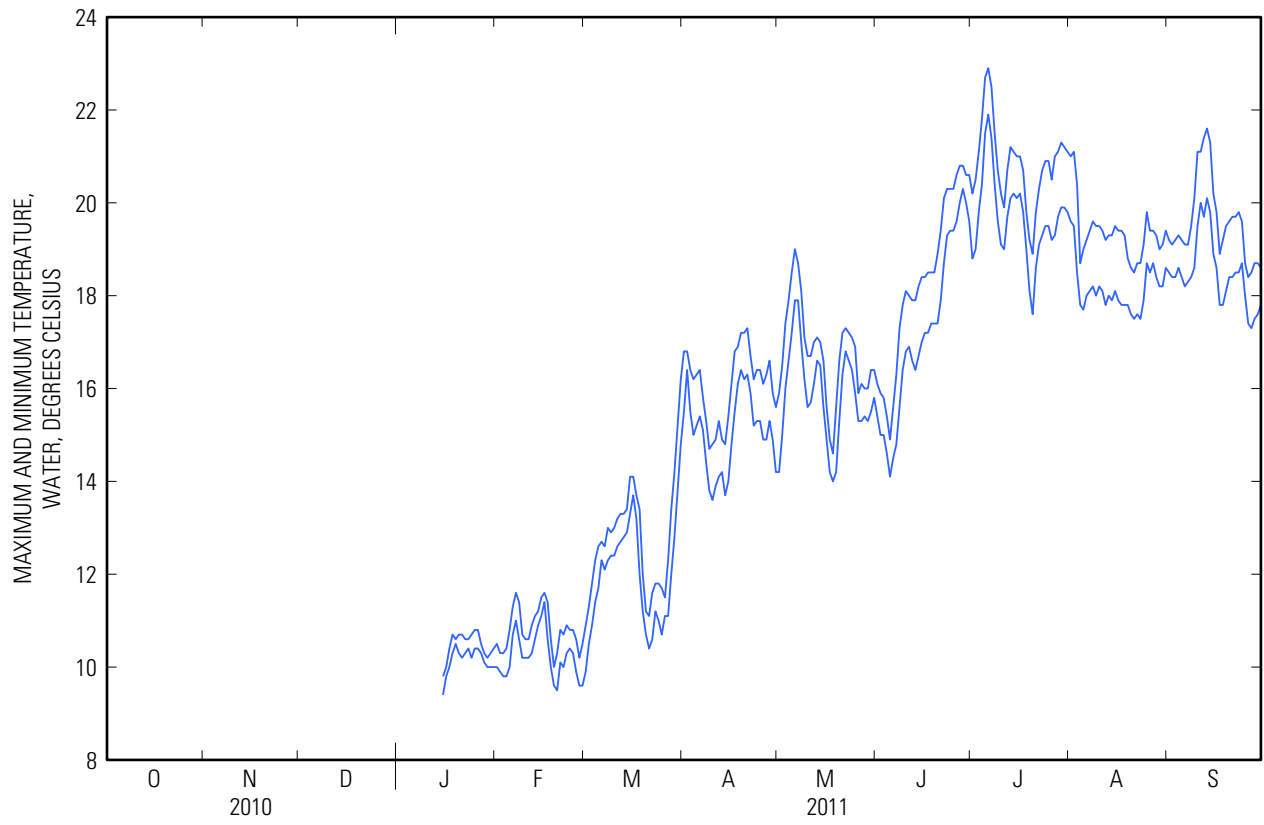
Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	10.5	10.0	10.3	10.9	9.9	10.4	16.8	15.5	15.9	15.9	14.2	14.9
2	10.3	9.9	10.2	11.3	10.5	10.9	16.8	16.4	16.6	16.5	15.0	15.6
3	10.3	9.8	10.0	11.8	10.9	11.3	16.4	15.5	15.9	17.4	16.0	16.4
4	10.4	9.8	10.1	12.3	11.4	11.8	16.2	15.0	15.6	17.9	16.6	17.1
5	10.8	10.0	10.3	12.6	11.7	12.2	16.3	15.2	15.8	18.5	17.2	17.7
6	11.3	10.7	10.9	12.7	12.3	12.5	16.4	15.4	15.9	19.0	17.9	18.3
7	11.6	11.0	11.3	12.6	12.1	12.4	15.8	15.1	15.4	18.7	17.9	18.1
8	11.4	10.6	10.9	13.0	12.3	12.5	15.3	14.4	14.8	18.1	17.0	17.7
9	10.7	10.2	10.5	12.9	12.4	12.7	14.7	13.8	14.4	17.1	16.2	16.7
10	10.6	10.2	10.4	13.0	12.4	12.8	14.8	13.6	14.1	16.7	15.6	16.2
11	10.6	10.2	10.4	13.2	12.6	13.0	14.9	13.9	14.4	16.7	15.7	16.2
12	10.9	10.3	10.6	13.3	12.7	13.1	15.3	14.1	14.6	17.0	16.1	16.5
13	11.1	10.6	10.9	13.3	12.8	13.0	14.9	14.2	14.5	17.1	16.6	16.9
14	11.2	10.9	11.1	13.4	12.9	13.2	14.8	13.7	14.3	17.0	16.5	16.6
15	11.5	11.1	11.3	14.1	13.3	13.5	15.4	14.0	14.4	16.6	15.6	16.1
16	11.6	11.4	11.5	14.1	13.7	13.8	16.1	14.8	15.2	15.6	14.9	15.3
17	11.4	10.6	10.9	13.7	13.2	13.5	16.8	15.5	15.9	14.9	14.2	14.3
18	10.6	10.0	10.2	13.4	12.0	12.7	16.9	16.1	16.5	14.6	14.0	14.2
19	10.0	9.6	9.8	12.0	11.2	11.3	17.2	16.4	16.6	15.6	14.2	14.6
20	10.3	9.5	9.9	11.2	10.7	10.8	17.2	16.2	16.7	16.6	15.3	15.6
21	10.8	10.1	10.3	11.1	10.4	10.7	17.3	16.3	16.7	17.2	16.3	16.6
22	10.7	10.0	10.6	11.6	10.6	11.0	16.7	15.9	16.2	17.3	16.8	17.1
23	10.9	10.3	10.7	11.8	11.2	11.4	16.2	15.2	15.7	17.2	16.6	17.0
24	10.8	10.4	10.7	11.8	11.0	11.1	16.4	15.3	15.8	17.1	16.4	16.8
25	10.8	10.3	10.6	11.7	10.7	11.2	16.4	15.3	15.7	16.9	15.9	16.2
26	10.6	9.9	10.2	11.5	11.1	11.4	16.1	14.9	15.5	15.9	15.3	15.8
27	10.2	9.6	10.0	12.3	11.1	11.3	16.3	14.9	15.5	16.1	15.3	15.7
28	10.5	9.6	---	13.4	12.0	12.3	16.6	15.3	15.8	16.0	15.4	15.7
29	---	---	---	14.2	12.8	13.2	15.9	14.9	15.4	16.0	15.3	15.7
30	---	---	---	15.2	13.8	14.1	15.6	14.2	14.9	16.4	15.5	15.9
31	---	---	---	16.2	14.8	15.1	---	---	---	16.4	15.8	16.0
Max	11.6	11.4	---	16.2	14.8	15.1	17.3	16.4	16.7	19.0	17.9	18.3
Min	10.0	9.5	---	10.9	9.9	10.4	14.7	13.6	14.1	14.6	14.0	14.2

11303500 San Joaquin River near Vernalis, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	16.1	15.4	15.7	20.2	18.8	19.6	21.0	19.6	20.2	19.2	18.5	19.0
2	15.9	15.0	15.5	20.5	19.0	19.7	21.1	19.5	20.2	19.1	18.4	18.9
3	15.8	15.0	15.2	21.1	19.8	20.4	20.4	18.5	19.1	19.2	18.4	19.0
4	15.4	14.6	14.8	21.8	20.4	21.0	18.7	17.8	18.3	19.3	18.6	19.1
5	14.9	14.1	14.7	22.7	21.5	21.8	19.0	17.7	18.2	19.2	18.4	19.0
6	15.6	14.5	14.8	22.9	21.9	22.4	19.2	18.0	18.5	19.1	18.2	18.8
7	16.3	14.8	15.4	22.5	21.4	21.8	19.4	18.1	18.6	19.1	18.3	18.8
8	17.3	15.6	16.2	21.5	20.4	20.8	19.6	18.2	18.7	19.5	18.4	18.9
9	17.8	16.4	17.0	20.7	19.6	20.2	19.5	18.0	18.6	20.1	18.6	19.2
10	18.1	16.8	17.5	20.2	19.1	19.7	19.5	18.2	18.7	21.1	19.5	20.1
11	18.0	16.9	17.6	19.9	19.0	19.6	19.4	18.1	18.6	21.1	20.0	20.5
12	17.9	16.6	17.4	20.7	19.7	19.9	19.2	17.8	18.5	21.4	19.7	20.4
13	17.9	16.4	17.2	21.2	20.1	20.6	19.3	18.0	18.5	21.6	20.1	20.9
14	18.2	16.7	17.4	21.1	20.2	20.8	19.3	17.9	18.5	21.3	19.8	20.1
15	18.4	17.0	17.8	21.0	20.1	20.8	19.5	18.1	18.6	20.2	18.9	19.6
16	18.4	17.2	17.9	21.0	20.2	20.7	19.4	17.9	18.5	19.8	18.6	19.2
17	18.5	17.2	17.9	20.7	19.8	20.3	19.4	17.8	18.5	18.9	17.8	18.5
18	18.5	17.4	18.1	19.8	19.0	19.4	19.3	17.8	18.4	19.2	17.8	18.3
19	18.5	17.4	18.1	19.2	18.1	18.6	18.8	17.8	18.3	19.5	18.1	18.6
20	18.9	17.4	18.1	18.9	17.6	18.4	18.6	17.6	18.1	19.6	18.4	18.8
21	19.4	17.9	18.7	19.8	18.6	19.0	18.5	17.5	18.0	19.7	18.4	19.0
22	20.1	18.7	19.3	20.3	19.1	19.5	18.7	17.6	18.0	19.7	18.5	19.0
23	20.3	19.3	19.9	20.7	19.3	19.7	18.7	17.5	18.0	19.8	18.5	18.9
24	20.3	19.4	20.0	20.9	19.5	20.0	19.1	17.9	18.4	19.6	18.7	19.0
25	20.3	19.4	20.0	20.9	19.5	20.2	19.8	18.7	19.1	18.7	18.0	18.4
26	20.6	19.6	20.1	20.5	19.2	20.0	19.4	18.5	19.1	18.4	17.4	17.9
27	20.8	20.0	20.5	21.0	19.3	19.9	19.4	18.7	19.0	18.5	17.3	17.8
28	20.8	20.3	20.5	21.1	19.7	20.3	19.3	18.4	18.9	18.7	17.5	18.0
29	20.6	20.0	20.3	21.3	19.9	20.6	19.0	18.2	18.8	18.7	17.6	18.0
30	20.6	19.6	20.2	21.2	19.9	20.5	19.1	18.2	18.7	18.6	17.8	18.0
31	---	---	---	21.1	19.8	20.3	19.4	18.6	19.0	---	---	---
Max	20.8	20.3	20.5	22.9	21.9	22.4	21.1	19.6	20.2	21.6	20.1	20.9
Min	14.9	14.1	14.7	18.9	17.6	18.4	18.5	17.5	18.0	18.4	17.3	17.8

11303500 San Joaquin River near Vernalis, CA—Continued



11303500 San Joaquin River near Vernalis, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 4

[ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters; °C, degrees Celsius;
A, average; E, estimated]

Sample date-time	Discharge, instantaneous, ft ³ /s (00061)	Temperature, water, °C (00010)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
10-14-2010 1343	2,280	20.1	83	54	332
10-14-2010 1345	2,280	20.1	83	57	351
10-14-2010 1348	2,280	20.1	78	63	388
10-14-2010 1350	2,280	20.1	76	60	369
10-14-2010 1353	2,280	20.1	A 80	A 59	A 363
10-14-2010 1354	2,280	20.1	81	61	376
10-14-2010 1355	2,280	20.1	A 79	A 59	A 363
10-14-2010 1356	2,280	20.1	76	61	376
10-14-2010 1359	2,280	20.1	A 80	A 59	A 363
10-14-2010 1400	2,280	20.1	82	58	357
10-14-2010 1402	2,280	20.1	81	60	369
10-14-2010 1404	2,280	20.1	77	60	369
10-14-2010 1406	2,280	20.1	82	58	357
10-25-2010 1215 SS	3,250	15.6	69	61	535
11-08-2010 1150 SS	2,000	15.0	40	87	470
11-30-2010 1250	1,950	8.8	82	24	126
11-30-2010 1252	1,950	8.8	80	24	126
11-30-2010 1254	1,950	8.8	73	29	153
11-30-2010 1256	1,950	8.8	77	25	132
11-30-2010 1300	1,950	8.8	A 75	A 27	A 142
11-30-2010 1301	1,950	8.8	A 76	A 26	A 137
11-30-2010 1302	1,950	8.8	74	29	153
11-30-2010 1303	1,950	8.8	A 77	A 26	A 137
11-30-2010 1304	1,950	8.8	77	26	137
11-30-2010 1310	1,950	8.8	71	27	142
11-30-2010 1312	1,950	8.8	74	28	147
12-14-2010 1145 SS	4,050	12.4	75	54	590
12-29-2010 1135 SS	10,900	10.6	49	177	5,210
01-05-2011 1150	E 14,500	8.8	75	92	E 3,600
01-05-2011 1152	E 14,500	8.8	78	86	E 3,370
01-05-2011 1153	E 14,500	8.8	68	111	E 4,350
01-05-2011 1155	E 14,500	8.8	76	96	E 3,760
01-05-2011 1156	E 14,500	8.8	65	119	E 4,660
01-05-2011 1157	E 14,500	8.8	A 66	A 111	E 4,350
01-05-2011 1158	E 14,500	8.8	59	132	E 5,170
01-05-2011 1159	E 14,500	8.8	57	132	E 5,170
01-05-2011 1200	E 14,500	8.8	A 66	A 113	E 4,420
01-05-2011 1201	E 14,500	8.8	53	143	E 5,600
01-05-2011 1202	E 14,500	8.8	67	101	E 3,950
01-05-2011 1203	E 14,500	8.8	A 66	A 112	E 4,380

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) Program protocol.

11303500 San Joaquin River near Vernalis, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 4

[ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters; °C, degrees Celsius;
A, average; E, estimated]

Sample date-time	Discharge, instantaneous, ft ³ /s (00061)	Temperature, water, °C (00010)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
01-05-2011 1204	E 14,500	8.8	65	108	E 4,230
01-13-2011 1125 SS	13,100	8.2	52	119	4,210
01-25-2011 1135 SS	8,630	10.1	33	119	2,770
01-25-2011 1404	8,560	11.4	79	56	1,290
01-25-2011 1406	8,560	11.4	79	42	971
01-25-2011 1410	8,550	11.4	56	45	1,040
01-25-2011 1412	8,550	11.4	70	52	1,200
01-25-2011 1416	8,550	11.4	41	84	1,940
01-25-2011 1417	8,550	11.4	A 56	A 66	A 1,520
01-25-2011 1418	8,550	11.4	44	84	1,940
01-25-2011 1419	8,550	11.4	A 61	A 63	A 1,450
01-25-2011 1420	8,550	11.4	A 58	A 64	A 1,480
01-25-2011 1422	8,550	11.4	45	81	1,870
01-25-2011 1424	8,550	11.4	54	74	1,710
01-25-2011 1428	8,550	11.4	57	63	1,450
01-25-2011 1430	8,550	11.4	58	63	1,450
02-09-2011 1125 SS	6,800	10.1	56	64	1,180
02-28-2011 1155 SS	11,900	9.7	35	126	4,050
03-03-2011 1249	11,300	11.2	71	75	2,290
03-03-2011 1250	11,300	11.2	69	53	1,620
03-03-2011 1254	11,300	11.2	46	77	2,350
03-03-2011 1256	11,300	11.2	44	81	2,470
03-03-2011 1259	11,300	11.2	A 59	A 71	A 2,170
03-03-2011 1301	11,300	11.2	A 55	A 65	A 1,980
03-03-2011 1303	11,300	11.2	A 57	A 68	A 2,070
03-03-2011 1306	11,300	11.2	50	73	2,230
03-03-2011 1310	11,300	11.2	61	60	1,830
03-03-2011 1312	11,300	11.2	58	53	1,620
03-16-2011 1035 SS	8,720	13.5	64	49	1,150
03-30-2011 1015 SS	27,200	13.7	40	98	7,200
04-19-2011 1225 SS	26,500	16.0	12	177	12,700
04-26-2011 1140 SS	21,500	14.7	59	46	2,670
05-02-2011 1515	17,000	16.3	75	49	2,250
05-02-2011 1517	17,000	16.3	73	47	2,160
05-02-2011 1520	17,000	16.3	75	56	2,570
05-02-2011 1522	17,000	16.3	67	62	2,850
05-02-2011 1523	17,000	16.3	A 70	A 59	A 2,710
05-02-2011 1524	17,000	16.3	57	77	3,530
05-02-2011 1525	17,000	16.3	63	70	3,210
05-02-2011 1526	17,000	16.3	A 68	A 60	A 2,750
05-02-2011 1527	17,000	16.3	66	65	2,980

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) Program protocol.

11303500 San Joaquin River near Vernalis, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 4

[ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters;
°C, degrees Celsius; A, average; E, estimated]

Sample date-time	Discharge, instantaneous, ft ³ /s (00061)	Temperature, water, °C (00010)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
05-02-2011 1528	17,000	16.3	A 69	A 59	A 2,710
05-02-2011 1529	17,000	16.3	67	71	3,260
05-02-2011 1531	17,000	16.3	74	47	2,160
05-02-2011 1532	17,000	16.3	69	49	2,250
05-11-2011 1150 SS	13,600	15.4	79	47	1,730
06-02-2011 1240 SS	10,700	15.3	68	55	1,590
06-14-2011 1217	11,200	17.0	76	55	1,660
06-14-2011 1222	11,200	17.0	74	60	1,810
06-14-2011 1224	11,200	17.0	77	51	1,540
06-14-2011 1227	11,200	17.0	57	75	2,270
06-14-2011 1228	11,200	17.0	A 62	A 68	A 2,060
06-14-2011 1229	11,200	17.0	57	80	2,420
06-14-2011 1230	11,200	17.0	A 63	A 69	A 2,090
06-14-2011 1231	11,200	17.0	A 62	A 68	A 2,060
06-14-2011 1234	11,200	17.0	52	80	2,420
06-14-2011 1236	11,200	17.0	54	76	2,300
06-14-2011 1241	11,200	17.0	64	55	1,660
06-14-2011 1242	11,200	17.0	50	81	2,450
06-21-2011 1305 SS	9,930	17.8	11	484	13,000
07-06-2011 1130 SS	9,130	21.7	36	157	3,870
07-25-2011 1235	5,110	20.0	85	55	759
07-25-2011 1236	5,110	20.0	85	57	786
07-25-2011 1240	5,110	20.0	91	52	717
07-25-2011 1241	5,110	20.0	89	53	731
07-25-2011 1245	5,110	20.0	89	51	704
07-25-2011 1246	5,110	20.0	A 89	A 52	A 717
07-25-2011 1247	5,110	20.0	91	50	690
07-25-2011 1248	5,110	20.0	A 88	A 54	A 745
07-25-2011 1249	5,110	20.0	A 89	A 53	A 731
07-25-2011 1250	5,110	20.0	91	53	731
07-25-2011 1252	5,110	20.0	89	55	759
07-25-2011 1256	5,110	20.0	89	49	676
07-25-2011 1259	5,110	20.0	88	54	745
08-02-2011 1220 SS	4,320	19.4	90	43	502
08-09-2011 1215 SS	5,090	17.9	79	41	563
08-23-2011 1240 SS	5,340	17.1	69	31	447
09-07-2011 1200 SS	4,600	17.3	77	41	509
09-07-2011 1348	4,600	18.8	87	28	348
09-07-2011 1350	4,600	18.8	68	48	596
09-07-2011 1353	4,600	18.8	75	45	559

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) Program protocol.

11303500 San Joaquin River near Vernalis, CA—Continued

**PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 4 of 4

[ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters;
°C, degrees Celsius; A, average; E, estimated]

Sample date-time	Discharge, instantaneous, ft ³ /s (00061)	Temperature, water, °C (00010)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
09-07-2011 1355	4,600	18.8	82	46	571
09-07-2011 1358	4,600	18.8	75	46	571
09-07-2011 1359	4,600	18.8	A 78	A 41	A 509
09-07-2011 1400	4,600	18.8	71	47	584
09-07-2011 1401	4,600	18.8	A 74	A 45	A 559
09-07-2011 1402	4,600	18.8	A 76	A 43	A 534
09-07-2011 1403	4,600	18.8	80	46	571
09-07-2011 1405	4,600	18.8	75	42	522
09-07-2011 1408	4,590	18.8	74	42	521
09-07-2011 1410	4,590	18.8	73	44	545
09-20-2011 1120 SS	4,050	17.5	81	37	405

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) Program protocol.

11303500 San Joaquin River near Vernalis, CA—Continued

**PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL
 WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 1 of 2

[ft³/s, cubic feet per second; mm, millimeters; °C, degrees Celsius; --, no data]

Sample date-time	Number of sampling points, count (00063)	Discharge, instantaneous, ft ³ /s (00061)	Temperature, water, °C (00010)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.0625 mm (80164)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.125 mm (80165)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.25 mm (80166)	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.5 mm (80167)	Bed sediment, dry sieved, sieve diameter, percent smaller than 1 mm (80168)	Bed sediment, dry sieved, sieve diameter, percent smaller than 2 mm (80169)
11-30-2010 1325	1	2,280	9.0	--	--	4	52	91	99
11-30-2010 1328	1	2,280	9.0	--	--	10	51	95	100
11-30-2010 1330	1	2,280	9.0	--	--	4	60	96	100
11-30-2010 1332	1	2,280	9.0	--	--	4	48	90	99
11-30-2010 1336	1	2,280	9.0	--	--	9	62	97	100
03-03-2011 1325	1	11,300	11.2	--	--	--	--	38	93
03-03-2011 1328	1	11,300	11.2	--	--	--	11	75	98
03-03-2011 1331	1	11,300	11.2	--	3	34	94	100	--
03-03-2011 1334	1	11,300	11.2	--	--	14	87	100	--
03-03-2011 1338	1	11,300	11.2	4	14	40	89	98	99
06-14-2011 1306	1	11,200	17.0	--	3	13	61	99	100
06-14-2011 1315	1	11,200	17.0	--	--	2	49	94	100
06-14-2011 1323	1	11,200	17.0	--	--	19	31	87	98
06-14-2011 1331	1	11,200	17.0	--	--	16	66	91	99
06-14-2011 1339	1	11,200	17.0	--	--	9	59	93	99

**PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL
 WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 2 of 2

[ft³/s, cubic feet per second; mm, millimeters; °C, degrees Celsius; --, no data]

Sample date-time	Bed sediment, dry sieved, sieve diameter, percent smaller than 4 mm (80170)	Bed sediment, dry sieved, sieve diameter, percent smaller than 8 mm (80171)
11-30-2010 1325	100	--
11-30-2010 1328	--	--
11-30-2010 1330	--	--
11-30-2010 1332	100	--
11-30-2010 1336	--	--
03-03-2011 1325	99	100
03-03-2011 1328	99	100
03-03-2011 1331	--	--
03-03-2011 1334	--	--
03-03-2011 1338	99	100
06-14-2011 1306	--	--
06-14-2011 1315	--	--
06-14-2011 1323	99	100
06-14-2011 1331	100	--
06-14-2011 1339	100	--

11303500 San Joaquin River near Vernalis, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[e, estimated]

Day	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	October			November			December		
1	1,630	51	221	2,730	40	294	1,960	27	143
2	1,610	51	220	2,580	43	299	2,270	56	356
3	1,720	53	248	2,460	58	384	3,700	151	1,530
4	1,780	55	265	2,260	52	318	4,580	133	1,640
5	1,800	63	305	2,070	48	267	5,030	114	1,540
6	1,810	56	275	1,990	47	252	5,240	98	1,390
7	1,820	61	301	1,980	51	271	5,290	90	1,280
8	2,010	66	358	2,010	48	262	5,060	71	968
9	2,260	70	424	1,970	59	311	4,700	56	713
10	2,340	68	426	1,890	40	206	4,800	65	841
11	2,450	71	473	1,820	37	184	4,820	60	783
12	2,420	73	476	1,750	37	173	4,510	61	746
13	2,320	76	480	1,700	35	162	4,200	55	621
14	2,270	63	386	1,680	39	177	4,040	47	516
15	2,120	59	340	1,680	38	170	4,130	51	565
16	1,980	59	319	1,660	39	173	4,620	61	758
17	2,000	53	286	1,640	37	163	5,410	78	1,140
18	2,180	51	301	1,620	33	142	6,170	122	2,050
19	2,330	56	354	1,590	34	144	7,250	165	3,240
20	2,450	58	386	1,650	37	166	8,520	156	3,590
21	2,530	56	384	1,780	41	195	9,510	132	3,380
22	2,580	56	393	1,780	43	205	10,400	124	3,480
23	2,810	70	530	1,760	38	182	10,600	120	3,450
24	3,070	61	502	1,790	37	177	10,600	104	2,960
25	3,230	54	475	1,840	33	165	10,300	107	2,970
26	3,170	56	481	1,830	35	172	10,300	98	2,720
27	3,150	50	422	1,840	30	150	10,600	98	2,810
28	3,230	50	439	1,850	26	129	10,900	94	2,760
29	3,140	48	407	1,900	27	136	10,900	109	3,220
30	3,020	45	369	1,950	26	136	11,700	117	3,690
31	2,870	42	328	---	---	---	13,100	120	4,240
Total	74,100	---	11,574	57,050	---	6,165	215,210	---	60,090

11303500 San Joaquin River near Vernalis, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[e, estimated]

Day	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	January			February			March		
1	13,000	100	3,500	7,340	55	1,090	11,600	60	1,890
2	13,000	95	3,320	7,000	55	1,040	11,500	63	1,940
3	13,600	104	3,840	6,780	54	997	11,300	58	1,780
4	15,000	120	4,860	6,790	55	1,000	11,300	57	1,740
5	e14,600	e105	e4,140	6,800	51	942	11,200	50	1,490
6	14,600	113	4,450	6,880	57	1,070	10,800	48	1,410
7	15,000	103	4,160	6,870	57	1,050	10,400	50	1,400
8	15,400	86	3,560	6,830	61	1,120	10,200	47	1,280
9	15,500	78	3,270	6,800	59	1,080	10,200	50	1,370
10	15,000	74	3,000	6,950	62	1,170	10,200	47	1,290
11	14,400	67	2,580	7,250	63	1,220	10,200	45	1,250
12	13,700	68	2,530	7,370	61	1,220	10,100	50	1,360
13	13,100	72	2,570	7,410	59	1,180	9,840	48	1,280
14	12,400	67	2,240	7,410	66	1,320	9,350	47	1,180
15	e11,500	e74	e2,330	7,380	63	1,260	8,920	55	1,330
16	10,900	69	2,020	7,390	64	1,270	8,720	50	1,180
17	11,200	65	1,970	7,610	58	1,180	8,640	50	1,160
18	11,900	59	1,890	7,980	71	1,520	8,850	49	1,170
19	11,900	56	1,790	8,930	86	2,070	9,260	49	1,240
20	11,500	53	1,640	11,000	110	3,270	9,970	70	1,890
21	11,000	49	1,470	11,700	93	2,920	12,000	123	4,020
22	10,700	51	1,490	11,800	82	2,610	14,400	135	5,270
23	10,100	45	1,230	11,800	72	2,300	15,900	132	5,650
24	9,310	42	1,050	11,800	72	2,270	16,500	102	4,550
25	8,620	52	1,220	11,700	53	1,670	17,500	118	5,610
26	8,110	58	1,270	11,700	71	2,240	19,400	129	6,730
27	8,190	61	1,340	12,300	78	2,590	20,700	97	5,400
28	8,360	65	1,460	12,000	61	1,960	22,500	88	5,360
29	8,330	61	1,360	---	---	---	24,600	71	4,720
30	8,030	59	1,290	---	---	---	27,100	55	4,010
31	7,650	56	1,160	---	---	---	29,600	49	3,950
Total	365,600	---	74,000	243,570	---	44,629	422,750	---	83,900

11303500 San Joaquin River near Vernalis, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[e, estimated]

Day	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	April			May			June		
1	30,700	47	3,900	18,200	40	1,950	10,300	65	1,830
2	30,800	32	2,640	17,100	51	2,350	10,600	66	1,890
3	30,700	30	2,450	16,200	43	1,900	10,600	63	1,800
4	30,100	36	2,960	15,500	48	2,010	10,600	62	1,770
5	29,600	38	3,000	14,900	50	2,030	11,300	63	1,910
6	29,400	29	2,290	14,500	56	2,200	11,500	54	1,670
7	29,400	27	2,120	14,500	58	2,280	11,300	59	1,780
8	29,500	40	3,180	14,400	52	2,010	11,200	57	1,720
9	29,000	34	2,660	14,300	49	1,870	11,000	55	1,630
10	28,600	31	2,390	13,900	50	1,880	10,900	53	1,560
11	28,500	25	1,920	13,500	49	1,780	10,800	57	1,680
12	28,200	26	1,980	13,100	44	1,550	11,100	59	1,770
13	28,000	35	2,670	12,700	49	1,680	11,400	60	1,850
14	28,000	30	2,290	12,300	56	1,850	11,200	58	1,760
15	27,900	27	2,010	12,100	54	1,770	11,000	54	1,610
16	27,800	27	2,000	11,900	53	1,690	10,500	49	1,390
17	27,600	27	2,030	11,600	64	1,990	10,300	50	1,390
18	27,200	28	2,040	11,500	55	1,700	10,300	52	1,450
19	26,500	27	1,910	11,400	54	1,660	10,200	51	1,410
20	25,700	25	1,770	11,300	53	1,630	10,100	50	1,360
21	24,900	24	1,640	11,200	56	1,680	9,940	51	1,380
22	23,900	26	1,680	11,000	60	1,780	10,000	54	1,470
23	23,200	28	1,770	11,000	62	1,820	10,200	61	1,670
24	22,600	31	1,870	10,800	56	1,630	10,400	59	1,640
25	22,000	33	1,960	10,600	53	1,520	10,400	61	1,700
26	21,500	35	2,060	10,700	58	1,670	10,400	63	1,780
27	20,900	37	2,110	10,700	54	1,560	10,600	66	1,900
28	20,300	36	1,980	10,600	59	1,670	10,600	77	2,180
29	19,800	35	1,880	10,300	59	1,640	10,500	83	2,360
30	19,200	42	2,160	10,200	64	1,750	10,500	72	2,020
31	---	---	---	10,100	60	1,640	---	---	---
Total	791,500	---	67,320	392,100	---	56,140	319,740	---	51,330

11303500 San Joaquin River near Vernalis, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[e, estimated]

Day	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft ³ /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
1	11,800	88	2,820	4,190	41	460	5,930	79	1,260
2	12,700	87	2,990	4,370	48	565	5,610	67	1,020
3	12,700	80	2,760	5,260	72	1,030	5,060	55	747
4	12,000	69	2,230	5,510	67	994	4,910	53	708
5	10,200	74	2,020	5,320	58	838	4,860	56	735
6	9,190	81	2,010	5,250	55	778	4,710	52	660
7	9,610	84	2,190	5,090	52	714	4,610	48	597
8	10,500	82	2,300	5,180	49	685	4,410	41	489
9	11,000	72	2,120	5,070	47	638	3,980	44	468
10	11,100	72	2,170	5,050	48	655	3,750	44	443
11	11,200	61	1,830	4,950	50	671	3,550	39	371
12	10,200	62	1,710	4,920	51	683	3,380	36	326
13	9,860	69	1,840	4,960	49	658	3,210	43	370
14	10,100	70	1,910	5,010	47	630	3,530	51	485
15	10,400	72	2,010	5,020	44	603	3,850	47	493
16	10,300	68	1,880	4,880	45	593	3,950	47	498
17	9,700	67	1,750	4,790	46	596	3,980	45	481
18	8,920	72	1,730	4,950	47	629	4,000	43	460
19	8,980	70	1,690	5,270	48	682	4,060	39	433
20	8,790	67	1,580	5,260	47	671	4,060	38	411
21	7,480	68	1,360	5,410	45	660	4,050	37	404
22	6,550	66	1,160	5,500	49	733	3,990	41	441
23	5,920	61	980	5,360	52	756	3,960	43	457
24	5,380	60	872	5,440	52	768	4,100	44	489
25	5,080	56	776	6,000	78	1,260	4,280	51	588
26	4,750	50	646	6,430	76	1,320	4,430	55	659
27	4,530	44	535	6,660	70	1,260	4,480	54	649
28	4,410	42	502	6,830	76	1,400	4,430	55	652
29	4,330	39	457	7,050	73	1,390	4,490	49	593
30	4,280	41	475	6,240	74	1,250	4,550	51	615
31	4,210	42	482	5,890	78	1,240	---	---	---
Total	266,170	---	49,785	167,110	---	25,810	128,160	---	17,002

	Total discharge (ft ³ /s)	Total suspended sediment discharge (tons)
Year	3,443,060	547,745

11303500 San Joaquin River near Vernalis, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[ft, feet; °C, degrees Celsius]

Sample date-time	Temperature, °C (00010)	Depth to bottom at sample location, ft (81903)	Sampling depth, ft (00003)	Stream width, ft (00004)	Location in cross section, distance from left bank looking downstream, ft (00009)
07-25-2011 1315	20.1	9.00	7.20	290	10.0
07-25-2011 1316	20.1	9.00	1.80	290	10.0
07-25-2011 1317	20.1	17.8	14.2	290	40.0
07-25-2011 1318	20.1	17.8	3.60	290	40.0
07-25-2011 1319	20.0	18.1	14.5	290	70.0
07-25-2011 1320	20.0	18.1	3.60	290	70.0
07-25-2011 1321	20.0	16.5	13.2	290	100
07-25-2011 1322	20.1	16.5	3.30	290	100
07-25-2011 1323	20.2	16.4	13.1	290	130
07-25-2011 1324	20.2	16.4	3.30	290	130
07-25-2011 1325	20.2	13.6	10.9	290	160
07-25-2011 1326	20.2	13.6	2.70	290	160
07-25-2011 1327	20.3	4.90	3.90	290	190
07-25-2011 1328	20.3	4.90	1.00	290	190
07-25-2011 1329	20.4	7.80	6.20	290	220
07-25-2011 1330	20.4	7.80	1.60	290	220
07-25-2011 1331	20.5	7.80	6.20	290	250
07-25-2011 1332	20.5	7.80	1.60	290	250
07-25-2011 1333	20.5	6.80	5.40	290	280
07-25-2011 1334	20.6	6.80	1.40	290	280
08-09-2011 1147	18.3	10.9	8.70	280	14.0
08-09-2011 1148	18.3	10.9	2.20	280	14.0
08-09-2011 1149	18.3	17.6	14.1	280	42.0
08-09-2011 1150	18.3	17.6	3.50	280	42.0
08-09-2011 1151	18.3	18.2	14.6	280	70.0
08-09-2011 1152	18.3	18.2	3.60	280	70.0
08-09-2011 1153	18.3	16.5	13.2	280	98.0
08-09-2011 1154	18.3	16.5	3.30	280	98.0
08-09-2011 1155	18.4	16.4	13.1	280	126
08-09-2011 1156	18.4	16.4	3.30	280	126
08-09-2011 1157	18.5	15.0	12.0	280	154
08-09-2011 1158	18.5	15.0	3.00	280	154
08-09-2011 1159	18.5	6.80	5.40	280	182
08-09-2011 1200	18.5	6.80	1.40	280	182
08-09-2011 1201	18.6	8.10	6.50	280	210
08-09-2011 1202	18.6	8.10	1.60	280	210
08-09-2011 1203	18.7	8.30	6.60	280	238
08-09-2011 1204	18.7	8.30	1.70	280	238
08-09-2011 1205	18.7	7.20	5.80	280	266
08-09-2011 1206	18.8	7.20	1.40	280	266

Note: Instantaneous discharge at the mean time of cross-sectional measurements: July 25, 5,090 ft³/s; Aug. 9, 5,100 ft³/s.