Appendix 4. Metal Concentrations in Water Samples

Table A4-1. Concentrations of major cations and trace elements in filtered water samples.

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples.

Table A4-3. Lead concentrations in filtered water samples collected at a single point in the stream cross section.

Table A4-4. Lead concentrations in unfiltered (whole) water samples collected at a single point in the stream cross section.

Table A4-1. Concentrations of major cations and trace elements in filtered water samples

[Ax, axial; Br., bridge; Cap, capsule filter (Gelman); Cr., creek; CV–AFS, cold–vapor/atomic fluorescence spectrometry; comp., composite sample; dup, duplicate; ICP–AES, inductively coupled plasma–atomic emission spectrometry; ICP–MS, inductively coupled plasma–mass spectrometry; Mem, membrane filter (Nuclepore); R., river; Sac., Sacramento; Split replicate (1/2), first number identifies which replicate was analyzed, second number represents number of replicate samples; Tan, tangential-flow ultrafilter (Millipore Minitan); UV–VIS, ultraviolet–visible spectroscopy. kd, kilodalton; mm/dd/yy, month-day-year; µg/L, microgram per liter; µm, micrometer; mg/L, milligram per liter; —, no data available; <, less than indicated detection limit]

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	9.2 ± 0.2	0.040 ± 0.003	1.1 ± 0.0	15 ± 0	< 0.018 ± 0.007
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	5.8 ± 0.1	0.037 ± 0.005	1.1 ± 0.0	15 ± 1	0.0040 ± 0.0023
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	2.4 ± 0.0	0.033 ± 0.002	1.1 ± 0.0	14 ± 0	< 0.01 ± 0.00
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	2.2 ± 0.1	0.033 ± 0.003	1.0 ± 0.0	15 ± 0	< 0.004 ± 0.003
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	1.7 ± 0.1	0.033 ± 0.002	1.1 ± 0.0	14 ± 0	< 0.01 ± 0.00
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	1.6 ± 0.1	0.030 ± 0.003	0.99 ± 0.02	14 ± 0	< 0.018 ± 0.008
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	14 ± 1	0.051 ± 0.007	1.1 ± 0.0	14 ± 0	0.015 ± 0.017
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	15 ± 0	0.056 ± 0.002	1.1 ± 0.1	14 ± 0	0.014 ± 0.009
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	2.8 ± 0.1	0.051 ± 0.005	1.1 ± 0.0	14 ± 0	< 0.013 ± 0.008
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	2.6 ± 0.1	0.034 ± 0.008	1.0 ± 0.0	14 ± 0	< 0.03 ± 0.02
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	2.1 ± 0.2	0.028 ± 0.004	0.86 ± 0.02	13 ± 0	< 0.03 ± 0.03
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	1.8 ± 0.0	0.050 ± 0.012	0.81 ± 0.03	12 ± 0	< 0.013 ± 0.004
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	3.0 ± 0.1	0.037 ± 0.004	1.5 ± 0.0	13 ± 0	< 0.02 ± 0.01
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	3.0 ± 0.1	0.042 ± 0.003	1.5 ± 0.0	13 ± 0	< 0.02 ± 0.00
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	2.0 ± 0.1	0.029 ± 0.003	1.5 ± 0.0	13 ± 0	< 0.02 ± 0.00
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	1.4 ± 0.0	0.030 ± 0.005	1.5 ± 0.1	13 ± 0	< 0.02 ± 0.02
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	0.94 ± 0.06	0.032 ± 0.006	1.1 ± 0.0	12 ± 0	< 0.02 ± 0.00
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	0.94 ± 0.02	0.032 ± 0.012	1.1 ± 0.0	11 ± 1	< 0.02 ± 0.01
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	11 ± 0	0.040 ± 0.006	1.6 ± 0.0	14 ± 0	< 0.02 ± 0.01
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	10 ± 0	0.050 ± 0.011	1.8 ± 0.0	13 ± 0	< 0.02 ± 0.01
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	6.8 ± 0.2	0.051 ± 0.008	1.7 ± 0.0	13 ± 0	< 0.014 ± 0.003
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	6.6 ± 0.1	0.053 ± 0.006	1.7 ± 0.0	14 ± 0	< 0.014 ± 0.006
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	5.3 ± 0.1	0.048 ± 0.005	1.2 ± 0.0	12 ± 1	< 0.014 ± 0.006
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	4.9 ± 0.1	0.032 ± 0.001	1.2 ± 0.0	11 ± 1	< 0.02 ± 0.02
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	43 ± 1	0.034 ± 0.012	1.1 ± 0.0	14 ± 0	< 0.04 ± 0.01
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	14 ± 1	0.036 ± 0.010	1.1 ± 0.0	14 ± 0	< 0.04 ± 0.00
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	2.8 ± 0.2	0.029 ± 0.016	1.1 ± 0.0	13 ± 0	< 0.04 ± 0.02
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	2.8 ± 0.1	0.030 ± 0.010	1.0 ± 0.0	14 ± 0	< 0.04 ± 0.02
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	1.7 ± 0.1	0.026 ± 0.010	0.66 ± 0.03	11 ± 0	< 0.04 ± 0.02
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	1.7 ± 0.1	0.024 ± 0.017	0.63 ± 0.02	11 ± 0	< 0.04 ± 0.01
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	3.5 ± 0.0	0.032 ± 0.002	0.84 ± 0.02	12 ± 0	< 0.004 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	3.3 ± 0.1	0.030 ± 0.000	0.82 ± 0.02	12 ± 0	< 0.004 ± 0.002
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	2.8 ± 0.0	0.033 ± 0.001	0.84 ± 0.01	13 ± 0	< 0.004 ± 0.003
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	3.0 ± 0.0	0.035 ± 0.003	0.85 ± 0.01	13 ± 0	0.0054 ± 0.0020
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	2.0 ± 0.1	0.032 ± 0.002	0.78 ± 0.02	12 ± 0	< 0.004 ± 0.002
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	2.2 ± 0.1	0.031 ± 0.003	0.82 ± 0.02	13 ± 0	0.0043 ± 0.0004
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	2.1 ± 0.2	0.030 ± 0.005	0.76 ± 0.02	12 ± 0	< 0.004 ± 0.001
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	8.7 ± 0.0	0.041 ± 0.005	0.69 ± 0.06	11 ± 0	< 0.013 ± 0.007
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	8.4 ± 0.1	0.021 ± 0.006	0.77 ± 0.03	11 ± 0	< 0.03 ± 0.01
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	6.8 ± 0.2	0.031 ± 0.009	0.74 ± 0.01	11 ± 0	< 0.03 ± 0.02
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	6.6 ± 0.1	0.028 ± 0.007	0.72 ± 0.02	11 ± 0	< 0.03 ± 0.01
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	5.1 ± 0.1	0.048 ± 0.010	0.47 ± 0.02	8.9 ± 0.1	< 0.013 ± 0.001
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	4.8 ± 0.0	0.048 ± 0.007	0.50 ± 0.04	9.1 ± 0.1	< 0.013 ± 0.017
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	5.0 ± 0.0	0.038 ± 0.006	0.51 ± 0.04	9.2 ± 0.1	0.016 ± 0.004
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	19 ± 0	0.056 ± 0.006	1.7 ± 0.0	11 ± 0	< 0.02 ± 0.01
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	18 ± 0	0.057 ± 0.006	1.5 ± 0.1	11 ± 0	< 0.02 ± 0.01
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	12 ± 0	0.054 ± 0.002	1.5 ± 0.1	11 ± 0	< 0.02 ± 0.01
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	13 ± 0	0.056 ± 0.007	1.4 ± 0.0	11 ± 0	< 0.02 ± 0.00
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	11 ± 0	0.044 ± 0.007	0.98 ± 0.05	9.3 ± 0.5	< 0.02 ± 0.01
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	11 ± 0	0.056 ± 0.018	0.97 ± 0.03	8.9 ± 0.0	< 0.02 ± 0.01
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	38 ± 1	0.041 ± 0.003	1.6 ± 0.0	13 ± 0	< 0.02 ± 0.00
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	31 ± 0	0.045 ± 0.005	1.6 ± 0.1	13 ± 1	< 0.02 ± 0.01
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	23 ± 0	0.059 ± 0.021	1.6 ± 0.0	13 ± 0	< 0.014 ± 0.002
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	23 ± 1	0.041 ± 0.006	1.5 ± 0.0	13 ± 0	< 0.02 ± 0.00
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	20 ± 0	0.032 ± 0.002	0.92 ± 0.01	11 ± 0	< 0.02 ± 0.01
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	20 ± 0	0.036 ± 0.005	0.87 ± 0.05	10 ± 0	< 0.02 ± 0.01
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	17 ± 1	0.040 ± 0.006	1.1 ± 0.0	13 ± 0	< 0.014 ± 0.001
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	16 ± 0	0.047 ± 0.006	1.1 ± 0.0	12 ± 1	< 0.014 ± 0.003
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	15 ± 0	0.047 ± 0.007	1.1 ± 0.0	14 ± 0	< 0.014 ± 0.005
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	15 ± 0	0.043 ± 0.004	1.1 ± 0.1	13 ± 0	< 0.014 ± 0.006
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	12 ± 0	0.044 ± 0.005	0.87 ± 0.03	12 ± 1	< 0.014 ± 0.008
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	12 ± 0	0.044 ± 0.020	0.91 ± 0.02	12 ± 0	< 0.014 ± 0.006
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	13 ± 0	0.047 ± 0.002	0.93 ± 0.03	13 ± 0	< 0.015 ± 0.019
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	6.9 ± 0.4	0.038 ± 0.008	0.88 ± 0.06	12 ± 0	< 0.04 ± 0.01
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	35 ± 2	0.035 ± 0.012	0.87 ± 0.04	12 ± 0	< 0.04 ± 0.01

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	5.4 ± 0.3	0.034 ± 0.008	0.86 ± 0.03	12 ± 0	< 0.04 ± 0.02
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	5.3 ± 0.1	0.032 ± 0.013	0.88 ± 0.06	12 ± 0	< 0.04 ± 0.03
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	4.1 ± 0.1	0.028 ± 0.014	0.60 ± 0.03	10 ± 0	< 0.04 ± 0.01
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	4.2 ± 0.1	0.045 ± 0.015	0.65 ± 0.01	10 ± 0	< 0.04 ± 0.01
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	5.9 ± 0.0	0.039 ± 0.005	0.90 ± 0.01	15 ± 0	< 0.018 ± 0.001
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	6.3 ± 0.3	0.030 ± 0.006	0.93 ± 0.01	14 ± 1	< 0.01 ± 0.00
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	3.9 ± 0.1	0.039 ± 0.005	0.86 ± 0.02	14 ± 0	< 0.004 ± 0.001
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	3.7 ± 0.0	0.033 ± 0.003	0.94 ± 0.02	14 ± 0	< 0.01 ± 0.00
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	2.2 ± 0.0	0.040 ± 0.002	0.98 ± 0.02	15 ± 0	< 0.01 ± 0.00
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	2.0 ± 0.0	0.033 ± 0.000	0.78 ± 0.01	13 ± 1	< 0.004 ± 0.002
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	4.7 ± 0.1	0.035 ± 0.010	0.77 ± 0.01	13 ± 0	< 0.007 ± 0.02
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	5.7 ± 0.5	0.051 ± 0.002	0.80 ± 0.01	14 ± 1	< 0.008 ± 0.014
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	4.4 ± 0.1	0.047 ± 0.009	0.75 ± 0.06	13 ± 0	< 0.009 ± 0.011
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	4.6 ± 0.1	0.059 ± 0.001	0.80 ± 0.02	13 ± 1	< 0.010 ± 0.013
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	2.7 ± 0.0	0.043 ± 0.003	0.48 ± 0.04	11 ± 0	< 0.011 ± 0.015
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	2.5 ± 0.1	0.038 ± 0.003	0.50 ± 0.06	11 ± 0	< 0.012 ± 0.005
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	12 ± 0	0.056 ± 0.001	1.3 ± 0.1	17 ± 0	< 0.013 ± 0.01
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	12 ± 0	0.059 ± 0.008	1.3 ± 0.1	16 ± 0	< 0.014 ± 0.01
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	9.7 ± 0.2	0.058 ± 0.008	1.3 ± 0.1	16 ± 0	< 0.015 ± 0.01
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	9.6 ± 0.3	0.057 ± 0.007	1.3 ± 0.0	16 ± 0	< 0.016 ± 0.00
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	6.9 ± 0.2	0.042 ± 0.004	0.72 ± 0.02	13 ± 0	< 0.017 ± 0.00
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	6.8 ± 0.4	0.048 ± 0.012	0.76 ± 0.03	13 ± 0	< 0.018 ± 0.01
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	14 ± 1	0.047 ± 0.005	1.3 ± 0.0	17 ± 0	< 0.019 ± 0.01
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	19 ± 0	0.059 ± 0.009	1.3 ± 0.0	17 ± 0	< 0.020 ± 0.01
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	12 ± 0	0.059 ± 0.002	1.3 ± 0.0	16 ± 0	< 0.021 ± 0.02
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	12 ± 0	0.053 ± 0.005	1.2 ± 0.1	16 ± 0	< 0.022 ± 0.00
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	9.4 ± 0.1	0.046 ± 0.011	0.79 ± 0.03	13 ± 0	< 0.023 ± 0.01
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	9.8 ± 0.2	0.043 ± 0.010	0.78 ± 0.01	14 ± 1	< 0.024 ± 0.01
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	80 ± 1	0.050 ± 0.004	0.89 ± 0.04	16 ± 1	< 0.025 ± 0.004
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	7.1 ± 0.0	0.077 ± 0.034	0.89 ± 0.03	16 ± 0	< 0.026 ± 0.005
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	10 ± 0	0.060 ± 0.007	0.91 ± 0.04	16 ± 0	< 0.027 ± 0.003
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	9.8 ± 0.2	0.061 ± 0.009	0.90 ± 0.03	16 ± 0	< 0.028 ± 0.007

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	4.0 ± 0.1	0.049 ± 0.002	0.70 ± 0.04	14 ± 1	< 0.029 ± 0.002
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	3.9 ± 0.1	0.043 ± 0.001	0.68 ± 0.03	13 ± 0	< 0.030 ± 0.005
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	17 ± 1	0.038 ± 0.005	0.85 ± 0.03	14 ± 0	< 0.031 ± 0.01
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	6.1 ± 0.3	0.033 ± 0.011	0.83 ± 0.01	14 ± 0	< 0.032 ± 0.02
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	5.1 ± 0.7	0.040 ± 0.008	0.83 ± 0.03	14 ± 0	< 0.033 ± 0.01
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	5.0 ± 0.3	0.040 ± 0.006	0.79 ± 0.00	14 ± 0	< 0.034 ± 0.00
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	3.6 ± 0.3	0.045 ± 0.000	0.62 ± 0.04	12 ± 0	< 0.035 ± 0.02
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	3.6 ± 0.1	0.029 ± 0.017	0.62 ± 0.04	12 ± 0	< 0.036 ± 0.01
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	14 ± 0	0.057 ± 0.002	1.3 ± 0.0	18 ± 0	< 0.037 ± 0.00
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	23 ± 0	0.049 ± 0.003	1.3 ± 0.0	17 ± 0	< 0.038 ± 0.00
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	5.4 ± 0.1	0.058 ± 0.004	1.1 ± 0.0	16 ± 1	< 0.039 ± 0.005
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	< 0.040 ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	< 0.041 ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	3.9 ± 0.1	0.065 ± 0.006	1.2 ± 0.1	17 ± 0	< 0.042 ± 0.011
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	3.1 ± 0.0	0.058 ± 0.007	1.2 ± 0.0	17 ± 0	< 0.043 ± 0.012
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	2.9 ± 0.1	0.065 ± 0.005	1.2 ± 0.1	17 ± 0	< 0.044 ± 0.005
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	2.9 ± 0.1	0.054 ± 0.001	1.2 ± 0.1	19 ± 0	< 0.045 ± 0.003
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	1.5 ± 0.0	0.069 ± 0.003	0.94 ± 0.07	15 ± 0	< 0.046 ± 0.006
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	1.5 ± 0.1	0.054 ± 0.007	0.96 ± 0.05	15 ± 0	< 0.047 ± 0.009
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	3.7 ± 0.1	0.058 ± 0.001	1.8 ± 0.1	18 ± 0	< 0.048 ± 0.01
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	3.5 ± 0.1	0.066 ± 0.009	1.8 ± 0.1	18 ± 0	< 0.049 ± 0.01
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	2.5 ± 0.1	0.054 ± 0.016	1.8 ± 0.1	19 ± 0	< 0.050 ± 0.01
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	2.2 ± 0.1	0.063 ± 0.019	1.7 ± 0.1	19 ± 0	< 0.051 ± 0.01
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	1.4 ± 0.1	0.049 ± 0.005	1.3 ± 0.1	17 ± 0	< 0.052 ± 0.00
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	2.0 ± 0.1	0.051 ± 0.002	1.4 ± 0.0	17 ± 0	< 0.053 ± 0.00
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	8.9 ± 0.3	0.069 ± 0.015	1.6 ± 0.0	22 ± 0	< 0.054 ± 0.01
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	7.4 ± 0.1	0.065 ± 0.009	1.5 ± 0.0	21 ± 0	< 0.055 ± 0.00
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	6.8 ± 0.1	0.074 ± 0.003	1.5 ± 0.1	21 ± 1	< 0.056 ± 0.002
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	6.2 ± 0.1	0.072 ± 0.008	1.5 ± 0.1	20 ± 0	< 0.057 ± 0.01
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	3.7 ± 0.2	0.063 ± 0.005	1.0 ± 0.0	18 ± 0	< 0.058 ± 0.000
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	3.9 ± 0.1	0.053 ± 0.005	1.1 ± 0.0	18 ± 0	< 0.059 ± 0.01
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	5.8 ± 0.1	0.13 ± 0.03	1.0 ± 0.0	16 ± 0	< 0.060 ± 0.008
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	5.8 ± 0.3	0.12 ± 0.01	0.99 ± 0.02	16 ± 1	< 0.061 ± 0.008

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	17 ± 0	0.13 ± 0.00	1.0 ± 0.0	17 ± 1	< 0.062 ± 0.008
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	14 ± 1	0.12 ± 0.01	1.0 ± 0.0	17 ± 0	< 0.063 ± 0.005
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	4.4 ± 0.2	0.13 ± 0.01	0.98 ± 0.01	15 ± 0	< 0.064 ± 0.006
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	4.4 ± 0.1	0.13 ± 0.01	0.96 ± 0.03	15 ± 0	< 0.065 ± 0.006
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	19 ± 0	0.073 ± 0.007	1.3 ± 0.0	17 ± 0	< 0.066 ± 0.02
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	44 ± 2	0.070 ± 0.006	1.3 ± 0.0	17 ± 0	< 0.067 ± 0.01
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	3.8 ± 0.2	0.067 ± 0.008	1.4 ± 0.0	17 ± 0	< 0.068 ± 0.01
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	3.8 ± 0.1	0.066 ± 0.011	1.3 ± 0.0	17 ± 0	< 0.069 ± 0.01
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	2.5 ± 0.0	0.060 ± 0.011	1.1 ± 0.0	15 ± 0	< 0.070 ± 0.02
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	2.6 ± 0.2	0.066 ± 0.001	1.2 ± 0.0	15 ± 0	< 0.071 ± 0.02
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	8.9 ± 0.2	0.052 ± 0.003	1.1 ± 0.0	17 ± 0	< 0.072 ± 0.001
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	24 ± 0	0.050 ± 0.003	1.0 ± 0.0	17 ± 0	< 0.073 ± 0.001
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	4.8 ± 0.1	0.049 ± 0.001	1.1 ± 0.0	17 ± 0	< 0.074 ± 0.001
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	4.4 ± 0.0	0.049 ± 0.004	1.0 ± 0.0	16 ± 0	< 0.075 ± 0.005
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	3.1 ± 0.0	0.047 ± 0.005	1.0 ± 0.0	14 ± 0	< 0.076 ± 0.00
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	2.7 ± 0.1	0.048 ± 0.006	0.97 ± 0.02	16 ± 0	< 0.077 ± 0.002
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	< 0.078 ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	33 ± 0	0.068 ± 0.000	1.4 ± 0.0	22 ± 1	< 0.079 ± 0.005
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	6.5 ± 0.2	0.077 ± 0.010	1.4 ± 0.0	21 ± 0	< 0.080 ± 0.004
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	2.0 ± 0.2	0.063 ± 0.002	1.4 ± 0.0	23 ± 0	< 0.081 ± 0.002
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	2.1 ± 0.1	0.075 ± 0.001	1.4 ± 0.0	22 ± 3	< 0.082 ± 0.006
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	1.1 ± 0.0	0.066 ± 0.003	1.1 ± 0.0	19 ± 0	< 0.083 ± 0.020
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	1.1 ± 0.0	0.090 ± 0.005	1.2 ± 0.1	19 ± 0	< 0.084 ± 0.007
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	< 0.085 ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	14 ± 1	0.059 ± 0.008	1.7 ± 0.1	21 ± 0	< 0.086 ± 0.01
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	16 ± 0	0.054 ± 0.003	1.8 ± 0.0	22 ± 0	< 0.087 ± 0.01
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	< 0.088 ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	11 ± 1	0.075 ± 0.006	1.2 ± 0.0	19 ± 0	< 0.089 ± 0.007
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	5.0 ± 0.2	0.057 ± 0.009	1.1 ± 0.0	19 ± 0	< 0.090 ± 0.01
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	4.4 ± 0.1	0.065 ± 0.010	1.1 ± 0.0	19 ± 0	< 0.091 ± 0.00
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	4.4 ± 0.3	0.062 ± 0.000	1.2 ± 0.0	19 ± 0	< 0.092 ± 0.01
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	2.0 ± 0.1	0.046 ± 0.007	1.1 ± 0.0	17 ± 1	< 0.093 ± 0.00
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	2.1 ± 0.1	0.059 ± 0.005	1.0 ± 0.1	18 ± 1	< 0.094 ± 0.02

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	8.9 ± 0.3	0.078 ± 0.012	1.6 ± 0.0	20 ± 0	< 0.095 ± 0.03
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	3.7 ± 0.2	0.076 ± 0.009	1.6 ± 0.1	21 ± 0	< 0.096 ± 0.01
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	3.2 ± 0.2	0.074 ± 0.009	1.6 ± 0.0	21 ± 1	< 0.097 ± 0.01
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	3.1 ± 0.1	0.071 ± 0.009	1.6 ± 0.0	21 ± 0	< 0.098 ± 0.01
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	1.6 ± 0.1	0.060 ± 0.011	1.0 ± 0.0	18 ± 1	< 0.099 ± 0.05
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	1.7 ± 0.1	0.066 ± 0.010	1.0 ± 0.0	18 ± 0	< 0.100 ± 0.04
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	7.4 ± 0.1	0.041 ± 0.003	1.0 ± 0.0	16 ± 0	< 0.101 ± 0.00
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	6.9 ± 0.1	0.044 ± 0.002	1.0 ± 0.0	15 ± 0	< 0.102 ± 0.01
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	9.4 ± 0.1	0.054 ± 0.011	1.0 ± 0.0	16 ± 0	< 0.103 ± 0.021
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	9.3 ± 0.3	0.045 ± 0.005	1.1 ± 0.0	16 ± 0	< 0.104 ± 0.00
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	2.1 ± 0.1	0.043 ± 0.005	0.68 ± 0.02	13 ± 0	< 0.105 ± 0.001
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	2.5 ± 0.0	0.048 ± 0.004	1.1 ± 0.0	16 ± 0	< 0.106 ± 0.001
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	< 0.107 ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	2.6 ± 0.1	0.083 ± 0.003	1.3 ± 0.0	21 ± 0	< 0.108 ± 0.007
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	1.9 ± 0.1	0.090 ± 0.002	1.4 ± 0.0	21 ± 0	< 0.109 ± 0.011
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	2.0 ± 0.1	0.058 ± 0.010	1.4 ± 0.0	22 ± 0	< 0.110 ± 0.01
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	2.0 ± 0.0	0.072 ± 0.018	1.4 ± 0.0	21 ± 0	< 0.111 ± 0.001
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	1.3 ± 0.1	0.051 ± 0.000	0.87 ± 0.01	18 ± 1	< 0.112 ± 0.008
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	1.2 ± 0.0	0.049 ± 0.007	0.90 ± 0.04	19 ± 0	< 0.113 ± 0.03
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	2.9 ± 0.1	0.048 ± 0.005	1.3 ± 0.0	19 ± 0	< 0.114 ± 0.01
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	2.2 ± 0.2	0.040 ± 0.005	1.2 ± 0.0	19 ± 0	< 0.115 ± 0.01
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	1.7 ± 0.2	0.038 ± 0.004	1.2 ± 0.0	19 ± 1	< 0.116 ± 0.01
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	1.9 ± 0.1	0.039 ± 0.004	1.2 ± 0.0	19 ± 0	< 0.117 ± 0.01
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	0.78 ± 0.09	0.032 ± 0.007	0.74 ± 0.05	16 ± 0	< 0.118 ± 0.01
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	0.80 ± 0.05	0.034 ± 0.008	0.74 ± 0.03	15 ± 0	< 0.119 ± 0.00
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	6.9 ± 0.1	0.051 ± 0.008	0.90 ± 0.00	17 ± 0	< 0.120 ± 0.00
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	10 ± 0	0.054 ± 0.005	0.90 ± 0.01	17 ± 0	< 0.121 ± 0.01
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	6.9 ± 0.1	0.060 ± 0.015	0.91 ± 0.02	17 ± 0	< 0.122 ± 0.00
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	6.8 ± 0.3	0.064 ± 0.023	0.89 ± 0.02	17 ± 0	< 0.123 ± 0.01
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	3.3 ± 0.2	0.052 ± 0.010	0.84 ± 0.01	16 ± 1	< 0.124 ± 0.01
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	3.4 ± 0.2	0.057 ± 0.015	0.79 ± 0.03	15 ± 0	< 0.125 ± 0.01
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	13 ± 0	0.036 ± 0.003	0.48 ± 0.04	9.3 ± 0.0	< 0.126 ± 0.003
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	11 ± 0	0.034 ± 0.002	0.46 ± 0.03	9.2 ± 0.3	< 0.127 ± 0.004

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	30 ± 1	0.034 ± 0.006	0.48 ± 0.06	10 ± 0	< 0.128 ± 0.005
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	30 ± 1	0.030 ± 0.000	0.49 ± 0.03	11 ± 0	< 0.129 ± 0.005
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	6.6 ± 0.0	0.035 ± 0.006	0.38 ± 0.06	7.4 ± 0.2	< 0.130 ± 0.005
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	6.8 ± 0.2	0.035 ± 0.006	0.36 ± 0.02	8.0 ± 0.3	< 0.131 ± 0.014
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	4.2 ± 0.2	0.073 ± 0.008	1.3 ± 0.0	19 ± 0	< 0.132 ± 0.02
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	5.1 ± 0.1	0.076 ± 0.012	1.2 ± 0.1	19 ± 0	< 0.133 ± 0.03
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	3.1 ± 0.1	0.068 ± 0.011	1.2 ± 0.0	18 ± 1	< 0.134 ± 0.02
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	3.1 ± 0.0	0.073 ± 0.011	1.2 ± 0.0	18 ± 1	< 0.135 ± 0.01
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	2.0 ± 0.0	0.059 ± 0.013	0.76 ± 0.05	15 ± 1	< 0.136 ± 0.05
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	1.9 ± 0.0	0.061 ± 0.021	0.79 ± 0.03	15 ± 0	< 0.137 ± 0.02
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	15 ± 1	0.067 ± 0.005	1.4 ± 0.1	19 ± 1	< 0.138 ± 0.01
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	29 ± 0	0.073 ± 0.010	1.4 ± 0.1	19 ± 0	< 0.139 ± 0.016
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	3.4 ± 0.4	0.072 ± 0.002	1.3 ± 0.1	19 ± 0	< 0.140 ± 0.016
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	3.1 ± 0.1	0.079 ± 0.004	1.3 ± 0.0	18 ± 1	< 0.141 ± 0.014
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	1.4 ± 0.2	0.054 ± 0.008	0.81 ± 0.04	15 ± 0	< 0.142 ± 0.01
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	1.5 ± 0.2	0.069 ± 0.032	0.81 ± 0.06	15 ± 0	< 0.143 ± 0.01
Flat Cr.	12/11/96	0.40 µm Mem	1/2	64 ± 2	0.041 ± 0.007	0.10 ± 0.02	5.0 ± 0.1	< 0.144 ± 0.006
Flat Cr.	12/11/96	0.40 µm Mem	2/2	63 ± 3	0.041 ± 0.005	0.10 ± 0.01	4.9 ± 0.1	< 0.145 ± 0.006
Flat Cr.	12/11/96	0.45 µm Cap	1/2	43 ± 1	0.034 ± 0.002	0.094 ± 0.011	4.9 ± 0.2	< 0.146 ± 0.01
Flat Cr.	12/11/96	0.45 µm Cap	2/2	43 ± 1	0.038 ± 0.004	0.090 ± 0.001	5.0 ± 0.0	< 0.147 ± 0.001
Flat Cr.	12/11/96	10 kd Tan	1/2	30 ± 0	0.030 ± 0.002	0.14 ± 0.02	3.9 ± 0.2	< 0.148 ± 0.00
Flat Cr.	12/11/96	10 kd Tan	2/2	31 ± 1	0.038 ± 0.001	0.18 ± 0.04	3.8 ± 0.0	< 0.149 ± 0.005
Flat Cr.	05/29/97	0.40 µm Mem	1/2	2.1 ± 0.0	0.052 ± 0.008	0.49 ± 0.03	7.9 ± 0.2	< 0.150 ± 0.01
Flat Cr.	05/29/97	0.40 µm Mem	2/2	2.2 ± 0.3	0.057 ± 0.006	0.48 ± 0.04	8.1 ± 0.2	< 0.151 ± 0.01
Flat Cr.	05/29/97	0.45 µm Cap	1/2	1.7 ± 0.2	0.059 ± 0.004	0.43 ± 0.01	8.0 ± 0.2	< 0.152 ± 0.03
Flat Cr.	05/29/97	0.45 µm Cap	2/2	1.8 ± 0.1	0.061 ± 0.004	0.43 ± 0.03	7.8 ± 0.1	< 0.153 ± 0.02
Flat Cr.	05/29/97	10 kd Tan	1/2	1.1 ± 0.1	0.056 ± 0.010	0.38 ± 0.03	6.7 ± 0.4	< 0.154 ± 0.01
Flat Cr.	05/29/97	10 kd Tan	2/2	1.1 ± 0.1	0.054 ± 0.010	0.39 ± 0.02	6.8 ± 0.1	< 0.155 ± 0.02
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	2,370 ± 180	0.019 ± 0.003	0.17 ± 0.03	8.5 ± 0.1	< 0.156 ± 0.010
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	2,540 ± 530	< 0.017 ± 0.006	0.21 ± 0.01	9.1 ± 0.4	< 0.157 ± 0.013
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	3,190 ± 90	< 0.017 ± 0.006	0.20 ± 0.00	8.9 ± 0.3	< 0.158 ± 0.003
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	2,590 ± 510	0.018 ± 0.002	0.16 ± 0.01	8.5 ± 0.1	< 0.159 ± 0.009
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	2,520 ± 40	0.024 ± 0.001	0.24 ± 0.03	8.4 ± 0.0	< 0.160 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	2,530 ± 130	< 0.017 ± 0.006	0.21 ± 0.01	8.8 ± 0.3	0.44 ± 0.005
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	4,480 ± 260	< 0.02 ± 0.01	0.12 ± 0.01	24 ± 1	0.12 ± 0.01
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	4,520 ± 80	< 0.02 ± 0.00	0.12 ± 0.02	24 ± 0	0.11 ± 0.01
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	4,080 ± 130	< 0.02 ± 0.00	0.14 ± 0.01	24 ± 0	0.12 ± 0.01
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	4,240 ± 40	< 0.02 ± 0.00	0.14 ± 0.02	24 ± 0	0.12 ± 0.01
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	3,980 ± 180	< 0.02 ± 0.01	0.18 ± 0.02	23 ± 0	0.14 ± 0.00
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	3,930 ± 50	< 0.02 ± 0.01	0.12 ± 0.02	23 ± 0	0.11 ± 0.01
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	2,140 ± 80	< 0.13 ± 0.01	3.8 ± 0.0	20 ± 0	0.051 ± 0.12
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	2,040 ± 0	0.14 ± 0.01	4.0 ± 0.0	20 ± 0	0.058 ± 0.003
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	2,050 ± 30	0.14 ± 0.01	4.0 ± 0.0	21 ± 0	0.045 ± 0.008
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	2,040 ± 30	0.15 ± 0.01	4.2 ± 0.0	20 ± 0	0.055 ± 0.007
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	2,070 ± 10	0.13 ± 0.00	4.1 ± 0.0	19 ± 1	0.048 ± 0.000
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	1,930 ± 100	0.14 ± 0.01	3.7 ± 0.0	19 ± 0	0.056 ± 0.002
Whiskeytown	12/11/96	0.40 µm Mem	1/2	6.5 ± 0.1	0.028 ± 0.004	0.36 ± 0.01	7.1 ± 0.3	< 0.02 ± 0.01
Whiskeytown	12/11/96	0.40 µm Mem	2/2	6.9 ± 0.2	0.037 ± 0.010	0.39 ± 0.04	7.1 ± 0.0	< 0.175 ± 0.003
Whiskeytown	12/11/96	0.45 µm Cap	1/2	3.0 ± 0.2	0.043 ± 0.005	0.38 ± 0.03	6.6 ± 0.3	< 0.176 ± 0.005
Whiskeytown	12/11/96	0.45 µm Cap	2/2	2.9 ± 0.1	0.037 ± 0.005	0.38 ± 0.03	7.0 ± 0.3	< 0.177 ± 0.01
Whiskeytown	12/11/96	10 kd Tan	1/2	2.2 ± 0.4	0.035 ± 0.006	0.42 ± 0.04	6.5 ± 0.0	< 0.178 ± 0.003
Whiskeytown	12/11/96	10 kd Tan	2/2	2.2 ± 0.2	0.032 ± 0.005	0.42 ± 0.02	6.3 ± 0.2	< 0.179 ± 0.01
Whiskeytown	05/29/97	0.40 µm Mem	1/2	5.0 ± 0.4	0.032 ± 0.002	0.38 ± 0.05	6.2 ± 0.3	< 0.180 ± 0.03
Whiskeytown	05/29/97	0.40 µm Mem	2/2	29 ± 0	0.029 ± 0.003	0.38 ± 0.04	6.0 ± 0.2	< 0.181 ± 0.03
Whiskeytown	05/29/97	0.45 µm Cap	1/2	2.9 ± 0.1	0.031 ± 0.003	0.35 ± 0.01	6.2 ± 0.2	< 0.182 ± 0.02
Whiskeytown	05/29/97	0.45 µm Cap	2/2	3.5 ± 0.3	0.033 ± 0.005	0.37 ± 0.03	6.2 ± 0.1	< 0.183 ± 0.01
Whiskeytown	05/29/97	10 kd Tan	1/2	2.5 ± 0.2	0.025 ± 0.004	0.28 ± 0.02	5.2 ± 0.1	< 0.184 ± 0.01
Whiskeytown	05/29/97	10 kd Tan	2/2	2.4 ± 0.1	0.023 ± 0.005	0.28 ± 0.01	5.1 ± 0.1	< 0.185 ± 0.01
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	4.5 ± 0.3	0.020 ± 0.001	0.27 ± 0.01	7.0 ± 0.1	< 0.186 ± 0.00
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	4.3 ± 0.1	0.023 ± 0.004	0.23 ± 0.01	6.6 ± 0.3	< 0.187 ± 0.001
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	3.7 ± 0.2	0.029 ± 0.003	0.27 ± 0.02	6.7 ± 0.2	< 0.188 ± 0.004
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	4.9 ± 0.4	0.025 ± 0.002	0.28 ± 0.02	7.2 ± 0.4	< 0.189 ± 0.005
Spring Cr. arm	07/12/96	10 kd Tan	1/3	4.1 ± 0.4	0.022 ± 0.006	0.25 ± 0.03	6.6 ± 0.2	< 0.190 ± 0.004
Spring Cr. arm	07/12/96	10 kd Tan	2/3	3.5 ± 0.1	0.018 ± 0.002	0.26 ± 0.02	6.4 ± 0.4	< 0.191 ± 0.00
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	< 0.192 ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	9.3 ± 0.1	0.037 ± 0.006	0.23 ± 0.04	6.4 ± 0.1	< 0.193 ± 0.017
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	9.1 ± 0.2	0.040 ± 0.005	0.22 ± 0.03	6.4 ± 0.0	< 0.194 ± 0.010

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Aluminum (µg/L) ICP–MS	Antimony (µg/L) ICP–MS	Arsenic (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	8.3 ± 0.2	0.040 ± 0.006	0.18 ± 0.00	6.3 ± 0.2	< 0.195 ± 0.010
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	8.1 ± 0.1	0.038 ± 0.005	0.21 ± 0.02	6.3 ± 0.1	< 0.196 ± 0.012
Spring Cr. arm	09/18/96	10 kd Tan	1/2	7.6 ± 0.1	0.035 ± 0.007	0.16 ± 0.01	5.5 ± 0.1	< 0.197 ± 0.001
Spring Cr. arm	09/18/96	10 kd Tan	2/2	7.6 ± 0.2	0.038 ± 0.003	0.18 ± 0.03	5.5 ± 0.1	< 0.198 ± 0.005
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	61 ± 2	0.020 ± 0.003	0.29 ± 0.01	6.8 ± 0.2	< 0.199 ± 0.00
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	48 ± 1	0.024 ± 0.004	0.28 ± 0.01	6.7 ± 0.3	< 0.200 ± 0.00
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	33 ± 2	0.020 ± 0.008	0.23 ± 0.03	6.5 ± 0.2	< 0.201 ± 0.01
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	32 ± 1	0.029 ± 0.012	0.26 ± 0.03	6.8 ± 0.1	< 0.202 ± 0.00
Spring Cr. arm	11/20/96	10 kd Tan	1/2	36 ± 2	< 0.018 ± 0.009	0.22 ± 0.02	5.6 ± 0.4	< 0.203 ± 0.01
Spring Cr. arm	11/20/96	10 kd Tan	2/2	35 ± 1	< 0.018 ± 0.004	0.21 ± 0.02	5.5 ± 0.2	< 0.204 ± 0.00
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	67 ± 2	0.033 ± 0.001	0.19 ± 0.01	7.0 ± 0.2	< 0.205 ± 0.003
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	56 ± 1	0.028 ± 0.003	0.18 ± 0.01	7.3 ± 0.0	< 0.206 ± 0.006
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	53 ± 0	0.022 ± 0.007	0.17 ± 0.01	7.2 ± 0.3	< 0.207 ± 0.02
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	52 ± 1	0.028 ± 0.006	0.18 ± 0.02	7.3 ± 0.3	< 0.208 ± 0.01
Spring Cr. arm	12/11/96	10 kd Tan	1/2	57 ± 2	< 0.017 ± 0.003	0.13 ± 0.02	5.5 ± 0.3	< 0.209 ± 0.01
Spring Cr. arm	12/11/96	10 kd Tan	2/2	58 ± 1	0.025 ± 0.007	0.15 ± 0.02	5.8 ± 0.0	< 0.210 ± 0.003
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	28 ± 1	0.033 ± 0.004	0.40 ± 0.02	6.5 ± 0.5	< 0.211 ± 0.01
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	21 ± 0	0.028 ± 0.004	0.37 ± 0.04	6.2 ± 0.5	< 0.212 ± 0.01
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	12 ± 0	0.030 ± 0.004	0.35 ± 0.00	6.1 ± 0.2	< 0.213 ± 0.01
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	12 ± 0	0.031 ± 0.003	0.37 ± 0.01	6.2 ± 0.4	< 0.214 ± 0.01
Spring Cr. arm	05/28/97	10 kd Tan	1/2	12 ± 0	0.020 ± 0.005	0.23 ± 0.01	5.0 ± 0.2	< 0.215 ± 0.00
Spring Cr. arm	05/28/97	10 kd Tan	2/2	13 ± 1	0.020 ± 0.005	0.21 ± 0.01	5.0 ± 0.2	< 0.216 ± 0.01
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	9.8 ± 0.3	0.29 ± 0.02	3.6 ± 0.0	97 ± 3	< 0.217 ± 0.01
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	2.2 ± 0.3	0.30 ± 0.00	3.8 ± 0.3	100 ± 3	< 0.218 ± 0.00
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	1.2 ± 0.1	0.29 ± 0.00	3.4 ± 0.1	106 ± 4	< 0.219 ± 0.01
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	1.1 ± 0.2	0.27 ± 0.00	3.6 ± 0.0	105 ± 5	< 0.220 ± 0.01
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	0.90 ± 0.18	0.26 ± 0.01	2.8 ± 0.0	89 ± 1	< 0.221 ± 0.01
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	0.88 ± 0.26	0.26 ± 0.01	2.7 ± 0.0	94 ± 0	< 0.222 ± 0.01
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	45 ± 1	0.095 ± 0.005	1.1 ± 0.0	16 ± 0	< 0.223 ± 0.004
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	5.4 ± 0.5	0.091 ± 0.001	1.0 ± 0.0	16 ± 1	< 0.224 ± 0.005
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	19 ± 1	0.11 ± 0.00	0.99 ± 0.03	17 ± 0	< 0.225 ± 0.004
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	18 ± 0	0.12 ± 0.00	1.0 ± 0.0	17 ± 0	< 0.226 ± 0.006
Yolo Bypass	01/07/97	10 kd Tan	1/2	2.6 ± 0.1	0.075 ± 0.005	0.76 ± 0.03	13 ± 1	< 0.227 ± 0.002
Yolo Bypass	01/07/97	10 kd Tan	2/2	2.8 ± 0.2	0.075 ± 0.010	0.79 ± 0.01	13 ± 1	< 0.228 ± 0.004

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	< 0.005 ± 0.001	33 ± 1	0.025 ± 0.006	10 ± 0	0.019 ± 0.000
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	< 0.004 ± 0.001	31 ± 0	0.031 ± 0.001	10 ± 0	0.016 ± 0.000
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	< 0.005 ± 0.000	31 ± 1	0.016 ± 0.004	10 ± 0	0.014 ± 0.000
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	< 0.004 ± 0.000	30 ± 0	0.018 ± 0.000	10 ± 0	0.017 ± 0.000
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	< 0.005 ± 0.000	32 ± 1	0.017 ± 0.003	10 ± 0	0.0068 ± 0.0006
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	< 0.005 ± 0.002	31 ± 0	0.021 ± 0.008	9.7 ± 0.0	0.0060 ± 0.0011
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	34 ± 1	0.032 ± 0.001	12 ± 0	0.024 ± 0.003
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	34 ± 3	0.034 ± 0.007	12 ± 1	0.030 ± 0.001
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	36 ± 1	0.030 ± 0.004	12 ± 1	0.012 ± 0.001
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	< 0.006 ± 0.000	31 ± 1	0.024 ± 0.003	11 ± 0	0.011 ± 0.000
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	< 0.006 ± 0.003	33 ± 1	0.023 ± 0.006	11 ± 0	0.0033 ± 0.0008
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	< 0.01 ± 0.00	32 ± 1	0.021 ± 0.003	11 ± 1	0.0045 ± 0.0004
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	< 0.007 ± 0.001	41 ± 1	< 0.009 ± 0.001	12 ± 0	0.0046 ± 0.0006
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	< 0.007 ± 0.003	41 ± 2	< 0.007 ± 0.001	12 ± 0	0.0051 ± 0.0004
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	< 0.007 ± 0.000	39 ± 1	< 0.007 ± 0.003	12 ± 0	0.0056 ± 0.0009
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	< 0.007 ± 0.001	41 ± 1	< 0.007 ± 0.006	12 ± 0	0.0036 ± 0.0005
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	< 0.007 ± 0.001	40 ± 1	0.0087 ± 0.0033	11 ± 0	0.0011 ± 0.0004
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	< 0.007 ± 0.000	41 ± 2	< 0.007 ± 0.006	11 ± 0	0.00094 ± 0.00079
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	50 ± 6	0.036 ± 0.004	11 ± 1	0.011 ± 0.001
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	53 ± 9	0.040 ± 0.009	11 ± 0	0.0090 ± 0.0015
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	< 0.011 ± 0.001	45 ± 3	0.041 ± 0.006	11 ± 1	0.013 ± 0.001
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	< 0.011 ± 0.002	47 ± 4	0.034 ± 0.011	11 ± 1	0.0090 ± 0.0004
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	< 0.011 ± 0.001	46 ± 3	0.039 ± 0.008	9.6 ± 0.6	0.0027 ± 0.0004
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	< 0.01 ± 0.00	56 ± 2	0.028 ± 0.004	9.4 ± 0.7	0.0018 ± 0.0004
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	< 0.001 ± 0.001	32 ± 1	0.027 ± 0.010	10 ± 0	0.034 ± 0.001
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	< 0.001 ± 0.001	32 ± 1	0.021 ± 0.006	10 ± 0	0.017 ± 0.001
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	< 0.001 ± 0.000	31 ± 1	0.012 ± 0.002	9.8 ± 0.6	0.015 ± 0.000
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	31 ± 1	0.0062 ± 0.0047	9.9 ± 0.5	0.015 ± 0.000
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	< 0.001 ± 0.000	32 ± 3	< 0.006 ± 0.002	8.3 ± 0.4	0.0019 ± 0.0005
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	< 0.001 ± 0.001	31 ± 1	< 0.006 ± 0.003	8.1 ± 0.3	0.0020 ± 0.0005
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	< 0.004 ± 0.000	25 ± 0	0.017 ± 0.002	8.7 ± 0.1	0.012 ± 0.000

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	< 0.004 ± 0.001	26 ± 1	0.017 ± 0.001	8.7 ± 0.0	0.013 ± 0.000
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	< 0.004 ± 0.001	25 ± 0	0.017 ± 0.001	8.5 ± 0.1	0.019 ± 0.000
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	< 0.004 ± 0.001	25 ± 0	0.019 ± 0.003	8.7 ± 0.1	0.019 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	< 0.004 ± 0.000	25 ± 1	0.018 ± 0.001	8.4 ± 0.1	0.0076 ± 0.0015
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	< 0.004 ± 0.001	25 ± 0	0.016 ± 0.001	8.4 ± 0.1	0.0091 ± 0.0002
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	< 0.004 ± 0.000	24 ± 1	0.014 ± 0.003	8.4 ± 0.1	0.0075 ± 0.0010
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	24 ± 2	0.031 ± 0.007	8.2 ± 0.1	0.019 ± 0.003
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	< 0.006 ± 0.001	24 ± 0	0.026 ± 0.004	8.6 ± 0.4	0.014 ± 0.000
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	< 0.006 ± 0.002	25 ± 0	0.025 ± 0.002	9.0 ± 0.1	0.013 ± 0.000
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	< 0.006 ± 0.001	24 ± 1	0.018 ± 0.002	8.2 ± 0.2	0.016 ± 0.001
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	< 0.01 ± 0.00	24 ± 2	0.018 ± 0.007	8.0 ± 0.0	0.0045 ± 0.0006
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	< 0.01 ± 0.00	24 ± 1	0.015 ± 0.002	7.3 ± 0.1	0.0024 ± 0.0002
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	< 0.01 ± 0.00	24 ± 2	0.021 ± 0.007	7.4 ± 0.3	0.0032 ± 0.0002
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	< 0.007 ± 0.001	33 ± 1	0.048 ± 0.010	10 ± 0	0.023 ± 0.000
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	< 0.007 ± 0.001	32 ± 1	0.049 ± 0.012	10 ± 0	0.022 ± 0.001
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	< 0.007 ± 0.000	31 ± 1	0.040 ± 0.004	9.9 ± 0.4	0.018 ± 0.003
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	< 0.007 ± 0.001	33 ± 1	0.049 ± 0.005	9.8 ± 0.3	0.017 ± 0.001
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	< 0.007 ± 0.001	32 ± 1	0.039 ± 0.003	8.2 ± 0.2	0.0021 ± 0.0008
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	< 0.007 ± 0.001	31 ± 2	0.039 ± 0.005	8.3 ± 0.2	0.0024 ± 0.0003
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	52 ± 11	0.070 ± 0.006	10 ± 0	0.031 ± 0.004
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	43 ± 7	0.064 ± 0.005	10 ± 0	0.023 ± 0.004
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	< 0.011 ± 0.005	39 ± 0	0.076 ± 0.006	10 ± 0	0.028 ± 0.002
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	47 ± 5	0.071 ± 0.005	10 ± 0	0.028 ± 0.001
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	< 0.01 ± 0.00	54 ± 8	0.050 ± 0.004	8.2 ± 0.5	0.0034 ± 0.0008
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	< 0.01 ± 0.00	47 ± 11	0.052 ± 0.003	8.1 ± 0.3	0.0042 ± 0.0008
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	< 0.008 ± 0.001	34 ± 1	0.11 ± 0.00	9.5 ± 0.5	0.020 ± 0.003
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	< 0.008 ± 0.000	37 ± 1	0.10 ± 0.01	9.9 ± 0.5	0.019 ± 0.002
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	< 0.008 ± 0.000	38 ± 1	0.16 ± 0.02	9.5 ± 0.4	0.039 ± 0.002
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	< 0.008 ± 0.001	35 ± 0	0.14 ± 0.02	9.8 ± 0.4	0.040 ± 0.001
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	< 0.008 ± 0.001	34 ± 1	0.084 ± 0.024	9.1 ± 0.6	0.0072 ± 0.0011
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	< 0.008 ± 0.000	34 ± 1	0.085 ± 0.002	8.9 ± 0.3	0.0064 ± 0.0005
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	< 0.014 ± 0.002	35 ± 1	0.085 ± 0.012	9.1 ± 0.1	0.0056 ± 0.0003
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	26 ± 1	0.016 ± 0.007	8.7 ± 0.4	0.011 ± 0.001
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	< 0.001 ± 0.001	26 ± 1	0.036 ± 0.004	8.7 ± 0.4	0.026 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	25 ± 0	0.015 ± 0.003	8.5 ± 0.5	0.016 ± 0.000
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	26 ± 1	0.018 ± 0.004	8.3 ± 0.2	0.015 ± 0.001
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	< 0.001 ± 0.000	27 ± 2	0.011 ± 0.005	7.5 ± 0.6	0.0040 ± 0.0001
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	< 0.001 ± 0.001	27 ± 2	0.012 ± 0.006	7.6 ± 0.4	0.0031 ± 0.0007
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	< 0.005 ± 0.000	28 ± 0	0.042 ± 0.003	9.1 ± 0.1	0.012 ± 0.000
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	< 0.005 ± 0.000	27 ± 0	0.026 ± 0.001	9.2 ± 0.0	0.012 ± 0.000
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	< 0.004 ± 0.001	27 ± 0	0.023 ± 0.001	9.0 ± 0.1	0.015 ± 0.001
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	< 0.005 ± 0.000	28 ± 1	0.016 ± 0.003	8.9 ± 0.0	0.015 ± 0.000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	< 0.005 ± 0.001	29 ± 0	0.023 ± 0.001	9.2 ± 0.1	0.0022 ± 0.0000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	< 0.004 ± 0.001	26 ± 0	0.020 ± 0.001	8.8 ± 0.1	0.0038 ± 0.0002
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	< 0.006 ± 0.001	28 ± 1	0.026 ± 0.008	8.7 ± 0.1	0.0076 ± 0.0007
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	< 0.006 ± 0.001	29 ± 1	0.022 ± 0.010	9.3 ± 0.3	0.0081 ± 0.0011
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	28 ± 2	0.019 ± 0.001	8.5 ± 0.3	0.015 ± 0.001
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	< 0.006 ± 0.002	28 ± 1	0.017 ± 0.006	9.2 ± 0.6	0.011 ± 0.003
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	< 0.01 ± 0.00	27 ± 1	0.014 ± 0.004	8.0 ± 0.3	< 0.0011 ± 0.0004
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	< 0.01 ± 0.00	26 ± 1	0.015 ± 0.005	8.0 ± 0.6	< 0.0011 ± 0.0006
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	< 0.007 ± 0.001	39 ± 2	0.022 ± 0.012	11 ± 1	0.020 ± 0.002
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	< 0.007 ± 0.000	39 ± 2	0.029 ± 0.006	11 ± 0	0.019 ± 0.001
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	< 0.007 ± 0.001	38 ± 1	0.020 ± 0.005	11 ± 0	0.015 ± 0.000
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	< 0.007 ± 0.001	38 ± 1	0.021 ± 0.008	11 ± 0	0.017 ± 0.002
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	< 0.007 ± 0.001	40 ± 2	0.021 ± 0.008	9.1 ± 0.4	0.0011 ± 0.0001
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	< 0.007 ± 0.002	38 ± 1	0.020 ± 0.003	9.1 ± 0.4	0.0023 ± 0.0007
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	44 ± 5	0.018 ± 0.007	11 ± 0	0.020 ± 0.002
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	45 ± 11	0.022 ± 0.004	11 ± 0	0.023 ± 0.002
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	40 ± 10	0.023 ± 0.002	10 ± 0	0.021 ± 0.002
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	39 ± 11	0.030 ± 0.004	10 ± 0	0.020 ± 0.002
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	< 0.01 ± 0.00	41 ± 10	0.021 ± 0.005	8.8 ± 0.4	0.0027 ± 0.0008
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	< 0.01 ± 0.00	39 ± 11	0.019 ± 0.004	8.7 ± 0.5	0.0021 ± 0.0003
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	< 0.008 ± 0.001	28 ± 1	0.0093 ± 0.0014	9.4 ± 0.2	0.088 ± 0.003
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	< 0.008 ± 0.000	29 ± 2	< 0.005 ± 0.002	9.1 ± 0.0	0.027 ± 0.001
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	< 0.008 ± 0.001	30 ± 3	0.014 ± 0.006	8.8 ± 0.4	0.038 ± 0.002
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	< 0.008 ± 0.000	28 ± 1	0.016 ± 0.006	9.3 ± 0.4	0.040 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	< 0.008 ± 0.001	28 ± 2	< 0.005 ± 0.002	7.9 ± 0.1	0.010 ± 0.001
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	< 0.008 ± 0.001	30 ± 4	0.0078 ± 0.0035	8.5 ± 0.3	0.0087 ± 0.0014
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	28 ± 0	0.013 ± 0.010	9.2 ± 0.2	0.017 ± 0.001
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	< 0.001 ± 0.000	28 ± 1	0.015 ± 0.012	9.2 ± 0.2	0.0086 ± 0.0008
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	< 0.001 ± 0.000	29 ± 1	0.013 ± 0.004	9.2 ± 0.5	0.012 ± 0.000
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	< 0.001 ± 0.000	27 ± 1	0.013 ± 0.004	8.9 ± 0.5	0.014 ± 0.001
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	< 0.001 ± 0.000	27 ± 1	< 0.006 ± 0.003	7.9 ± 0.4	0.0029 ± 0.0008
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	< 0.001 ± 0.001	28 ± 1	0.0072 ± 0.0024	7.9 ± 0.4	0.0030 ± 0.0008
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	< 0.005 ± 0.000	34 ± 1	0.0095 ± 0.0017	10 ± 0	0.016 ± 0.000
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	< 0.005 ± 0.000	34 ± 0	0.011 ± 0.004	10 ± 0	0.026 ± 0.000
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	< 0.005 ± 0.002	34 ± 0	0.016 ± 0.001	9.9 ± 0.1	0.018 ± 0.000
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	41 ± 2	0.014 ± 0.003	11 ± 1	0.011 ± 0.001
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	40 ± 2	0.010 ± 0.003	12 ± 0	0.0076 ± 0.0018
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	40 ± 1	0.011 ± 0.004	11 ± 0	0.017 ± 0.000
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	< 0.006 ± 0.001	41 ± 5	0.0072 ± 0.0055	12 ± 0	0.014 ± 0.000
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	< 0.01 ± 0.00	41 ± 2	< 0.006 ± 0.003	11 ± 0	0.0019 ± 0.0005
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	< 0.01 ± 0.00	40 ± 1	0.010 ± 0.005	10 ± 1	0.0018 ± 0.0006
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	< 0.007 ± 0.002	57 ± 2	0.0060 ± 0.0023	13 ± 0	0.013 ± 0.001
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	< 0.007 ± 0.000	57 ± 2	0.0095 ± 0.0043	13 ± 0	0.014 ± 0.001
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	< 0.007 ± 0.001	57 ± 2	0.0063 ± 0.0038	13 ± 0	0.011 ± 0.001
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	< 0.007 ± 0.001	58 ± 1	< 0.005 ± 0.004	13 ± 0	0.013 ± 0.001
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	< 0.007 ± 0.001	55 ± 2	0.0062 ± 0.0013	11 ± 0	0.0014 ± 0.0010
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	< 0.007 ± 0.001	55 ± 1	0.0060 ± 0.0014	12 ± 0	0.0019 ± 0.0002
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	50 ± 2	0.0056 ± 0.0025	11 ± 2	0.015 ± 0.000
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	50 ± 1	0.012 ± 0.005	13 ± 0	0.015 ± 0.000
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	< 0.011 ± 0.001	49 ± 3	0.024 ± 0.006	13 ± 2	0.019 ± 0.001
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	50 ± 2	< 0.013 ± 0.003	9.5 ± 0.8	0.016 ± 0.002
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	< 0.011 ± 0.001	49 ± 1	< 0.005 ± 0.002	10 ± 2	0.0030 ± 0.0007
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	< 0.01 ± 0.00	48 ± 4	0.0079 ± 0.0035	9.7 ± 2.0	0.0034 ± 0.0022
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	< 0.008 ± 0.001	30 ± 0	< 0.005 ± 0.004	9.6 ± 0.3	0.026 ± 0.001
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	< 0.008 ± 0.001	27 ± 1	< 0.005 ± 0.001	9.6 ± 0.4	0.024 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	< 0.008 ± 0.000	29 ± 2	0.013 ± 0.003	9.7 ± 0.5	0.051 ± 0.001
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	< 0.008 ± 0.001	29 ± 2	< 0.005 ± 0.003	9.8 ± 0.4	0.053 ± 0.004
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	< 0.008 ± 0.001	31 ± 2	0.0061 ± 0.0019	9.1 ± 0.3	0.014 ± 0.002
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	< 0.008 ± 0.001	28 ± 2	< 0.005 ± 0.003	8.9 ± 0.5	0.014 ± 0.003
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	< 0.001 ± 0.001	39 ± 0	< 0.008 ± 0.002	11 ± 0	0.016 ± 0.001
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	< 0.001 ± 0.000	38 ± 0	< 0.008 ± 0.002	10 ± 0	0.034 ± 0.001
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	38 ± 1	< 0.008 ± 0.003	10 ± 0	0.015 ± 0.000
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	38 ± 0	< 0.008 ± 0.003	10 ± 0	0.013 ± 0.001
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	< 0.001 ± 0.001	37 ± 0	< 0.008 ± 0.002	9.5 ± 0.1	0.0028 ± 0.0004
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	< 0.001 ± 0.001	38 ± 0	< 0.008 ± 0.002	9.4 ± 0.4	0.0024 ± 0.0005
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	< 0.005 ± 0.002	29 ± 1	0.0070 ± 0.0023	9.0 ± 0.1	0.015 ± 0.001
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	< 0.004 ± 0.001	27 ± 1	0.024 ± 0.001	9.3 ± 0.4	0.034 ± 0.001
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	< 0.004 ± 0.001	27 ± 0	0.013 ± 0.002	9.1 ± 0.3	0.022 ± 0.000
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	< 0.004 ± 0.001	27 ± 1	< 0.006 ± 0.000	9.2 ± 0.4	0.019 ± 0.000
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	< 0.005 ± 0.000	28 ± 0	< 0.004 ± 0.006	9.7 ± 0.1	0.0092 ± 0.0002
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	< 0.004 ± 0.000	26 ± 0	< 0.006 ± 0.000	9.6 ± 0.2	0.0078 ± 0.0000
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	< 0.006 ± 0.000	47 ± 0	0.015 ± 0.002	12 ± 1	0.039 ± 0.001
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	< 0.006 ± 0.001	45 ± 1	0.0089 ± 0.0044	13 ± 0	0.011 ± 0.000
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	< 0.006 ± 0.002	47 ± 2	0.018 ± 0.003	12 ± 0	0.014 ± 0.001
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	< 0.006 ± 0.002	45 ± 1	0.014 ± 0.003	12 ± 0	0.015 ± 0.004
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	< 0.01 ± 0.00	46 ± 2	0.0069 ± 0.0026	11 ± 0	0.0014 ± 0.0004
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	< 0.01 ± 0.00	44 ± 0	0.0066 ± 0.0043	11 ± 0	0.0035 ± 0.0001
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	< 0.007 ± 0.000	46 ± 1	0.0057 ± 0.0037	14 ± 0	0.037 ± 0.001
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	< 0.007 ± 0.001	48 ± 1	0.011 ± 0.002	14 ± 0	0.035 ± 0.001
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	< 0.011 ± 0.003	35 ± 2	0.011 ± 0.006	9.4 ± 1.2	0.031 ± 0.001
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	35 ± 0	< 0.004 ± 0.005	9.8 ± 0.3	0.021 ± 0.002
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	34 ± 0	0.0085 ± 0.0052	9.8 ± 0.0	0.030 ± 0.002
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	34 ± 2	< 0.004 ± 0.003	9.2 ± 1.2	0.028 ± 0.005
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	< 0.01 ± 0.00	33 ± 2	0.0070 ± 0.0059	9.0 ± 0.3	0.0081 ± 0.0011
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	< 0.01 ± 0.00	32 ± 2	< 0.004 ± 0.000	9.2 ± 0.2	0.0086 ± 0.0014

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	< 0.001 ± 0.001	41 ± 1	0.0089 ± 0.0038	12 ± 0	0.011 ± 0.000
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	< 0.001 ± 0.001	42 ± 0	< 0.008 ± 0.001	12 ± 1	0.0063 ± 0.0007
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	41 ± 2	0.011 ± 0.004	11 ± 1	0.013 ± 0.000
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	< 0.001 ± 0.000	41 ± 1	0.011 ± 0.007	12 ± 0	0.014 ± 0.000
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	< 0.001 ± 0.001	42 ± 3	< 0.008 ± 0.004	10 ± 0	0.0018 ± 0.0005
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	< 0.001 ± 0.001	41 ± 1	< 0.008 ± 0.011	9.8 ± 0.5	0.0011 ± 0.0001
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	< 0.005 ± 0.001	24 ± 1	0.042 ± 0.002	8.5 ± 0.1	0.015 ± 0.000
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	< 0.005 ± 0.001	24 ± 1	0.013 ± 0.003	8.7 ± 0.1	0.014 ± 0.001
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	< 0.005 ± 0.001	26 ± 1	< 0.006 ± 0.002	9.0 ± 0.1	0.024 ± 0.000
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	< 0.005 ± 0.000	24 ± 0	< 0.004 ± 0.003	8.8 ± 0.4	0.023 ± 0.000
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	< 0.004 ± 0.000	24 ± 0	0.0067 ± 0.0002	7.7 ± 0.4	0.0025 ± 0.0008
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	< 0.004 ± 0.000	24 ± 1	0.010 ± 0.010	9.1 ± 0.3	0.0031 ± 0.0003
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	43 ± 2	0.011 ± 0.005	11 ± 0	0.011 ± 0.001
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	43 ± 5	0.0071 ± 0.0034	12 ± 1	0.0055 ± 0.0008
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	< 0.006 ± 0.004	41 ± 0	0.014 ± 0.006	12 ± 0	0.016 ± 0.001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	43 ± 2	0.027 ± 0.003	11 ± 0	0.017 ± 0.000
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	< 0.006 ± 0.003	40 ± 1	0.0086 ± 0.0029	9.8 ± 0.5	0.0014 ± 0.0005
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	< 0.006 ± 0.001	42 ± 1	< 0.006 ± 0.003	11 ± 0	0.0018 ± 0.0003
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	< 0.007 ± 0.000	35 ± 3	0.0062 ± 0.0032	11 ± 0	0.013 ± 0.001
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	< 0.007 ± 0.003	35 ± 1	0.0059 ± 0.0020	11 ± 0	0.0081 ± 0.0011
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	< 0.007 ± 0.002	35 ± 1	0.0061 ± 0.0022	11 ± 0	0.012 ± 0.000
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	< 0.007 ± 0.000	35 ± 1	< 0.005 ± 0.004	11 ± 0	0.011 ± 0.000
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	< 0.007 ± 0.000	35 ± 1	< 0.005 ± 0.007	9.4 ± 0.1	0.00068 ± 0.00049
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	< 0.007 ± 0.000	35 ± 1	< 0.005 ± 0.002	9.0 ± 0.4	0.00073 ± 0.00010
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	25 ± 3	0.0042 ± 0.0046	8.5 ± 0.1	0.029 ± 0.003
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	28 ± 5	< 0.004 ± 0.003	8.7 ± 2.2	0.028 ± 0.002
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	24 ± 3	< 0.013 ± 0.003	8.8 ± 2.3	0.040 ± 0.001
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	25 ± 2	< 0.013 ± 0.012	8.5 ± 1.9	0.044 ± 0.000
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	< 0.01 ± 0.00	24 ± 2	< 0.004 ± 0.001	7.9 ± 1.5	0.012 ± 0.002
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	< 0.01 ± 0.00	23 ± 1	0.0058 ± 0.0046	7.5 ± 1.6	0.012 ± 0.002
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	< 0.008 ± 0.001	5.0 ± 1.1	< 0.005 ± 0.006	4.5 ± 0.1	0.11 ± 0.00
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	< 0.008 ± 0.001	5.6 ± 1.0	< 0.005 ± 0.002	4.7 ± 0.0	0.098 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	< 0.008 ± 0.000	5.6 ± 0.5	< 0.005 ± 0.004	4.5 ± 0.2	0.14 ± 0.00
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	< 0.008 ± 0.001	7.1 ± 0.5	< 0.005 ± 0.001	4.7 ± 0.3	0.16 ± 0.00
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	< 0.008 ± 0.001	5.6 ± 1.8	< 0.005 ± 0.004	3.8 ± 0.2	0.020 ± 0.002
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	< 0.008 ± 0.001	5.3 ± 2.4	< 0.005 ± 0.007	3.7 ± 0.1	0.022 ± 0.001
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	< 0.001 ± 0.001	32 ± 2	0.0090 ± 0.0021	9.9 ± 0.5	0.0088 ± 0.0001
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	< 0.001 ± 0.000	34 ± 0	< 0.008 ± 0.007	10 ± 0	0.0091 ± 0.0011
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	< 0.001 ± 0.000	31 ± 1	< 0.008 ± 0.003	9.9 ± 0.6	0.014 ± 0.002
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	31 ± 1	< 0.008 ± 0.003	10 ± 1	0.014 ± 0.000
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	< 0.001 ± 0.001	32 ± 2	< 0.008 ± 0.005	8.1 ± 0.3	0.0022 ± 0.0005
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	< 0.001 ± 0.000	32 ± 1	< 0.008 ± 0.002	8.2 ± 0.5	0.0021 ± 0.0001
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	< 0.002 ± 0.000	31 ± 1	0.012 ± 0.001	10 ± 0	0.018 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	< 0.002 ± 0.001	32 ± 1	< 0.005 ± 0.003	10 ± 0	0.029 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	< 0.002 ± 0.000	31 ± 1	0.0074 ± 0.0030	10 ± 0	0.013 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	< 0.002 ± 0.000	34 ± 0	0.0055 ± 0.0035	10 ± 1	0.015 ± 0.001
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	< 0.002 ± 0.000	31 ± 1	< 0.005 ± 0.002	8.5 ± 0.3	0.0015 ± 0.0004
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	< 0.002 ± 0.000	32 ± 2	0.0048 ± 0.0034	8.3 ± 0.3	0.0011 ± 0.0002
Flat Cr.	12/11/96	0.40 µm Mem	1/2	< 0.011 ± 0.001	2.2 ± 0.3	0.17 ± 0.02	2.5 ± 0.2	0.072 ± 0.001
Flat Cr.	12/11/96	0.40 µm Mem	2/2	< 0.011 ± 0.002	3.1 ± 1.0	0.17 ± 0.01	2.6 ± 0.2	0.070 ± 0.003
Flat Cr.	12/11/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	2.2 ± 0.8	0.16 ± 0.01	2.8 ± 0.4	0.055 ± 0.001
Flat Cr.	12/11/96	0.45 µm Cap	2/2	< 0.011 ± 0.001	2.0 ± 0.1	0.16 ± 0.02	2.8 ± 0.2	0.049 ± 0.000
Flat Cr.	12/11/96	10 kd Tan	1/2	< 0.01 ± 0.00	2.3 ± 0.8	0.15 ± 0.01	2.3 ± 0.2	0.024 ± 0.001
Flat Cr.	12/11/96	10 kd Tan	2/2	< 0.011 ± 0.001	2.1 ± 0.8	0.13 ± 0.00	2.4 ± 0.1	0.025 ± 0.001
Flat Cr.	05/29/97	0.40 µm Mem	1/2	< 0.002 ± 0.000	5.6 ± 1.1	0.071 ± 0.003	13 ± 1	0.028 ± 0.002
Flat Cr.	05/29/97	0.40 µm Mem	2/2	< 0.002 ± 0.001	8.6 ± 3.5	0.074 ± 0.003	13 ± 1	0.028 ± 0.002
Flat Cr.	05/29/97	0.45 µm Cap	1/2	< 0.002 ± 0.001	8.8 ± 4.0	0.062 ± 0.004	13 ± 0	0.018 ± 0.001
Flat Cr.	05/29/97	0.45 µm Cap	2/2	< 0.002 ± 0.001	8.3 ± 4.0	0.073 ± 0.006	13 ± 1	0.016 ± 0.001
Flat Cr.	05/29/97	10 kd Tan	1/2	< 0.002 ± 0.000	8.4 ± 4.3	0.053 ± 0.002	11 ± 1	0.0059 ± 0.0010
Flat Cr.	05/29/97	10 kd Tan	2/2	< 0.002 ± 0.000	5.9 ± 1.1	0.054 ± 0.007	11 ± 1	0.0061 ± 0.0010
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	< 4 ± 2.00	3.5 ± 0.0	8.3 ± 0.5	4.6 ± 0.0
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	< 4 ± 1.00	3.5 ± 0.1	8.0 ± 1.4	4.9 ± 0.2
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	3.2 ± 0.5	3.5 ± 0.1	9.5 ± 0.5	4.7 ± 0.1
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	< 4 ± 4.00	3.4 ± 0.0	8.0 ± 1.4	4.7 ± 0.0
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	< 0.011 ± 0.001	< 2 ± 0.69	3.5 ± 0.0	8.3 ± 0.6	4.6 ± 0.1

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	< 0.01 ± 0.00	< 4 ± 2.00	3.5 ± 0.1	8.3 ± 0.6	4.8 ± 0.3
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	< 0.002 ± 0.000	7.5 ± 1.1	6.2 ± 0.2	44 ± 1	9.2 ± 0.1
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	< 0.002 ± 0.000	6.9 ± 0.5	6.2 ± 0.0	46 ± 2	9.4 ± 0.0
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	< 0.002 ± 0.000	6.7 ± 0.2	6.0 ± 0.1	43 ± 0	9.4 ± 0.1
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	< 0.002 ± 0.001	6.5 ± 0.2	6.3 ± 0.1	45 ± 0	9.2 ± 0.0
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	< 0.002 ± 0.000	6.9 ± 0.2	5.9 ± 0.1	44 ± 0	9.3 ± 0.1
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	< 0.002 ± 0.000	6.7 ± 0.2	5.8 ± 0.0	43 ± 2	9.1 ± 0.1
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	< 0.008 ± 0.001	<5 ± 1.75	9.1 ± 0.0	6.7 ± 0.1	3.2 ± 0.0
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	< 0.008 ± 0.001	< 5 ± 1.75	8.9 ± 0.2	6.5 ± 0.1	3.3 ± 0.0
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	< 0.008 ± 0.000	< 5 ± 0.50	8.7 ± 0.0	6.4 ± 0.0	3.2 ± 0.1
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	< 0.008 ± 0.001	< 5 ± 1.06	9.2 ± 0.2	6.6 ± 0.2	3.2 ± 0.2
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	< 0.008 ± 0.000	< 3 ± 0.74	8.5 ± 0.2	6.2 ± 0.1	3.1 ± 0.0
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	< 0.008 ± 0.001	< 5 ± 2.74	8.5 ± 0.1	6.2 ± 0.0	3.0 ± 0.0
Whiskeytown	12/11/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	8.2 ± 1.7	0.0044 ± 0.0038	4.2 ± 0.2	0.011 ± 0.001
Whiskeytown	12/11/96	0.40 µm Mem	2/2	< 0.011 ± 0.001	8.6 ± 2.9	0.0062 ± 0.0023	4.2 ± 0.2	0.010 ± 0.001
Whiskeytown	12/11/96	0.45 µm Cap	1/2	< 0.011 ± 0.001	9.0 ± 1.0	0.011 ± 0.003	4.5 ± 0.8	0.0081 ± 0.0003
Whiskeytown	12/11/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	14 ± 1	0.013 ± 0.007	5.1 ± 0.1	0.0076 ± 0.0008
Whiskeytown	12/11/96	10 kd Tan	1/2	< 0.011 ± 0.002	8.7 ± 1.3	0.0063 ± 0.0031	4.0 ± 0.1	0.0045 ± 0.0004
Whiskeytown	12/11/96	10 kd Tan	2/2	< 0.01 ± 0.00	7.4 ± 1.0	0.011 ± 0.007	4.3 ± 0.5	0.0031 ± 0.0012
Whiskeytown	05/29/97	0.40 µm Mem	1/2	< 0.002 ± 0.001	8.9 ± 1.4	< 0.004 ± 0.003	4.5 ± 0.3	0.0070 ± 0.0010
Whiskeytown	05/29/97	0.40 µm Mem	2/2	< 0.002 ± 0.001	9.4 ± 2.1	< 0.004 ± 0.001	4.5 ± 0.3	0.015 ± 0.001
Whiskeytown	05/29/97	0.45 µm Cap	1/2	< 0.002 ± 0.001	9.5 ± 1.7	0.0044 ± 0.0030	4.5 ± 0.3	0.0099 ± 0.0009
Whiskeytown	05/29/97	0.45 µm Cap	2/2	< 0.002 ± 0.001	9.2 ± 1.8	0.011 ± 0.001	4.4 ± 0.3	0.010 ± 0.000
Whiskeytown	05/29/97	10 kd Tan	1/2	< 0.002 ± 0.000	8.1 ± 0.2	< 0.004 ± 0.002	3.9 ± 0.2	0.0019 ± 0.0007
Whiskeytown	05/29/97	10 kd Tan	2/2	< 0.002 ± 0.001	9.0 ± 1.4	< 0.004 ± 0.003	3.9 ± 0.1	0.0020 ± 0.0005
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	< 0.005 ± 0.000	9.2 ± 0.3	0.019 ± 0.003	— ± —	0.0064 ± 0.0002
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	< 0.004 ± 0.000	8.9 ± 0.2	0.0092 ± 0.0023	4.2 ± 0.0	0.0073 ± 0.0013
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	< 0.005 ± 0.001	10 ± 1	0.0074 ± 0.0049	4.3 ± 0.1	0.0073 ± 0.0004
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	< 0.005 ± 0.002	10 ± 1	0.015 ± 0.001	4.3 ± 0.1	0.0088 ± 0.0008
Spring Cr. arm	07/12/96	10 kd Tan	1/3	< 0.005 ± 0.000	11 ± 0	0.017 ± 0.005	4.1 ± 0.1	0.0031 ± 0.0008
Spring Cr. arm	07/12/96	10 kd Tan	2/3	< 0.005 ± 0.000	9.6 ± 0.2	0.0052 ± 0.0044	4.2 ± 0.0	0.0031 ± 0.0003
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	< 0.01 ± 0.00	12 ± 2	0.016 ± 0.001	4.3 ± 0.0	0.023 ± 0.000
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	< 0.01 ± 0.00	12 ± 3	0.015 ± 0.007	4.6 ± 0.1	0.020 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Bismuth (µg/L) ICP–MS	Boron (µg/L) ICP–MS	Cadmium (µg/L) ICP–MS	Calcium (mg/L) ICP–AES	Cerium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	11 ± 2	0.015 ± 0.003	4.6 ± 0.3	0.018 ± 0.000
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	11 ± 1	0.016 ± 0.006	4.4 ± 0.4	0.020 ± 0.004
Spring Cr. arm	09/18/96	10 kd Tan	1/2	< 0.01 ± 0.00	9.8 ± 0.0	0.012 ± 0.003	4.0 ± 0.2	0.0054 ± 0.0005
Spring Cr. arm	09/18/96	10 kd Tan	2/2	< 0.01 ± 0.00	11 ± 1	0.010 ± 0.004	3.8 ± 0.3	0.0054 ± 0.0012
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	< 0.007 ± 0.000	8.6 ± 0.3	0.11 ± 0.01	5.4 ± 0.2	0.090 ± 0.001
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	< 0.007 ± 0.000	9.0 ± 0.9	0.10 ± 0.01	5.4 ± 0.2	0.064 ± 0.000
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	< 0.007 ± 0.001	8.6 ± 0.6	0.090 ± 0.003	5.4 ± 0.2	0.079 ± 0.006
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	< 0.007 ± 0.001	8.7 ± 0.9	0.10 ± 0.01	5.6 ± 0.3	0.081 ± 0.003
Spring Cr. arm	11/20/96	10 kd Tan	1/2	< 0.007 ± 0.000	8.3 ± 0.7	0.082 ± 0.008	4.5 ± 0.2	0.0095 ± 0.0027
Spring Cr. arm	11/20/96	10 kd Tan	2/2	< 0.007 ± 0.001	8.5 ± 1.9	0.095 ± 0.011	4.4 ± 0.1	0.011 ± 0.000
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	< 0.011 ± 0.002	7.2 ± 1.4	0.40 ± 0.01	5.6 ± 0.3	0.10 ± 0.01
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	< 0.011 ± 0.001	8.1 ± 3.5	0.39 ± 0.02	5.6 ± 0.3	0.079 ± 0.000
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	< 0.01 ± 0.00	8.4 ± 0.9	0.43 ± 0.03	5.7 ± 0.4	0.17 ± 0.00
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	< 0.01 ± 0.00	9.3 ± 1.2	0.42 ± 0.00	5.5 ± 0.3	0.17 ± 0.01
Spring Cr. arm	12/11/96	10 kd Tan	1/2	< 0.01 ± 0.00	8.8 ± 1.6	0.32 ± 0.01	4.4 ± 0.3	0.023 ± 0.001
Spring Cr. arm	12/11/96	10 kd Tan	2/2	< 0.011 ± 0.000	8.1 ± 2.8	0.32 ± 0.02	4.4 ± 0.2	0.025 ± 0.000
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	< 0.002 ± 0.001	9.4 ± 0.7	0.029 ± 0.005	4.9 ± 0.1	0.020 ± 0.001
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	< 0.002 ± 0.001	9.0 ± 0.8	0.019 ± 0.003	4.9 ± 0.2	0.018 ± 0.001
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	< 0.002 ± 0.001	8.6 ± 0.6	0.023 ± 0.004	4.8 ± 0.2	0.023 ± 0.002
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	< 0.002 ± 0.000	9.2 ± 0.7	0.023 ± 0.007	4.8 ± 0.1	0.024 ± 0.001
Spring Cr. arm	05/28/97	10 kd Tan	1/2	< 0.002 ± 0.001	8.9 ± 0.2	0.017 ± 0.002	3.8 ± 0.1	0.0033 ± 0.0013
Spring Cr. arm	05/28/97	10 kd Tan	2/2	< 0.002 ± 0.001	8.7 ± 0.5	0.016 ± 0.004	3.8 ± 0.1	0.0019 ± 0.0005
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	< 0.002 ± 0.001	334 ± 1	0.0078 ± 0.0050	37 ± 1	0.017 ± 0.001
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	< 0.002 ± 0.002	334 ± 1	0.0093 ± 0.0098	37 ± 1	0.016 ± 0.000
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	< 0.002 ± 0.000	332 ± 5	0.0061 ± 0.0019	36 ± 0	0.023 ± 0.000
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	< 0.002 ± 0.000	341 ± 16	0.0069 ± 0.0025	38 ± 2	0.025 ± 0.001
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	< 0.002 ± 0.000	336 ± 13	< 0.005 ± 0.004	33 ± 1	0.0068 ± 0.0006
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	< 0.002 ± 0.001	340 ± 6	0.0069 ± 0.0045	34 ± 0	0.0070 ± 0.0004
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	< 0.008 ± 0.001	23 ± 0	< 0.005 ± 0.004	8.7 ± 0.2	0.056 ± 0.001
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	< 0.008 ± 0.001	24 ± 1	< 0.005 ± 0.002	8.8 ± 0.0	0.031 ± 0.001
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	< 0.008 ± 0.001	24 ± 2	0.0057 ± 0.0032	8.6 ± 0.3	0.072 ± 0.000
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	< 0.008 ± 0.001	23 ± 0	0.0050 ± 0.0036	8.5 ± 0.2	0.072 ± 0.003
Yolo Bypass	01/07/97	10 kd Tan	1/2	< 0.008 ± 0.001	24 ± 0	0.0054 ± 0.0062	6.9 ± 0.1	0.010 ± 0.002
Yolo Bypass	01/07/97	10 kd Tan	2/2	< 0.008 ± 0.001	24 ± 1	< 0.005 ± 0.002	7.0 ± 0.1	0.012 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	0.44 ± 0.35	< 0.005 ± 0.000	1.5 ± 0.0	0.011 ± 0.000	0.0047 ± 0.0033
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	0.33 ± 0.06	< 0.003 ± 0.002	1.4 ± 0.0	0.011 ± 0.001	0.0043 ± 0.0012
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	0.28 ± 0.02	< 0.004 ± 0.003	2.2 ± 0.0	0.0071 ± 0.0008	0.0056 ± 0.0000
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	0.18 ± 0.03	< 0.003 ± 0.001	1.4 ± 0.1	0.0087 ± 0.0020	0.0053 ± 0.0005
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	0.27 ± 0.03	< 0.004 ± 0.001	1.0 ± 0.0	0.0051 ± 0.0007	0.0032 ± 0.0006
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	< 0.2 ± 0.37	< 0.005 ± 0.003	1.0 ± 0.8	0.0046 ± 0.0012	0.0031 ± 0.0011
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	0.41 ± 0.14	< 0.011 ± 0.004	1.2 ± 0.0	0.010 ± 0.001	0.010 ± 0.001
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	0.53 ± 0.02	0.012 ± 0.010	1.2 ± 0.0	0.011 ± 0.004	0.0065 ± 0.0029
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	0.41 ± 0.15	< 0.011 ± 0.001	1.2 ± 0.0	0.0050 ± 0.0016	0.0070 ± 0.0007
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	0.43 ± 0.10	< 0.008 ± 0.005	1.2 ± 0.1	0.0061 ± 0.0001	0.0037 ± 0.0004
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	0.50 ± 0.09	< 0.008 ± 0.007	0.60 ± 0.04	0.0044 ± 0.0025	< 0.003 ± 0.001
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	0.28 ± 0.05	< 0.011 ± 0.005	0.53 ± 0.02	0.0024 ± 0.0013	0.0037 ± 0.0017
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	0.45 ± 0.07	< 0.009 ± 0.009	0.95 ± 0.06	0.0049 ± 0.0028	< 0.0013 ± 0.0017
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	0.33 ± 0.07	< 0.009 ± 0.002	0.84 ± 0.05	0.0038 ± 0.0006	< 0.0013 ± 0.0002
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	0.37 ± 0.12	< 0.009 ± 0.007	0.75 ± 0.03	0.0032 ± 0.0012	0.0022 ± 0.0007
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	0.44 ± 0.03	< 0.009 ± 0.001	0.75 ± 0.07	0.0045 ± 0.0000	0.0030 ± 0.0005
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	0.23 ± 0.10	< 0.009 ± 0.002	0.40 ± 0.06	< 0.002 ± 0.000	0.0019 ± 0.0012
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	0.25 ± 0.04	< 0.009 ± 0.003	0.41 ± 0.04	< 0.002 ± 0.001	< 0.0013 ± 0.0020
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	0.46 ± 0.08	< 0.007 ± 0.002	2.7 ± 0.1	0.0054 ± 0.0007	< 0.0019 ± 0.0012
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	0.46 ± 0.02	< 0.007 ± 0.003	2.7 ± 0.1	0.0051 ± 0.0025	0.0039 ± 0.0017
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	0.41 ± 0.00	< 0.009 ± 0.002	3.1 ± 0.1	0.0049 ± 0.0009	0.0037 ± 0.0007
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	0.38 ± 0.03	< 0.009 ± 0.005	2.9 ± 0.0	0.0031 ± 0.0004	0.0052 ± 0.0008
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	0.35 ± 0.09	< 0.009 ± 0.001	1.1 ± 0.1	< 0.0015 ± 0.0010	< 0.002 ± 0.001
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	0.28 ± 0.06	< 0.007 ± 0.004	1.1 ± 0.0	< 0.003 ± 0.001	< 0.0019 ± 0.0011
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	0.44 ± 0.04	0.017 ± 0.004	1.3 ± 0.0	0.0093 ± 0.0016	0.0052 ± 0.0003
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	0.41 ± 0.10	< 0.006 ± 0.002	1.1 ± 0.0	0.0066 ± 0.0010	0.0036 ± 0.0009
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	0.22 ± 0.01	0.0066 ± 0.0027	0.98 ± 0.04	0.0060 ± 0.0014	0.0041 ± 0.0011
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	0.34 ± 0.13	< 0.006 ± 0.003	0.97 ± 0.04	0.0061 ± 0.0013	0.0039 ± 0.0004
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	0.25 ± 0.11	< 0.006 ± 0.002	0.36 ± 0.02	< 0.002 ± 0.001	< 0.002 ± 0.001
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	0.16 ± 0.08	< 0.006 ± 0.002	0.35 ± 0.02	< 0.002 ± 0.001	< 0.002 ± 0.001
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	0.26 ± 0.03	0.0042 ± 0.0015	1.1 ± 0.0	0.0081 ± 0.0020	0.0037 ± 0.0005

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	0.24 ± 0.06	< 0.003 ± 0.000	1.1 ± 0.0	0.0083 ± 0.0005	0.0036 ± 0.0001
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	0.35 ± 0.09	0.0042 ± 0.0010	1.2 ± 0.0	0.0093 ± 0.0001	0.0032 ± 0.0006
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	0.35 ± 0.11	0.0042 ± 0.0024	1.1 ± 0.0	0.010 ± 0.001	0.0056 ± 0.0010
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	0.40 ± 0.07	< 0.003 ± 0.002	0.78 ± 0.02	0.0040 ± 0.0002	0.0033 ± 0.0006
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	0.30 ± 0.08	< 0.003 ± 0.001	0.82 ± 0.04	0.0045 ± 0.0010	0.0036 ± 0.0008
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	0.16 ± 0.04	< 0.003 ± 0.002	0.77 ± 0.04	0.0036 ± 0.0002	0.0027 ± 0.0008
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	0.55 ± 0.04	< 0.011 ± 0.005	1.2 ± 0.0	0.010 ± 0.001	0.0086 ± 0.0027
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	0.55 ± 0.11	0.017 ± 0.003	1.2 ± 0.0	0.0099 ± 0.0005	0.0058 ± 0.0033
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	0.80 ± 0.10	0.015 ± 0.008	1.4 ± 0.0	0.0099 ± 0.0017	0.0070 ± 0.0006
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	0.54 ± 0.07	0.014 ± 0.007	1.3 ± 0.0	0.0083 ± 0.0010	0.0039 ± 0.0009
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	0.40 ± 0.09	< 0.011 ± 0.004	0.49 ± 0.05	< 0.0018 ± 0.0006	< 0.0018 ± 0.0014
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	0.39 ± 0.03	< 0.011 ± 0.008	0.52 ± 0.02	0.0019 ± 0.0017	0.0032 ± 0.0013
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	0.39 ± 0.05	< 0.011 ± 0.007	0.51 ± 0.03	< 0.0018 ± 0.0020	< 0.0018 ± 0.0010
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	0.29 ± 0.00	0.029 ± 0.007	2.5 ± 0.0	0.014 ± 0.003	0.011 ± 0.002
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	0.39 ± 0.07	0.026 ± 0.006	2.4 ± 0.0	0.015 ± 0.000	0.0071 ± 0.0003
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	0.37 ± 0.14	0.031 ± 0.006	1.9 ± 0.0	0.013 ± 0.003	0.010 ± 0.003
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	0.43 ± 0.05	0.027 ± 0.004	2.0 ± 0.1	0.017 ± 0.001	0.0096 ± 0.0009
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	0.25 ± 0.05	0.015 ± 0.002	0.72 ± 0.08	< 0.002 ± 0.001	< 0.0013 ± 0.0009
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	0.29 ± 0.12	0.018 ± 0.005	0.70 ± 0.09	0.0025 ± 0.0011	< 0.0013 ± 0.0019
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	0.43 ± 0.06	0.029 ± 0.003	4.7 ± 0.1	0.013 ± 0.001	0.0063 ± 0.0014
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	0.36 ± 0.03	0.026 ± 0.003	4.6 ± 0.0	0.013 ± 0.002	0.0099 ± 0.0023
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	0.38 ± 0.01	0.048 ± 0.004	5.1 ± 0.0	0.011 ± 0.002	0.0076 ± 0.0008
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	0.37 ± 0.03	0.047 ± 0.001	5.1 ± 0.1	0.015 ± 0.001	0.0082 ± 0.0041
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	0.18 ± 0.03	0.010 ± 0.004	1.6 ± 0.1	< 0.003 ± 0.001	0.0030 ± 0.0012
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	0.22 ± 0.04	0.011 ± 0.005	1.5 ± 0.0	< 0.003 ± 0.002	0.0025 ± 0.0011
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	0.35 ± 0.02	0.10 ± 0.01	4.0 ± 0.2	0.0093 ± 0.0020	0.0059 ± 0.0008
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	0.32 ± 0.08	0.097 ± 0.003	3.9 ± 0.1	0.0087 ± 0.0004	0.0068 ± 0.0023
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	0.32 ± 0.02	0.16 ± 0.01	6.7 ± 0.2	0.018 ± 0.002	0.0071 ± 0.0007
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	0.34 ± 0.05	0.17 ± 0.00	9.4 ± 0.1	0.018 ± 0.001	0.0079 ± 0.0014
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	0.28 ± 0.05	0.082 ± 0.004	2.5 ± 0.1	0.0044 ± 0.0009	0.0036 ± 0.0009
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	0.31 ± 0.06	0.088 ± 0.004	2.5 ± 0.0	0.0041 ± 0.0017	0.0032 ± 0.0006
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	0.37 ± 0.15	0.077 ± 0.011	2.5 ± 0.1	0.0071 ± 0.0009	0.0039 ± 0.0028
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	0.36 ± 0.09	0.011 ± 0.004	1.3 ± 0.0	0.0074 ± 0.0021	0.0027 ± 0.0009
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	0.52 ± 0.07	0.026 ± 0.002	1.2 ± 0.0	0.0053 ± 0.0008	0.0036 ± 0.0005

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	0.34 ± 0.05	0.017 ± 0.007	2.1 ± 0.1	0.0067 ± 0.0002	0.0050 ± 0.0012
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	0.31 ± 0.13	0.017 ± 0.001	1.9 ± 0.0	0.0069 ± 0.0011	0.0038 ± 0.0000
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	0.25 ± 0.13	< 0.006 ± 0.003	0.62 ± 0.04	< 0.002 ± 0.000	< 0.002 ± 0.001
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	0.36 ± 0.09	< 0.006 ± 0.002	0.57 ± 0.02	< 0.002 ± 0.000	0.0019 ± 0.0005
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	0.38 ± 0.16	0.042 ± 0.002	1.2 ± 0.0	0.0068 ± 0.0008	0.0028 ± 0.0009
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	0.34 ± 0.01	0.041 ± 0.003	1.3 ± 0.0	0.0049 ± 0.0007	0.0028 ± 0.0003
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	0.42 ± 0.01	0.052 ± 0.002	0.94 ± 0.0	0.0058 ± 0.0000	0.0045 ± 0.0015
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	0.32 ± 0.03	0.040 ± 0.006	1.3 ± 0	0.0044 ± 0.0005	0.0049 ± 0.0002
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	0.42 ± 0.03	0.041 ± 0.004	0.94 ± 0.00	0.0023 ± 0.0001	0.0027 ± 0.0017
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	3.1 ± 0.12	0.056 ± 0.002	0.82 ± 0.06	0.0010 ± 0.0003	0.0019 ± 0.0006
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	0.73 ± 0.21	0.016 ± 0.005	1.1 ± 0.0	< 0.003 ± 0.000	< 0.003 ± 0.000
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	0.45 ± 0.06	< 0.006 ± 0.002	1.2 ± 0.1	0.0036 ± 0.0026	0.0027 ± 0.0015
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	0.47 ± 0.10	< 0.011 ± 0.006	1.3 ± 0.0	0.0048 ± 0.0015	0.0047 ± 0.0017
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	0.40 ± 0.04	< 0.006 ± 0.004	1.2 ± 0.1	0.0049 ± 0.0016	0.0045 ± 0.0010
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	0.31 ± 0.12	< 0.011 ± 0.002	0.33 ± 0.04	< 0.0018 ± 0.0011	< 0.0018 ± 0.0007
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	0.35 ± 0.07	< 0.011 ± 0.012	0.33 ± 0.02	< 0.0018 ± 0.0000	< 0.0018 ± 0.0014
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	0.35 ± 0.06	0.012 ± 0.006	2.0 ± 0.0	0.011 ± 0.002	0.0053 ± 0.0013
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	0.30 ± 0.07	0.0098 ± 0.0023	2.0 ± 0.1	0.011 ± 0.005	0.0077 ± 0.0012
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	0.29 ± 0.10	0.018 ± 0.011	1.8 ± 0.1	0.010 ± 0.002	0.0058 ± 0.0000
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	0.27 ± 0.07	0.013 ± 0.004	1.8 ± 0.1	0.0094 ± 0.0008	0.0061 ± 0.0020
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	< 0.12 ± 0.04	< 0.009 ± 0.003	0.57 ± 0.04	< 0.002 ± 0.001	0.0014 ± 0.0004
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	0.20 ± 0.11	< 0.009 ± 0.007	0.63 ± 0.02	< 0.002 ± 0.001	< 0.0013 ± 0.0012
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	0.38 ± 0.02	< 0.007 ± 0.005	3.0 ± 0.1	0.0067 ± 0.0005	0.0071 ± 0.0009
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	0.47 ± 0.05	< 0.007 ± 0.005	3.0 ± 0.1	0.0051 ± 0.0012	0.0056 ± 0.0010
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	0.44 ± 0.06	< 0.007 ± 0.009	3.2 ± 0.1	0.0073 ± 0.0011	0.0024 ± 0.0010
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	0.27 ± 0.03	< 0.007 ± 0.003	4.4 ± 0.0	0.0098 ± 0.0012	0.0072 ± 0.0007
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	0.21 ± 0.04	< 0.007 ± 0.003	0.84 ± 0.04	< 0.003 ± 0.001	< 0.0019 ± 0.0022
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	0.20 ± 0.03	< 0.007 ± 0.006	0.87 ± 0.01	< 0.003 ± 0.003	0.0025 ± 0.0016
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	0.54 ± 0.08	0.054 ± 0.006	2.0 ± 0.0	0.017 ± 0.001	0.0085 ± 0.0008
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	0.34 ± 0.03	0.016 ± 0.004	1.8 ± 0.0	0.0077 ± 0.0018	0.0052 ± 0.0019
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	0.37 ± 0.05	0.032 ± 0.002	3.6 ± 0.0	0.013 ± 0.000	0.0083 ± 0.0003
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	0.33 ± 0.01	0.036 ± 0.001	2.1 ± 0.1	0.011 ± 0.004	0.0063 ± 0.0011

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	0.26 ± 0.04	< 0.006 ± 0.003	1.0 ± 0.0	0.0040 ± 0.0016	0.0044 ± 0.0012
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	0.24 ± 0.06	0.0083 ± 0.0030	1.0 ± 0.0	0.0037 ± 0.0007	0.0040 ± 0.0008
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	0.45 ± 0.07	0.022 ± 0.001	1.3 ± 0.0	0.0062 ± 0.0007	0.0031 ± 0.0004
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	0.55 ± 0.10	0.016 ± 0.004	1.2 ± 0.0	0.0057 ± 0.0017	0.0031 ± 0.0002
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	0.40 ± 0.04	0.017 ± 0.003	1.5 ± 0.1	0.0053 ± 0.0009	0.0049 ± 0.0009
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	0.36 ± 0.06	0.019 ± 0.002	1.7 ± 0.0	0.0049 ± 0.0006	0.0039 ± 0.0012
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	0.23 ± 0.04	0.0098 ± 0.0027	0.57 ± 0.02	< 0.002 ± 0.001	< 0.002 ± 0.000
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	0.27 ± 0.08	0.010 ± 0.003	0.58 ± 0.07	< 0.002 ± 0.002	< 0.002 ± 0.001
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	0.35 ± 0.03	< 0.004 ± 0.002	1.3 ± 0.0	0.0036 ± 0.0002	0.0025 ± 0.0007
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	0.35 ± 0.01	0.0054 ± 0.0021	1.4 ± 0.0	0.0048 ± 0.0011	0.0030 ± 0.0001
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	0.59 ± 0.33	< 0.005 ± 0.002	1.8 ± 0.0	0.0051 ± 0.0028	0.0063 ± 0.0003
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	0.52 ± 0.16	0.011 ± 0.005	1.2 ± 0.0	0.0030 ± 0.0006	< 0.0018 ± 0.0005
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	0.33 ± 0.15	0.015 ± 0.003	1.2 ± 0.1	< 0.0018 ± 0.0017	< 0.0018 ± 0.0000
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	0.47 ± 0.14	0.013 ± 0.004	1.5 ± 0.0	0.0022 ± 0.0015	0.0033 ± 0.0021
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	0.39 ± 0.03	0.0084 ± 0.0106	1.3 ± 0.0	0.0042 ± 0.0005	0.0025 ± 0.0005
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	0.41 ± 0.15	< 0.011 ± 0.007	0.54 ± 0.01	< 0.0018 ± 0.0016	< 0.0018 ± 0.0001
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	0.34 ± 0.11	< 0.011 ± 0.006	0.54 ± 0.03	< 0.0018 ± 0.0010	< 0.0018 ± 0.0003
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	0.25 ± 0.04	0.016 ± 0.002	1.4 ± 0.0	0.0023 ± 0.0004	0.0022 ± 0.0001
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	0.29 ± 0.11	0.018 ± 0.002	1.3 ± 0.0	< 0.002 ± 0.001	< 0.0013 ± 0.0004
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	0.30 ± 0.04	0.015 ± 0.001	1.3 ± 0.1	< 0.002 ± 0.001	< 0.0013 ± 0.0003
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	0.31 ± 0.17	0.0096 ± 0.0040	1.3 ± 0.0	0.0040 ± 0.0015	0.0013 ± 0.0019
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	0.20 ± 0.02	< 0.009 ± 0.005	0.57 ± 0.05	< 0.002 ± 0.000	< 0.0013 ± 0.0004
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	0.16 ± 0.04	< 0.009 ± 0.002	0.62 ± 0.03	< 0.002 ± 0.001	0.0014 ± 0.0009
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	0.39 ± 0.05	< 0.007 ± 0.005	1.9 ± 0.0	0.0049 ± 0.0014	0.0051 ± 0.0023
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	0.36 ± 0.08	< 0.007 ± 0.002	2.0 ± 0.1	0.0054 ± 0.0019	0.0063 ± 0.0026
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	0.37 ± 0.05	0.021 ± 0.000	3.9 ± 0.2	0.0070 ± 0.0006	0.0051 ± 0.0005
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	0.53 ± 0.12	0.023 ± 0.000	2.1 ± 0.1	0.0063 ± 0.0023	0.0046 ± 0.0018
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	0.19 ± 0.02	< 0.009 ± 0.003	0.53 ± 0.03	0.0017 ± 0.0013	< 0.002 ± 0.001
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	0.26 ± 0.03	< 0.007 ± 0.007	0.61 ± 0.05	< 0.003 ± 0.002	< 0.0019 ± 0.0012
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	0.27 ± 0.06	0.017 ± 0.004	1.7 ± 0.0	0.0098 ± 0.0011	0.0077 ± 0.0033
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	0.27 ± 0.07	0.023 ± 0.008	1.9 ± 0.1	0.010 ± 0.002	0.0078 ± 0.0019

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	0.30 ± 0.03	0.044 ± 0.004	2.5 ± 0.1	0.014 ± 0.002	0.010 ± 0.002
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	0.28 ± 0.01	0.044 ± 0.006	1.8 ± 0.0	0.012 ± 0.001	0.0089 ± 0.0022
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	0.29 ± 0.06	0.024 ± 0.007	1.4 ± 0.0	0.0066 ± 0.0006	0.0059 ± 0.0001
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	0.26 ± 0.08	0.023 ± 0.004	1.4 ± 0.0	0.0081 ± 0.0033	0.0041 ± 0.0010
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	0.42 ± 0.04	0.020 ± 0.004	1.3 ± 0.0	0.0041 ± 0.0012	0.0033 ± 0.0006
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	0.50 ± 0.06	0.032 ± 0.006	1.3 ± 0.0	0.0065 ± 0.0023	0.0048 ± 0.0012
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	0.42 ± 0.03	0.016 ± 0.003	1.6 ± 0.0	0.0034 ± 0.0010	0.0029 ± 0.0002
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	0.33 ± 0.05	0.012 ± 0.003	1.3 ± 0.0	0.0032 ± 0.0020	0.0018 ± 0.0008
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	0.25 ± 0.08	< 0.005 ± 0.001	0.72 ± 0.03	< 0.002 ± 0.001	< 0.002 ± 0.000
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	0.26 ± 0.11	0.0059 ± 0.0019	0.83 ± 0.08	< 0.002 ± 0.001	< 0.002 ± 0.001
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	0.46 ± 0.30	< 0.005 ± 0.002	1.2 ± 0.1	0.0038 ± 0.0011	< 0.002 ± 0.002
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	0.36 ± 0.09	0.023 ± 0.002	1.2 ± 0.0	0.0044 ± 0.0008	0.0039 ± 0.0002
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	0.24 ± 0.03	0.0054 ± 0.0014	1.3 ± 0.1	0.0061 ± 0.0001	0.0024 ± 0.0002
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	0.27 ± 0.01	0.0062 ± 0.0026	1.1 ± 0.0	0.0041 ± 0.0003	0.0026 ± 0.0014
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	< 0.12 ± 0.00	< 0.004 ± 0.003	0.79 ± 0.01	0.0026 ± 0.0002	< 0.0011 ± 0.0003
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	0.20 ± 0.06	0.0055 ± 0.0017	0.75 ± 0.05	0.0021 ± 0.0001	0.0017 ± 0.0005
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	0.40 ± 0.19	0.024 ± 0.008	1.3 ± 0.0	0.0082 ± 0.0017	0.0022 ± 0.0008
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	0.41 ± 0.05	0.0089 ± 0.0005	1.2 ± 0.0	0.0032 ± 0.0010	< 0.0015 ± 0.0005
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	0.35 ± 0.14	0.0069 ± 0.0081	1.4 ± 0.0	0.0039 ± 0.0010	0.0031 ± 0.0027
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	0.24 ± 0.03	< 0.006 ± 0.011	1.3 ± 0.1	0.0030 ± 0.0019	0.0024 ± 0.0008
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	0.25 ± 0.08	< 0.011 ± 0.002	0.61 ± 0.01	0.0019 ± 0.0009	< 0.0018 ± 0.0005
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	0.32 ± 0.09	< 0.011 ± 0.004	0.61 ± 0.03	< 0.0018 ± 0.0021	< 0.0018 ± 0.0009
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	< 0.12 ± 0.05	0.027 ± 0.003	1.3 ± 0.0	0.0071 ± 0.0023	0.0039 ± 0.0011
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	< 0.12 ± 0.01	0.028 ± 0.008	1.4 ± 0.0	0.0063 ± 0.0007	0.0025 ± 0.0014
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	0.23 ± 0.06	0.026 ± 0.005	1.5 ± 0.0	0.0078 ± 0.0005	0.0050 ± 0.0005
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	0.28 ± 0.08	0.024 ± 0.010	1.5 ± 0.1	0.0072 ± 0.0018	0.0048 ± 0.0021
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	0.27 ± 0.06	0.022 ± 0.002	1.3 ± 0.0	0.0051 ± 0.0024	0.0020 ± 0.0011
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	0.26 ± 0.07	0.027 ± 0.013	1.3 ± 0.1	0.0069 ± 0.0047	0.0062 ± 0.0003
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	0.25 ± 0.08	0.017 ± 0.006	0.83 ± 0.12	0.0035 ± 0.0024	0.0034 ± 0.0012
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	0.24 ± 0.05	0.014 ± 0.005	0.81 ± 0.03	< 0.003 ± 0.002	0.0031 ± 0.0007

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	0.34 ± 0.08	0.011 ± 0.005	1.3 ± 0.0	0.0033 ± 0.0008	0.0027 ± 0.0004
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	0.27 ± 0.07	0.0074 ± 0.0026	1.3 ± 0.0	< 0.002 ± 0.001	< 0.002 ± 0.001
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	0.26 ± 0.01	0.011 ± 0.004	1.8 ± 0.1	0.0027 ± 0.0018	0.0018 ± 0.0008
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	0.42 ± 0.20	0.012 ± 0.006	1.3 ± 0.0	0.0026 ± 0.0012	0.0021 ± 0.0004
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	0.15 ± 0.18	< 0.005 ± 0.003	0.56 ± 0.03	< 0.002 ± 0.001	< 0.002 ± 0.001
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	< 0.1 ± 0.11	< 0.005 ± 0.003	0.59 ± 0.03	< 0.002 ± 0.002	< 0.002 ± 0.001
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	0.15 ± 0.03	0.0059 ± 0.0010	1.1 ± 0.0	0.0035 ± 0.0003	0.0028 ± 0.0009
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	0.13 ± 0.01	< 0.004 ± 0.002	1.0 ± 0.0	0.0034 ± 0.0016	0.0018 ± 0.0007
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	< 0.2 ± 0.38	< 0.005 ± 0.006	1.3 ± 0.0	0.0045 ± 0.0000	0.0049 ± 0.0007
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	0.13 ± 0.02	< 0.004 ± 0.003	1.1 ± 0.0	0.0052 ± 0.0004	0.0021 ± 0.0000
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	< 0.11 ± 0.05	0.0053 ± 0.0012	0.79 ± 0.02	0.00099 ± 0.00048	0.0011 ± 0.0002
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	0.34 ± 0.06	0.0099 ± 0.0013	0.81 ± 0.02	0.0015 ± 0.0002	< 0.0011 ± 0.0002
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	0.33 ± 0.09	< 0.011 ± 0.008	1.2 ± 0.0	0.0032 ± 0.0011	0.0039 ± 0.0006
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	0.35 ± 0.15	< 0.011 ± 0.005	1.2 ± 0.1	< 0.0018 ± 0.0008	< 0.0018 ± 0.0001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	0.57 ± 0.11	0.011 ± 0.007	1.3 ± 0.0	< 0.003 ± 0.001	< 0.003 ± 0.001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	0.31 ± 0.11	< 0.011 ± 0.006	1.2 ± 0.0	0.0048 ± 0.0024	< 0.0018 ± 0.0007
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	< 0.17 ± 0.06	< 0.006 ± 0.005	0.45 ± 0.04	< 0.0018 ± 0.0013	< 0.0015 ± 0.0004
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	0.46 ± 0.13	0.0092 ± 0.0055	0.45 ± 0.03	< 0.003 ± 0.002	< 0.003 ± 0.001
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	0.12 ± 0.05	0.014 ± 0.004	1.2 ± 0.0	0.0028 ± 0.0007	0.0028 ± 0.0024
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	0.14 ± 0.00	0.012 ± 0.007	1.2 ± 0.1	0.0027 ± 0.0007	0.0025 ± 0.0021
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	0.14 ± 0.04	0.013 ± 0.001	1.2 ± 0.0	< 0.002 ± 0.001	< 0.0013 ± 0.0001
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	0.15 ± 0.08	< 0.009 ± 0.002	1.1 ± 0.1	0.0041 ± 0.0004	< 0.0013 ± 0.0017
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	< 0.12 ± 0.02	< 0.009 ± 0.005	0.38 ± 0.01	< 0.002 ± 0.001	< 0.0013 ± 0.0011
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	0.12 ± 0.10	< 0.009 ± 0.004	0.34 ± 0.01	< 0.002 ± 0.000	< 0.0013 ± 0.0006
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	0.23 ± 0.05	0.019 ± 0.004	1.5 ± 0.0	0.0075 ± 0.0026	0.0065 ± 0.0011
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	0.21 ± 0.07	0.018 ± 0.006	1.5 ± 0.0	0.0058 ± 0.0022	0.0074 ± 0.0038
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	0.25 ± 0.07	0.033 ± 0.006	1.3 ± 0.0	0.0077 ± 0.0016	0.0070 ± 0.0015
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	0.23 ± 0.08	0.029 ± 0.008	1.3 ± 0.0	0.0069 ± 0.0012	0.0062 ± 0.0021
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	0.16 ± 0.05	0.019 ± 0.004	0.76 ± 0.03	0.0037 ± 0.0019	0.0025 ± 0.0005
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	0.15 ± 0.02	0.019 ± 0.003	0.82 ± 0.08	< 0.003 ± 0.002	0.0041 ± 0.0022
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	0.19 ± 0.04	0.053 ± 0.002	1.0 ± 0.1	0.013 ± 0.000	0.012 ± 0.001
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	0.20 ± 0.06	0.046 ± 0.002	1.0 ± 0.0	0.017 ± 0.002	0.011 ± 0.000

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	0.20 ± 0.05	0.059 ± 0.003	1.8 ± 0.1	0.018 ± 0.001	0.013 ± 0.004
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	0.18 ± 0.04	0.058 ± 0.001	1.1 ± 0.0	0.020 ± 0.002	0.014 ± 0.002
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	0.17 ± 0.15	0.031 ± 0.003	2.0 ± 0.0	0.0041 ± 0.0006	0.0034 ± 0.0013
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	0.11 ± 0.05	0.029 ± 0.002	0.49 ± 0.04	0.0042 ± 0.0017	0.0029 ± 0.0015
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	0.16 ± 0.08	0.013 ± 0.003	1.2 ± 0.0	< 0.002 ± 0.001	< 0.002 ± 0.001
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	0.14 ± 0.10	0.013 ± 0.003	1.2 ± 0.0	< 0.002 ± 0.002	< 0.002 ± 0.002
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	0.15 ± 0.09	0.015 ± 0.003	1.2 ± 0.0	0.0026 ± 0.0004	0.0026 ± 0.0011
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	0.27 ± 0.13	0.016 ± 0.005	1.2 ± 0.0	0.0037 ± 0.0019	0.0036 ± 0.0025
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	< 0.1 ± 0.13	0.0054 ± 0.0033	0.51 ± 0.02	< 0.002 ± 0.002	< 0.002 ± 0.000
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	< 0.1 ± 0.00	0.0052 ± 0.0018	0.49 ± 0.04	< 0.002 ± 0.002	< 0.002 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	0.27 ± 0.11	0.019 ± 0.004	1.2 ± 0.1	0.0049 ± 0.0006	0.0026 ± 0.0014
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	0.30 ± 0.09	0.023 ± 0.005	1.2 ± 0.1	0.0048 ± 0.0004	0.0025 ± 0.0020
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	< 0.2 ± 0.14	0.010 ± 0.002	1.1 ± 0.0	0.0059 ± 0.0012	0.0026 ± 0.0024
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	0.33 ± 0.19	0.016 ± 0.002	1.1 ± 0.0	0.0046 ± 0.0018	0.0032 ± 0.0007
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	< 0.2 ± 0.12	< 0.003 ± 0.004	0.39 ± 0.05	0.0019 ± 0.0017	< 0.002 ± 0.002
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	< 0.2 ± 0.26	0.0053 ± 0.0030	0.41 ± 0.03	< 0.002 ± 0.001	< 0.002 ± 0.001
Flat Cr.	12/11/96	0.40 µm Mem	1/2	0.14 ± 0.06	0.26 ± 0.00	5.8 ± 0.2	0.044 ± 0.002	0.033 ± 0.000
Flat Cr.	12/11/96	0.40 µm Mem	2/2	0.13 ± 0.05	0.25 ± 0.00	5.7 ± 0.2	0.040 ± 0.000	0.033 ± 0.007
Flat Cr.	12/11/96	0.45 µm Cap	1/2	0.12 ± 0.04	0.23 ± 0.00	4.7 ± 0.3	0.031 ± 0.002	0.020 ± 0.002
Flat Cr.	12/11/96	0.45 µm Cap	2/2	0.097 ± 0.036	0.22 ± 0.00	4.6 ± 0.2	0.030 ± 0.000	0.025 ± 0.002
Flat Cr.	12/11/96	10 kd Tan	1/2	< 0.05 ± 0.05	0.18 ± 0.02	3.0 ± 0.1	0.020 ± 0.006	0.0098 ± 0.0024
Flat Cr.	12/11/96	10 kd Tan	2/2	0.065 ± 0.021	0.18 ± 0.00	3.0 ± 0.1	0.015 ± 0.002	0.013 ± 0.003
Flat Cr.	05/29/97	0.40 µm Mem	1/2	< 0.05 ± 0.06	0.36 ± 0.01	1.5 ± 0.0	0.028 ± 0.002	0.022 ± 0.002
Flat Cr.	05/29/97	0.40 µm Mem	2/2	< 0.05 ± 0.03	0.37 ± 0.01	1.4 ± 0.0	0.027 ± 0.004	0.024 ± 0.003
Flat Cr.	05/29/97	0.45 µm Cap	1/2	< 0.05 ± 0.05	0.36 ± 0.01	0.79 ± 0.03	0.025 ± 0.003	0.020 ± 0.001
Flat Cr.	05/29/97	0.45 µm Cap	2/2	< 0.05 ± 0.05	0.36 ± 0.01	1.2 ± 0.0	0.023 ± 0.002	0.019 ± 0.002
Flat Cr.	05/29/97	10 kd Tan	1/2	< 0.05 ± 0.04	0.32 ± 0.01	0.44 ± 0.03	0.0075 ± 0.0015	0.0052 ± 0.0016
Flat Cr.	05/29/97	10 kd Tan	2/2	< 0.05 ± 0.03	0.33 ± 0.01	0.47 ± 0.02	0.0079 ± 0.0029	0.0060 ± 0.0019
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	0.19 ± 0.04	4.7 ± 0.1	426 ± 23	2.2 ± 0.0	1.2 ± 0.0
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	0.15 ± 0.07	4.5 ± 0.0	454 ± 24	2.3 ± 0.0	1.2 ± 0.0
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	0.24 ± 0.04	4.5 ± 0.0	470 ± 9	2.2 ± 0.1	1.1 ± 0.0
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	0.18 ± 0.08	4.6 ± 0.0	452 ± 20	2.1 ± 0.0	1.1 ± 0.0
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	0.25 ± 0.06	4.5 ± 0.1	429 ± 30	2.0 ± 0.0	1.2 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	0.26 ± 0.04	4.5 ± 0.0	429 ± 32	2.2 ± 0.1	1.1 ± 0.0
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	< 0.2 ± 0.07	13 ± 1	476 ± 17	3.3 ± 0.0	1.9 ± 0.0
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	< 0.2 ± 0.06	13 ± 1	496 ± 16	3.4 ± 0.0	1.9 ± 0.0
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	< 0.2 ± 0.04	12 ± 1	464 ± 21	3.3 ± 0.0	1.8 ± 0.1
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	< 0.2 ± 0.06	13 ± 0	471 ± 17	3.3 ± 0.0	1.8 ± 0.0
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	0.29 ± 0.14	13 ± 1	456 ± 45	3.3 ± 0.0	1.8 ± 0.0
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	0.31 ± 0.12	13 ± 0	451 ± 25	3.3 ± 0.0	1.8 ± 0.0
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	0.49 ± 0.04	6.9 ± 0.0	472 ± 23	1.3 ± 0.0	0.75 ± 0.06
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	0.50 ± 0.04	7.1 ± 0.0	563 ± 23	1.4 ± 0.1	0.77 ± 0.01
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	0.53 ± 0.06	6.9 ± 0.2	549 ± 5	1.5 ± 0.0	0.75 ± 0.00
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	0.58 ± 0.08	7.0 ± 0.0	556 ± 9	1.4 ± 0.1	0.75 ± 0.00
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	0.51 ± 0.06	6.9 ± 0.1	535 ± 6	1.3 ± 0.1	0.65 ± 0.03
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	0.60 ± 0.09	6.5 ± 0.0	522 ± 17	1.3 ± 0.1	0.70 ± 0.02
Whiskeytown	12/11/96	0.40 µm Mem	1/2	0.48 ± 0.07	< 0.007 ± 0.002	0.86 ± 0.02	0.0053 ± 0.0024	0.0057 ± 0.0014
Whiskeytown	12/11/96	0.40 µm Mem	2/2	0.41 ± 0.08	< 0.007 ± 0.007	0.90 ± 0.03	0.0073 ± 0.0015	0.0054 ± 0.0020
Whiskeytown	12/11/96	0.45 µm Cap	1/2	0.46 ± 0.03	< 0.007 ± 0.005	0.94 ± 0.05	0.0053 ± 0.0009	0.0048 ± 0.0009
Whiskeytown	12/11/96	0.45 µm Cap	2/2	0.48 ± 0.02	< 0.007 ± 0.004	1.1 ± 0.0	0.0088 ± 0.0047	0.0024 ± 0.0011
Whiskeytown	12/11/96	10 kd Tan	1/2	0.41 ± 0.01	< 0.009 ± 0.001	0.70 ± 0.02	0.0025 ± 0.0022	0.0024 ± 0.0022
Whiskeytown	12/11/96	10 kd Tan	2/2	0.36 ± 0.03	< 0.007 ± 0.004	0.59 ± 0.05	< 0.003 ± 0.001	< 0.0019 ± 0.0008
Whiskeytown	05/29/97	0.40 µm Mem	1/2	0.58 ± 0.05	0.016 ± 0.005	0.86 ± 0.05	0.0052 ± 0.0030	0.0050 ± 0.0033
Whiskeytown	05/29/97	0.40 µm Mem	2/2	0.88 ± 0.03	0.040 ± 0.003	0.86 ± 0.04	0.0058 ± 0.0012	0.0036 ± 0.0019
Whiskeytown	05/29/97	0.45 µm Cap	1/2	0.57 ± 0.08	0.012 ± 0.002	0.90 ± 0.02	0.0058 ± 0.0008	0.0053 ± 0.0028
Whiskeytown	05/29/97	0.45 µm Cap	2/2	0.51 ± 0.04	0.016 ± 0.004	1.5 ± 0.1	0.0046 ± 0.0009	0.0028 ± 0.0005
Whiskeytown	05/29/97	10 kd Tan	1/2	0.38 ± 0.04	0.0059 ± 0.0006	0.39 ± 0.01	0.0029 ± 0.0020	< 0.002 ± 0.001
Whiskeytown	05/29/97	10 kd Tan	2/2	0.37 ± 0.05	0.0039 ± 0.0014	0.42 ± 0.04	< 0.002 ± 0.001	< 0.002 ± 0.001
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	0.43 ± 0.04	< 0.004 ± 0.002	0.72 ± 0.01	0.0035 ± 0.0006	0.0036 ± 0.0005
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	0.37 ± 0.01	0.0067 ± 0.0016	0.63 ± 0.00	0.0051 ± 0.0002	0.0040 ± 0.0002
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	0.67 ± 0.04	< 0.005 ± 0.001	1.1 ± 0.0	0.0073 ± 0.0012	< 0.002 ± 0.002
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	0.48 ± 0.22	< 0.005 ± 0.002	0.96 ± 0.10	0.0053 ± 0.0011	0.0045 ± 0.0007
Spring Cr. arm	07/12/96	10 kd Tan	1/3	0.60 ± 0.32	< 0.005 ± 0.002	2.5 ± 0.0	0.0038 ± 0.0007	0.0042 ± 0.0005
Spring Cr. arm	07/12/96	10 kd Tan	2/3	0.42 ± 0.02	< 0.004 ± 0.003	0.43 ± 0.01	0.0025 ± 0.0003	0.0014 ± 0.0007
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	0.67 ± 0.09	0.021 ± 0.002	1.1 ± 0.0	0.010 ± 0.001	0.0054 ± 0.0012
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	0.65 ± 0.05	0.017 ± 0.009	1.1 ± 0.0	0.0064 ± 0.0004	0.0078 ± 0.0010

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Chromium (µg/L) ICP–MS	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	0.70 ± 0.12	0.013 ± 0.006	1.3 ± 0.0	0.0092 ± 0.0019	0.0029 ± 0.0003
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	0.64 ± 0.01	0.017 ± 0.003	1.1 ± 0.0	0.011 ± 0.004	0.0084 ± 0.0001
Spring Cr. arm	09/18/96	10 kd Tan	1/2	0.51 ± 0.08	0.013 ± 0.007	0.48 ± 0.03	0.0029 ± 0.0003	0.0025 ± 0.0019
Spring Cr. arm	09/18/96	10 kd Tan	2/2	0.53 ± 0.04	0.012 ± 0.009	0.48 ± 0.03	0.0028 ± 0.0009	0.0019 ± 0.0016
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	0.45 ± 0.03	0.29 ± 0.01	5.8 ± 0.1	0.036 ± 0.005	0.014 ± 0.000
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	0.33 ± 0.07	0.27 ± 0.01	4.9 ± 0.1	0.025 ± 0.003	0.013 ± 0.002
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	0.40 ± 0.06	0.26 ± 0.00	3.2 ± 0.1	0.028 ± 0.007	0.014 ± 0.001
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	0.36 ± 0.10	0.27 ± 0.00	3.3 ± 0.1	0.030 ± 0.008	0.014 ± 0.000
Spring Cr. arm	11/20/96	10 kd Tan	1/2	0.38 ± 0.22	0.24 ± 0.00	2.3 ± 0.1	0.0052 ± 0.0008	0.0042 ± 0.0018
Spring Cr. arm	11/20/96	10 kd Tan	2/2	0.26 ± 0.01	0.22 ± 0.01	2.1 ± 0.1	0.0033 ± 0.0022	0.0018 ± 0.0019
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	0.19 ± 0.01	0.55 ± 0.01	16 ± 0	0.034 ± 0.001	0.020 ± 0.001
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	0.17 ± 0.01	0.56 ± 0.03	14 ± 0	0.023 ± 0.003	0.015 ± 0.002
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	0.22 ± 0.06	0.57 ± 0.01	23 ± 0	0.053 ± 0.005	0.028 ± 0.001
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	0.30 ± 0.02	0.57 ± 0.02	23 ± 0	0.057 ± 0.003	0.040 ± 0.001
Spring Cr. arm	12/11/96	10 kd Tan	1/2	0.098 ± 0.076	0.44 ± 0.01	9.1 ± 0.1	0.0075 ± 0.0026	0.0056 ± 0.0036
Spring Cr. arm	12/11/96	10 kd Tan	2/2	0.11 ± 0.01	0.43 ± 0.00	8.9 ± 0.1	0.0069 ± 0.0014	0.0055 ± 0.0015
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	0.74 ± 0.14	0.068 ± 0.002	1.7 ± 0.1	0.0083 ± 0.0023	0.0054 ± 0.0004
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	0.66 ± 0.03	0.058 ± 0.009	1.6 ± 0.0	0.0077 ± 0.0020	0.0069 ± 0.0022
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	0.53 ± 0.06	0.077 ± 0.004	2.1 ± 0.1	0.012 ± 0.003	0.0067 ± 0.0025
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	0.50 ± 0.05	0.070 ± 0.004	1.9 ± 0.0	0.010 ± 0.001	0.0076 ± 0.0013
Spring Cr. arm	05/28/97	10 kd Tan	1/2	0.34 ± 0.08	0.039 ± 0.004	0.54 ± 0.02	0.0021 ± 0.0006	< 0.002 ± 0.001
Spring Cr. arm	05/28/97	10 kd Tan	2/2	0.36 ± 0.08	0.038 ± 0.002	0.53 ± 0.04	< 0.002 ± 0.000	< 0.002 ± 0.000
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	< 0.2 ± 0.02	0.084 ± 0.004	3.0 ± 0.0	0.011 ± 0.002	0.013 ± 0.002
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	< 0.2 ± 0.08	0.081 ± 0.007	3.0 ± 0.1	0.011 ± 0.003	0.014 ± 0.000
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	< 0.2 ± 0.35	0.15 ± 0.01	2.8 ± 0.0	0.0097 ± 0.0006	0.011 ± 0.002
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	< 0.2 ± 0.15	0.15 ± 0.01	2.7 ± 0.1	0.012 ± 0.003	0.012 ± 0.002
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	< 0.2 ± 0.11	0.036 ± 0.002	1.3 ± 0.0	0.0082 ± 0.0018	0.0097 ± 0.0021
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	< 0.2 ± 0.17	0.036 ± 0.003	1.3 ± 0.1	0.0080 ± 0.0025	0.0097 ± 0.0029
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	0.30 ± 0.09	0.055 ± 0.004	1.7 ± 0.0	0.0082 ± 0.0014	0.0089 ± 0.0005
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	0.22 ± 0.01	0.026 ± 0.004	1.6 ± 0.1	0.0074 ± 0.0027	0.0063 ± 0.0012
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	0.27 ± 0.05	0.045 ± 0.005	1.7 ± 0.1	0.015 ± 0.001	0.0082 ± 0.0007
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	0.28 ± 0.06	0.039 ± 0.003	1.7 ± 0.0	0.015 ± 0.002	0.0083 ± 0.0021
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.12 ± 0.01	0.022 ± 0.008	0.92 ± 0.03	0.0042 ± 0.0015	0.0024 ± 0.0004
Yolo Bypass	01/07/97	10 kd Tan	2/2	0.12 ± 0.04	0.021 ± 0.004	0.90 ± 0.06	0.0038 ± 0.0013	0.0026 ± 0.0008

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	0.0029 ± 0.0004	0.012 ± 0.001	0.0017 ± 0.0002	14 ± —	56 ± 1
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	0.0076 ± 0.0001	0.012 ± 0.000	0.0014 ± 0.0000	10 ± —	— ± —
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	0.0023 ± 0.0003	0.011 ± 0.000	0.0019 ± 0.0001	6.6 ± —	19 ± —
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	0.0081 ± 0.0004	0.012 ± 0.001	0.0022 ± 0.0000	8.2 ± —	— ± —
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	0.0018 ± 0.0009	0.0043 ± 0.0003	0.0010 ± 0.0001	18 ± —	72 ± —
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	0.0032 ± 0.0004	0.0080 ± 0.0002	0.00087 ± 0.00022	< 0.2 ± —	— ± —
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	0.0027 ± 0.0012	0.016 ± 0.003	0.0017 ± 0.0009	21 ± 2	13 ± 0
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	< 0.001 ± 0.000	0.0097 ± 0.0022	0.0026 ± 0.0007	25 ± 1	— ± —
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	0.0035 ± 0.0018	0.016 ± 0.001	0.0013 ± 0.0001	7.5 ± 0.7	15 ± 1
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	0.0027 ± 0.0006	0.0069 ± 0.0009	0.0015 ± 0.0004	6.5 ± 0.3	— ± —
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	0.0030 ± 0.0002	0.0048 ± 0.0018	0.00089 ± 0.00029	6.4 ± —	7.5 ± —
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	0.0015 ± 0.0028	0.0059 ± 0.0009	0.00045 ± 0.00007	4.6 ± —	— ± —
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0041 ± 0.0013	0.00059 ± 0.00019	8.0 ± 4.1	— ± —
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	0.00081 ± 0.00042	0.0053 ± 0.0029	0.00049 ± 0.00025	5.5 ± —	6.5 ± —
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	0.0013 ± 0.0008	0.0051 ± 0.0007	0.00047 ± 0.00010	5.0 ± 2.5	4.1 ± —
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0042 ± 0.0019	0.00081 ± 0.00045	4.3 ± 2.1	— ± —
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.0016 ± 0.0013	0.00048 ± 0.00037	2.0 ± 1.3	2.9 ± —
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	< 0.001 ± 0.001	0.0029 ± 0.0011	0.00048 ± 0.00017	2.0 ± 0.5	— ± —
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	< 0.001 ± 0.001	0.0076 ± 0.0029	0.0011 ± 0.0002	10 ± —	9.9 ± —
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	0.00099 ± 0.00026	0.0078 ± 0.0050	0.0013 ± 0.0004	14 ± 6	— ± —
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.011 ± 0.001	0.0013 ± 0.0001	4.9 ± —	5.8 ± —
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	< 0.001 ± 0.000	0.0091 ± 0.0011	0.0014 ± 0.0005	7.2 ± 3.1	— ± —
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	< 0.001 ± 0.000	0.0032 ± 0.0012	< 0.0004 ± 0.0002	2.9 ± 2.3	1.3 ± —
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	< 0.001 ± 0.000	< 0.002 ± 0.001	< 0.0007 ± 0.0004	2.7 ± 2.0	— ± —
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	0.0014 ± 0.0009	0.013 ± 0.003	0.0015 ± 0.0001	26 ± —	24 ± 1
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0084 ± 0.0009	0.00080 ± 0.00008	18 ± 8	— ± —
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.010 ± 0.004	0.0014 ± 0.0001	11 ± 3	5.3 ± 1.7
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	< 0.001 ± 0.000	0.010 ± 0.003	0.0013 ± 0.0002	8.6 ± 0.3	— ± —
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.002 ± 0.001	< 0.0005 ± 0.0000	3.6 ± —	3.0 ± 0.4
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.003	< 0.0005 ± 0.0001	1.6 ± 1.2	— ± —
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	0.0061 ± 0.0007	0.0074 ± 0.0004	0.0013 ± 0.0001	6.8 ± —	28 ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	0.0067 ± 0.0001	0.0081 ± 0.0015	0.0016 ± 0.0001	11 ± —	— ± —
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	0.0063 ± 0.0002	0.014 ± 0.001	0.0015 ± 0.0000	6.3 ± —	19 ± —
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	0.0072 ± 0.0013	0.011 ± 0.000	0.0023 ± 0.0001	6.6 ± —	— ± —
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	0.0052 ± 0.0004	0.0052 ± 0.0002	0.00073 ± 0.00008	1.6 ± —	12 ± —
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	0.0048 ± 0.0002	0.0065 ± 0.0001	0.00088 ± 0.00003	2.3 ± —	— ± —
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	0.0054 ± 0.0003	0.0058 ± 0.0007	0.00074 ± 0.00020	2.6 ± —	— ± —
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	0.0028 ± 0.0019	0.012 ± 0.003	0.0022 ± 0.0002	10 ± 0	16 ± —
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	0.0023 ± 0.0012	0.013 ± 0.002	0.0013 ± 0.0008	8.4 ± —	— ± —
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	0.0018 ± 0.0019	0.015 ± 0.001	0.0020 ± 0.0005	9.7 ± 1.6	11 ± 0
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	0.0032 ± 0.0017	0.011 ± 0.005	0.0017 ± 0.0005	11 ± 3	— ± —
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	< 0.001 ± 0.001	< 0.003 ± 0.001	0.00074 ± 0.00053	2.4 ± 0.8	7.7 ± 0.5
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	< 0.001 ± 0.002	0.0035 ± 0.0015	0.0011 ± 0.0008	1.8 ± 0.3	— ± —
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	< 0.001 ± 0.001	0.0026 ± 0.0010	0.00064 ± 0.00025	1.6 ± 0.1	— ± —
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	0.0019 ± 0.0006	0.013 ± 0.002	0.0031 ± 0.0005	21 ± —	18 ± 0
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	0.0014 ± 0.0009	0.018 ± 0.004	0.0037 ± 0.0005	20 ± 1	— ± —
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	0.0019 ± 0.0005	0.016 ± 0.002	0.0028 ± 0.0001	9.8 ± 0.8	12 ± —
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	0.0013 ± 0.0010	0.017 ± 0.002	0.0027 ± 0.0003	9.6 ± 0.8	— ± —
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	0.00077 ± 0.00056	0.0022 ± 0.0027	0.00063 ± 0.00006	1.6 ± 0.0	5.3 ± —
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	< 0.001 ± 0.000	0.0031 ± 0.0011	0.00055 ± 0.00013	2.6 ± —	— ± —
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	0.0014 ± 0.0005	0.016 ± 0.003	0.0028 ± 0.0002	21 ± 1	13 ± —
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	< 0.001 ± 0.000	0.023 ± 0.001	0.0026 ± 0.0002	14 ± —	— ± —
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	0.0012 ± 0.0000	0.019 ± 0.001	0.0026 ± 0.0001	13 ± 3	13 ± —
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	0.0014 ± 0.0014	0.019 ± 0.002	0.0027 ± 0.0007	13 ± 1	— ± —
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	< 0.001 ± 0.000	0.0044 ± 0.0034	< 0.0007 ± 0.0001	3.5 ± —	2.3 ± —
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	< 0.001 ± 0.000	0.0053 ± 0.0025	< 0.0007 ± 0.0002	1.9 ± 1.0	— ± —
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	0.0015 ± 0.0008	0.013 ± 0.003	0.0028 ± 0.0006	26 ± —	31 ± —
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	0.0011 ± 0.0006	0.015 ± 0.003	0.0024 ± 0.0003	31 ± 5	— ± —
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	0.0019 ± 0.0008	0.028 ± 0.003	0.0034 ± 0.0003	86 ± 2	74 ± —
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	0.0022 ± 0.0006	0.030 ± 0.000	0.0036 ± 0.0007	84 ± 4	— ± —
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	< 0.001 ± 0.000	0.0088 ± 0.0037	0.0012 ± 0.0002	6.3 ± 2.5	2.3 ± —
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	0.00052 ± 0.00018	0.0056 ± 0.0009	0.0012 ± 0.0003	4.9 ± —	— ± —
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	< 0.001 ± 0.001	0.0083 ± 0.0013	0.0011 ± 0.0003	4.9 ± 0.7	— ± —
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0083 ± 0.0022	0.00088 ± 0.00024	4.9 ± 0.2	7.3 ± 0.9
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	0.0025 ± 0.0011	0.012 ± 0.001	0.0014 ± 0.0002	22 ± —	— ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	0.0014 ± 0.0008	0.013 ± 0.002	0.0013 ± 0.0003	8.0 ± 3.5	5.7 ± 3.0
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0094 ± 0.0019	0.0012 ± 0.0001	6.4 ± 0.7	— ± —
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	< 0.001 ± 0.000	0.0023 ± 0.0012	< 0.0005 ± 0.0000	4.0 ± 3.2	5.4 ± 2.8
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	< 0.001 ± 0.000	0.0039 ± 0.0015	< 0.0005 ± 0.0003	1.8 ± —	— ± —
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	0.0023 ± 0.0003	0.0060 ± 0.0012	0.0023 ± 0.0001	11 ± —	94 ± —
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	0.0010 ± 0.0004	0.0096 ± 0.0022	0.0011 ± 0.0001	12 ± —	— ± —
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	0.0061 ± 0.0006	0.0096 ± 0.0005	0.0014 ± 0.0001	11 ± —	19 ± 0
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	0.0023 ± 0.0001	0.0064 ± 0.0002	0.00092 ± 0.00011	11 ± —	— ± —
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	0.00034 ± 0.00013	0.0027 ± 0.0006	0.00045 ± 0.00008	2.4 ± —	15 ± —
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	0.0044 ± 0.0003	0.0023 ± 0.0008	0.00047 ± 0.00006	3.5 ± —	— ± —
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	0.0044 ± 0.0017	0.0048 ± 0.0032	< 0.0008 ± 0.0002	8.1 ± —	11 ± 0
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0090 ± 0.0005	0.00090 ± 0.00009	7.8 ± 0.5	— ± —
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	0.0013 ± 0.0016	0.0044 ± 0.0018	0.00087 ± 0.00060	11 ± 0	19 ± —
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	< 0.001 ± 0.000	0.0075 ± 0.0019	0.0010 ± 0.0003	12 ± 0	— ± —
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.003 ± 0.001	< 0.0003 ± 0.0004	1.7 ± 0.3	12 ± 1
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	0.0023 ± 0.0003	< 0.003 ± 0.002	< 0.0003 ± 0.0000	1.2 ± 0.6	— ± —
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	0.0020 ± 0.0006	0.015 ± 0.002	0.0027 ± 0.0005	21 ± 0	74 ± 3
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.016 ± 0.002	0.0021 ± 0.0002	21 ± 0	— ± —
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.013 ± 0.001	0.0022 ± 0.0004	24 ± 4	16 ± —
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.014 ± 0.001	0.0021 ± 0.0002	18 ± 0	— ± —
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.0016 ± 0.0017	< 0.0004 ± 0.0002	4.2 ± 3.0	5.9 ± —
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	< 0.001 ± 0.000	< 0.0016 ± 0.0005	< 0.0004 ± 0.0000	1.7 ± —	— ± —
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	< 0.001 ± 0.001	0.0098 ± 0.0056	0.0012 ± 0.0006	9.0 ± 0.5	9.7 ± —
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	0.0014 ± 0.0001	0.021 ± 0.000	0.0018 ± 0.0002	17 ± 1	— ± —
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	< 0.001 ± 0.001	0.018 ± 0.002	0.0014 ± 0.0004	10 ± —	11 ± —
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	0.0015 ± 0.0017	0.013 ± 0.003	0.0020 ± 0.0002	12 ± 3	— ± —
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.002 ± 0.002	< 0.0007 ± 0.0004	2.9 ± 0.1	2.0 ± —
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	< 0.001 ± 0.000	0.0028 ± 0.0022	< 0.0007 ± 0.0002	2.3 ± —	— ± —
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	0.0024 ± 0.0012	0.026 ± 0.004	0.0030 ± 0.0002	116 ± 1	9.8 ± —
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	0.0011 ± 0.0008	0.018 ± 0.000	0.0024 ± 0.0001	11 ± —	— ± —
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	0.0020 ± 0.0004	0.019 ± 0.002	0.0022 ± 0.0005	25 ± 2	19 ± —
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	0.0026 ± 0.0007	0.020 ± 0.001	0.0030 ± 0.0006	24 ± 1	— ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	< 0.001 ± 0.000	0.0057 ± 0.0019	0.0011 ± 0.0001	6.4 ± 2.8	2.3 ± —
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	0.00060 ± 0.00039	0.0060 ± 0.0012	0.0013 ± 0.0005	3.6 ± —	— ± —
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	0.0015 ± 0.0007	0.0077 ± 0.0011	0.0012 ± 0.0001	20 ± 3	78 ± 2
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0088 ± 0.0002	0.00094 ± 0.00039	8.7 ± 1.6	— ± —
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	0.011 ± 0.002	0.00098 ± 0.00009	10 ± —	8.6 ± 2.4
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	< 0.001 ± 0.000	0.0071 ± 0.0003	0.0012 ± 0.0002	8.1 ± 1.0	— ± —
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.002 ± 0.000	< 0.0005 ± 0.0001	< 0.9 ± 0.07	2.6 ± 1.7
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.002	< 0.0005 ± 0.0002	1.1 ± 0.0	— ± —
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	0.00096 ± 0.00010	0.0040 ± 0.0005	0.00089 ± 0.00009	26 ± —	43 ± —
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	0.0015 ± 0.0000	0.0051 ± 0.0000	0.0013 ± 0.0001	46 ± —	— ± —
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	0.0021 ± 0.0010	0.0062 ± 0.0004	0.0011 ± 0.0003	15 ± —	31 ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	< 0.001 ± 0.002	0.0056 ± 0.0009	0.00041 ± 0.00020	12 ± 0	64 ± 2
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	0.0013 ± 0.0013	0.0068 ± 0.0022	0.00054 ± 0.00059	8.1 ± 0.2	— ± —
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	0.0020 ± 0.0003	0.0056 ± 0.0034	0.00064 ± 0.00042	19 ± 1	23 ± —
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0052 ± 0.0009	0.00093 ± 0.00033	18 ± 3	— ± —
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	0.0019 ± 0.0013	< 0.003 ± 0.002	< 0.0003 ± 0.0002	3.7 ± 1.2	8.0 ± —
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.003 ± 0.001	< 0.0003 ± 0.0004	1.7 ± —	— ± —
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	0.0012 ± 0.0009	0.0039 ± 0.0017	0.00068 ± 0.00040	19 ± —	19 ± —
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0056 ± 0.0011	0.00056 ± 0.00023	20 ± 2	— ± —
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.0053 ± 0.0016	0.00054 ± 0.00025	20 ± 4	14 ± 0
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	0.00082 ± 0.00030	0.0065 ± 0.0016	0.00058 ± 0.00037	15 ± 1	— ± —
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.0016 ± 0.0012	< 0.0004 ± 0.0003	2.1 ± 0.0	5.6 ± 1.4
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	< 0.001 ± 0.000	< 0.0016 ± 0.0018	< 0.0004 ± 0.0001	2.9 ± 1.0	— ± —
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	< 0.001 ± 0.001	0.0049 ± 0.0024	0.0015 ± 0.0002	12 ± 0	12 ± —
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.010 ± 0.002	0.0012 ± 0.0006	10 ± 0	— ± —
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.011 ± 0.003	0.0017 ± 0.0006	9.5 ± 0.5	8.6 ± —
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.013 ± 0.001	0.0011 ± 0.0002	12 ± 1	— ± —
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	< 0.001 ± 0.000	0.0020 ± 0.0009	< 0.0004 ± 0.0001	3.8 ± 3.4	1.0 ± —
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.004	< 0.0007 ± 0.0003	0.70 ± —	— ± —
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	0.0018 ± 0.0004	0.016 ± 0.004	0.0026 ± 0.0002	12 ± —	14 ± —
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	0.0013 ± 0.0001	0.015 ± 0.002	0.0018 ± 0.0003	14 ± 3	— ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	0.0029 ± 0.0010	0.021 ± 0.004	0.0030 ± 0.0004	25 ± 1	17 ± —
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	0.0025 ± 0.0003	0.027 ± 0.004	0.0024 ± 0.0007	25 ± 0	— ± —
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	0.0012 ± 0.0009	0.012 ± 0.002	0.0018 ± 0.0004	7.1 ± 2.8	3.7 ± —
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	0.0010 ± 0.0010	0.0090 ± 0.0018	0.0013 ± 0.0003	4.6 ± —	— ± —
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	< 0.001 ± 0.001	0.0062 ± 0.0008	0.00063 ± 0.00018	26 ± 6	28 ± 3
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	0.0014 ± 0.0006	0.012 ± 0.002	0.0011 ± 0.0001	45 ± 2	— ± —
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	0.0047 ± 0.0013	0.00059 ± 0.00031	11 ± 0	9.4 ± 2.7
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0054 ± 0.0023	0.00062 ± 0.00028	8.3 ± —	— ± —
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.002 ± 0.002	< 0.0005 ± 0.0002	1.1 ± 0.2	4.4 ± 3.4
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	< 0.001 ± 0.000	0.0023 ± 0.0011	< 0.0005 ± 0.0003	1.1 ± 0.5	— ± —
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	0.0024 ± 0.0002	0.0027 ± 0.0011	0.0010 ± 0.0004	17 ± —	47 ± 2
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	0.0084 ± 0.0010	0.0073 ± 0.0001	0.00090 ± 0.00011	54 ± —	— ± —
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	0.0069 ± 0.0002	0.0050 ± 0.0010	0.00073 ± 0.00009	15 ± —	23 ± —
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	0.0076 ± 0.0007	0.0046 ± 0.0000	0.00064 ± 0.00009	14 ± —	— ± —
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	0.00048 ± 0.00044	0.0019 ± 0.0002	0.00054 ± 0.00006	2.5 ± —	12 ± —
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	0.0064 ± 0.0008	0.0018 ± 0.0002	0.00053 ± 0.00004	3.0 ± —	— ± —
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	< 0.001 ± 0.001	0.0092 ± 0.0003	0.0011 ± 0.0001	83 ± 11	58 ± 5
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0052 ± 0.0016	0.00056 ± 0.00003	19 ± 1	— ± —
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	< 0.001 ± 0.003	0.0033 ± 0.0008	0.00076 ± 0.00024	22 ± 12	18 ± —
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	< 0.001 ± 0.002	0.0037 ± 0.0011	0.00056 ± 0.00031	12 ± 1	— ± —
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.003 ± 0.000	< 0.0003 ± 0.0004	1.7 ± 0.6	9.8 ± —
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	0.0021 ± 0.0011	< 0.003 ± 0.001	< 0.0003 ± 0.0001	1.6 ± 0.3	— ± —
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	25 ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	0.0016 ± 0.0000	0.0089 ± 0.0008	0.0014 ± 0.0005	60 ± 2	55 ± 0
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	0.00087 ± 0.00095	0.0099 ± 0.0003	0.0012 ± 0.0004	61 ± 0	— ± —
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	0.0014 ± 0.0000	0.016 ± 0.001	0.0015 ± 0.0004	21 ± 1	26 ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	0.0019 ± 0.0013	0.012 ± 0.004	0.00079 ± 0.00042	13 ± 0	— ± —
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	0.0018 ± 0.0010	0.013 ± 0.003	0.0017 ± 0.0004	15 ± 0	16 ± —
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	0.0020 ± 0.0010	0.012 ± 0.006	0.0014 ± 0.0003	15 ± 0	— ± —
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	0.0010 ± 0.0009	0.0050 ± 0.0034	< 0.0007 ± 0.0001	3.1 ± —	3.2 ± —
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	< 0.001 ± 0.001	0.0068 ± 0.0024	< 0.0007 ± 0.0001	5.4 ± 1.2	— ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0054 ± 0.0034	0.00056 ± 0.00028	11 ± —	7.0 ± 1.1
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0023 ± 0.0027	< 0.0005 ± 0.0001	4.2 ± 0.6	— ± —
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.0041 ± 0.0003	< 0.0005 ± 0.0001	8.7 ± 0.0	55 ± 1
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0069 ± 0.0012	< 0.0005 ± 0.0002	7.5 ± 0.1	— ± —
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	< 0.001 ± 0.000	< 0.002 ± 0.002	< 0.0005 ± 0.0003	1.1 ± —	2.7 ± 0.6
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.002	< 0.0005 ± 0.0001	4.8 ± 1.9	— ± —
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	0.0016 ± 0.0002	0.0043 ± 0.0007	0.00045 ± 0.00003	17 ± —	21 ± —
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	0.0010 ± 0.0002	0.0046 ± 0.0006	0.00045 ± 0.00001	16 ± —	— ± —
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	0.0025 ± 0.0000	0.0074 ± 0.0007	0.0015 ± 0.0002	19 ± —	28 ± —
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	0.0018 ± 0.0001	0.0052 ± 0.0000	0.00090 ± 0.00039	20 ± —	— ± —
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	0.0043 ± 0.0006	0.0019 ± 0.0003	< 0.0002 ± 0.0001	7.3 ± —	11 ± —
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	0.0059 ± 0.0003	0.0015 ± 0.0007	< 0.0002 ± 0.0001	1.5 ± —	— ± —
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	0.0024 ± 0.0010	0.0062 ± 0.0042	0.00039 ± 0.00002	7.9 ± 1.9	15 ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	< 0.003 ± 0.001	< 0.0003 ± 0.0001	3.6 ± 1.0	— ± —
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	0.0026 ± 0.0007	0.0063 ± 0.0040	< 0.0008 ± 0.0003	15 ± 0	18 ± —
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	0.0012 ± 0.0030	0.0051 ± 0.0014	0.00058 ± 0.00029	15 ± 1	— ± —
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	< 0.001 ± 0.001	< 0.002 ± 0.001	< 0.0004 ± 0.0001	2.6 ± 1.5	14 ± —
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.002	< 0.0008 ± 0.0005	6.6 ± 1.5	— ± —
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0062 ± 0.0006	0.00074 ± 0.00044	25 ± 1	24 ± —
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	< 0.001 ± 0.001	0.0034 ± 0.0012	0.00049 ± 0.00017	15 ± —	— ± —
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	< 0.001 ± 0.001	0.0041 ± 0.0024	0.00059 ± 0.00047	16 ± 1	13 ± —
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	< 0.001 ± 0.000	0.0039 ± 0.0007	0.00051 ± 0.00022	15 ± 0	— ± —
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	< 0.001 ± 0.000	< 0.0016 ± 0.0012	< 0.0004 ± 0.0003	0.93 ± 0.13	3.3 ± —
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	< 0.001 ± 0.000	< 0.0016 ± 0.0004	< 0.0004 ± 0.0003	1.1 ± 0.8	— ± —
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	< 0.001 ± 0.001	0.011 ± 0.002	0.0015 ± 0.0005	14 ± 1	18 ± —
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	0.0028 ± 0.0007	0.0088 ± 0.0044	0.0019 ± 0.0003	21 ± 4	— ± —
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	0.0036 ± 0.0000	0.018 ± 0.005	0.0021 ± 0.0003	22 ± 0	20 ± —
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	0.0013 ± 0.0009	0.013 ± 0.003	0.0031 ± 0.0002	22 ± 2	— ± —
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	< 0.001 ± 0.001	0.0058 ± 0.0020	< 0.0007 ± 0.0005	4.1 ± —	3.2 ± —
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	0.0013 ± 0.0010	0.0067 ± 0.0028	< 0.0007 ± 0.0000	3.4 ± 0.5	— ± —
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	0.0032 ± 0.0007	0.030 ± 0.007	0.0038 ± 0.0002	21 ± 1	18 ± —
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	0.0027 ± 0.0001	0.026 ± 0.006	0.0039 ± 0.0003	19 ± 4	— ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	0.0033 ± 0.0007	0.032 ± 0.001	0.0039 ± 0.0005	29 ± —	27 ± —
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	0.0038 ± 0.0006	0.038 ± 0.003	0.0037 ± 0.0006	31 ± 1	— ± —
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	0.00079 ± 0.00021	0.0057 ± 0.0010	0.00097 ± 0.00008	4.9 ± 1.1	2.6 ± —
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	0.00065 ± 0.00048	0.0075 ± 0.0015	0.00081 ± 0.00020	8.6 ± —	— ± —
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0029 ± 0.0010	< 0.0005 ± 0.0002	9.5 ± 0.1	7.7 ± 5.2
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	< 0.001 ± 0.000	< 0.002 ± 0.003	< 0.0005 ± 0.0004	6.5 ± —	— ± —
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	0.0035 ± 0.0013	0.00066 ± 0.00015	10 ± 3	11 ± 4
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0048 ± 0.0032	< 0.0005 ± 0.0004	10 ± 0	— ± —
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	< 0.001 ± 0.000	< 0.002 ± 0.003	< 0.0005 ± 0.0003	3.7 ± 2.9	5.5 ± 0.4
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.002	< 0.0005 ± 0.0002	0.90 ± —	— ± —
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0061 ± 0.0028	0.00062 ± 0.00017	18 ± 0	7.2 ± 2.0
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	0.0015 ± 0.0005	0.0076 ± 0.0015	0.0012 ± 0.0006	32 ± 2	— ± —
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	< 0.001 ± 0.001	0.0040 ± 0.0010	0.0010 ± 0.0003	8.8 ± —	10 ± 2
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	< 0.001 ± 0.001	0.0053 ± 0.0020	0.00061 ± 0.00041	7.5 ± 0.4	— ± —
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	< 0.001 ± 0.000	< 0.002 ± 0.001	< 0.0003 ± 0.0002	< 0.7 ± 0.00	4.0 ± 2.2
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.001	< 0.0003 ± 0.0001	< 0.9 ± 0.29	— ± —
Flat Cr.	12/11/96	0.40 µm Mem	1/2	0.0045 ± 0.0003	0.061 ± 0.002	0.0091 ± 0.0014	41 ± 1	20 ± —
Flat Cr.	12/11/96	0.40 µm Mem	2/2	0.0044 ± 0.0002	0.053 ± 0.001	0.0088 ± 0.0001	52 ± 17	— ± —
Flat Cr.	12/11/96	0.45 µm Cap	1/2	0.0042 ± 0.0006	0.042 ± 0.001	0.0060 ± 0.0001	13 ± 2	6.5 ± —
Flat Cr.	12/11/96	0.45 µm Cap	2/2	0.0027 ± 0.0001	0.045 ± 0.005	0.0066 ± 0.0000	10 ± 0	— ± —
Flat Cr.	12/11/96	10 kd Tan	1/2	0.0024 ± 0.0007	0.022 ± 0.001	0.0040 ± 0.0001	3.4 ± —	7.7 ± —
Flat Cr.	12/11/96	10 kd Tan	2/2	0.0016 ± 0.0005	0.029 ± 0.001	0.0038 ± 0.0002	3.6 ± 0.3	— ± —
Flat Cr.	05/29/97	0.40 µm Mem	1/2	0.0040 ± 0.0010	0.030 ± 0.001	0.0061 ± 0.0005	190 ± 5	273 ± 2
Flat Cr.	05/29/97	0.40 µm Mem	2/2	0.0030 ± 0.0012	0.031 ± 0.001	0.0057 ± 0.0002	166 ± 3	— ± —
Flat Cr.	05/29/97	0.45 µm Cap	1/2	0.0034 ± 0.0010	0.028 ± 0.001	0.0049 ± 0.0003	167 ± 5	178 ± 3
Flat Cr.	05/29/97	0.45 µm Cap	2/2	0.0029 ± 0.0007	0.024 ± 0.001	0.0050 ± 0.0005	159 ± 8	— ± —
Flat Cr.	05/29/97	10 kd Tan	1/2	< 0.001 ± 0.000	0.0072 ± 0.0013	0.0016 ± 0.0002	97 ± 19	75 ± 5
Flat Cr.	05/29/97	10 kd Tan	2/2	< 0.001 ± 0.001	0.0082 ± 0.0011	0.0018 ± 0.0003	75 ± 2	— ± —
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	0.26 ± 0.00	2.9 ± 0.1	0.39 ± 0.01	878 ± 1	930 ± 6
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	0.22 ± 0.01	2.9 ± 0.0	0.41 ± 0.01	978 ± 44	— ± —
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	0.25 ± 0.04	3.0 ± 0.1	0.39 ± 0.02	1,080 ± 50	970 ± 4
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	0.24 ± 0.05	2.8 ± 0.1	0.38 ± 0.02	1,010 ± 30	— ± —
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	0.18 ± 0.00	2.8 ± 0.2	0.40 ± 0.02	978 ± 26	930 ± 4

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	0.23 ± 0.01	2.9 ± 0.1	0.39 ± 0.02	973 ± 78	— ± —
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	0.56 ± 0.06	4.6 ± 0.2	0.60 ± 0.00	1,030 ± 150	1,070 ± 10
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	0.52 ± 0.01	4.7 ± 0.0	0.59 ± 0.00	1,120 ± 50	— ± —
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	0.50 ± 0.02	4.5 ± 0.1	0.57 ± 0.01	1,420 ± 10	1,430 ± 50
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	0.51 ± 0.01	4.6 ± 0.0	0.58 ± 0.01	1,500 ± 0	— ± —
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	0.51 ± 0.00	4.6 ± 0.0	0.57 ± 0.02	595 ± 2	657 ± 36
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	0.50 ± 0.00	4.5 ± 0.1	0.58 ± 0.00	586 ± 20	— ± —
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	0.14 ± 0.01	1.9 ± 0.0	0.25 ± 0.00	12,000 ± 400	12,700 ± 64
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	0.14 ± 0.01	1.9 ± 0.0	0.24 ± 0.02	12,100 ± 100	— ± —
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	0.15 ± 0.00	2.0 ± 0.0	0.25 ± 0.00	12,000 ± 100	— ± —
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	0.14 ± 0.01	2.0 ± 0.0	0.27 ± 0.00	11,900 ± 300	13,100 ± 100
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	0.13 ± 0.00	1.9 ± 0.1	0.24 ± 0.02	11,600 ± 0	12,300 ± 100
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	0.14 ± 0.00	1.8 ± 0.0	0.23 ± 0.01	11,000 ± 600	— ± —
Whiskeytown	12/11/96	0.40 µm Mem	1/2	0.0013 ± 0.0002	0.0096 ± 0.0049	0.0012 ± 0.0001	20 ± 7	13 ± —
Whiskeytown	12/11/96	0.40 µm Mem	2/2	< 0.001 ± 0.000	0.0080 ± 0.0018	0.0014 ± 0.0002	17 ± 1	13 ± —
Whiskeytown	12/11/96	0.45 µm Cap	1/2	< 0.001 ± 0.000	0.0064 ± 0.0002	0.0019 ± 0.0005	14 ± 2	281 ±
Whiskeytown	12/11/96	0.45 µm Cap	2/2	< 0.001 ± 0.000	0.0089 ± 0.0007	0.0023 ± 0.0006	11 ± —	281 ±
Whiskeytown	12/11/96	10 kd Tan	1/2	< 0.001 ± 0.000	0.0051 ± 0.0014	< 0.0004 ± 0.0001	2.1 ± 0.0	3.3 ± —
Whiskeytown	12/11/96	10 kd Tan	2/2	< 0.001 ± 0.001	0.0033 ± 0.0018	< 0.0007 ± 0.0005	2.4 ± 0.5	3.3 ± —
Whiskeytown	05/29/97	0.40 µm Mem	1/2	< 0.001 ± 0.000	0.0066 ± 0.0018	0.00070 ± 0.00022	9.1 ± —	13 ± 2
Whiskeytown	05/29/97	0.40 µm Mem	2/2	0.0015 ± 0.0008	0.0053 ± 0.0007	0.00089 ± 0.00010	34 ± 2	— ± —
Whiskeytown	05/29/97	0.45 µm Cap	1/2	0.0015 ± 0.0002	0.0091 ± 0.0020	0.0010 ± 0.0002	12 ± 1	5.8 ± 1.4
Whiskeytown	05/29/97	0.45 µm Cap	2/2	0.0014 ± 0.0004	0.0065 ± 0.0032	0.0011 ± 0.0003	9.4 ± —	— ± —
Whiskeytown	05/29/97	10 kd Tan	1/2	< 0.001 ± 0.001	0.0030 ± 0.0024	0.00045 ± 0.00026	1.8 ± 0.3	2.2 ± 0.3
Whiskeytown	05/29/97	10 kd Tan	2/2	< 0.001 ± 0.000	0.0024 ± 0.0023	0.00036 ± 0.00013	3.8 ± 3.9	— ± —
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	0.00081 ± 0.00011	0.0060 ± 0.0007	0.00095 ± 0.00009	9.6 ± —	22 ± —
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	0.0036 ± 0.0002	0.0071 ± 0.0004	0.0011 ± 0.0002	11 ± —	22 ± —
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	0.0022 ± 0.0010	0.0069 ± 0.0012	0.0014 ± 0.0003	25 ± —	30 ± —
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	0.0024 ± 0.0001	0.0065 ± 0.0001	0.0013 ± 0.0000	7.2 ± —	30 ± —
Spring Cr. arm	07/12/96	10 kd Tan	1/3	0.0020 ± 0.0006	0.0038 ± 0.0012	0.00050 ± 0.00036	1.6 ± —	19 ± —
Spring Cr. arm	07/12/96	10 kd Tan	2/3	0.00050 ± 0.00026	0.0029 ± 0.0003	0.00055 ± 0.00013	1.5 ± —	19 ± —
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	0.0026 ± 0.0009	0.023 ± 0.003	0.0016 ± 0.0009	8.7 ± 0.5	15 ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	0.0022 ± 0.0016	0.014 ± 0.004	0.0024 ± 0.0006	7.8 ± 0.7	15 ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Europium (µg/L) ICP–MS	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES-Ax	Iron (µg/L) UV–vis
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	0.0016 ± 0.0004	0.016 ± 0.003	0.0021 ± 0.0005	8.3 ± —	12 ± —
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	0.0022 ± 0.0010	0.014 ± 0.001	0.0014 ± 0.0007	11 ± 2	— ± —
Spring Cr. arm	09/18/96	10 kd Tan	1/2	< 0.001 ± 0.001	0.0066 ± 0.0026	0.00040 ± 0.00043	3.8 ± —	9.9 ± —
Spring Cr. arm	09/18/96	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.003 ± 0.001	0.00090 ± 0.00057	2.7 ± 0.4	— ± —
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	0.0040 ± 0.0003	0.049 ± 0.008	0.0060 ± 0.0013	61 ± 0	45 ± —
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	0.0021 ± 0.0001	0.035 ± 0.000	0.0038 ± 0.0002	40 ± 0	— ± —
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	0.0039 ± 0.0002	0.041 ± 0.001	0.0062 ± 0.0006	43 ± 1	42 ± 0
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	0.0020 ± 0.0001	0.050 ± 0.003	0.0054 ± 0.0012	48 ± 3	— ± —
Spring Cr. arm	11/20/96	10 kd Tan	1/2	< 0.001 ± 0.000	0.0071 ± 0.0022	0.0010 ± 0.0003	5.2 ± 1.3	3.4 ± 0.2
Spring Cr. arm	11/20/96	10 kd Tan	2/2	< 0.001 ± 0.001	0.0079 ± 0.0013	0.0014 ± 0.0001	1.9 ± —	— ± —
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	0.0032 ± 0.0004	0.050 ± 0.001	0.0064 ± 0.0005	20 ± 0	11 ± —
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	0.0025 ± 0.0000	0.038 ± 0.003	0.0050 ± 0.0003	7.9 ± —	— ± —
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	0.0078 ± 0.0006	0.084 ± 0.004	0.011 ± 0.001	22 ± 0	21 ± —
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	0.0080 ± 0.0031	0.093 ± 0.003	0.010 ± 0.000	22 ± 0	— ± —
Spring Cr. arm	12/11/96	10 kd Tan	1/2	0.00099 ± 0.00121	0.011 ± 0.006	0.0019 ± 0.0005	3.5 ± 2.3	3.3 ± —
Spring Cr. arm	12/11/96	10 kd Tan	2/2	0.0011 ± 0.0002	0.010 ± 0.003	0.0013 ± 0.0005	11 ± 14	— ± —
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	0.0021 ± 0.0006	0.015 ± 0.001	0.0015 ± 0.0002	19 ± 1	37 ± 0
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	0.0016 ± 0.0003	0.012 ± 0.003	0.0020 ± 0.0005	11 ± 1	— ± —
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	0.0020 ± 0.0006	0.0099 ± 0.0017	0.0016 ± 0.0001	7.3 ± —	32 ± 29
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	0.0028 ± 0.0007	0.015 ± 0.002	0.0021 ± 0.0004	7.9 ± 1.2	— ± —
Spring Cr. arm	05/28/97	10 kd Tan	1/2	< 0.001 ± 0.001	0.0042 ± 0.0022	< 0.0003 ± 0.0003	2.8 ± 2.9	3.8 ± 2.2
Spring Cr. arm	05/28/97	10 kd Tan	2/2	< 0.001 ± 0.001	< 0.002 ± 0.001	< 0.0003 ± 0.0003	6.4 ± —	— ± —
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	0.0026 ± 0.0042	0.010 ± 0.002	0.0027 ± 0.0002	14 ± 4	17 ± 1
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	< 0.001 ± 0.000	0.010 ± 0.002	0.0029 ± 0.0002	< 10 ± 9.60	— ± —
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	0.0071 ± 0.0001	0.012 ± 0.003	0.0028 ± 0.0001	5.2 ± —	7.4 ± 1.6
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	0.0037 ± 0.0005	0.010 ± 0.001	0.0025 ± 0.0000	7.3 ± 2.1	— ± —
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	< 0.001 ± 0.001	0.0066 ± 0.0038	0.0020 ± 0.0002	4.5 ± 2.2	5.7 ± 2.6
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	0.0035 ± 0.0014	0.0067 ± 0.0015	0.0023 ± 0.0007	1.9 ± —	— ± —
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	0.0016 ± 0.0002	0.018 ± 0.000	0.0027 ± 0.0004	90 ± —	11 ± —
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	0.0010 ± 0.0004	0.014 ± 0.002	0.0021 ± 0.0007	13 ± —	— ± —
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	0.0024 ± 0.0003	0.019 ± 0.005	0.0029 ± 0.0004	46 ± 14	22 ± —
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	0.0016 ± 0.0001	0.020 ± 0.001	0.0029 ± 0.0003	33 ± —	— ± —
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.00085 ± 0.00103	0.0056 ± 0.0019	0.0011 ± 0.0001	5.2 ± —	3.4 ± —
Yolo Bypass	01/07/97	10 kd Tan	2/2	0.00073 ± 0.00003	0.0054 ± 0.0020	0.00082 ± 0.00026	6.8 ± 1.0	— ± —

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	33 ± 0	0.016 ± 0.000	0.023 ± 0.003	1.7 ± 0.0	0.00084 ± 0.00026
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	— ± —	0.015 ± 0.000	0.012 ± 0.002	1.7 ± 0.0	0.00076 ± 0.00009
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	13 ± —	0.017 ± 0.001	0.060 ± 0.002	1.7 ± 0.0	0.00043 ± 0.00009
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	— ± —	0.018 ± 0.001	0.0083 ± 0.0018	1.6 ± 0.0	0.00080 ± 0.00005
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	41 ± —	0.0086 ± 0.0003	< 0.005 ± 0.001	1.7 ± 0.0	0.00050 ± 0.00007
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	— ± —	0.011 ± 0.000	< 0.005 ± 0.005	1.6 ± 0.1	0.0011 ± 0.0001
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	13 ± 2	0.021 ± 0.001	0.031 ± 0.005	1.7 ± 0.1	0.00064 ± 0.00019
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	— ± —	0.022 ± 0.000	0.010 ± 0.002	1.7 ± 0.0	0.00097 ± 0.00058
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	12 ± 1	0.017 ± 0.000	0.027 ± 0.005	1.7 ± 0.1	0.00083 ± 0.00066
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	— ± —	0.015 ± 0.000	0.0085 ± 0.0008	1.4 ± 0.3	0.00083 ± 0.00042
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	6.3 ± —	0.0052 ± 0.0002	0.0046 ± 0.0027	1.6 ± 0.5	< 0.0008 ± 0.0005
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	— ± —	0.0054 ± 0.0022	0.0067 ± 0.0035	1.6 ± 0.0	< 0.0004 ± 0.0001
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	5.9 ± —	0.0061 ± 0.0011	0.0089 ± 0.0024	2.3 ± 0.1	< 0.0005 ± 0.0002
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	— ± —	0.0065 ± 0.0011	< 0.005 ± 0.003	2.4 ± 0.0	0.00071 ± 0.00008
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	2.6 ± —	0.0074 ± 0.0010	< 0.005 ± 0.003	2.3 ± 0.1	0.00053 ± 0.00057
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	— ± —	0.0059 ± 0.0005	< 0.005 ± 0.003	2.3 ± 0.1	< 0.0005 ± 0.0000
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	1.5 ± —	0.0030 ± 0.0008	< 0.013 ± 0.012	2.2 ± 0.0	0.00057 ± 0.00017
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	— ± —	0.0022 ± 0.0011	< 0.005 ± 0.002	2.2 ± 0.1	< 0.0005 ± 0.0003
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	9.7 ± —	0.0079 ± 0.0011	0.017 ± 0.003	2.7 ± 0.1	0.00050 ± 0.00042
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	— ± —	0.0074 ± 0.0010	0.014 ± 0.002	2.8 ± 0.2	< 0.0004 ± 0.0001
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	5.5 ± —	0.011 ± 0.000	0.014 ± 0.003	2.7 ± 0.0	0.00055 ± 0.00030
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	— ± —	0.0090 ± 0.0005	0.012 ± 0.003	2.7 ± 0.0	0.00022 ± 0.00015
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	0.90 ± —	0.0028 ± 0.0010	0.0064 ± 0.0049	2.5 ± 0.0	0.00024 ± 0.00011
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	— ± —	0.0022 ± 0.0007	0.0045 ± 0.0020	2.6 ± 0.1	0.00051 ± 0.00065
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	21 ± 1	0.021 ± 0.001	0.011 ± 0.004	1.7 ± 0.0	0.00095 ± 0.00040
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	— ± —	0.013 ± 0.001	< 0.006 ± 0.002	1.6 ± 0.1	0.0012 ± 0.0001
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	5.4 ± 3.4	0.013 ± 0.000	< 0.006 ± 0.003	1.5 ± 0.2	0.00088 ± 0.00050
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	— ± —	0.014 ± 0.001	< 0.006 ± 0.001	1.5 ± 0.2	0.00075 ± 0.00023
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	2.4 ± 0.2	0.0019 ± 0.0007	< 0.006 ± 0.006	1.4 ± 0.1	< 0.0002 ± 0.0002
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	— ± —	0.0024 ± 0.0001	< 0.006 ± 0.003	1.4 ± 0.1	< 0.0002 ± 0.0002
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	21 ± —	0.013 ± 0.000	0.0085 ± 0.0041	1.4 ± 0.0	0.00058 ± 0.00009

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	— ± —	0.012 ± 0.000	0.0051 ± 0.0001	1.4 ± 0.0	0.00096 ± 0.00006
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	14 ± —	0.017 ± 0.000	0.0042 ± 0.0040	1.4 ± 0.0	0.00079 ± 0.00029
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	— ± —	0.017 ± 0.000	0.0097 ± 0.0006	1.4 ± 0.0	0.00058 ± 0.00003
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	7.0 ± —	0.0076 ± 0.0007	0.0048 ± 0.0043	1.4 ± 0.0	< 0.0003 ± 0.0002
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	— ± —	0.0078 ± 0.0004	0.012 ± 0.003	1.4 ± 0.0	0.00056 ± 0.00000
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	— ± —	0.0079 ± 0.0004	0.0067 ± 0.0017	1.3 ± 0.0	0.00039 ± 0.00008
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	14 ± —	0.015 ± 0.003	0.0079 ± 0.0026	1.3 ± 0.1	0.00068 ± 0.00044
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	— ± —	0.012 ± 0.001	0.0095 ± 0.0016	< 1.2 ± 0.01	< 0.0008 ± 0.0000
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	11 ± 1	0.014 ± 0.002	0.022 ± 0.003	< 1.2 ± 0.25	0.0011 ± 0.0001
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	— ± —	0.013 ± 0.001	0.011 ± 0.005	< 1.2 ± 0.28	0.0011 ± 0.0003
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	4.6 ± 1.7	0.0032 ± 0.0001	0.015 ± 0.004	1.2 ± 0.0	< 0.0004 ± 0.0000
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	— ± —	0.0028 ± 0.0013	< 0.004 ± 0.002	1.2 ± 0.0	< 0.0004 ± 0.0001
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	— ± —	0.0032 ± 0.0004	0.0097 ± 0.0070	1.2 ± 0.0	< 0.0004 ± 0.0003
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	18 ± 4	0.015 ± 0.001	0.024 ± 0.008	1.9 ± 0.0	0.0015 ± 0.0001
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	— ± —	0.013 ± 0.001	0.028 ± 0.006	1.9 ± 0.0	0.00091 ± 0.00055
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	11 ± —	0.013 ± 0.001	0.011 ± 0.000	1.8 ± 0.1	0.00053 ± 0.00004
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	— ± —	0.012 ± 0.001	0.0084 ± 0.0012	1.9 ± 0.0	0.0010 ± 0.0003
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	2.6 ± —	0.0021 ± 0.0004	< 0.005 ± 0.005	1.7 ± 0.0	< 0.0005 ± 0.0003
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	— ± —	0.0023 ± 0.0003	0.012 ± 0.003	1.7 ± 0.1	0.00054 ± 0.00031
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	9.2 ± —	0.017 ± 0.001	0.025 ± 0.008	2.5 ± 0.1	0.0012 ± 0.0006
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	— ± —	0.015 ± 0.002	0.023 ± 0.009	2.4 ± 0.1	0.00097 ± 0.00024
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	9.0 ± —	0.017 ± 0.001	0.010 ± 0.002	2.4 ± 0.0	0.00073 ± 0.00051
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	— ± —	0.015 ± 0.001	0.038 ± 0.003	2.5 ± 0.1	0.00073 ± 0.00035
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	0.50 ± —	0.0027 ± 0.0010	0.0078 ± 0.0055	2.3 ± 0.0	0.00078 ± 0.00026
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	— ± —	0.0023 ± 0.0009	0.062 ± 0.010	2.2 ± 0.0	< 0.0004 ± 0.0004
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	14 ± —	0.013 ± 0.000	0.015 ± 0.004	1.9 ± 0.0	0.0011 ± 0.0004
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	— ± —	0.015 ± 0.002	0.012 ± 0.002	1.9 ± 0.0	0.00072 ± 0.00021
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	21 ± —	0.032 ± 0.002	0.041 ± 0.002	1.9 ± 0.0	0.0011 ± 0.0004
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	— ± —	0.028 ± 0.002	0.027 ± 0.003	2.0 ± 0.0	0.00093 ± 0.00019
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	1.2 ± —	0.0057 ± 0.0011	< 0.005 ± 0.003	1.9 ± 0.0	0.00059 ± 0.00017
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	— ± —	0.0052 ± 0.0011	0.0052 ± 0.0022	1.9 ± 0.1	0.00067 ± 0.00045
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	1.2 ± —	0.0061 ± 0.0007	0.0079 ± 0.0089	2.0 ± 0.0	0.0012 ± 0.0003
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	4.7 ± 2.7	0.0095 ± 0.0009	< 0.006 ± 0.010	1.4 ± 0.1	0.00071 ± 0.00019
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	— ± —	0.015 ± 0.001	0.0070 ± 0.0028	1.4 ± 0.2	0.0010 ± 0.0004

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	4.2 ± 0.9	0.014 ± 0.000	0.012 ± 0.006	1.3 ± 0.1	0.0010 ± 0.0002
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	— ± —	0.012 ± 0.000	0.026 ± 0.008	1.4 ± 0.1	0.00048 ± 0.00024
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	3.8 ± 2.0	0.0031 ± 0.0005	< 0.006 ± 0.004	1.2 ± 0.1	< 0.0002 ± 0.0002
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	— ± —	0.0033 ± 0.0005	< 0.006 ± 0.009	1.3 ± 0.2	0.00052 ± 0.00031
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	53 ± —	0.0094 ± 0.0004	0.015 ± 0.004	1.4 ± 0.0	< 0.0006 ± 0.0002
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	— ± —	0.011 ± 0.000	0.046 ± 0.001	1.5 ± 0.0	0.00045 ± 0.00008
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	16 ± 2	0.011 ± 0.000	0.022 ± 0.004	1.4 ± 0.0	0.00051 ± 0.00020
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	— ± —	0.011 ± 0.001	0.011 ± 0.002	1.5 ± 0.1	0.00080 ± 0.00014
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	13 ± —	0.0034 ± 0.0006	0.0053 ± 0.0010	1.5 ± 0.1	< 0.0003 ± 0.0000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	— ± —	0.0034 ± 0.0004	0.0067 ± 0.0007	1.4 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	10 ± 0	0.0085 ± 0.0003	0.011 ± 0.002	< 1.2 ± 0.11	< 0.0008 ± 0.0005
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	— ± —	0.0081 ± 0.0012	< 0.008 ± 0.002	1.4 ± 0.1	0.0010 ± 0.0001
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	17 ± —	0.010 ± 0.001	0.022 ± 0.005	1.3 ± 0.0	0.0013 ± 0.0001
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	— ± —	0.0092 ± 0.0013	0.0059 ± 0.0023	1.3 ± 0.0	0.00036 ± 0.00005
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	5.8 ± 1.9	0.0012 ± 0.0006	0.0051 ± 0.0022	1.3 ± 0.0	< 0.0004 ± 0.0000
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	— ± —	0.0019 ± 0.0004	< 0.005 ± 0.006	1.3 ± 0.0	< 0.0004 ± 0.0002
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	70 ± 0	0.014 ± 0.000	0.021 ± 0.004	1.9 ± 0.0	0.00087 ± 0.00015
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	— ± —	0.012 ± 0.001	0.027 ± 0.007	1.9 ± 0.0	0.0011 ± 0.0007
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	15 ± —	0.011 ± 0.000	0.017 ± 0.009	1.9 ± 0.0	0.00097 ± 0.00003
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	— ± —	0.012 ± 0.001	0.014 ± 0.006	1.9 ± 0.1	0.00093 ± 0.00019
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	3.3 ± —	0.0015 ± 0.0005	0.017 ± 0.011	1.8 ± 0.0	< 0.0005 ± 0.0000
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	— ± —	0.0019 ± 0.0007	< 0.013 ± 0.005	1.7 ± 0.0	< 0.0005 ± 0.0002
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	10 ± —	0.013 ± 0.001	0.0052 ± 0.0021	2.1 ± 0.1	0.0015 ± 0.0003
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	— ± —	0.014 ± 0.001	0.014 ± 0.003	2.1 ± 0.1	0.0011 ± 0.0007
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	9.8 ± —	0.015 ± 0.001	0.013 ± 0.005	2.0 ± 0.1	0.00078 ± 0.00039
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	— ± —	0.013 ± 0.002	0.025 ± 0.004	1.9 ± 0.1	0.00072 ± 0.00029
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	3.3 ± —	0.0022 ± 0.0009	0.0038 ± 0.0017	1.9 ± 0.1	< 0.0004 ± 0.0003
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	— ± —	0.0020 ± 0.0010	0.0079 ± 0.0080	1.9 ± 0.1	< 0.0004 ± 0.0003
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	13 ± —	0.041 ± 0.002	0.042 ± 0.012	1.5 ± 0.0	0.00096 ± 0.00005
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	— ± —	0.018 ± 0.001	0.0059 ± 0.0008	1.4 ± 0.1	0.0012 ± 0.0004
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	18 ± —	0.027 ± 0.001	0.045 ± 0.005	1.4 ± 0.0	0.0012 ± 0.0002
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	— ± —	0.026 ± 0.001	0.015 ± 0.006	1.5 ± 0.0	0.00093 ± 0.00038

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	3.0 ± —	0.0074 ± 0.0018	0.0052 ± 0.0017	1.4 ± 0.0	< 0.0004 ± 0.0001
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	— ± —	0.0090 ± 0.0008	< 0.005 ± 0.002	1.4 ± 0.1	0.00045 ± 0.00029
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	37 ± 5	0.0090 ± 0.0007	0.0090 ± 0.0029	1.4 ± 0.1	0.00063 ± 0.00017
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	— ± —	0.0075 ± 0.0005	< 0.006 ± 0.006	1.5 ± 0.2	0.00038 ± 0.00024
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	6.8 ± 1.5	0.011 ± 0.000	0.020 ± 0.010	1.4 ± 0.2	0.00079 ± 0.00023
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	— ± —	0.011 ± 0.000	0.015 ± 0.008	1.3 ± 0.1	0.00060 ± 0.00023
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	1.1 ± 0.4	0.0027 ± 0.0005	< 0.006 ± 0.011	1.2 ± 0.1	< 0.0002 ± 0.0002
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	— ± —	0.0025 ± 0.0008	< 0.006 ± 0.006	1.2 ± 0.1	0.00029 ± 0.00038
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	34 ± —	0.0088 ± 0.0001	0.019 ± 0.003	1.7 ± 0.0	< 0.0003 ± 0.0000
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	— ± —	0.013 ± 0.002	0.020 ± 0.001	1.7 ± 0.0	0.00047 ± 0.00003
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	24 ± —	0.011 ± 0.000	0.055 ± 0.007	1.6 ± 0.1	< 0.0006 ± 0.0001
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	49 ± 0	0.0066 ± 0.0002	0.012 ± 0.005	1.8 ± 0.0	< 0.0004 ± 0.0002
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	— ± —	0.0034 ± 0.0006	0.0087 ± 0.0040	1.7 ± 0.0	< 0.0004 ± 0.0007
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	22 ± —	0.0090 ± 0.0017	0.032 ± 0.005	1.7 ± 0.0	0.00067 ± 0.00025
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	— ± —	0.0097 ± 0.0007	0.020 ± 0.006	1.6 ± 0.1	< 0.0003 ± 0.0002
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	8.7 ± —	0.0013 ± 0.0003	0.0085 ± 0.0037	1.7 ± 0.0	< 0.0004 ± 0.0003
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	— ± —	0.0017 ± 0.0002	0.0048 ± 0.0053	1.7 ± 0.0	< 0.0004 ± 0.0003
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	19 ± —	0.0080 ± 0.0006	0.016 ± 0.002	2.6 ± 0.0	0.00054 ± 0.00021
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	— ± —	0.0072 ± 0.0009	0.014 ± 0.001	2.6 ± 0.1	< 0.0005 ± 0.0002
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	14 ± 1	0.0076 ± 0.0010	0.0090 ± 0.0002	2.6 ± 0.1	< 0.0005 ± 0.0000
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	— ± —	0.0086 ± 0.0008	0.011 ± 0.001	2.7 ± 0.0	< 0.0005 ± 0.0003
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	4.2 ± 0.9	0.0013 ± 0.0004	< 0.005 ± 0.002	2.5 ± 0.1	< 0.0005 ± 0.0003
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	— ± —	0.0018 ± 0.0002	0.022 ± 0.003	2.5 ± 0.0	< 0.0005 ± 0.0002
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	14 ± —	0.011 ± 0.002	< 0.006 ± 0.009	2.5 ± 0.0	0.00065 ± 0.00053
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	— ± —	0.0081 ± 0.0022	< 0.006 ± 0.008	2.5 ± 0.0	< 0.0004 ± 0.0005
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	8.2 ± —	0.012 ± 0.001	0.17 ± 0.01	2.3 ± 0.0	0.00067 ± 0.00039
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	— ± —	0.0099 ± 0.0006	0.013 ± 0.006	2.5 ± 0.1	< 0.0004 ± 0.0004
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	2.4 ± —	0.0022 ± 0.0008	0.0069 ± 0.0070	2.3 ± 0.1	0.00029 ± 0.00002
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	— ± —	0.0025 ± 0.0002	0.0060 ± 0.0109	2.4 ± 0.0	< 0.0004 ± 0.0004
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	20 ± —	0.019 ± 0.001	0.019 ± 0.003	1.2 ± 0.1	0.00094 ± 0.00028
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	— ± —	0.019 ± 0.001	0.0087 ± 0.0035	1.2 ± 0.1	0.0011 ± 0.0006

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	17 ± —	0.034 ± 0.002	0.055 ± 0.016	1.1 ± 0.0	0.0012 ± 0.0001
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	— ± —	0.032 ± 0.003	0.037 ± 0.013	1.2 ± 0.0	0.0011 ± 0.0002
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	4.9 ± —	0.013 ± 0.002	0.0064 ± 0.0022	1.2 ± 0.0	0.00092 ± 0.00027
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	— ± —	0.011 ± 0.001	0.0053 ± 0.0036	1.2 ± 0.0	0.00050 ± 0.00008
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	20 ± 8	0.0081 ± 0.0007	0.015 ± 0.003	1.8 ± 0.1	0.00045 ± 0.00036
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	— ± —	0.014 ± 0.001	0.024 ± 0.004	1.9 ± 0.1	0.00081 ± 0.00024
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	8.8 ± 6.3	0.0079 ± 0.0007	0.013 ± 0.007	1.9 ± 0.0	0.00046 ± 0.00024
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	— ± —	0.0081 ± 0.0002	0.010 ± 0.003	1.8 ± 0.0	0.00058 ± 0.00011
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	4.7 ± 6.2	0.0019 ± 0.0004	< 0.005 ± 0.002	1.7 ± 0.2	0.00026 ± 0.00023
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	— ± —	0.0021 ± 0.0000	0.0095 ± 0.0105	1.8 ± 0.1	< 0.0002 ± 0.0002
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	39 ± 2	0.0076 ± 0.0002	0.013 ± 0.002	1.2 ± 0.0	< 0.0006 ± 0.0003
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	— ± —	0.014 ± 0.000	0.038 ± 0.002	1.2 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	20 ± —	0.011 ± 0.000	0.028 ± 0.004	1.1 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	— ± —	0.010 ± 0.000	0.024 ± 0.002	1.1 ± 0.0	0.00037 ± 0.00027
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	11 ± —	0.0060 ± 0.0009	0.017 ± 0.001	1.1 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	— ± —	0.0053 ± 0.0004	0.0081 ± 0.0013	1.1 ± 0.0	< 0.0003 ± 0.0000
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	47 ± 1	0.019 ± 0.001	0.027 ± 0.003	1.6 ± 0.0	0.00099 ± 0.00011
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	— ± —	0.0064 ± 0.0006	0.012 ± 0.004	1.7 ± 0.0	0.00063 ± 0.00029
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	19 ± —	0.0089 ± 0.0022	0.014 ± 0.004	1.7 ± 0.1	0.00079 ± 0.00006
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	— ± —	0.0070 ± 0.0007	0.017 ± 0.005	1.6 ± 0.1	0.00037 ± 0.00023
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	9.9 ± —	0.0015 ± 0.0012	< 0.005 ± 0.002	1.7 ± 0.0	< 0.0004 ± 0.0002
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	— ± —	0.0019 ± 0.0004	< 0.005 ± 0.004	1.6 ± 0.0	< 0.0004 ± 0.0004
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	23 ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	50 ± 1	0.020 ± 0.001	0.028 ± 0.015	1.8 ± 0.0	0.00084 ± 0.00023
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	— ± —	0.019 ± 0.002	0.031 ± 0.012	1.8 ± 0.0	< 0.0005 ± 0.0004
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	16 ± —	0.015 ± 0.001	0.018 ± 0.006	1.5 ± 0.0	0.0014 ± 0.0001
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	— ± —	0.012 ± 0.002	0.025 ± 0.009	1.5 ± 0.1	0.00074 ± 0.00083
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	19 ± —	0.015 ± 0.001	0.0061 ± 0.0085	1.5 ± 0.1	0.00061 ± 0.00055
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	— ± —	0.017 ± 0.001	0.0086 ± 0.0059	1.5 ± 0.1	0.00066 ± 0.00016
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	4.1 ± —	0.0055 ± 0.0004	0.013 ± 0.008	1.5 ± 0.1	0.00047 ± 0.00008
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	— ± —	0.0043 ± 0.0007	< 0.006 ± 0.007	1.4 ± 0.1	< 0.0004 ± 0.0002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	7.5 ± 6.5	0.0053 ± 0.0004	0.013 ± 0.010	1.7 ± 0.0	0.00045 ± 0.00019
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	— ± —	0.0037 ± 0.0007	0.0051 ± 0.0010	1.6 ± 0.1	0.00049 ± 0.00028
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	53 ± 3	0.0077 ± 0.0003	0.020 ± 0.003	1.6 ± 0.2	0.00051 ± 0.00028
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	— ± —	0.0072 ± 0.0005	0.018 ± 0.013	1.7 ± 0.2	0.00055 ± 0.00008
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	1.6 ± 0.7	0.0012 ± 0.0004	< 0.005 ± 0.005	1.3 ± 0.4	0.00045 ± 0.00001
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	— ± —	0.0019 ± 0.0007	0.0097 ± 0.0047	1.5 ± 0.3	0.00030 ± 0.00032
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	19 ± —	0.0083 ± 0.0006	0.037 ± 0.003	1.1 ± 0.0	0.00036 ± 0.00014
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	— ± —	0.0088 ± 0.0005	0.027 ± 0.001	1.1 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	23 ± —	0.014 ± 0.000	0.031 ± 0.007	1.1 ± 0.1	< 0.0006 ± 0.0001
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	— ± —	0.014 ± 0.000	0.026 ± 0.001	1.1 ± 0.0	0.00073 ± 0.00008
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	9.0 ± —	0.0018 ± 0.0002	0.029 ± 0.001	1.0 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	— ± —	0.0021 ± 0.0006	0.015 ± 0.001	1.1 ± 0.0	< 0.0003 ± 0.0001
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	17 ± —	0.0066 ± 0.0009	0.0093 ± 0.0046	1.5 ± 0.0	< 0.0004 ± 0.0002
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	— ± —	0.0036 ± 0.0012	0.0042 ± 0.0020	1.5 ± 0.1	0.00057 ± 0.00032
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	18 ± —	0.0089 ± 0.0006	0.017 ± 0.001	< 1.2 ± 0.23	< 0.0008 ± 0.0001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	— ± —	0.0087 ± 0.0016	0.019 ± 0.004	1.5 ± 0.0	0.00048 ± 0.00001
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	13 ± —	0.00053 ± 0.00055	0.011 ± 0.001	1.3 ± 0.1	< 0.0003 ± 0.0002
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	— ± —	0.0020 ± 0.0007	0.0069 ± 0.0009	< 1.2 ± 0.20	0.00085 ± 0.00022
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	24 ± —	0.0067 ± 0.0004	0.014 ± 0.010	1.5 ± 0.0	< 0.0005 ± 0.0003
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	— ± —	0.0054 ± 0.0021	0.0086 ± 0.0006	1.5 ± 0.0	< 0.0005 ± 0.0000
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	12 ± —	0.0070 ± 0.0007	0.010 ± 0.001	1.5 ± 0.1	< 0.0005 ± 0.0001
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	— ± —	0.0076 ± 0.0006	0.017 ± 0.003	1.5 ± 0.1	< 0.0005 ± 0.0002
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	3.3 ± —	0.0012 ± 0.0004	< 0.005 ± 0.003	1.4 ± 0.0	< 0.0005 ± 0.0002
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	— ± —	0.0011 ± 0.0005	0.013 ± 0.007	1.4 ± 0.0	< 0.0005 ± 0.0003
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	— ± —	0.013 ± 0.002	0.0077 ± 0.0046	1.1 ± 0.1	0.00074 ± 0.00058
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	19 ± —	0.015 ± 0.002	0.020 ± 0.010	1.1 ± 0.1	< 0.0004 ± 0.0005
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	— ± —	0.024 ± 0.001	0.012 ± 0.014	1.1 ± 0.0	0.0013 ± 0.0000
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	16 ± —	0.023 ± 0.002	0.010 ± 0.012	1.1 ± 0.1	0.0016 ± 0.0006
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	— ± —	0.0061 ± 0.0012	< 0.006 ± 0.007	1.0 ± 0.1	< 0.0004 ± 0.0006
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	3.0 ± —	0.0067 ± 0.0006	< 0.006 ± 0.008	1.1 ± 0.0	0.00072 ± 0.00012
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	— ± —	0.081 ± 0.004	0.0098 ± 0.0046	0.31 ± 0.01	0.00094 ± 0.00014
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	18 ± —	0.075 ± 0.002	0.013 ± 0.002	0.33 ± 0.04	0.0015 ± 0.0003

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	2.0 ± —	0.099 ± 0.006	0.057 ± 0.011	0.31 ± 0.02	0.0018 ± 0.0002
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	— ± —	0.11 ± 0.00	0.026 ± 0.005	0.33 ± 0.03	0.0028 ± 0.0002
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	3.5 ± —	0.018 ± 0.002	0.0071 ± 0.0020	0.29 ± 0.03	0.00063 ± 0.00008
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	— ± —	0.017 ± 0.002	0.0062 ± 0.0044	0.27 ± 0.01	0.00054 ± 0.00030
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	5.7 ± 1.7	0.0039 ± 0.0007	0.0070 ± 0.0035	1.3 ± 0.1	< 0.0002 ± 0.0002
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	— ± —	0.0052 ± 0.0007	0.0071 ± 0.0029	1.2 ± 0.2	0.00036 ± 0.00011
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	12 ± 8	0.0074 ± 0.0006	0.012 ± 0.002	1.2 ± 0.1	0.00034 ± 0.00022
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	— ± —	0.0074 ± 0.0003	0.0085 ± 0.0035	1.3 ± 0.0	0.00066 ± 0.00038
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	4.0 ± 0.6	0.0017 ± 0.0002	0.0063 ± 0.0030	1.2 ± 0.4	< 0.0002 ± 0.0003
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	— ± —	0.0012 ± 0.0003	0.0066 ± 0.0040	1.3 ± 0.3	< 0.0002 ± 0.0001
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	7.6 ± 3.2	0.0083 ± 0.0013	0.015 ± 0.004	1.4 ± 0.2	< 0.0005 ± 0.0003
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	— ± —	0.013 ± 0.001	0.018 ± 0.003	1.4 ± 0.0	< 0.0005 ± 0.0001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	7.8 ± 0.8	0.0077 ± 0.0011	0.013 ± 0.006	1.3 ± 0.1	< 0.0005 ± 0.0005
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	— ± —	0.0087 ± 0.0016	0.0078 ± 0.0024	1.4 ± 0.2	< 0.0005 ± 0.0001
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	3.0 ± 1.2	0.0014 ± 0.0005	< 0.005 ± 0.002	1.2 ± 0.1	< 0.0005 ± 0.0003
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	— ± —	0.0014 ± 0.0003	< 0.005 ± 0.005	1.2 ± 0.1	< 0.0005 ± 0.0000
Flat Cr.	12/11/96	0.40 µm Mem	1/2	14 ± —	0.028 ± 0.001	0.022 ± 0.011	0.27 ± 0.03	0.0039 ± 0.0000
Flat Cr.	12/11/96	0.40 µm Mem	2/2	— ± —	0.025 ± 0.000	0.013 ± 0.002	0.30 ± 0.01	0.0040 ± 0.0005
Flat Cr.	12/11/96	0.45 µm Cap	1/2	6.3 ± —	0.022 ± 0.000	< 0.012 ± 0.005	0.26 ± 0.01	0.0029 ± 0.0012
Flat Cr.	12/11/96	0.45 µm Cap	2/2	— ± —	0.020 ± 0.001	< 0.012 ± 0.004	0.27 ± 0.02	0.0030 ± 0.0001
Flat Cr.	12/11/96	10 kd Tan	1/2	6.8 ± —	0.010 ± 0.002	< 0.012 ± 0.005	0.24 ± 0.04	0.0017 ± 0.0003
Flat Cr.	12/11/96	10 kd Tan	2/2	— ± —	0.011 ± 0.001	< 0.012 ± 0.020	0.22 ± 0.04	0.0021 ± 0.0004
Flat Cr.	05/29/97	0.40 µm Mem	1/2	75 ± 22	0.013 ± 0.002	0.0088 ± 0.0037	< 0.06 ± 0.02	0.0037 ± 0.0002
Flat Cr.	05/29/97	0.40 µm Mem	2/2	— ± —	0.013 ± 0.001	0.0099 ± 0.0018	< 0.06 ± 0.01	0.0039 ± 0.0006
Flat Cr.	05/29/97	0.45 µm Cap	1/2	122 ± 13	0.0093 ± 0.0004	< 0.003 ± 0.002	< 0.06 ± 0.01	0.0031 ± 0.0005
Flat Cr.	05/29/97	0.45 µm Cap	2/2	— ± —	0.0088 ± 0.0003	0.0084 ± 0.0017	< 0.06 ± 0.01	0.0033 ± 0.0014
Flat Cr.	05/29/97	10 kd Tan	1/2	75 ± 2	0.0030 ± 0.0008	< 0.005 ± 0.002	< 0.06 ± 0.03	0.0015 ± 0.0003
Flat Cr.	05/29/97	10 kd Tan	2/2	— ± —	0.0033 ± 0.0006	< 0.005 ± 0.004	< 0.06 ± 0.03	0.0012 ± 0.0004
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	730 ± 16	2.1 ± 0.0	1.1 ± 0.0	3.2 ± 0.1	0.11 ± 0.00
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	— ± —	2.2 ± 0.0	1.1 ± 0.0	3.2 ± 0.0	0.11 ± 0.00
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	850 ± 6	2.1 ± 0.0	1.2 ± 0.0	3.2 ± 0.2	0.11 ± 0.00
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	— ± —	2.1 ± 0.0	1.1 ± 0.1	3.3 ± 0.0	0.11 ± 0.01
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	790 ± 18	2.1 ± 0.1	1.1 ± 0.1	3.1 ± 0.0	0.11 ± 0.00

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	— ± —	2.1 ± 0.1	1.1 ± 0.0	3.1 ± 0.1	0.11 ± 0.00
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	711 ± 17	3.7 ± 0.2	3.4 ± 0.1	8.9 ± 0.1	0.18 ± 0.00
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	— ± —	3.7 ± 0.1	3.3 ± 0.1	9.2 ± 0.1	0.18 ± 0.00
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	994 ± 81	3.5 ± 0.0	3.5 ± 0.1	9.2 ± 0.1	0.18 ± 0.00
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	— ± —	3.7 ± 0.0	3.6 ± 0.1	9.1 ± 0.1	0.18 ± 0.00
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	196 ± 2	3.6 ± 0.2	3.0 ± 0.0	9.1 ± 0.3	0.18 ± 0.01
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	— ± —	3.7 ± 0.1	3.0 ± 0.1	9.1 ± 0.4	0.18 ± 0.00
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	11,500 ± 200	1.6 ± 0.0	3.5 ± 0.2	1.6 ± 0.1	0.65 ± 0.002
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	— ± —	1.6 ± 0.0	3.6 ± 0.2	1.7 ± 0.0	0.070 ± 0.006
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	11,600 ± 100	1.6 ± 0.0	3.7 ± 0.0	1.6 ± 0.0	0.070 ± 0.007
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	— ± —	1.6 ± 0.1	3.6 ± 0.0	1.6 ± 0.1	0.066 ± 0.002
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	11,100 ± 200	1.5 ± 0.0	3.3 ± 0.1	1.6 ± 0.1	0.066 ± 0.007
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	— ± —	1.5 ± 0.0	3.3 ± 0.1	1.5 ± 0.0	0.068 ± 0.000
Whiskeytown	12/11/96	0.40 µm Mem	1/2	10 ± —	0.0057 ± 0.0009	0.017 ± 0.004	0.65 ± 0.01	0.00061 ± 0.00075
Whiskeytown	12/11/96	0.40 µm Mem	2/2	— ± —	0.0072 ± 0.0009	0.014 ± 0.005	0.71 ± 0.02	0.00063 ± 0.00022
Whiskeytown	12/11/96	0.45 µm Cap	1/2	267 ± —	0.0077 ± 0.0003	0.053 ± 0.008	0.71 ± 0.02	0.00047 ± 0.00024
Whiskeytown	12/11/96	0.45 µm Cap	2/2	— ± —	0.0068 ± 0.0015	0.036 ± 0.004	0.66 ± 0.04	0.00085 ± 0.00033
Whiskeytown	12/11/96	10 kd Tan	1/2	2.2 ± —	0.0027 ± 0.0002	< 0.012 ± 0.016	0.67 ± 0.06	< 0.0002 ± 0.0001
Whiskeytown	12/11/96	10 kd Tan	2/2	— ± —	0.0025 ± 0.0003	< 0.006 ± 0.014	0.69 ± 0.09	< 0.0004 ± 0.0004
Whiskeytown	05/29/97	0.40 µm Mem	1/2	9.6 ± 2.8	0.0067 ± 0.0012	< 0.005 ± 0.008	0.64 ± 0.02	0.00065 ± 0.00109
Whiskeytown	05/29/97	0.40 µm Mem	2/2	— ± —	0.0084 ± 0.0010	0.0077 ± 0.0032	0.66 ± 0.07	0.00062 ± 0.00039
Whiskeytown	05/29/97	0.45 µm Cap	1/2	3.9 ± 2.9	0.0086 ± 0.0005	0.0034 ± 0.0026	0.60 ± 0.02	< 0.0005 ± 0.0005
Whiskeytown	05/29/97	0.45 µm Cap	2/2	— ± —	0.010 ± 0.000	0.016 ± 0.003	0.61 ± 0.03	< 0.0005 ± 0.0002
Whiskeytown	05/29/97	10 kd Tan	1/2	0.89 ± 0.24	0.0022 ± 0.0006	< 0.005 ± 0.004	0.64 ± 0.03	< 0.0005 ± 0.0003
Whiskeytown	05/29/97	10 kd Tan	2/2	— ± —	0.0021 ± 0.0002	< 0.005 ± 0.005	0.57 ± 0.04	< 0.0005 ± 0.0003
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	15 ± —	0.0065 ± 0.0004	0.014 ± 0.000	0.64 ± 0.00	0.00068 ± 0.00028
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	— ± —	0.0075 ± 0.0002	0.018 ± 0.002	0.59 ± 0.01	0.00047 ± 0.00011
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	15 ± —	0.0066 ± 0.0008	0.0072 ± 0.0014	0.62 ± 0.05	0.00069 ± 0.00015
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	— ± —	0.0087 ± 0.0013	0.015 ± 0.003	0.78 ± 0.05	< 0.0006 ± 0.0002
Spring Cr. arm	07/12/96	10 kd Tan	1/3	10 ± —	0.0032 ± 0.0013	0.011 ± 0.001	0.59 ± 0.04	0.00073 ± 0.00019
Spring Cr. arm	07/12/96	10 kd Tan	2/3	— ± —	0.0031 ± 0.0001	< 0.005 ± 0.000	0.66 ± 0.02	< 0.0003 ± 0.0000
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	13 ± —	0.013 ± 0.001	0.0075 ± 0.0057	0.63 ± 0.02	0.00089 ± 0.00035
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	— ± —	0.0097 ± 0.0003	0.0099 ± 0.0031	0.62 ± 0.04	0.00098 ± 0.00042

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Iron (II) (µg/L) UV–vis	Lanthanum (µg/L) ICP–MS	Lead (comp.) (µg/L) ICP–MS	Lithium (µg/L) ICP–MS	Lutetium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	9.6 ± —	0.0091 ± 0.0010	0.048 ± 0.004	0.62 ± 0.02	0.00062 ± 0.00021
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	— ± —	0.012 ± 0.001	0.020 ± 0.002	0.61 ± 0.02	0.00060 ± 0.00005
Spring Cr. arm	09/18/96	10 kd Tan	1/2	6.9 ± —	0.0025 ± 0.0004	< 0.005 ± 0.002	0.58 ± 0.03	< 0.0004 ± 0.0005
Spring Cr. arm	09/18/96	10 kd Tan	2/2	— ± —	0.0031 ± 0.0009	0.025 ± 0.019	0.60 ± 0.03	< 0.0004 ± 0.0000
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	25 ± —	0.036 ± 0.002	0.028 ± 0.013	0.75 ± 0.02	0.0016 ± 0.0003
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	— ± —	0.024 ± 0.001	0.024 ± 0.004	0.72 ± 0.03	0.0016 ± 0.0001
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	22 ± 3	0.031 ± 0.001	0.029 ± 0.005	0.74 ± 0.05	0.0019 ± 0.0001
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	— ± —	0.036 ± 0.002	0.024 ± 0.008	0.74 ± 0.01	0.0020 ± 0.0001
Spring Cr. arm	11/20/96	10 kd Tan	1/2	1.0 ± 0.9	0.0053 ± 0.0005	0.0089 ± 0.0117	0.68 ± 0.04	< 0.0005 ± 0.0000
Spring Cr. arm	11/20/96	10 kd Tan	2/2	— ± —	0.0052 ± 0.0004	< 0.005 ± 0.003	0.70 ± 0.03	< 0.0005 ± 0.0001
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	8.5 ± —	0.050 ± 0.001	0.024 ± 0.005	1.0 ± 0.0	0.0023 ± 0.0002
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	— ± —	0.043 ± 0.003	0.0074 ± 0.0056	1.0 ± 0.0	0.0017 ± 0.0002
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	13 ± —	0.087 ± 0.003	0.037 ± 0.005	1.0 ± 0.0	0.0038 ± 0.0006
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	— ± —	0.089 ± 0.001	0.060 ± 0.003	0.98 ± 0.06	0.0028 ± 0.0001
Spring Cr. arm	12/11/96	10 kd Tan	1/2	2.0 ± —	0.012 ± 0.001	0.011 ± 0.008	0.90 ± 0.06	0.00063 ± 0.00052
Spring Cr. arm	12/11/96	10 kd Tan	2/2	— ± —	0.012 ± 0.000	0.0054 ± 0.0033	0.93 ± 0.06	0.00077 ± 0.00053
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	19 ± 2	0.011 ± 0.000	0.021 ± 0.006	0.66 ± 0.03	0.00079 ± 0.00047
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	— ± —	0.011 ± 0.001	0.0064 ± 0.0070	0.69 ± 0.05	0.00086 ± 0.00050
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	12 ± 2	0.015 ± 0.000	0.0045 ± 0.0028	0.63 ± 0.03	0.00079 ± 0.00008
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	— ± —	0.013 ± 0.000	< 0.003 ± 0.002	0.72 ± 0.05	0.00094 ± 0.00033
Spring Cr. arm	05/28/97	10 kd Tan	1/2	0.59 ± 0.24	0.0024 ± 0.0002	0.0052 ± 0.0016	0.65 ± 0.07	< 0.0005 ± 0.0002
Spring Cr. arm	05/28/97	10 kd Tan	2/2	— ± —	0.0022 ± 0.0008	0.0091 ± 0.0074	0.65 ± 0.00	< 0.0005 ± 0.0003
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	14 ± 1	0.011 ± 0.000	0.017 ± 0.004	9.2 ± 0.4	0.0025 ± 0.0003
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	— ± —	0.013 ± 0.001	0.013 ± 0.012	9.5 ± 0.5	0.0025 ± 0.0005
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	6.4 ± 1.5	0.013 ± 0.001	0.014 ± 0.001	9.3 ± 0.2	0.0023 ± 0.0005
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	— ± —	0.012 ± 0.001	0.017 ± 0.009	9.4 ± 0.1	0.0027 ± 0.0005
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	4.0 ± —	0.0075 ± 0.0011	0.0069 ± 0.0061	8.8 ± 0.1	0.0027 ± 0.0006
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	— ± —	0.0079 ± 0.0004	0.012 ± 0.007	8.7 ± 0.3	0.0022 ± 0.0005
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	12 ± —	0.026 ± 0.002	0.021 ± 0.002	0.91 ± 0.01	0.0014 ± 0.0001
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	— ± —	0.018 ± 0.002	0.010 ± 0.002	0.84 ± 0.03	0.00091 ± 0.00009
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	20 ± —	0.037 ± 0.002	0.042 ± 0.008	0.77 ± 0.01	0.0015 ± 0.0002
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	— ± —	0.038 ± 0.003	0.039 ± 0.007	0.80 ± 0.02	0.0013 ± 0.0003
Yolo Bypass	01/07/97	10 kd Tan	1/2	3.9 ± —	0.0074 ± 0.0008	0.019 ± 0.003	0.82 ± 0.05	< 0.0004 ± 0.0001
Yolo Bypass	01/07/97	10 kd Tan	2/2	— ± —	0.0087 ± 0.0007	0.0060 ± 0.0030	0.74 ± 0.04	0.00061 ± 0.00027

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	4.3 ± 0.0	0.40 ± 0.03	0.00080 ± 0.00010	0.38 ± 0.02	0.028 ± 0.000
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	4.2 ± 0.0	0.33 ± 0.01	0.00090 ± 0.00020	0.36 ± 0.01	0.024 ± 0.001
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	4.2 ± 0.0	0.22 ± 0.01	0.0014 ± 0.0002	0.35 ± 0.01	0.035 ± 0.000
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	4.2 ± 0.0	0.24 ± 0.01	— ± —	0.37 ± 0.02	0.027 ± 0.000
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	4.2 ± 0.0	0.25 ± 0.01	0.0015 ± 0.0001	0.32 ± 0.01	0.013 ± 0.001
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	4.1 ± 0.0	0.30 ± 0.01	0.00070 ± 0.00040	0.31 ± 0.02	0.018 ± 0.003
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	0.00050 ± 0.00030	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	4.3 ± 0.2	1.2 ± 0.0	< 0.0004 ± 0.0001	0.38 ± 0.01	0.028 ± 0.004
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	4.4 ± 0.2	1.8 ± 0.0	0.00054 ± 0.00018	0.37 ± 0.03	0.033 ± 0.002
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	4.4 ± 0.3	0.74 ± 0.04	0.00051 ± 0.00016	0.31 ± 0.04	0.023 ± 0.004
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	4.2 ± 0.1	0.70 ± 0.01	0.00042 ± 0.00017	0.33 ± 0.02	0.025 ± 0.002
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	4.1 ± 0.1	0.70 ± 0.04	0.00074 ± 0.00004	0.27 ± 0.00	0.0087 ± 0.0030
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	4.0 ± 0.1	0.65 ± 0.01	< 0.0004 ± 0.0000	0.30 ± 0.04	0.0061 ± 0.0005
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	4.7 ± 0.1	0.38 ± 0.01	0.00056 ± 0.00025	0.45 ± 0.03	0.013 ± 0.001
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	4.7 ± 0.0	0.36 ± 0.02	< 0.0004 ± 0.0001	0.49 ± 0.00	0.011 ± 0.002
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	4.6 ± 0.0	0.35 ± 0.02	0.00093 ± 0.00023	0.50 ± 0.03	0.0085 ± 0.0022
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	4.6 ± 0.0	0.36 ± 0.02	0.0013 ± 0.0001	0.47 ± 0.03	0.0075 ± 0.0034
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	4.3 ± 0.0	0.28 ± 0.00	0.00058 ± 0.00014	0.32 ± 0.02	< 0.002 ± 0.001
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	4.3 ± 0.1	0.29 ± 0.00	0.00063 ± 0.00013	0.31 ± 0.01	0.0021 ± 0.0020
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	5.0 ± 0.2	1.3 ± 0.0	0.00043 ± 0.00019	0.58 ± 0.00	0.016 ± 0.002
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	5.2 ± 0.1	1.3 ± 0.0	0.00080 ± 0.00001	0.65 ± 0.11	0.014 ± 0.001
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	4.9 ± 0.3	1.4 ± 0.0	0.0011 ± 0.0001	0.53 ± 0.04	0.019 ± 0.002
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	5.0 ± 0.3	1.3 ± 0.0	0.0011 ± 0.0001	0.56 ± 0.02	0.020 ± 0.003
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	4.5 ± 0.2	1.1 ± 0.0	0.0014 ± 0.0003	0.34 ± 0.03	0.0059 ± 0.0003
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	4.4 ± 0.2	1.1 ± 0.0	0.00081 ± 0.00012	0.30 ± 0.01	0.0052 ± 0.0011
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	4.3 ± 0.1	0.67 ± 0.03	0.0018 ± 0.0004	0.37 ± 0.03	0.029 ± 0.002
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	4.2 ± 0.2	0.35 ± 0.01	0.0017 ± 0.0001	0.36 ± 0.04	0.020 ± 0.003
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	4.2 ± 0.2	0.36 ± 0.01	0.0022 ± 0.0006	0.36 ± 0.04	0.021 ± 0.001
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	4.3 ± 0.1	0.21 ± 0.00	0.0020 ± 0.0007	0.35 ± 0.06	0.024 ± 0.002
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	3.6 ± 0.1	0.18 ± 0.00	0.0013 ± 0.0003	0.18 ± 0.05	0.0039 ± 0.0012
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	3.6 ± 0.1	0.18 ± 0.01	0.0011 ± 0.0002	0.17 ± 0.06	0.0046 ± 0.0004
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	4.6 ± 0.0	0.72 ± 0.00	0.0012 ± 0.0001	0.31 ± 0.02	0.017 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	4.6 ± 0.0	0.71 ± 0.01	0.0011 ± 0.0000	0.37 ± 0.00	0.018 ± 0.002
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	4.6 ± 0.0	0.79 ± 0.03	0.0019 ± 0.0002	0.31 ± 0.01	0.027 ± 0.001
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	4.6 ± 0.0	0.80 ± 0.00	0.0010 ± 0.0003	0.33 ± 0.01	0.023 ± 0.001
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	4.5 ± 0.0	0.69 ± 0.02	0.0011 ± 0.0001	0.27 ± 0.00	0.012 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	4.5 ± 0.1	0.73 ± 0.01	0.00090 ± 0.00020	0.29 ± 0.00	0.012 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	4.5 ± 0.1	0.70 ± 0.01	0.00070 ± 0.00030	0.29 ± 0.01	0.012 ± 0.002
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	4.9 ± 0.1	1.7 ± 0.0	0.00047 ± 0.00013	0.25 ± 0.03	0.027 ± 0.003
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	5.2 ± 0.1	1.9 ± 0.1	< 0.0004 ± 0.0001	0.23 ± 0.03	0.021 ± 0.005
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	5.3 ± 0.0	1.7 ± 0.0	0.00046 ± 0.00010	0.24 ± 0.04	0.027 ± 0.006
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	4.9 ± 0.1	1.6 ± 0.0	< 0.0004 ± 0.0003	0.23 ± 0.03	0.027 ± 0.002
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	4.8 ± 0.0	1.5 ± 0.0	0.00064 ± 0.00008	0.18 ± 0.07	0.0050 ± 0.0011
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	4.6 ± 0.2	1.5 ± 0.0	< 0.0004 ± 0.0003	0.19 ± 0.02	0.0048 ± 0.0015
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	4.5 ± 0.1	1.5 ± 0.0	— ± —	0.18 ± 0.02	< 0.003 ± 0.003
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	4.8 ± 0.1	4.2 ± 0.1	0.0015 ± 0.0002	0.38 ± 0.01	0.026 ± 0.001
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	4.7 ± 0.1	4.2 ± 0.0	0.0012 ± 0.0001	0.46 ± 0.01	0.038 ± 0.002
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	4.6 ± 0.1	4.4 ± 0.0	0.0013 ± 0.0001	0.38 ± 0.03	0.031 ± 0.002
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	4.7 ± 0.1	4.4 ± 0.0	0.0014 ± 0.0005	0.41 ± 0.04	0.029 ± 0.005
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	4.0 ± 0.0	2.9 ± 0.1	0.0011 ± 0.0001	0.25 ± 0.03	0.0036 ± 0.0014
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	4.1 ± 0.0	3.0 ± 0.0	0.0010 ± 0.0000	0.20 ± 0.03	0.0029 ± 0.0017
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	5.1 ± 0.1	3.0 ± 0.0	0.00043 ± 0.00015	0.43 ± 0.01	0.036 ± 0.001
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	5.1 ± 0.1	2.8 ± 0.1	0.00063 ± 0.00021	0.47 ± 0.02	0.029 ± 0.003
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	5.1 ± 0.1	3.4 ± 0.0	0.00075 ± 0.00005	0.55 ± 0.05	0.033 ± 0.001
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	5.0 ± 0.1	3.4 ± 0.0	0.00079 ± 0.00009	0.50 ± 0.01	0.035 ± 0.008
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	4.2 ± 0.1	2.2 ± 0.1	0.0010 ± 0.0000	0.26 ± 0.03	0.0072 ± 0.0006
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	4.2 ± 0.1	2.2 ± 0.0	0.00071 ± 0.00011	0.25 ± 0.01	0.0070 ± 0.0031
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	4.4 ± 0.5	7.3 ± 0.2	0.00086 ± 0.00009	0.41 ± 0.03	0.031 ± 0.001
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	4.1 ± 0.8	7.7 ± 0.4	0.00085 ± 0.00035	0.45 ± 0.00	0.025 ± 0.002
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	4.1 ± 0.8	8.9 ± 0.3	0.00085 ± 0.00040	0.39 ± 0.01	0.059 ± 0.002
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	3.9 ± 0.7	9.4 ± 0.2	0.0015 ± 0.0001	0.41 ± 0.01	0.055 ± 0.003
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	4.1 ± 0.8	6.6 ± 0.2	0.00053 ± 0.00032	0.35 ± 0.01	0.013 ± 0.003
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	4.2 ± 0.6	6.6 ± 0.2	< 0.0004 ± 0.0002	0.33 ± 0.01	0.016 ± 0.005
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	4.1 ± 0.1	6.7 ± 0.0	— ± —	0.39 ± 0.00	0.014 ± 0.001
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	4.6 ± 0.2	1.0 ± 0.0	0.0011 ± 0.0002	0.32 ± 0.04	0.017 ± 0.003
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	4.7 ± 0.2	1.4 ± 0.0	0.0037 ± 0.0003	0.30 ± 0.02	0.024 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	4.6 ± 0.2	1.2 ± 0.0	0.0019 ± 0.0003	0.29 ± 0.03	0.020 ± 0.002
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	4.7 ± 0.1	1.2 ± 0.0	0.0010 ± 0.0002	0.30 ± 0.04	0.022 ± 0.002
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	4.2 ± 0.2	0.91 ± 0.04	0.00066 ± 0.00020	0.18 ± 0.03	0.0023 ± 0.0003
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	4.3 ± 0.1	0.90 ± 0.02	0.00085 ± 0.00024	0.25 ± 0.04	0.0058 ± 0.0020
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	4.8 ± 0.0	2.2 ± 0.0	0.0011 ± 0.0002	0.33 ± 0.02	0.013 ± 0.002
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	4.8 ± 0.0	1.8 ± 0.0	0.0014 ± 0.0002	0.30 ± 0.02	0.015 ± 0.000
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	4.7 ± 0.0	1.9 ± 0.0	0.00080 ± 0.00030	0.32 ± 0.01	0.017 ± 0.000
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	4.8 ± 0.1	1.7 ± 0.0	— ± —	0.33 ± 0.02	0.016 ± 0.001
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	4.8 ± 0.0	2.2 ± 0.0	0.00040 ± 0.00010	0.44 ± 0.00	0.0059 ± 0.0019
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	4.7 ± 0.0	2.2 ± 0.1	0.0014 ± 0.0000	0.36 ± 0.00	0.0051 ± 0.0009
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	0.0010 ± 0.0002	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	4.9 ± 0.1	2.6 ± 0.0	0.00043 ± 0.00004	0.28 ± 0.01	0.010 ± 0.000
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	5.3 ± 0.1	2.6 ± 0.0	0.00068 ± 0.00009	0.28 ± 0.03	0.0095 ± 0.0006
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	4.8 ± 0.1	2.7 ± 0.0	0.00053 ± 0.00018	0.32 ± 0.05	0.015 ± 0.002
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	5.4 ± 0.1	2.7 ± 0.1	< 0.0004 ± 0.0001	0.32 ± 0.04	0.018 ± 0.001
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	4.6 ± 0.1	2.1 ± 0.0	< 0.0004 ± 0.0001	0.18 ± 0.02	0.0037 ± 0.0013
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	4.6 ± 0.2	2.1 ± 0.0	< 0.0004 ± 0.0001	0.17 ± 0.01	< 0.003 ± 0.000
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	5.3 ± 0.2	2.2 ± 0.0	0.0015 ± 0.0002	0.50 ± 0.15	0.026 ± 0.000
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	5.2 ± 0.1	2.1 ± 0.0	0.00086 ± 0.00034	0.42 ± 0.02	0.025 ± 0.002
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	5.2 ± 0.2	3.0 ± 0.1	0.0015 ± 0.0001	0.40 ± 0.03	0.023 ± 0.004
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	5.2 ± 0.2	3.0 ± 0.0	0.0015 ± 0.0002	0.44 ± 0.02	0.023 ± 0.001
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	4.5 ± 0.2	1.1 ± 0.0	0.00061 ± 0.00018	0.20 ± 0.04	0.0026 ± 0.0010
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	4.5 ± 0.2	1.2 ± 0.1	0.0010 ± 0.0002	0.18 ± 0.02	0.0027 ± 0.0006
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	5.0 ± 0.1	1.4 ± 0.0	0.00099 ± 0.00013	0.46 ± 0.04	0.018 ± 0.003
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	5.0 ± 0.1	1.6 ± 0.0	0.00060 ± 0.00014	0.41 ± 0.01	0.027 ± 0.003
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	4.9 ± 0.1	0.75 ± 0.01	0.0012 ± 0.0001	0.43 ± 0.01	0.019 ± 0.003
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	4.7 ± 0.1	0.73 ± 0.01	0.00090 ± 0.00022	0.42 ± 0.01	0.023 ± 0.005
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	4.2 ± 0.2	0.99 ± 0.02	0.0010 ± 0.0002	0.23 ± 0.01	< 0.003 ± 0.001
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	4.2 ± 0.2	0.94 ± 0.02	0.00080 ± 0.00012	0.23 ± 0.01	< 0.003 ± 0.002
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	4.2 ± 0.7	2.9 ± 0.1	0.0015 ± 0.0004	0.36 ± 0.01	0.065 ± 0.002
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	4.0 ± 0.9	0.92 ± 0.01	0.0014 ± 0.0003	0.40 ± 0.01	0.035 ± 0.001
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	3.8 ± 0.8	4.7 ± 0.2	0.00077 ± 0.00010	0.38 ± 0.03	0.042 ± 0.004
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	4.0 ± 0.3	5.0 ± 0.1	— ± —	0.37 ± 0.02	0.052 ± 0.003

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	3.7 ± 0.6	0.74 ± 0.02	< 0.0004 ± 0.0004	0.28 ± 0.01	0.016 ± 0.002
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	3.9 ± 0.5	0.77 ± 0.03	0.00068 ± 0.00025	0.28 ± 0.02	0.013 ± 0.003
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	5.1 ± 0.3	2.0 ± 0.1	0.0017 ± 0.0004	0.32 ± 0.01	0.016 ± 0.003
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	5.0 ± 0.1	1.8 ± 0.0	0.0019 ± 0.0007	0.34 ± 0.04	0.013 ± 0.002
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	5.1 ± 0.2	2.3 ± 0.1	0.0015 ± 0.0000	0.31 ± 0.03	0.013 ± 0.003
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	5.0 ± 0.2	2.3 ± 0.0	0.0013 ± 0.0003	0.30 ± 0.03	0.020 ± 0.001
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	4.7 ± 0.2	1.7 ± 0.1	0.00087 ± 0.00001	0.24 ± 0.04	0.0051 ± 0.0018
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	4.7 ± 0.1	1.7 ± 0.0	0.0012 ± 0.0001	0.17 ± 0.01	0.0041 ± 0.0013
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	5.2 ± 0.1	1.7 ± 0.0	0.0028 ± 0.0004	0.37 ± 0.03	0.010 ± 0.001
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	5.2 ± 0.0	1.8 ± 0.0	— ± —	0.36 ± 0.02	0.018 ± 0.002
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	4.8 ± 0.2	3.4 ± 0.0	0.0024 ± 0.0004	0.36 ± 0.00	0.016 ± 0.001
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	0.0027 ± 0.0003	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	0.0016 ± 0.0002	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	5.4 ± 0.3	3.6 ± 0.0	0.00069 ± 0.00008	0.41 ± 0.02	0.010 ± 0.004
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	5.8 ± 0.1	2.6 ± 0.0	0.00061 ± 0.00037	0.41 ± 0.03	0.0039 ± 0.0016
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	5.4 ± 0.3	4.4 ± 0.1	< 0.0004 ± 0.0001	0.40 ± 0.06	0.010 ± 0.001
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	5.9 ± 0.1	4.3 ± 0.0	0.00061 ± 0.00012	0.39 ± 0.07	0.012 ± 0.001
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	5.5 ± 0.0	2.4 ± 0.0	< 0.0004 ± 0.0001	0.32 ± 0.04	< 0.003 ± 0.000
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	4.7 ± 0.6	2.3 ± 0.0	< 0.0004 ± 0.0000	0.33 ± 0.02	0.0037 ± 0.0029
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	6.2 ± 0.1	6.7 ± 0.1	0.00061 ± 0.00014	0.47 ± 0.01	0.0093 ± 0.0018
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	6.3 ± 0.0	6.1 ± 0.1	0.00063 ± 0.00018	0.42 ± 0.02	0.011 ± 0.003
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	6.3 ± 0.1	7.1 ± 0.2	0.0012 ± 0.0001	0.44 ± 0.03	0.0091 ± 0.0064
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	6.4 ± 0.2	7.2 ± 0.1	0.00077 ± 0.00014	0.46 ± 0.04	0.011 ± 0.001
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	5.8 ± 0.1	5.1 ± 0.1	0.0010 ± 0.0002	0.30 ± 0.01	< 0.002 ± 0.001
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	5.8 ± 0.1	5.1 ± 0.2	0.00060 ± 0.00009	0.32 ± 0.02	< 0.002 ± 0.001
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	5.3 ± 0.9	2.3 ± 0.0	0.00078 ± 0.00033	0.51 ± 0.00	0.017 ± 0.002
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	6.3 ± 0.2	2.1 ± 0.1	0.0013 ± 0.0003	0.48 ± 0.02	0.012 ± 0.001
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	6.0 ± 0.9	2.7 ± 0.0	0.00092 ± 0.00015	0.48 ± 0.00	0.017 ± 0.002
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	4.7 ± 0.3	2.8 ± 0.1	0.0012 ± 0.0001	0.54 ± 0.00	0.018 ± 0.000
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	4.9 ± 0.7	1.8 ± 0.0	0.00073 ± 0.00041	0.30 ± 0.02	0.0038 ± 0.0017
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	4.8 ± 0.9	1.7 ± 0.0	0.00066 ± 0.00031	0.30 ± 0.00	< 0.003 ± 0.001
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	4.0 ± 0.5	0.29 ± 0.03	0.0020 ± 0.0001	0.37 ± 0.01	0.039 ± 0.002
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	3.9 ± 0.8	0.26 ± 0.02	0.0020 ± 0.0002	0.40 ± 0.04	0.039 ± 0.008

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	4.2 ± 0.7	3.2 ± 0.1	0.0017 ± 0.0003	0.39 ± 0.03	0.055 ± 0.000
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	4.2 ± 0.8	3.2 ± 0.1	0.0015 ± 0.0002	0.38 ± 0.00	0.055 ± 0.010
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	3.9 ± 0.8	0.22 ± 0.03	0.0011 ± 0.0002	0.42 ± 0.01	0.029 ± 0.004
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	4.2 ± 0.5	0.21 ± 0.01	0.0011 ± 0.0001	0.37 ± 0.02	0.025 ± 0.005
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	5.5 ± 0.0	1.6 ± 0.0	< 0.0004 ± 0.0001	0.37 ± 0.01	0.012 ± 0.002
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	5.6 ± 0.1	2.3 ± 0.0	0.00045 ± 0.00026	0.36 ± 0.01	0.021 ± 0.002
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	5.4 ± 0.1	2.5 ± 0.1	0.0013 ± 0.0004	0.37 ± 0.03	0.012 ± 0.001
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	5.5 ± 0.1	2.3 ± 0.1	0.00085 ± 0.00020	0.34 ± 0.02	0.013 ± 0.001
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	5.3 ± 0.1	0.62 ± 0.01	0.00066 ± 0.00013	0.26 ± 0.03	0.0020 ± 0.0015
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	5.3 ± 0.0	0.59 ± 0.01	0.00040 ± 0.00026	0.29 ± 0.05	0.0028 ± 0.0011
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	4.4 ± 0.0	0.77 ± 0.05	0.0014 ± 0.0002	0.41 ± 0.00	0.0074 ± 0.0019
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	4.6 ± 0.1	2.3 ± 0.1	0.0011 ± 0.0004	0.35 ± 0.00	0.022 ± 0.001
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	4.6 ± 0.1	1.6 ± 0.0	0.0021 ± 0.0003	0.36 ± 0.01	0.014 ± 0.001
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	4.5 ± 0.1	1.5 ± 0.0	— ± —	0.35 ± 0.01	0.016 ± 0.000
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	4.6 ± 0.2	0.43 ± 0.01	0.0011 ± 0.0004	0.32 ± 0.02	0.0079 ± 0.0011
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	4.6 ± 0.2	0.46 ± 0.01	0.00070 ± 0.00020	0.33 ± 0.01	0.0048 ± 0.0006
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	0.0011 ± 0.0001	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	6.5 ± 0.4	6.1 ± 0.1	0.00065 ± 0.00022	0.48 ± 0.05	0.025 ± 0.003
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	7.1 ± 0.1	2.8 ± 0.0	0.00064 ± 0.00033	0.47 ± 0.02	0.0070 ± 0.0011
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	6.8 ± 0.1	5.4 ± 0.0	0.0012 ± 0.0001	0.50 ± 0.01	0.010 ± 0.001
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	6.4 ± 0.0	5.3 ± 0.0	0.00065 ± 0.00011	0.46 ± 0.01	0.0098 ± 0.0022
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	6.0 ± 0.0	2.8 ± 0.0	0.00053 ± 0.00011	0.42 ± 0.07	< 0.003 ± 0.001
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	6.0 ± 0.1	2.9 ± 0.1	0.00051 ± 0.00014	0.39 ± 0.04	0.0087 ± 0.0001
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	0.00071 ± 0.00015	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	6.8 ± 0.1	9.2 ± 0.1	0.0012 ± 0.0005	0.53 ± 0.04	0.024 ± 0.006
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	7.0 ± 0.2	9.0 ± 0.1	0.0014 ± 0.0000	0.52 ± 0.03	0.025 ± 0.002
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	0.0012 ± 0.0001	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	4.6 ± 0.5	3.8 ± 0.1	0.0017 ± 0.0003	0.42 ± 0.01	0.026 ± 0.003
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	4.8 ± 0.1	3.2 ± 0.0	0.0015 ± 0.0005	0.40 ± 0.02	0.017 ± 0.001
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	4.8 ± 0.0	4.3 ± 0.0	0.0012 ± 0.0003	0.43 ± 0.07	0.024 ± 0.002
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	4.5 ± 0.5	4.2 ± 0.0	0.0016 ± 0.0001	0.38 ± 0.03	0.024 ± 0.003
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	4.6 ± 0.2	3.0 ± 0.1	0.00094 ± 0.00025	0.34 ± 0.02	0.0088 ± 0.0009
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	4.6 ± 0.1	3.0 ± 0.0	0.00088 ± 0.00042	0.37 ± 0.04	0.011 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	6.3 ± 0.1	0.68 ± 0.02	0.0013 ± 0.0002	0.50 ± 0.03	0.0077 ± 0.0001
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	6.3 ± 0.0	0.43 ± 0.00	0.00071 ± 0.00012	0.49 ± 0.02	0.0064 ± 0.0008
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	6.2 ± 0.1	1.8 ± 0.0	0.00055 ± 0.00014	0.47 ± 0.02	0.010 ± 0.002
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	6.3 ± 0.1	1.8 ± 0.0	0.00094 ± 0.00005	0.49 ± 0.03	0.011 ± 0.001
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	5.6 ± 0.1	0.28 ± 0.01	0.00095 ± 0.00012	0.28 ± 0.06	0.0035 ± 0.0002
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	5.6 ± 0.1	0.26 ± 0.01	0.00083 ± 0.00017	0.30 ± 0.05	0.0020 ± 0.0017
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	4.1 ± 0.0	0.63 ± 0.01	< 0.0004 ± 0.000	0.33 ± 0.00	0.013 ± 0.002
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	4.2 ± 0.0	0.44 ± 0.00	0.00060 ± 0.00000	0.34 ± 0.02	0.011 ± 0.002
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	4.2 ± 0.2	1.2 ± 0.0	0.0016 ± 0.0001	0.36 ± 0.00	0.011 ± 0.002
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	4.3 ± 0.1	0.91 ± 0.01	— ± —	0.33 ± 0.00	0.014 ± 0.001
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	3.9 ± 0.2	0.35 ± 0.01	0.00070 ± 0.00010	0.23 ± 0.01	0.0013 ± 0.0008
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	4.4 ± 0.1	0.35 ± 0.01	0.0010 ± 0.0002	0.38 ± 0.02	0.0038 ± 0.0002
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	0.00080 ± 0.00010	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	6.1 ± 0.2	1.1 ± 0.0	0.00052 ± 0.00007	0.48 ± 0.04	0.0042 ± 0.0008
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	6.4 ± 0.3	0.76 ± 0.04	< 0.0004 ± 0.0002	0.50 ± 0.04	0.0077 ± 0.0017
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	6.6 ± 0.0	1.8 ± 0.0	0.00049 ± 0.00001	0.50 ± 0.02	0.015 ± 0.001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	6.1 ± 0.0	1.8 ± 0.0	0.00063 ± 0.00009	0.52 ± 0.03	0.0086 ± 0.0003
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	5.3 ± 0.2	0.68 ± 0.03	< 0.0004 ± 0.0000	0.26 ± 0.04	< 0.002 ± 0.002
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	5.8 ± 0.0	0.64 ± 0.05	< 0.0004 ± 0.0001	0.30 ± 0.01	< 0.003 ± 0.002
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	5.5 ± 0.2	2.1 ± 0.0	< 0.0004 ± 0.0002	0.45 ± 0.00	0.0073 ± 0.0002
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	5.5 ± 0.1	1.9 ± 0.0	0.00071 ± 0.00021	0.44 ± 0.02	0.0075 ± 0.0011
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	5.5 ± 0.1	2.8 ± 0.0	0.00068 ± 0.00014	0.43 ± 0.00	0.0055 ± 0.0018
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	5.5 ± 0.1	2.8 ± 0.1	0.0015 ± 0.0001	0.42 ± 0.02	0.012 ± 0.002
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	4.7 ± 0.1	1.4 ± 0.0	0.00056 ± 0.00002	0.21 ± 0.02	< 0.002 ± 0.000
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	4.6 ± 0.2	1.3 ± 0.0	0.00083 ± 0.00024	0.25 ± 0.02	< 0.002 ± 0.000
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	3.3 ± 0.3	3.1 ± 0.0	0.0010 ± 0.0002	0.32 ± 0.01	0.025 ± 0.004
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	4.2 ± 0.9	2.7 ± 0.0	0.00084 ± 0.00030	0.37 ± 0.01	0.029 ± 0.004
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	4.2 ± 0.9	6.0 ± 0.1	0.0015 ± 0.0003	0.36 ± 0.02	0.036 ± 0.003
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	4.0 ± 0.7	6.0 ± 0.1	0.0011 ± 0.0002	0.35 ± 0.02	0.038 ± 0.004
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	3.8 ± 0.6	3.8 ± 0.1	0.00059 ± 0.00006	0.23 ± 0.03	0.015 ± 0.002
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	3.7 ± 0.7	3.8 ± 0.1	0.0011 ± 0.0002	0.26 ± 0.01	0.014 ± 0.007
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	1.5 ± 0.1	7.4 ± 0.2	0.0017 ± 0.0001	0.25 ± 0.02	0.10 ± 0.01
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	1.7 ± 0.3	7.5 ± 0.0	0.0020 ± 0.0005	0.24 ± 0.03	0.095 ± 0.011

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	1.7 ± 0.2	8.4 ± 0.2	0.0015 ± 0.0003	0.22 ± 0.02	0.12 ± 0.01
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	1.7 ± 0.1	8.7 ± 0.4	0.0017 ± 0.0001	0.25 ± 0.02	0.11 ± 0.00
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	1.4 ± 0.2	5.5 ± 0.2	0.00051 ± 0.00030	0.11 ± 0.01	0.026 ± 0.006
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	1.5 ± 0.2	5.2 ± 0.1	0.00087 ± 0.00031	0.13 ± 0.02	0.023 ± 0.003
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	5.1 ± 0.1	0.33 ± 0.01	0.00049 ± 0.00005	0.42 ± 0.04	0.0064 ± 0.0008
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	5.2 ± 0.0	0.33 ± 0.01	0.00066 ± 0.00009	0.42 ± 0.04	0.0078 ± 0.0016
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	5.1 ± 0.0	1.5 ± 0.0	0.00085 ± 0.00007	0.42 ± 0.04	0.0089 ± 0.0045
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	5.2 ± 0.1	1.5 ± 0.0	0.00059 ± 0.00017	0.39 ± 0.00	0.0094 ± 0.0015
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	4.4 ± 0.0	0.60 ± 0.01	0.0013 ± 0.0000	0.20 ± 0.04	< 0.002 ± 0.001
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	4.4 ± 0.0	0.59 ± 0.03	0.00069 ± 0.00027	0.20 ± 0.05	< 0.002 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	5.1 ± 0.1	0.74 ± 0.01	0.00068 ± 0.00013	0.46 ± 0.01	0.011 ± 0.003
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	5.1 ± 0.1	1.3 ± 0.1	0.00063 ± 0.00020	0.46 ± 0.01	0.014 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	5.1 ± 0.0	1.5 ± 0.0	0.00098 ± 0.00009	0.45 ± 0.01	0.010 ± 0.002
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	5.2 ± 0.0	1.5 ± 0.0	0.00060 ± 0.00005	0.48 ± 0.01	0.012 ± 0.004
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	4.5 ± 0.1	0.27 ± 0.01	0.00070 ± 0.00008	0.25 ± 0.03	< 0.003 ± 0.001
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	4.5 ± 0.1	0.27 ± 0.02	0.00054 ± 0.00023	0.25 ± 0.01	< 0.003 ± 0.001
Flat Cr.	12/11/96	0.40 µm Mem	1/2	1.5 ± 0.1	15 ± 1	0.0014 ± 0.0003	0.089 ± 0.016	0.089 ± 0.002
Flat Cr.	12/11/96	0.40 µm Mem	2/2	1.5 ± 0.1	15 ± 0	0.0010 ± 0.0003	0.094 ± 0.017	0.092 ± 0.001
Flat Cr.	12/11/96	0.45 µm Cap	1/2	1.6 ± 0.2	15 ± 0	0.0012 ± 0.0003	0.070 ± 0.004	0.066 ± 0.002
Flat Cr.	12/11/96	0.45 µm Cap	2/2	1.7 ± 0.1	15 ± 0	0.0015 ± 0.0003	0.072 ± 0.006	0.070 ± 0.001
Flat Cr.	12/11/96	10 kd Tan	1/2	1.4 ± 0.1	12 ± 0	0.0010 ± 0.0000	0.056 ± 0.015	0.031 ± 0.001
Flat Cr.	12/11/96	10 kd Tan	2/2	1.5 ± 0.1	13 ± 0	0.0011 ± 0.0003	0.070 ± 0.021	0.031 ± 0.001
Flat Cr.	05/29/97	0.40 µm Mem	1/2	6.8 ± 0.2	111 ± 2	0.00075 ± 0.00025	0.23 ± 0.02	0.043 ± 0.004
Flat Cr.	05/29/97	0.40 µm Mem	2/2	6.8 ± 0.0	112 ± 1	0.00089 ± 0.00033	0.24 ± 0.02	0.051 ± 0.003
Flat Cr.	05/29/97	0.45 µm Cap	1/2	6.8 ± 0.2	112 ± 2	0.00056 ± 0.00015	0.25 ± 0.02	0.034 ± 0.001
Flat Cr.	05/29/97	0.45 µm Cap	2/2	6.6 ± 0.2	110 ± 2	0.0010 ± 0.0003	0.24 ± 0.02	0.029 ± 0.003
Flat Cr.	05/29/97	10 kd Tan	1/2	6.0 ± 0.2	97 ± 2	0.0011 ± 0.0003	0.22 ± 0.03	0.0089 ± 0.0027
Flat Cr.	05/29/97	10 kd Tan	2/2	6.1 ± 0.3	101 ± 4	0.0010 ± 0.0003	0.24 ± 0.05	0.011 ± 0.001
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	3.8 ± 0.2	159 ± 2	0.0020 ± 0.0003	< 0.03 ± 0.02	4.7 ± 0.2
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	3.7 ± 0.6	154 ± 1	0.0022 ± 0.0003	< 0.03 ± 0.01	4.9 ± 0.0
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	4.2 ± 0.2	158 ± 5	0.0022 ± 0.0003	< 0.03 ± 0.02	4.6 ± 0.0
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	3.7 ± 0.6	156 ± 1	0.0016 ± 0.0002	< 0.03 ± 0.01	4.6 ± 0.0
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	3.8 ± 0.2	154 ± 7	0.0015 ± 0.0002	< 0.03 ± 0.01	4.7 ± 0.1

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	3.8 ± 0.2	153 ± 0	0.0014 ± 0.0004	< 0.03 ± 0.01	4.8 ± 0.3
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	16 ± 1	500 ± 24	0.0040 ± 0.0004	< 0.05 ± 0.03	7.8 ± 0.3
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	16 ± 1	512 ± 18	0.0036 ± 0.0002	< 0.05 ± 0.01	7.5 ± 0.0
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	15 ± 0	483 ± 28	0.0043 ± 0.0003	< 0.05 ± 0.00	7.5 ± 0.6
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	15 ± 0	493 ± 19	0.0048 ± 0.0003	< 0.05 ± 0.00	7.4 ± 0.0
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	14 ± 1	492 ± 35	0.0019 ± 0.0001	< 0.05 ± 0.00	7.5 ± 0.0
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	14 ± 0	484 ± 20	0.0018 ± 0.0004	< 0.05 ± 0.02	7.5 ± 0.2
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	3.6 ± 0.1	204 ± 0	0.0019 ± 0.0003	< 0.05 ± 0.01	3.6 ± 0.0
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	3.5 ± 0.1	207 ± 6	0.0012 ± 0.0002	< 0.03 ± 0.02	3.5 ± 0.2
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	3.5 ± 0.1	199 ± 0	0.0013 ± 0.0002	< 0.03 ± 0.03	3.7 ± 0.2
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	3.5 ± 0.0	212 ± 0	0.0012 ± 0.0001	< 0.03 ± 0.01	3.7 ± 0.2
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	3.4 ± 0.1	201 ± 1	0.0010 ± 0.0001	< 0.03 ± 0.01	3.4 ± 0.1
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	3.3 ± 0.1	193 ± 0	0.00081 ± 0.00029	< 0.03 ± 0.02	3.5 ± 0.0
Whiskeytown	12/11/96	0.40 µm Mem	1/2	5.3 ± 0.1	1.1 ± 0.0	0.00081 ± 0.00019	0.16 ± 0.03	0.015 ± 0.002
Whiskeytown	12/11/96	0.40 µm Mem	2/2	5.2 ± 0.1	1.2 ± 0.0	0.00044 ± 0.00009	0.17 ± 0.01	0.015 ± 0.002
Whiskeytown	12/11/96	0.45 µm Cap	1/2	5.1 ± 0.2	1.2 ± 0.0	0.00062 ± 0.00024	0.16 ± 0.01	0.011 ± 0.000
Whiskeytown	12/11/96	0.45 µm Cap	2/2	6.1 ± 0.0	1.2 ± 0.0	0.00081 ± 0.00012	0.13 ± 0.01	0.012 ± 0.004
Whiskeytown	12/11/96	10 kd Tan	1/2	5.2 ± 0.0	1.0 ± 0.0	0.00092 ± 0.00028	0.15 ± 0.02	0.0039 ± 0.0002
Whiskeytown	12/11/96	10 kd Tan	2/2	5.5 ± 0.4	1.0 ± 0.0	0.00091 ± 0.00020	0.11 ± 0.00	0.0049 ± 0.0026
Whiskeytown	05/29/97	0.40 µm Mem	1/2	5.8 ± 0.1	0.30 ± 0.01	0.0012 ± 0.0004	0.14 ± 0.02	0.0099 ± 0.0013
Whiskeytown	05/29/97	0.40 µm Mem	2/2	5.8 ± 0.2	0.79 ± 0.01	0.00066 ± 0.00018	0.13 ± 0.02	0.012 ± 0.003
Whiskeytown	05/29/97	0.45 µm Cap	1/2	5.7 ± 0.0	0.54 ± 0.02	0.0016 ± 0.0007	0.14 ± 0.01	0.010 ± 0.005
Whiskeytown	05/29/97	0.45 µm Cap	2/2	5.7 ± 0.0	0.62 ± 0.01	0.0011 ± 0.0003	0.13 ± 0.02	0.016 ± 0.006
Whiskeytown	05/29/97	10 kd Tan	1/2	5.2 ± 0.2	0.24 ± 0.01	0.00069 ± 0.00007	0.096 ± 0.011	0.0037 ± 0.0033
Whiskeytown	05/29/97	10 kd Tan	2/2	5.2 ± 0.1	0.24 ± 0.02	0.00060 ± 0.00018	0.089 ± 0.006	< 0.003 ± 0.003
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	— ± —	0.47 ± 0.00	0.00050 ± 0.00000	0.087 ± 0.006	0.012 ± 0.001
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	5.9 ± 0.1	0.55 ± 0.01	0.00040 ± 0.00000	0.11 ± 0.00	0.012 ± 0.001
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	6.0 ± 0.0	0.67 ± 0.04	0.00050 ± 0.00010	0.12 ± 0.01	0.017 ± 0.001
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	6.0 ± 0.0	0.75 ± 0.06	— ± —	0.11 ± 0.01	0.012 ± 0.000
Spring Cr. arm	07/12/96	10 kd Tan	1/3	5.8 ± 0.0	0.68 ± 0.07	0.0011 ± 0.0001	0.093 ± 0.012	0.0057 ± 0.0054
Spring Cr. arm	07/12/96	10 kd Tan	2/3	5.9 ± 0.0	0.47 ± 0.02	0.00050 ± 0.00020	0.068 ± 0.014	0.0048 ± 0.0007
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	0.0010 ± 0.0001	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	6.0 ± 0.0	1.5 ± 0.0	< 0.0004 ± 0.0001	0.12 ± 0.03	0.029 ± 0.000
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	6.1 ± 0.0	1.5 ± 0.0	0.00060 ± 0.00003	0.16 ± 0.03	0.024 ± 0.000

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Magnesium (mg/L) ICP–AES	Manganese (µg/L) ICP–MS	Mercury (µg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	6.5 ± 0.1	1.4 ± 0.0	0.0011 ± 0.0000	0.12 ± 0.01	0.017 ± 0.003
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	6.0 ± 0.1	1.4 ± 0.0	< 0.0004 ± 0.0002	0.12 ± 0.02	0.013 ± 0.001
Spring Cr. arm	09/18/96	10 kd Tan	1/2	5.7 ± 0.2	1.3 ± 0.0	0.00063 ± 0.00017	0.093 ± 0.012	0.0055 ± 0.0043
Spring Cr. arm	09/18/96	10 kd Tan	2/2	5.3 ± 0.0	1.3 ± 0.0	< 0.0004 ± 0.0001	0.082 ± 0.020	0.0048 ± 0.0015
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	6.1 ± 0.1	15 ± 0	< 0.0004 ± 0.0002	0.15 ± 0.01	0.083 ± 0.001
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	6.2 ± 0.1	14 ± 0	0.00051 ± 0.00004	0.14 ± 0.02	0.055 ± 0.007
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	6.2 ± 0.0	14 ± 0	0.00063 ± 0.00018	0.14 ± 0.01	0.073 ± 0.005
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	6.3 ± 0.0	14 ± 0	0.00047 ± 0.00007	0.13 ± 0.03	0.072 ± 0.004
Spring Cr. arm	11/20/96	10 kd Tan	1/2	5.2 ± 0.0	12 ± 0	0.0010 ± 0.0001	0.094 ± 0.046	0.0092 ± 0.0039
Spring Cr. arm	11/20/96	10 kd Tan	2/2	5.3 ± 0.1	12 ± 0	0.00056 ± 0.00011	0.090 ± 0.039	0.0076 ± 0.0002
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	5.6 ± 0.1	22 ± 1	0.00045 ± 0.00030	0.11 ± 0.00	0.10 ± 0.01
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	5.7 ± 0.1	21 ± 0	0.00057 ± 0.00004	0.14 ± 0.01	0.090 ± 0.000
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	5.7 ± 0.1	22 ± 0	0.00067 ± 0.00022	0.15 ± 0.01	0.17 ± 0.02
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	5.6 ± 0.1	22 ± 0	0.00087 ± 0.00025	0.16 ± 0.01	0.17 ± 0.00
Spring Cr. arm	12/11/96	10 kd Tan	1/2	4.7 ± 0.2	18 ± 0	0.00051 ± 0.00056	0.10 ± 0.01	0.026 ± 0.004
Spring Cr. arm	12/11/96	10 kd Tan	2/2	4.6 ± 0.1	18 ± 0	< 0.0004 ± 0.0000	0.083 ± 0.023	0.028 ± 0.004
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	5.8 ± 0.2	3.1 ± 0.1	0.0026 ± 0.0003	0.14 ± 0.02	0.023 ± 0.003
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	5.7 ± 0.1	3.0 ± 0.1	0.0023 ± 0.0003	0.14 ± 0.02	0.018 ± 0.000
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	5.6 ± 0.2	3.1 ± 0.1	0.0023 ± 0.0001	0.13 ± 0.02	0.026 ± 0.002
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	5.7 ± 0.2	3.1 ± 0.1	0.0022 ± 0.0002	0.15 ± 0.02	0.027 ± 0.002
Spring Cr. arm	05/28/97	10 kd Tan	1/2	4.9 ± 0.1	2.5 ± 0.1	0.0022 ± 0.0003	0.069 ± 0.006	0.0055 ± 0.0019
Spring Cr. arm	05/28/97	10 kd Tan	2/2	4.9 ± 0.1	2.5 ± 0.1	0.0025 ± 0.0002	0.080 ± 0.013	0.0043 ± 0.0011
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	28 ± 4	0.70 ± 0.02	0.00097 ± 0.00027	3.2 ± 0.0	0.018 ± 0.003
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	29 ± 0	0.60 ± 0.02	0.00066 ± 0.00008	3.3 ± 0.1	0.019 ± 0.002
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	30 ± 2	22 ± 0	0.0021 ± 0.0001	3.3 ± 0.1	0.020 ± 0.002
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	28 ± 3	22 ± 0	0.0022 ± 0.0002	3.4 ± 0.1	0.018 ± 0.003
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	23 ± 1	0.21 ± 0.00	0.00052 ± 0.00014	2.6 ± 0.1	0.012 ± 0.001
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	23 ± 4	0.20 ± 0.01	0.00097 ± 0.00005	2.6 ± 0.1	0.012 ± 0.002
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	4.1 ± 0.0	2.9 ± 0.1	0.0017 ± 0.0004	0.34 ± 0.00	0.041 ± 0.005
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	4.1 ± 0.0	1.8 ± 0.1	0.0014 ± 0.0000	0.35 ± 0.01	0.033 ± 0.001
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	4.1 ± 0.0	3.7 ± 0.1	0.0013 ± 0.0003	0.39 ± 0.03	0.071 ± 0.002
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	3.9 ± 0.1	3.6 ± 0.1	0.0013 ± 0.0002	0.37 ± 0.03	0.068 ± 0.000
Yolo Bypass	01/07/97	10 kd Tan	1/2	3.5 ± 0.0	1.8 ± 0.0	0.0013 ± 0.0003	0.26 ± 0.01	0.014 ± 0.004
Yolo Bypass	01/07/97	10 kd Tan	2/2	3.4 ± 0.1	1.6 ± 0.0	0.00090 ± 0.00018	0.21 ± 0.01	0.014 ± 0.003

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	0.67 ± 0.07	1.1 ± 0.0	0.0050 ± 0.0001	< 0.0013 ± 0.0007	2.2 ± 0.0
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	0.74 ± 0.02	1.1 ± 0.0	0.0048 ± 0.0003	0.0013 ± 0.0000	2.1 ± 0.0
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	0.73 ± 0.05	1.1 ± 0.0	0.0052 ± 0.0000	0.00065 ± 0.00006	2.0 ± 0.0
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	0.77 ± 0.05	1.1 ± 0.0	0.0064 ± 0.0004	0.00057 ± 0.00008	2.0 ± 0.0
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	0.68 ± 0.09	1.0 ± 0.0	0.0022 ± 0.0006	0.00038 ± 0.00037	2.0 ± 0.0
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	0.60 ± 0.04	1.1 ± 0.0	0.0022 ± 0.0002	< 0.0013 ± 0.0003	1.8 ± 0.0
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	0.97 ± 0.06	0.96 ± 0.02	0.0070 ± 0.0002	< 0.0008 ± 0.0004	2.0 ± 0.0
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	1.1 ± 0.0	0.95 ± 0.01	0.0074 ± 0.0018	< 0.0008 ± 0.0005	1.9 ± 0.0
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	0.94 ± 0.07	0.94 ± 0.01	0.0040 ± 0.0003	< 0.0008 ± 0.0008	2.0 ± 0.1
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	1.0 ± 0.1	0.94 ± 0.01	0.0047 ± 0.0001	< 0.0010 ± 0.0002	2.0 ± 0.0
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	0.75 ± 0.08	0.85 ± 0.02	0.0024 ± 0.0000	0.0013 ± 0.0005	1.8 ± 0.0
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	0.81 ± 0.00	0.85 ± 0.01	0.0013 ± 0.0001	< 0.0008 ± 0.0001	1.7 ± 0.0
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	0.50 ± 0.04	1.3 ± 0.0	0.0020 ± 0.0003	< 0.0015 ± 0.0009	2.9 ± 0.0
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	0.49 ± 0.05	1.3 ± 0.0	0.0018 ± 0.0004	< 0.0015 ± 0.0005	3.0 ± 0.0
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	0.46 ± 0.07	1.3 ± 0.0	0.0013 ± 0.0002	< 0.0015 ± 0.0004	2.9 ± 0.0
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	0.35 ± 0.00	1.3 ± 0.0	0.0021 ± 0.0005	< 0.0015 ± 0.0002	3.0 ± 0.0
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	0.34 ± 0.03	1.2 ± 0.0	< 0.0005 ± 0.0006	< 0.0015 ± 0.0003	2.5 ± 0.0
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	0.31 ± 0.06	1.2 ± 0.0	< 0.0005 ± 0.0003	< 0.0015 ± 0.0007	2.6 ± 0.0
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	0.94 ± 0.06	1.5 ± 0.0	0.0029 ± 0.0005	< 0.0013 ± 0.0010	3.2 ± 0.0
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	0.88 ± 0.12	1.4 ± 0.1	0.0028 ± 0.0004	< 0.0013 ± 0.0001	3.2 ± 0.0
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	0.66 ± 0.04	1.4 ± 0.1	0.0034 ± 0.0002	< 0.0006 ± 0.0000	3.1 ± 0.0
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	0.56 ± 0.03	1.4 ± 0.0	0.0038 ± 0.0002	0.00076 ± 0.00054	3.1 ± 0.1
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	0.72 ± 0.03	1.3 ± 0.0	0.00070 ± 0.00028	0.0011 ± 0.0001	2.7 ± 0.0
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	0.70 ± 0.02	1.3 ± 0.0	0.00060 ± 0.00050	< 0.0013 ± 0.0005	2.9 ± 0.0
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	1.7 ± 0.1	1.2 ± 0.0	0.0059 ± 0.0002	< 0.0008 ± 0.0005	2.0 ± 0.0
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	1.4 ± 0.0	1.2 ± 0.0	0.0037 ± 0.0002	< 0.0008 ± 0.0000	1.9 ± 0.0
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	0.94 ± 0.08	1.1 ± 0.0	0.0044 ± 0.0009	< 0.0008 ± 0.0005	1.8 ± 0.1
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	0.90 ± 0.04	1.1 ± 0.1	0.0044 ± 0.0001	< 0.0008 ± 0.0004	1.9 ± 0.1
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	0.72 ± 0.09	0.99 ± 0.00	0.00059 ± 0.00046	< 0.0008 ± 0.0006	1.6 ± 0.0
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	0.72 ± 0.03	1.0 ± 0.0	0.0010 ± 0.0003	< 0.0008 ± 0.0006	1.6 ± 0.1
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	1.5 ± 0.0	0.91 ± 0.00	0.0041 ± 0.0002	< 0.0005 ± 0.0001	1.6 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	1.5 ± 0.0	0.91 ± 0.02	0.0040 ± 0.0002	< 0.0005 ± 0.0000	1.6 ± 0.0
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	1.6 ± 0.0	0.91 ± 0.00	0.0041 ± 0.0001	0.00067 ± 0.00022	1.6 ± 0.0
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	1.6 ± 0.0	0.90 ± 0.01	0.0051 ± 0.0000	< 0.0005 ± 0.0002	1.6 ± 0.0
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	1.4 ± 0.1	0.85 ± 0.01	0.0022 ± 0.0002	< 0.0005 ± 0.0001	1.5 ± 0.0
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	1.4 ± 0.0	0.88 ± 0.01	0.0022 ± 0.0000	< 0.0005 ± 0.0003	1.5 ± 0.0
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	1.4 ± 0.0	0.86 ± 0.00	0.0020 ± 0.0001	0.00062 ± 0.00021	1.5 ± 0.1
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	2.1 ± 0.1	0.68 ± 0.01	0.0052 ± 0.0005	< 0.0008 ± 0.0002	1.2 ± 0.0
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	2.0 ± 0.1	0.69 ± 0.01	0.0041 ± 0.0014	< 0.0010 ± 0.0003	1.3 ± 0.0
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	2.1 ± 0.0	0.68 ± 0.01	0.0036 ± 0.0010	< 0.0010 ± 0.0011	1.3 ± 0.0
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	2.0 ± 0.1	0.70 ± 0.01	0.0047 ± 0.0003	0.0011 ± 0.0004	1.3 ± 0.0
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	1.5 ± 0.1	0.61 ± 0.01	0.0010 ± 0.0006	< 0.0008 ± 0.0002	1.1 ± 0.0
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	1.5 ± 0.1	0.61 ± 0.01	0.0012 ± 0.0004	< 0.0008 ± 0.0009	1.1 ± 0.0
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	1.5 ± 0.0	0.62 ± 0.00	0.00057 ± 0.00051	< 0.0008 ± 0.0002	1.1 ± 0.0
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	0.71 ± 0.05	1.0 ± 0.0	0.0044 ± 0.0008	< 0.0015 ± 0.0003	2.3 ± 0.1
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	0.74 ± 0.01	1.1 ± 0.0	0.0051 ± 0.0003	< 0.0015 ± 0.0004	2.3 ± 0.1
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	0.90 ± 0.03	1.0 ± 0.0	0.0058 ± 0.0001	< 0.0015 ± 0.0005	2.2 ± 0.1
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	0.69 ± 0.01	1.1 ± 0.0	0.0046 ± 0.0005	< 0.0015 ± 0.0002	2.3 ± 0.1
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	0.51 ± 0.05	0.95 ± 0.02	0.00068 ± 0.00045	< 0.0015 ± 0.0004	2.0 ± 0.0
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	0.51 ± 0.05	0.94 ± 0.03	0.00064 ± 0.00050	< 0.0015 ± 0.0002	2.0 ± 0.0
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	0.63 ± 0.03	1.3 ± 0.0	0.0073 ± 0.0014	0.0014 ± 0.0004	2.7 ± 0.1
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	0.71 ± 0.06	1.3 ± 0.0	0.0053 ± 0.0001	< 0.0013 ± 0.0007	2.8 ± 0.1
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	0.71 ± 0.01	1.3 ± 0.1	0.0060 ± 0.0004	< 0.0006 ± 0.0003	2.6 ± 0.0
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	0.60 ± 0.10	1.3 ± 0.0	0.0061 ± 0.0004	< 0.0013 ± 0.0000	2.7 ± 0.0
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	0.35 ± 0.04	1.1 ± 0.0	0.00099 ± 0.00029	< 0.0013 ± 0.0008	2.4 ± 0.0
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	0.46 ± 0.01	1.1 ± 0.0	0.00064 ± 0.00050	< 0.0013 ± 0.0001	2.4 ± 0.0
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	0.64 ± 0.04	1.1 ± 0.0	0.0047 ± 0.0007	0.00071 ± 0.00059	2.2 ± 0.1
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	0.58 ± 0.03	1.1 ± 0.0	0.0055 ± 0.0011	< 0.0006 ± 0.0006	2.3 ± 0.1
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	0.77 ± 0.03	1.1 ± 0.0	0.0097 ± 0.0008	< 0.0006 ± 0.0004	2.2 ± 0.0
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	0.65 ± 0.06	1.1 ± 0.1	0.0095 ± 0.0005	< 0.0006 ± 0.0005	2.3 ± 0.0
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	0.54 ± 0.06	1.0 ± 0.0	0.0022 ± 0.0006	< 0.0006 ± 0.0002	2.0 ± 0.0
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	0.57 ± 0.09	1.1 ± 0.1	0.0021 ± 0.0001	< 0.0006 ± 0.0004	2.0 ± 0.0
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	0.62 ± 0.06	1.0 ± 0.0	0.0018 ± 0.0003	< 0.0005 ± 0.0003	2.0 ± 0.0
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	1.7 ± 0.1	0.92 ± 0.03	0.0033 ± 0.0003	< 0.0008 ± 0.0005	1.5 ± 0.0
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	2.0 ± 0.1	0.98 ± 0.04	0.0045 ± 0.0002	< 0.0008 ± 0.0002	1.5 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	1.6 ± 0.0	0.90 ± 0.03	0.0037 ± 0.0003	< 0.0008 ± 0.0003	1.5 ± 0.0
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	1.6 ± 0.0	0.92 ± 0.04	0.0049 ± 0.0003	< 0.0008 ± 0.0005	1.5 ± 0.0
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	1.3 ± 0.0	0.83 ± 0.04	0.0011 ± 0.0002	< 0.0008 ± 0.0003	1.3 ± 0.0
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	1.2 ± 0.0	0.87 ± 0.00	0.00093 ± 0.00009	< 0.0008 ± 0.0002	1.3 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	1.2 ± 0.0	0.94 ± 0.01	0.0028 ± 0.0004	< 0.0013 ± 0.0005	1.6 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	1.3 ± 0.0	0.95 ± 0.02	0.0024 ± 0.0004	0.0013 ± 0.0000	1.6 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	1.3 ± 0.0	0.96 ± 0.03	0.0034 ± 0.0001	< 0.0005 ± 0.0002	1.7 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	1.3 ± 0.0	0.95 ± 0.00	0.0031 ± 0.0001	0.00061 ± 0.00016	1.7 ± 0.0
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	2.7 ± 0.1	0.96 ± 0.00	0.00091 ± 0.00019	0.00072 ± 0.00012	1.8 ± 0.0
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	2.2 ± 0.0	0.92 ± 0.00	0.00074 ± 0.00012	< 0.0005 ± 0.0003	1.6 ± 0.00
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	1.6 ± 0.1	0.79 ± 0.02	0.0024 ± 0.0005	< 0.0010 ± 0.0002	1.6 ± 0.0
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	1.6 ± 0.0	0.83 ± 0.00	0.0019 ± 0.0002	< 0.0006 ± 0.0000	1.5 ± 0.0
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	1.8 ± 0.0	0.80 ± 0.01	0.0028 ± 0.0003	< 0.0008 ± 0.0006	1.5 ± 0.0
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	1.7 ± 0.1	0.80 ± 0.00	0.0024 ± 0.0002	< 0.0006 ± 0.0002	1.6 ± 0.0
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	0.97 ± 0.05	0.70 ± 0.01	0.00058 ± 0.00022	< 0.0008 ± 0.0003	1.3 ± 0.0
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	0.93 ± 0.05	0.72 ± 0.00	< 0.0004 ± 0.0001	< 0.0008 ± 0.0005	1.3 ± 0.0
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	1.0 ± 0.1	1.2 ± 0.0	0.0041 ± 0.0016	< 0.0015 ± 0.0003	2.2 ± 0.0
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	0.94 ± 0.11	1.2 ± 0.0	0.0040 ± 0.0005	< 0.0015 ± 0.0002	2.2 ± 0.0
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	1.0 ± 0.1	1.2 ± 0.0	0.0032 ± 0.0003	< 0.0015 ± 0.0000	2.1 ± 0.0
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	0.96 ± 0.09	1.2 ± 0.0	0.0033 ± 0.0004	< 0.0015 ± 0.0001	2.2 ± 0.0
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	0.50 ± 0.05	1.0 ± 0.0	0.00050 ± 0.00046	< 0.0015 ± 0.0001	2.0 ± 0.0
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	0.58 ± 0.12	1.0 ± 0.0	0.00047 ± 0.00048	0.0015 ± 0.0003	1.9 ± 0.0
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	0.86 ± 0.01	1.2 ± 0.1	0.0040 ± 0.0011	< 0.0013 ± 0.0010	2.1 ± 0.1
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	0.87 ± 0.07	1.2 ± 0.0	0.0038 ± 0.0009	0.0018 ± 0.0004	2.0 ± 0.0
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	0.88 ± 0.06	1.2 ± 0.0	0.0039 ± 0.0006	< 0.0013 ± 0.0007	2.0 ± 0.0
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	0.88 ± 0.05	1.1 ± 0.0	0.0038 ± 0.0007	< 0.0013 ± 0.0001	1.9 ± 0.0
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	0.43 ± 0.09	1.1 ± 0.0	0.00072 ± 0.00024	< 0.0013 ± 0.0003	1.9 ± 0.0
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	0.42 ± 0.04	1.1 ± 0.0	0.00085 ± 0.00021	< 0.0013 ± 0.0009	1.9 ± 0.0
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	0.91 ± 0.03	1.0 ± 0.0	0.012 ± 0.001	0.00067 ± 0.00065	1.1 ± 0.0
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	0.68 ± 0.03	1.0 ± 0.0	0.0056 ± 0.0013	0.00083 ± 0.00087	1.0 ± 0.0
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	0.65 ± 0.07	1.0 ± 0.0	0.0088 ± 0.0008	< 0.0006 ± 0.0003	1.1 ± 0.0
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	0.62 ± 0.07	1.0 ± 0.0	0.0082 ± 0.0008	0.00061 ± 0.00023	1.2 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	0.53 ± 0.04	0.91 ± 0.03	0.0023 ± 0.0005	0.00073 ± 0.00026	0.88 ± 0.01
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	0.50 ± 0.01	0.91 ± 0.05	0.0025 ± 0.0001	0.00065 ± 0.00076	0.91 ± 0.02
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	1.7 ± 0.1	0.98 ± 0.05	0.0033 ± 0.0003	< 0.0008 ± 0.0005	1.6 ± 0.0
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	1.6 ± 0.1	0.97 ± 0.02	0.0023 ± 0.0001	< 0.0008 ± 0.0002	1.6 ± 0.0
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	1.6 ± 0.0	0.96 ± 0.02	0.0034 ± 0.0003	< 0.0008 ± 0.0002	1.6 ± 0.0
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	1.5 ± 0.0	0.96 ± 0.02	0.0035 ± 0.0003	0.00092 ± 0.00063	1.5 ± 0.0
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	1.1 ± 0.0	0.87 ± 0.04	0.00071 ± 0.00020	< 0.0008 ± 0.0006	1.4 ± 0.0
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	1.2 ± 0.1	0.88 ± 0.04	0.00071 ± 0.00016	< 0.0008 ± 0.0005	1.4 ± 0.0
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	1.1 ± 0.0	1.0 ± 0.0	0.0025 ± 0.0001	0.00071 ± 0.00022	1.6 ± 0.0
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	1.0 ± 0.1	1.0 ± 0.0	0.0032 ± 0.0001	0.00071 ± 0.00032	1.6 ± 0.0
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	0.85 ± 0.01	1.0 ± 0.0	0.0027 ± 0.0002	< 0.0013 ± 0.0002	1.6 ± 0.0
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	1.5 ± 0.0	1.0 ± 0.0	0.0028 ± 0.0003	< 0.0008 ± 0.0004	1.6 ± 0.0
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	1.5 ± 0.1	1.0 ± 0.0	0.0013 ± 0.0005	< 0.0008 ± 0.0006	1.6 ± 0.0
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	1.4 ± 0.1	1.0 ± 0.0	0.0015 ± 0.0012	< 0.0008 ± 0.0005	1.6 ± 0.1
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	1.4 ± 0.0	1.0 ± 0.0	0.0020 ± 0.0000	0.00065 ± 0.00028	1.6 ± 0.0
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	1.0 ± 0.1	0.93 ± 0.01	< 0.0004 ± 0.0003	< 0.0008 ± 0.0004	1.4 ± 0.0
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	1.0 ± 0.1	0.92 ± 0.01	0.00053 ± 0.00030	< 0.0008 ± 0.0003	1.4 ± 0.0
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	0.88 ± 0.06	1.2 ± 0.0	0.0027 ± 0.0006	< 0.0015 ± 0.0002	2.0 ± 0.0
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	0.84 ± 0.04	1.3 ± 0.0	0.0022 ± 0.0006	< 0.0015 ± 0.0003	2.1 ± 0.0
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	0.78 ± 0.12	1.3 ± 0.0	0.0016 ± 0.0001	< 0.0015 ± 0.0002	2.1 ± 0.0
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	0.74 ± 0.04	1.3 ± 0.0	0.0021 ± 0.0002	< 0.0015 ± 0.0002	2.1 ± 0.1
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	0.56 ± 0.05	1.2 ± 0.0	< 0.0005 ± 0.0002	< 0.0015 ± 0.0002	1.9 ± 0.0
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	0.58 ± 0.07	1.2 ± 0.0	< 0.0005 ± 0.0002	< 0.0015 ± 0.0005	1.9 ± 0.0
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	1.2 ± 0.1	1.3 ± 0.0	0.0032 ± 0.0002	< 0.0013 ± 0.0007	1.3 ± 0.0
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	1.1 ± 0.0	1.3 ± 0.0	0.0029 ± 0.0004	0.0015 ± 0.0008	1.3 ± 0.0
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	1.4 ± 0.0	1.2 ± 0.0	0.0039 ± 0.0006	< 0.0006 ± 0.0004	1.2 ± 0.0
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	1.2 ± 0.0	1.3 ± 0.0	0.0035 ± 0.0006	< 0.0013 ± 0.0001	1.3 ± 0.0
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	0.81 ± 0.03	1.1 ± 0.0	0.00074 ± 0.00042	< 0.0006 ± 0.0002	1.1 ± 0.0
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	0.86 ± 0.03	1.2 ± 0.0	0.00058 ± 0.00028	< 0.0013 ± 0.0007	1.2 ± 0.0
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	2.1 ± 0.1	1.1 ± 0.1	0.0064 ± 0.0013	< 0.0006 ± 0.0004	0.58 ± 0.00
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	2.0 ± 0.0	1.1 ± 0.0	0.0063 ± 0.0008	0.00075 ± 0.00004	0.57 ± 0.01

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	1.6 ± 0.1	1.1 ± 0.0	0.010 ± 0.000	< 0.0006 ± 0.0006	0.59 ± 0.02
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	1.5 ± 0.0	1.1 ± 0.0	0.011 ± 0.001	< 0.0006 ± 0.0006	0.59 ± 0.01
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	1.9 ± 0.1	1.1 ± 0.0	0.0043 ± 0.0003	0.0010 ± 0.0001	0.54 ± 0.02
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	1.9 ± 0.1	1.0 ± 0.0	0.0040 ± 0.0006	0.00090 ± 0.00044	0.53 ± 0.01
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	1.1 ± 0.0	1.1 ± 0.0	0.0022 ± 0.0006	0.0010 ± 0.0002	1.5 ± 0.0
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	1.3 ± 0.1	1.1 ± 0.0	0.0042 ± 0.0002	0.0012 ± 0.0002	1.5 ± 0.0
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	0.88 ± 0.03	1.1 ± 0.0	0.0028 ± 0.0002	< 0.0008 ± 0.0003	1.5 ± 0.0
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	0.84 ± 0.06	1.1 ± 0.1	0.0022 ± 0.0003	< 0.0008 ± 0.0002	1.5 ± 0.0
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	0.73 ± 0.02	1.1 ± 0.0	0.00047 ± 0.00030	< 0.0008 ± 0.0004	1.4 ± 0.0
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	0.80 ± 0.05	1.0 ± 0.0	0.00044 ± 0.00036	< 0.0008 ± 0.0000	1.4 ± 0.0
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	0.47 ± 0.02	0.87 ± 0.01	0.0019 ± 0.0002	0.0019 ± 0.0009	1.1 ± 0.0
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	0.59 ± 0.04	0.90 ± 0.00	0.0042 ± 0.0001	< 0.0005 ± 0.0003	1.1 ± 0.0
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	0.50 ± 0.02	0.88 ± 0.01	0.0026 ± 0.0002	< 0.0005 ± 0.0002	1.1 ± 0.0
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	0.50 ± 0.03	0.89 ± 0.01	0.0028 ± 0.0000	< 0.0005 ± 0.0001	1.1 ± 0.0
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	0.63 ± 0.01	0.86 ± 0.00	0.0013 ± 0.0002	0.00066 ± 0.00026	1.1 ± 0.0
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	0.51 ± 0.05	0.87 ± 0.01	0.0012 ± 0.0002	< 0.0005 ± 0.0001	1.1 ± 0.0
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	0.81 ± 0.01	1.0 ± 0.0	0.0046 ± 0.0002	0.00096 ± 0.00015	1.1 ± 0.0
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	0.51 ± 0.00	1.0 ± 0.0	0.0011 ± 0.0002	0.00074 ± 0.00059	1.1 ± 0.0
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	0.62 ± 0.01	1.0 ± 0.0	0.0020 ± 0.0003	< 0.0006 ± 0.0001	1.1 ± 0.0
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	0.57 ± 0.11	1.0 ± 0.0	0.0020 ± 0.0003	0.00079 ± 0.00021	1.1 ± 0.0
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	0.28 ± 0.10	0.94 ± 0.02	0.00040 ± 0.00047	< 0.0008 ± 0.0009	1.0 ± 0.0
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	0.28 ± 0.07	0.95 ± 0.01	0.00054 ± 0.00048	0.00094 ± 0.00098	1.0 ± 0.0
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	0.76 ± 0.03	1.4 ± 0.0	0.0051 ± 0.0005	< 0.0015 ± 0.0003	1.3 ± 0.0
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	0.76 ± 0.05	1.4 ± 0.0	0.0041 ± 0.0006	< 0.0015 ± 0.0004	1.3 ± 0.0
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	0.86 ± 0.03	1.2 ± 0.1	0.0044 ± 0.0007	0.00080 ± 0.00010	1.0 ± 0.0
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	0.79 ± 0.06	1.2 ± 0.0	0.0041 ± 0.0014	< 0.0013 ± 0.0010	1.1 ± 0.0
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	0.79 ± 0.02	1.3 ± 0.0	0.0042 ± 0.0009	< 0.0013 ± 0.0007	1.1 ± 0.0
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	0.84 ± 0.02	1.2 ± 0.0	0.0047 ± 0.0008	< 0.0013 ± 0.0004	1.0 ± 0.0
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	0.60 ± 0.06	1.1 ± 0.0	0.0015 ± 0.0003	< 0.0013 ± 0.0003	0.95 ± 0.00
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	0.64 ± 0.07	1.1 ± 0.0	0.0013 ± 0.0001	< 0.0013 ± 0.0011	0.94 ± 0.00

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	0.67 ± 0.06	1.1 ± 0.0	0.0017 ± 0.0002	0.0011 ± 0.0010	1.2 ± 0.0
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	0.65 ± 0.02	1.0 ± 0.0	0.0011 ± 0.0001	< 0.0008 ± 0.0003	1.1 ± 0.0
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	0.61 ± 0.05	1.0 ± 0.0	0.0021 ± 0.0002	< 0.0008 ± 0.0001	1.1 ± 0.0
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	0.61 ± 0.02	1.0 ± 0.0	0.0021 ± 0.0003	< 0.0008 ± 0.0003	1.1 ± 0.0
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	0.40 ± 0.03	0.93 ± 0.01	0.00034 ± 0.00029	0.00087 ± 0.00048	0.97 ± 0.08
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	0.42 ± 0.03	0.94 ± 0.00	0.00056 ± 0.00037	< 0.0008 ± 0.0001	0.99 ± 0.04
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	0.41 ± 0.07	0.81 ± 0.02	0.0026 ± 0.0002	0.00077 ± 0.00016	0.99 ± 0.00
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	0.42 ± 0.07	0.84 ± 0.00	0.0022 ± 0.0002	0.00051 ± 0.00021	1.0 ± 0.0
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	0.43 ± 0.01	0.85 ± 0.01	0.0039 ± 0.0003	< 0.0013 ± 0.0018	1.1 ± 0.0
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	0.42 ± 0.05	0.86 ± 0.01	0.0032 ± 0.0002	< 0.0003 ± 0.0001	1.0 ± 0.0
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	0.61 ± 0.04	0.75 ± 0.01	0.00043 ± 0.00006	< 0.0005 ± 0.0003	0.91 ± 0.00
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	0.96 ± 0.00	0.91 ± 0.01	0.00082 ± 0.00007	0.00094 ± 0.00022	1.1 ± 0.0
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	0.50 ± 0.07	0.99 ± 0.02	0.0010 ± 0.0004	0.0012 ± 0.0004	1.1 ± 0.0
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	0.54 ± 0.10	0.98 ± 0.01	0.0010 ± 0.0004	< 0.0008 ± 0.0002	1.1 ± 0.0
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	0.62 ± 0.06	0.99 ± 0.00	0.0027 ± 0.0003	0.0015 ± 0.0002	1.1 ± 0.0
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	0.52 ± 0.06	0.98 ± 0.01	0.0021 ± 0.0003	< 0.0008 ± 0.0001	1.1 ± 0.0
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	0.25 ± 0.05	0.89 ± 0.01	< 0.0005 ± 0.0001	< 0.0006 ± 0.0000	0.94 ± 0.01
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	0.32 ± 0.06	0.90 ± 0.01	0.00050 ± 0.00027	0.0021 ± 0.0012	0.97 ± 0.03
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	0.63 ± 0.04	1.2 ± 0.0	0.0024 ± 0.0002	< 0.0015 ± 0.0003	1.2 ± 0.0
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	0.59 ± 0.02	1.2 ± 0.0	0.0015 ± 0.0004	< 0.0015 ± 0.0007	1.2 ± 0.0
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	0.62 ± 0.07	1.2 ± 0.0	0.0019 ± 0.0004	< 0.0015 ± 0.0005	1.2 ± 0.0
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	0.63 ± 0.04	1.2 ± 0.0	0.0013 ± 0.0004	< 0.0015 ± 0.0000	1.2 ± 0.0
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	0.33 ± 0.02	1.1 ± 0.0	< 0.0005 ± 0.0001	< 0.0015 ± 0.0002	1.1 ± 0.0
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	0.33 ± 0.05	1.1 ± 0.0	< 0.0005 ± 0.0001	< 0.0015 ± 0.0003	1.1 ± 0.0
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	0.78 ± 0.04	1.1 ± 0.0	0.0051 ± 0.0003	0.0013 ± 0.0008	0.96 ± 0.02
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	0.77 ± 0.08	1.2 ± 0.0	0.0056 ± 0.0002	< 0.0013 ± 0.0004	1.0 ± 0.0
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	0.86 ± 0.09	1.2 ± 0.0	0.0069 ± 0.0007	< 0.0013 ± 0.0001	0.97 ± 0.00
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	0.94 ± 0.08	1.2 ± 0.0	0.0070 ± 0.0004	< 0.0013 ± 0.0008	0.97 ± 0.05
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	0.69 ± 0.03	1.0 ± 0.0	0.0020 ± 0.0005	< 0.0013 ± 0.0001	0.86 ± 0.03
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	0.67 ± 0.04	1.1 ± 0.0	0.0026 ± 0.0008	< 0.0013 ± 0.0006	0.93 ± 0.01
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	0.68 ± 0.04	0.98 ± 0.02	0.022 ± 0.001	< 0.0006 ± 0.0002	1.2 ± 0.0
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	0.69 ± 0.02	0.98 ± 0.04	0.019 ± 0.002	< 0.0006 ± 0.0005	1.3 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	0.78 ± 0.07	1.0 ± 0.0	0.024 ± 0.001	< 0.0006 ± 0.0007	1.2 ± 0.0
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	0.66 ± 0.05	0.98 ± 0.03	0.025 ± 0.001	< 0.0006 ± 0.0004	1.2 ± 0.0
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	0.36 ± 0.02	0.85 ± 0.01	0.0040 ± 0.0008	< 0.0006 ± 0.0004	1.1 ± 0.0
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	0.36 ± 0.04	0.90 ± 0.03	0.0036 ± 0.0005	< 0.0006 ± 0.0004	1.1 ± 0.0
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	0.68 ± 0.05	0.99 ± 0.00	0.0015 ± 0.0003	0.00091 ± 0.00004	1.0 ± 0.0
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	0.68 ± 0.07	0.97 ± 0.03	0.0016 ± 0.0003	< 0.0008 ± 0.0004	1.1 ± 0.0
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	0.69 ± 0.01	0.97 ± 0.01	0.0021 ± 0.0003	< 0.0008 ± 0.0002	1.1 ± 0.0
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	0.70 ± 0.07	0.97 ± 0.00	0.0019 ± 0.0002	< 0.0008 ± 0.0005	1.0 ± 0.0
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	0.36 ± 0.02	0.83 ± 0.01	< 0.0003 ± 0.0000	< 0.0008 ± 0.0007	0.89 ± 0.05
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	0.37 ± 0.03	0.85 ± 0.02	0.00051 ± 0.00019	< 0.0008 ± 0.0001	0.92 ± 0.03
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	0.67 ± 0.01	0.96 ± 0.01	0.0018 ± 0.0003	0.0013 ± 0.0010	1.1 ± 0.0
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	0.73 ± 0.02	0.99 ± 0.01	0.0037 ± 0.0001	0.0015 ± 0.0003	1.1 ± 0.1
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	0.54 ± 0.03	0.97 ± 0.02	0.0026 ± 0.0011	0.0015 ± 0.0005	1.1 ± 0.0
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	0.53 ± 0.02	0.97 ± 0.01	0.0021 ± 0.0003	0.0015 ± 0.0009	1.1 ± 0.1
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	0.31 ± 0.04	0.87 ± 0.01	< 0.0003 ± 0.0003	0.0011 ± 0.0006	0.93 ± 0.01
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	0.33 ± 0.03	0.87 ± 0.00	< 0.0003 ± 0.0000	< 0.001 ± 0.001	0.95 ± 0.00
Flat Cr.	12/11/96	0.40 µm Mem	1/2	0.63 ± 0.00	0.19 ± 0.00	0.015 ± 0.002	0.00071 ± 0.00017	0.11 ± 0.00
Flat Cr.	12/11/96	0.40 µm Mem	2/2	0.75 ± 0.00	0.19 ± 0.01	0.014 ± 0.000	0.00078 ± 0.00012	0.10 ± 0.00
Flat Cr.	12/11/96	0.45 µm Cap	1/2	0.67 ± 0.02	0.19 ± 0.01	0.011 ± 0.001	< 0.0013 ± 0.0008	0.10 ± 0.01
Flat Cr.	12/11/96	0.45 µm Cap	2/2	0.78 ± 0.06	0.19 ± 0.00	0.011 ± 0.000	< 0.0006 ± 0.0002	0.096 ± 0.006
Flat Cr.	12/11/96	10 kd Tan	1/2	0.65 ± 0.03	0.25 ± 0.00	0.0054 ± 0.0006	0.0017 ± 0.0011	0.083 ± 0.002
Flat Cr.	12/11/96	10 kd Tan	2/2	0.74 ± 0.01	0.16 ± 0.00	0.0054 ± 0.0015	0.00092 ± 0.00031	0.075 ± 0.000
Flat Cr.	05/29/97	0.40 µm Mem	1/2	< 0.01 ± 0.02	0.33 ± 0.01	0.0071 ± 0.0004	0.0019 ± 0.0007	0.30 ± 0.01
Flat Cr.	05/29/97	0.40 µm Mem	2/2	0.084 ± 0.062	0.35 ± 0.00	0.0078 ± 0.0001	0.0023 ± 0.0005	0.30 ± 0.02
Flat Cr.	05/29/97	0.45 µm Cap	1/2	0.059 ± 0.087	0.34 ± 0.01	0.0047 ± 0.0002	0.0022 ± 0.0005	0.31 ± 0.02
Flat Cr.	05/29/97	0.45 µm Cap	2/2	0.078 ± 0.041	0.34 ± 0.00	0.0039 ± 0.0007	0.0019 ± 0.0010	0.30 ± 0.01
Flat Cr.	05/29/97	10 kd Tan	1/2	0.11 ± 0.02	0.32 ± 0.02	0.0011 ± 0.0002	0.0013 ± 0.0008	0.27 ± 0.01
Flat Cr.	05/29/97	10 kd Tan	2/2	0.13 ± 0.02	0.31 ± 0.00	0.0013 ± 0.0002	0.0014 ± 0.0004	0.28 ± 0.02
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	1.7 ± 0.0	0.39 ± 0.01	0.89 ± 0.01	0.0045 ± 0.0003	0.36 ± 0.00
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	1.9 ± 0.0	0.40 ± 0.01	0.91 ± 0.05	0.0033 ± 0.0006	0.36 ± 0.02
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	1.7 ± 0.0	0.40 ± 0.02	0.86 ± 0.00	< 0.0013 ± 0.0008	0.36 ± 0.01
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	1.7 ± 0.1	0.39 ± 0.01	0.85 ± 0.01	0.0019 ± 0.0002	0.35 ± 0.00
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	1.8 ± 0.0	0.38 ± 0.01	0.84 ± 0.02	0.0033 ± 0.0003	0.33 ± 0.00

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	1.6 ± 0.0	0.37 ± 0.00	0.89 ± 0.04	0.0026 ± 0.0005	0.33 ± 0.01
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	4.3 ± 0.1	2.6 ± 0.0	1.7 ± 0.1	0.016 ± 0.001	4.6 ± 0.0
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	4.7 ± 0.4	2.6 ± 0.0	1.7 ± 0.0	0.019 ± 0.001	4.7 ± 0.1
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	4.2 ± 0.2	2.5 ± 0.0	1.6 ± 0.0	0.0048 ± 0.0004	4.6 ± 0.2
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	4.2 ± 0.3	2.6 ± 0.1	1.6 ± 0.0	0.0074 ± 0.0003	4.7 ± 0.0
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	4.2 ± 0.7	2.5 ± 0.0	1.7 ± 0.0	0.017 ± 0.001	4.4 ± 0.1
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	4.2 ± 0.4	2.4 ± 0.0	1.7 ± 0.0	0.019 ± 0.001	4.4 ± 0.0
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	2.1 ± 0.0	0.52 ± 0.00	0.63 ± 0.00	0.0029 ± 0.0001	0.46 ± 0.00
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	2.0 ± 0.1	0.51 ± 0.01	0.62 ± 0.00	0.0024 ± 0.0007	0.46 ± 0.02
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	2.5 ± 0.1	0.51 ± 0.00	0.66 ± 0.00	< 0.0006 ± 0.0003	0.45 ± 0.00
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	2.0 ± 0.2	0.51 ± 0.02	0.64 ± 0.04	0.00066 ± 0.00048	0.47 ± 0.01
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	2.2 ± 0.1	0.48 ± 0.02	0.61 ± 0.02	0.0021 ± 0.0013	0.44 ± 0.01
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	1.9 ± 0.1	0.48 ± 0.01	0.58 ± 0.02	0.0014 ± 0.0006	0.43 ± 0.02
Whiskeytown	12/11/96	0.40 µm Mem	1/2	2.5 ± 0.1	0.39 ± 0.05	0.0022 ± 0.0002	< 0.0013 ± 0.0007	0.30 ± 0.01
Whiskeytown	12/11/96	0.40 µm Mem	2/2	2.6 ± 0.1	0.36 ± 0.00	0.0021 ± 0.0000	< 0.0006 ± 0.0001	0.28 ± 0.01
Whiskeytown	12/11/96	0.45 µm Cap	1/2	2.5 ± 0.1	0.35 ± 0.00	0.0021 ± 0.0004	0.00060 ± 0.00029	0.28 ± 0.01
Whiskeytown	12/11/96	0.45 µm Cap	2/2	2.4 ± 0.1	0.35 ± 0.00	0.0024 ± 0.0009	< 0.0013 ± 0.0002	0.30 ± 0.01
Whiskeytown	12/11/96	10 kd Tan	1/2	2.4 ± 0.0	0.32 ± 0.01	0.00071 ± 0.00022	< 0.0006 ± 0.0001	0.25 ± 0.00
Whiskeytown	12/11/96	10 kd Tan	2/2	2.3 ± 0.1	0.32 ± 0.00	0.00079 ± 0.00053	< 0.0013 ± 0.0003	0.26 ± 0.00
Whiskeytown	05/29/97	0.40 µm Mem	1/2	3.8 ± 0.0	0.35 ± 0.01	0.0024 ± 0.0006	< 0.001 ± 0.001	0.32 ± 0.02
Whiskeytown	05/29/97	0.40 µm Mem	2/2	4.6 ± 0.1	0.36 ± 0.01	0.0031 ± 0.0003	< 0.001 ± 0.001	0.31 ± 0.02
Whiskeytown	05/29/97	0.45 µm Cap	1/2	4.0 ± 0.1	0.35 ± 0.01	0.0026 ± 0.0005	< 0.001 ± 0.001	0.31 ± 0.02
Whiskeytown	05/29/97	0.45 µm Cap	2/2	4.0 ± 0.0	0.36 ± 0.02	0.0028 ± 0.0002	0.0011 ± 0.0010	0.30 ± 0.01
Whiskeytown	05/29/97	10 kd Tan	1/2	2.8 ± 0.1	0.32 ± 0.01	0.00051 ± 0.00027	< 0.001 ± 0.000	0.28 ± 0.01
Whiskeytown	05/29/97	10 kd Tan	2/2	2.7 ± 0.1	0.31 ± 0.00	0.00053 ± 0.00022	< 0.001 ± 0.001	0.28 ± 0.01
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	3.9 ± 0.0	0.31 ± 0.01	0.0022 ± 0.0003	< 0.0003 ± 0.0001	0.28 ± 0.01
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	3.8 ± 0.0	0.31 ± 0.00	0.0021 ± 0.0005	< 0.0005 ± 0.0005	0.29 ± 0.01
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	3.4 ± 0.1	0.31 ± 0.01	0.0020 ± 0.0002	< 0.0013 ± 0.0006	0.28 ± 0.01
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	4.0 ± 0.0	0.31 ± 0.00	0.0031 ± 0.0002	< 0.0013 ± 0.0004	0.30 ± 0.01
Spring Cr. arm	07/12/96	10 kd Tan	1/3	3.4 ± 0.3	0.29 ± 0.00	0.0010 ± 0.0005	< 0.0013 ± 0.0004	0.30 ± 0.01
Spring Cr. arm	07/12/96	10 kd Tan	2/3	3.4 ± 0.1	0.29 ± 0.00	0.00075 ± 0.00010	0.00043 ± 0.00019	0.27 ± 0.01
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	3.9 ± 0.1	0.31 ± 0.00	0.0036 ± 0.0005	< 0.0008 ± 0.0005	0.30 ± 0.00
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	4.1 ± 0.2	0.31 ± 0.00	0.0038 ± 0.0005	< 0.0008 ± 0.0004	0.30 ± 0.02

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Nickel (µg/L) ICP–MS	Potassium (µg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	3.9 ± 0.0	0.30 ± 0.00	0.0038 ± 0.0008	< 0.0008 ± 0.0004	0.29 ± 0.01
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	4.0 ± 0.2	0.30 ± 0.01	0.0036 ± 0.0002	< 0.0008 ± 0.0004	0.29 ± 0.01
Spring Cr. arm	09/18/96	10 kd Tan	1/2	3.2 ± 0.1	0.30 ± 0.03	0.0013 ± 0.0004	< 0.0008 ± 0.0007	0.27 ± 0.02
Spring Cr. arm	09/18/96	10 kd Tan	2/2	3.1 ± 0.1	0.27 ± 0.00	0.0014 ± 0.0002	< 0.0008 ± 0.0003	0.27 ± 0.01
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	2.8 ± 0.0	0.37 ± 0.01	0.013 ± 0.003	< 0.0015 ± 0.0002	0.34 ± 0.01
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	2.7 ± 0.0	0.36 ± 0.00	0.0094 ± 0.0002	< 0.0015 ± 0.0005	0.34 ± 0.01
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	3.0 ± 0.1	0.35 ± 0.00	0.013 ± 0.002	< 0.0015 ± 0.0002	0.32 ± 0.01
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	2.8 ± 0.1	0.39 ± 0.03	0.012 ± 0.002	< 0.0015 ± 0.0005	0.33 ± 0.02
Spring Cr. arm	11/20/96	10 kd Tan	1/2	2.2 ± 0.0	0.32 ± 0.00	0.0013 ± 0.0006	< 0.0015 ± 0.0003	0.28 ± 0.02
Spring Cr. arm	11/20/96	10 kd Tan	2/2	2.3 ± 0.1	0.31 ± 0.00	0.0018 ± 0.0005	< 0.0015 ± 0.0000	0.28 ± 0.02
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	3.0 ± 0.1	0.37 ± 0.02	0.018 ± 0.000	0.00091 ± 0.00001	0.29 ± 0.00
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	2.8 ± 0.1	0.35 ± 0.00	0.014 ± 0.000	0.00077 ± 0.00034	0.28 ± 0.01
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	2.3 ± 0.0	0.36 ± 0.01	0.033 ± 0.001	< 0.0013 ± 0.0002	0.30 ± 0.01
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	2.3 ± 0.0	0.36 ± 0.01	0.029 ± 0.001	< 0.0013 ± 0.0001	0.30 ± 0.00
Spring Cr. arm	12/11/96	10 kd Tan	1/2	2.1 ± 0.0	0.31 ± 0.01	0.0030 ± 0.0001	< 0.0013 ± 0.0008	0.26 ± 0.01
Spring Cr. arm	12/11/96	10 kd Tan	2/2	2.4 ± 0.0	0.31 ± 0.00	0.0038 ± 0.0006	0.00086 ± 0.00007	0.25 ± 0.01
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	4.2 ± 0.2	0.38 ± 0.02	0.0040 ± 0.0001	0.0010 ± 0.0006	0.34 ± 0.01
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	3.9 ± 0.1	0.37 ± 0.00	0.0036 ± 0.0003	0.0011 ± 0.0009	0.34 ± 0.01
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	5.1 ± 0.0	0.38 ± 0.01	0.0053 ± 0.0010	< 0.001 ± 0.001	0.33 ± 0.01
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	4.1 ± 0.0	0.37 ± 0.01	0.0054 ± 0.0004	< 0.001 ± 0.001	0.33 ± 0.01
Spring Cr. arm	05/28/97	10 kd Tan	1/2	2.8 ± 0.1	0.31 ± 0.01	0.00072 ± 0.00012	< 0.001 ± 0.001	0.28 ± 0.01
Spring Cr. arm	05/28/97	10 kd Tan	2/2	2.6 ± 0.0	0.32 ± 0.00	0.00056 ± 0.00016	< 0.001 ± 0.001	0.28 ± 0.00
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	2.0 ± 0.1	2.0 ± 0.0	0.0034 ± 0.0003	0.0038 ± 0.0011	0.54 ± 0.00
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	2.0 ± 0.0	nd ± nd	0.0036 ± 0.0002	0.0039 ± 0.0009	0.53 ± 0.01
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	2.0 ± 0.0	2.1 ± 0.1	0.0032 ± 0.0000	0.0039 ± 0.0011	0.51 ± 0.02
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	2.1 ± 0.1	2.2 ± 0.0	0.0032 ± 0.0003	0.0029 ± 0.0000	0.53 ± 0.03
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	1.1 ± 0.1	1.9 ± 0.1	0.0022 ± 0.0001	0.0031 ± 0.0009	0.48 ± 0.01
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	1.1 ± 0.1	2.0 ± 0.0	0.0021 ± 0.0001	0.0052 ± 0.0013	0.48 ± 0.01
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	1.3 ± 0.1	1.2 ± 0.1	0.0086 ± 0.0008	0.00062 ± 0.00031	0.62 ± 0.02
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	1.3 ± 0.1	1.2 ± 0.0	0.0057 ± 0.0007	< 0.0006 ± 0.0002	0.60 ± 0.03
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	1.3 ± 0.1	1.2 ± 0.0	0.011 ± 0.002	0.00060 ± 0.00081	0.56 ± 0.01
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	1.3 ± 0.1	1.1 ± 0.0	0.011 ± 0.002	< 0.0006 ± 0.0004	0.56 ± 0.02
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.86 ± 0.10	0.99 ± 0.03	0.0023 ± 0.0005	< 0.0006 ± 0.0003	0.49 ± 0.03
Yolo Bypass	01/07/97	10 kd Tan	2/2	0.90 ± 0.06	0.99 ± 0.03	0.0024 ± 0.0008	0.00072 ± 0.00079	0.47 ± 0.01

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	0.0086 ± 0.0001	0.083 ± 0.010	22 ± 0	< 0.02 ± 0.01	5.7 ± 0.0
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	0.011 ± 0.001	0.094 ± 0.011	21 ± 0	0.034 ± 0.003	5.6 ± 0.1
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	0.0053 ± 0.0004	0.16 ± 0.05	21 ± 0	< 0.04 ± 0.00	5.6 ± 0.0
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	0.0085 ± 0.0007	0.085 ± 0.016	21 ± 0	< 0.01 ± 0.00	5.5 ± 0.0
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	0.0031 ± 0.0006	0.11 ± 0.03	21 ± 0	< 0.04 ± 0.01	5.4 ± 0.1
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	0.0040 ± 0.0011	< 0.07 ± 0.04	21 ± 0	< 0.02 ± 0.01	5.4 ± 0.0
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	0.0079 ± 0.0026	< 0.3 ± 0.05	21 ± 1	< 0.02 ± 0.01	5.7 ± 0.1
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	0.0090 ± 0.0034	< 0.3 ± 0.15	21 ± 1	< 0.02 ± 0.01	5.9 ± 0.2
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	0.0039 ± 0.0024	< 0.3 ± 0.05	22 ± 1	< 0.02 ± 0.02	6.0 ± 0.2
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	0.0087 ± 0.0021	< 0.13 ± 0.06	20 ± 1	< 0.03 ± 0.02	5.1 ± 0.3
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	< 0.006 ± 0.005	0.30 ± 0.25	21 ± 0	< 0.03 ± 0.03	5.1 ± 0.2
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.3 ± 0.05	21 ± 1	< 0.02 ± 0.01	5.3 ± 0.3
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	< 0.003 ± 0.002	< 0.2 ± 0.12	24 ± 0	< 0.05 ± 0.01	7.5 ± 0.1
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	< 0.003 ± 0.000	< 0.2 ± 0.02	23 ± 0	< 0.05 ± 0.02	7.6 ± 0.5
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	0.0031 ± 0.0009	< 0.2 ± 0.11	23 ± 1	< 0.05 ± 0.01	7.0 ± 0.5
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	0.0047 ± 0.0025	< 0.2 ± 0.03	23 ± 0	< 0.05 ± 0.01	7.0 ± 0.2
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.2 ± 0.09	23 ± 0	< 0.05 ± 0.00	6.9 ± 0.2
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.2 ± 0.08	24 ± 0	< 0.05 ± 0.01	6.9 ± 0.3
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	0.0045 ± 0.0023	< 0.09 ± 0.06	25 ± 1	< 0.07 ± 0.04	8.3 ± 0.7
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	< 0.004 ± 0.004	< 0.09 ± 0.05	25 ± 2	< 0.07 ± 0.01	8.4 ± 1.2
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	0.0056 ± 0.0002	< 0.11 ± 0.08	24 ± 2	< 0.03 ± 0.00	8.5 ± 1.3
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	0.0045 ± 0.0009	< 0.11 ± 0.12	24 ± 0	< 0.03 ± 0.00	7.8 ± 0.0
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	0.0020 ± 0.0027	0.12 ± 0.08	24 ± 1	< 0.03 ± 0.02	7.1 ± 0.3
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	< 0.004 ± 0.002	< 0.09 ± 0.08	23 ± 0	< 0.07 ± 0.00	6.5 ± 0.0
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	0.0086 ± 0.0032	< 0.1 ± 0.02	21 ± 1	< 0.2 ± 0.17	5.7 ± 0.1
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	0.0059 ± 0.0013	< 0.1 ± 0.05	21 ± 1	< 0.2 ± 0.17	5.5 ± 0.2
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	0.0062 ± 0.0007	< 0.1 ± 0.13	20 ± 0	< 0.2 ± 0.17	5.1 ± 0.3
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	0.0067 ± 0.0009	< 0.1 ± 0.13	20 ± 1	< 0.2 ± 0.18	5.4 ± 0.3
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	< 0.003 ± 0.001	< 0.1 ± 0.02	20 ± 0	< 0.2 ± 0.19	5.1 ± 0.3
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.1 ± 0.07	20 ± 1	< 0.2 ± 0.22	4.9 ± 0.3
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	0.0072 ± 0.0007	0.082 ± 0.014	19 ± 0	< 0.01 ± 0.00	4.6 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	0.0053 ± 0.0002	0.076 ± 0.013	19 ± 0	< 0.01 ± 0.00	4.7 ± 0.1
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	0.0057 ± 0.0008	0.10 ± 0.00	19 ± 0	< 0.01 ± 0.00	4.5 ± 0.1
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	0.010 ± 0.001	0.10 ± 0.00	19 ± 0	< 0.01 ± 0.01	4.6 ± 0.1
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	0.0047 ± 0.0019	0.093 ± 0.012	19 ± 0	< 0.01 ± 0.00	4.4 ± 0.0
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	0.0050 ± 0.0009	0.087 ± 0.020	18 ± 0	< 0.01 ± 0.01	4.4 ± 0.0
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	0.0046 ± 0.0005	0.076 ± 0.018	19 ± 0	< 0.01 ± 0.00	4.5 ± 0.1
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	0.0082 ± 0.0004	< 0.3 ± 0.05	16 ± 0	< 0.02 ± 0.01	3.5 ± 0.1
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	0.0090 ± 0.0030	< 0.13 ± 0.03	17 ± 0	< 0.03 ± 0.00	3.9 ± 0.1
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	0.0064 ± 0.0012	0.16 ± 0.09	17 ± 0	< 0.03 ± 0.00	4.0 ± 0.0
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	0.010 ± 0.002	< 0.13 ± 0.09	16 ± 0	< 0.03 ± 0.01	3.5 ± 0.1
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	< 0.003 ± 0.001	< 0.3 ± 0.05	18 ± 0	< 0.02 ± 0.01	3.9 ± 0.1
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	< 0.003 ± 0.000	< 0.3 ± 0.19	17 ± 0	< 0.02 ± 0.01	3.4 ± 0.0
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	< 0.003 ± 0.001	< 0.3 ± 0.15	17 ± 1	< 0.02 ± 0.01	3.5 ± 0.2
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	0.016 ± 0.004	< 0.2 ± 0.19	20 ± 0	< 0.05 ± 0.01	6.0 ± 0.4
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	0.015 ± 0.002	< 0.2 ± 0.19	20 ± 0	< 0.05 ± 0.03	5.8 ± 0.5
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	0.0099 ± 0.0018	< 0.2 ± 0.00	20 ± 1	< 0.05 ± 0.01	6.1 ± 0.6
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	0.013 ± 0.002	< 0.2 ± 0.15	19 ± 0	< 0.05 ± 0.03	5.8 ± 0.5
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	0.0030 ± 0.0017	< 0.2 ± 0.08	20 ± 0	0.074 ± 0.002	5.1 ± 0.3
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.2 ± 0.21	20 ± 1	< 0.05 ± 0.01	5.4 ± 0.4
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	0.015 ± 0.003	0.15 ± 0.04	23 ± 1	< 0.07 ± 0.01	7.3 ± 0.6
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	0.013 ± 0.004	< 0.09 ± 0.07	23 ± 0	< 0.07 ± 0.03	7.6 ± 0.3
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	0.011 ± 0.005	0.14 ± 0.08	23 ± 0	< 0.03 ± 0.00	7.1 ± 0.1
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	0.0091 ± 0.0016	0.12 ± 0.07	22 ± 1	< 0.07 ± 0.06	7.2 ± 0.7
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	< 0.004 ± 0.001	< 0.09 ± 0.04	22 ± 1	< 0.07 ± 0.02	6.2 ± 0.9
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	< 0.004 ± 0.002	0.10 ± 0.06	22 ± 1	< 0.07 ± 0.02	6.0 ± 0.6
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	0.011 ± 0.002	0.15 ± 0.06	21 ± 1	< 0.04 ± 0.04	6.1 ± 1.1
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	0.012 ± 0.004	0.17 ± 0.02	21 ± 1	< 0.04 ± 0.02	5.8 ± 1.4
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	0.018 ± 0.001	0.088 ± 0.062	22 ± 1	< 0.04 ± 0.01	5.0 ± 0.2
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	0.022 ± 0.001	0.084 ± 0.044	21 ± 0	< 0.04 ± 0.02	4.8 ± 0.0
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	0.0045 ± 0.0010	0.17 ± 0.02	21 ± 1	< 0.04 ± 0.01	5.8 ± 1.2
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	0.0049 ± 0.0015	0.16 ± 0.08	21 ± 1	< 0.04 ± 0.01	6.0 ± 1.0
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	0.0044 ± 0.0029	0.11 ± 0.12	21 ± 0	0.093 ± 0.043	6.2 ± 0.5
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	< 0.003 ± 0.002	< 0.1 ± 0.20	19 ± 1	< 0.2 ± 0.07	4.4 ± 0.2
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	0.0063 ± 0.0002	< 0.1 ± 0.05	19 ± 1	< 0.2 ± 0.13	4.3 ± 0.1

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	0.0069 ± 0.0017	< 0.1 ± 0.11	18 ± 1	< 0.2 ± 0.16	4.5 ± 0.4
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	0.0061 ± 0.0013	< 0.1 ± 0.07	18 ± 0	< 0.2 ± 0.19	4.6 ± 0.3
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	< 0.003 ± 0.000	< 0.1 ± 0.11	18 ± 0	< 0.2 ± 0.37	4.2 ± 0.5
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.1 ± 0.11	19 ± 1	< 0.2 ± 0.12	4.4 ± 0.2
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	0.0079 ± 0.0014	< 0.07 ± 0.03	19 ± 0	< 0.02 ± 0.03	4.9 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	0.0049 ± 0.0015	0.12 ± 0.04	19 ± 0	< 0.04 ± 0.01	5.0 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	0.0058 ± 0.0012	0.096 ± 0.025	19 ± 0	< 0.01 ± 0.00	4.9 ± 0.0
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	< 0.0042 ± 0.0022	0.076 ± 0.027	19 ± 0	< 0.04 ± 0.00	4.8 ± 0.0
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	< 0.0017 ± 0.0001	0.12 ± 0.06	19 ± 0	< 0.04 ± 0.00	5.0 ± 0.0
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	0.0019 ± 0.0006	0.075 ± 0.044	19 ± 0	< 0.01 ± 0.01	5.0 ± 0.0
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	0.011 ± 0.001	0.13 ± 0.10	17 ± 0	< 0.03 ± 0.00	4.1 ± 0.1
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	0.0073 ± 0.0013	< 0.2 ± 0.06	18 ± 0	< 0.02 ± 0.00	4.6 ± 0.1
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	0.0042 ± 0.0013	< 0.3 ± 0.09	17 ± 0	< 0.02 ± 0.01	4.1 ± 0.0
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	0.0035 ± 0.0007	< 0.2 ± 0.11	18 ± 0	< 0.02 ± 0.00	4.8 ± 0.2
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	< 0.003 ± 0.001	< 0.3 ± 0.08	18 ± 1	< 0.02 ± 0.02	4.3 ± 0.2
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.3 ± 0.12	18 ± 1	< 0.02 ± 0.01	4.5 ± 0.3
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	0.0097 ± 0.0016	< 0.2 ± 0.09	23 ± 1	< 0.05 ± 0.01	6.4 ± 0.4
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	0.0073 ± 0.0005	< 0.2 ± 0.12	22 ± 0	< 0.05 ± 0.01	6.2 ± 0.3
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	0.011 ± 0.002	< 0.2 ± 0.07	22 ± 0	< 0.05 ± 0.01	6.3 ± 0.3
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	0.0074 ± 0.0056	< 0.2 ± 0.17	22 ± 0	< 0.05 ± 0.01	6.4 ± 0.4
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.2 ± 0.15	22 ± 0	< 0.05 ± 0.00	5.8 ± 0.3
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	< 0.003 ± 0.000	< 0.2 ± 0.02	22 ± 0	< 0.05 ± 0.02	5.9 ± 0.3
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	0.010 ± 0.002	0.13 ± 0.11	22 ± 1	< 0.07 ± 0.00	7.3 ± 0.4
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	0.0072 ± 0.0054	0.17 ± 0.18	22 ± 1	< 0.07 ± 0.02	7.5 ± 0.8
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	0.0053 ± 0.0023	< 0.09 ± 0.09	22 ± 1	< 0.07 ± 0.01	7.1 ± 0.6
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	0.0070 ± 0.0028	0.11 ± 0.07	21 ± 1	< 0.07 ± 0.04	6.5 ± 0.1
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	< 0.004 ± 0.003	< 0.09 ± 0.12	22 ± 1	< 0.07 ± 0.03	6.3 ± 0.0
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	< 0.004 ± 0.001	< 0.09 ± 0.09	22 ± 2	< 0.07 ± 0.03	6.5 ± 1.3
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	0.019 ± 0.003	0.13 ± 0.04	19 ± 1	< 0.04 ± 0.03	5.1 ± 1.2
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	0.015 ± 0.002	0.097 ± 0.058	18 ± 0	< 0.04 ± 0.01	5.2 ± 1.5
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	0.014 ± 0.001	0.12 ± 0.05	20 ± 1	< 0.04 ± 0.03	4.8 ± 1.2
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	0.014 ± 0.002	0.11 ± 0.03	18 ± 0	< 0.04 ± 0.01	5.1 ± 0.3

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	0.0058 ± 0.0023	0.10 ± 0.06	18 ± 0	< 0.04 ± 0.01	4.8 ± 1.1
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	0.0055 ± 0.0021	< 0.07 ± 0.03	19 ± 1	< 0.04 ± 0.01	5.1 ± 0.7
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	0.0062 ± 0.0008	0.17 ± 0.02	19 ± 0	< 0.2 ± 0.13	4.8 ± 0.3
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	0.0039 ± 0.0015	< 0.1 ± 0.12	19 ± 0	< 0.2 ± 0.06	5.2 ± 0.4
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	0.0062 ± 0.0013	< 0.1 ± 0.08	19 ± 1	< 0.2 ± 0.11	5.1 ± 0.4
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	0.0051 ± 0.0019	< 0.1 ± 0.10	18 ± 1	< 0.2 ± 0.14	5.2 ± 0.3
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	< 0.003 ± 0.001	< 0.1 ± 0.11	18 ± 1	< 0.2 ± 0.18	4.7 ± 0.4
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	< 0.003 ± 0.002	< 0.1 ± 0.17	19 ± 1	< 0.2 ± 0.09	4.8 ± 0.3
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	0.0045 ± 0.0000	0.15 ± 0.04	19 ± 0	< 0.04 ± 0.00	5.5 ± 0.0
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	0.0075 ± 0.0004	0.13 ± 0.02	19 ± 0	< 0.04 ± 0.01	5.6 ± 0.1
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	0.0044 ± 0.0013	0.13 ± 0.02	19 ± 0	< 0.02 ± 0.01	5.5 ± 0.2
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	< 0.003 ± 0.002	< 0.3 ± 0.08	19 ± 1	< 0.02 ± 0.04	6.1 ± 0.4
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	0.0038 ± 0.0040	< 0.3 ± 0.03	20 ± 0	0.035 ± 0.003	6.4 ± 0.1
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	< 0.003 ± 0.002	< 0.3 ± 0.05	19 ± 0	< 0.02 ± 0.01	6.3 ± 0.5
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	0.0081 ± 0.0016	< 0.2 ± 0.11	20 ± 0	< 0.02 ± 0.00	6.6 ± 0.1
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.3 ± 0.11	20 ± 0	< 0.02 ± 0.01	6.1 ± 0.4
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.3 ± 0.11	18 ± 2	< 0.02 ± 0.00	5.3 ± 0.9
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	< 0.003 ± 0.002	< 0.16 ± 0.12	22 ± 1	< 0.05 ± 0.02	7.6 ± 0.2
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	0.0062 ± 0.0029	< 0.16 ± 0.04	22 ± 0	< 0.05 ± 0.02	7.8 ± 0.1
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	0.0039 ± 0.0010	< 0.16 ± 0.10	23 ± 0	< 0.05 ± 0.02	7.7 ± 0.2
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	< 0.003 ± 0.001	< 0.16 ± 0.17	22 ± 1	< 0.05 ± 0.01	7.9 ± 0.4
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.16 ± 0.12	22 ± 0	< 0.05 ± 0.04	7.1 ± 0.3
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	< 0.003 ± 0.002	< 0.16 ± 0.09	22 ± 0	< 0.05 ± 0.01	7.2 ± 0.2
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	0.0050 ± 0.0029	< 0.09 ± 0.03	21 ± 3	< 0.07 ± 0.01	6.9 ± 1.5
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	0.0078 ± 0.0049	0.17 ± 0.09	23 ± 4	< 0.07 ± 0.03	7.5 ± 1.5
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	0.0062 ± 0.0018	< 0.11 ± 0.05	24 ± 3	< 0.03 ± 0.01	8.2 ± 1.4
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	0.0040 ± 0.0027	0.094 ± 0.061	22 ± 0	0.078 ± 0.103	5.7 ± 0.6
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	0.0024 ± 0.0017	< 0.11 ± 0.01	22 ± 3	< 0.03 ± 0.01	6.8 ± 1.3
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	< 0.004 ± 0.002	< 0.09 ± 0.03	21 ± 4	< 0.07 ± 0.01	5.5 ± 0.5
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	0.011 ± 0.003	0.13 ± 0.07	16 ± 1	< 0.03 ± 0.03	4.2 ± 0.7
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	0.017 ± 0.001	0.13 ± 0.05	15 ± 0	< 0.03 ± 0.01	4.1 ± 1.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	0.018 ± 0.004	0.17 ± 0.04	16 ± 1	< 0.03 ± 0.02	4.6 ± 1.0
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	0.017 ± 0.001	0.13 ± 0.08	16 ± 1	< 0.03 ± 0.01	4.5 ± 1.1
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	0.0067 ± 0.0018	< 0.07 ± 0.03	16 ± 1	< 0.04 ± 0.03	4.3 ± 1.2
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	0.0080 ± 0.0031	0.16 ± 0.06	16 ± 1	< 0.03 ± 0.01	4.8 ± 0.9
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	< 0.003 ± 0.002	< 0.1 ± 0.12	19 ± 0	< 0.2 ± 0.04	6.8 ± 2.9
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	0.0054 ± 0.0026	< 0.1 ± 0.08	19 ± 0	< 0.2 ± 0.09	5.7 ± 0.3
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	0.0057 ± 0.0013	< 0.1 ± 0.12	19 ± 0	< 0.2 ± 0.10	6.5 ± 1.5
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	< 0.003 ± 0.000	< 0.1 ± 0.18	19 ± 0	< 0.2 ± 0.12	6.1 ± 0.7
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.1 ± 0.06	19 ± 0	< 0.2 ± 0.14	5.7 ± 0.7
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	0.0034 ± 0.0021	< 0.1 ± 0.15	19 ± 1	< 0.2 ± 0.05	5.5 ± 0.8
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	< 0.003 ± 0.001	< 0.07 ± 0.04	15 ± 0	< 0.02 ± 0.01	4.8 ± 0.0
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	0.0072 ± 0.0003	0.12 ± 0.01	16 ± 1	< 0.01 ± 0.00	5.0 ± 0.1
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	0.0045 ± 0.0011	0.12 ± 0.00	16 ± 0	< 0.01 ± 0.00	5.1 ± 0.2
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	0.0025 ± 0.0002	0.10 ± 0.03	16 ± 0	< 0.01 ± 0.01	5.0 ± 0.3
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	< 0.0017 ± 0.0006	< 0.06 ± 0.04	17 ± 1	< 0.04 ± 0.00	5.2 ± 0.3
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	< 0.0017 ± 0.0008	0.10 ± 0.02	17 ± 1	< 0.01 ± 0.01	5.4 ± 0.1
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	0.011 ± 0.000	< 0.2 ± 0.13	18 ± 1	< 0.02 ± 0.00	8.0 ± 0.6
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	< 0.003 ± 0.001	< 0.2 ± 0.05	19 ± 0	< 0.02 ± 0.00	9.2 ± 0.0
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	0.0052 ± 0.0032	< 0.2 ± 0.11	18 ± 1	< 0.02 ± 0.00	8.7 ± 0.4
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	< 0.003 ± 0.004	< 0.2 ± 0.13	17 ± 0	< 0.02 ± 0.00	7.8 ± 0.1
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	< 0.003 ± 0.003	< 0.3 ± 0.02	18 ± 0	< 0.02 ± 0.02	7.8 ± 0.3
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.3 ± 0.06	18 ± 0	< 0.02 ± 0.03	7.9 ± 0.0
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	0.0082 ± 0.0029	< 0.16 ± 0.07	20 ± 0	< 0.05 ± 0.03	11 ± 0
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	0.0088 ± 0.0002	< 0.16 ± 0.08	20 ± 1	< 0.05 ± 0.03	11 ± 1
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	0.0088 ± 0.0018	< 0.11 ± 0.04	17 ± 2	< 0.03 ± 0.00	5.5 ± 0.7
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	0.0069 ± 0.0015	0.15 ± 0.02	18 ± 0	< 0.07 ± 0.05	5.7 ± 0.3
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	0.0064 ± 0.0015	< 0.09 ± 0.11	18 ± 0	< 0.07 ± 0.01	5.7 ± 0.0
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	0.010 ± 0.004	< 0.09 ± 0.09	18 ± 0	< 0.07 ± 0.03	5.2 ± 0.8
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	< 0.004 ± 0.001	< 0.09 ± 0.12	18 ± 1	< 0.07 ± 0.04	5.3 ± 0.3
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	< 0.004 ± 0.002	0.093 ± 0.070	18 ± 0	< 0.07 ± 0.04	5.5 ± 0.2

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	< 0.003 ± 0.003	< 0.1 ± 0.13	18 ± 0	< 0.2 ± 0.09	7.8 ± 0.5
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	< 0.003 ± 0.001	< 0.1 ± 0.08	18 ± 1	< 0.2 ± 0.04	7.8 ± 0.4
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	< 0.003 ± 0.000	< 0.1 ± 0.09	18 ± 1	< 0.2 ± 0.08	7.8 ± 0.5
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	0.0039 ± 0.0021	< 0.1 ± 0.08	18 ± 1	< 0.2 ± 0.19	7.3 ± 0.4
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.1 ± 0.16	18 ± 1	< 0.2 ± 0.13	7.3 ± 1.4
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	< 0.003 ± 0.002	< 0.1 ± 0.07	18 ± 1	< 0.2 ± 0.05	7.6 ± 0.3
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	0.0020 ± 0.0004	< 0.06 ± 0.05	15 ± 0	< 0.04 ± 0.00	4.6 ± 0.1
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	0.0017 ± 0.0017	0.086 ± 0.038	15 ± 0	< 0.04 ± 0.00	4.7 ± 0.1
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	0.0081 ± 0.0001	< 0.07 ± 0.08	16 ± 0	< 0.02 ± 0.01	5.1 ± 0.1
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	0.0057 ± 0.0009	0.067 ± 0.070	16 ± 1	< 0.04 ± 0.00	4.9 ± 0.3
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	< 0.0017 ± 0.0004	0.090 ± 0.003	16 ± 1	< 0.01 ± 0.00	4.6 ± 0.3
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	< 0.0017 ± 0.0010	0.085 ± 0.014	16 ± 0	< 0.01 ± 0.00	4.9 ± 0.2
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	< 0.003 ± 0.002	< 0.3 ± 0.02	16 ± 0	< 0.02 ± 0.03	7.8 ± 0.2
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	< 0.003 ± 0.001	< 0.3 ± 0.04	17 ± 1	0.057 ± 0.095	8.6 ± 0.5
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	< 0.006 ± 0.002	< 0.13 ± 0.13	17 ± 0	0.029 ± 0.042	9.0 ± 0.4
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	< 0.003 ± 0.002	< 0.3 ± 0.14	17 ± 1	< 0.02 ± 0.00	8.1 ± 0.1
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.2 ± 0.16	15 ± 1	< 0.02 ± 0.01	7.4 ± 0.1
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	< 0.006 ± 0.001	< 0.13 ± 0.12	17 ± 0	< 0.03 ± 0.01	8.2 ± 0.1
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	< 0.003 ± 0.001	< 0.16 ± 0.12	18 ± 0	< 0.05 ± 0.05	7.0 ± 0.4
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	< 0.003 ± 0.003	< 0.16 ± 0.13	18 ± 0	< 0.05 ± 0.02	7.1 ± 0.2
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	0.0036 ± 0.0032	< 0.16 ± 0.07	18 ± 0	< 0.05 ± 0.01	7.0 ± 0.2
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	< 0.003 ± 0.002	< 0.16 ± 0.04	18 ± 0	< 0.05 ± 0.01	7.1 ± 0.2
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	< 0.003 ± 0.001	< 0.16 ± 0.06	18 ± 0	< 0.05 ± 0.02	6.5 ± 0.2
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.16 ± 0.11	17 ± 1	< 0.05 ± 0.04	6.2 ± 0.4
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	0.0053 ± 0.0023	< 0.09 ± 0.12	15 ± 0	< 0.07 ± 0.02	3.5 ± 0.3
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	0.0066 ± 0.0007	< 0.09 ± 0.04	15 ± 0	< 0.07 ± 0.05	4.8 ± 1.5
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	0.0096 ± 0.0057	< 0.09 ± 0.03	15 ± 0	< 0.07 ± 0.05	4.7 ± 1.4
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	0.011 ± 0.003	< 0.09 ± 0.09	15 ± 0	< 0.07 ± 0.00	4.6 ± 1.5
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	< 0.004 ± 0.003	0.19 ± 0.05	15 ± 0	< 0.07 ± 0.01	4.5 ± 1.1
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	0.0060 ± 0.0039	< 0.09 ± 0.06	15 ± 0	< 0.07 ± 0.03	4.2 ± 1.1
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	0.033 ± 0.001	0.076 ± 0.065	8.9 ± 0.5	< 0.04 ± 0.02	1.6 ± 0.1
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	0.020 ± 0.005	< 0.07 ± 0.01	9.0 ± 0.2	< 0.04 ± 0.00	1.9 ± 0.4

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	0.027 ± 0.005	0.085 ± 0.069	8.9 ± 0.4	< 0.04 ± 0.00	1.9 ± 0.3
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	0.030 ± 0.006	< 0.07 ± 0.02	9.4 ± 0.4	< 0.04 ± 0.00	1.9 ± 0.2
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	0.0070 ± 0.0038	< 0.07 ± 0.02	9.4 ± 0.4	< 0.04 ± 0.01	1.7 ± 0.3
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	0.0036 ± 0.0009	< 0.07 ± 0.03	9.3 ± 0.3	< 0.04 ± 0.02	1.8 ± 0.3
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	0.0035 ± 0.0027	< 0.1 ± 0.11	16 ± 1	< 0.2 ± 0.09	6.6 ± 0.4
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	< 0.003 ± 0.001	< 0.1 ± 0.08	16 ± 0	< 0.2 ± 0.15	6.5 ± 0.8
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	0.0034 ± 0.0017	< 0.1 ± 0.08	16 ± 1	< 0.2 ± 0.06	6.4 ± 0.9
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	< 0.003 ± 0.002	< 0.1 ± 0.09	16 ± 0	< 0.2 ± 0.12	6.2 ± 0.3
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	< 0.003 ± 0.003	< 0.1 ± 0.05	16 ± 0	< 0.2 ± 0.17	5.2 ± 0.3
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	< 0.003 ± 0.002	< 0.1 ± 0.12	16 ± 1	< 0.2 ± 0.09	5.3 ± 0.3
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	0.0059 ± 0.0011	< 0.08 ± 0.03	16 ± 1	< 0.2 ± 0.13	6.6 ± 0.4
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	0.0039 ± 0.0010	< 0.08 ± 0.09	17 ± 1	< 0.2 ± 0.14	6.3 ± 0.1
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	0.0040 ± 0.0010	< 0.08 ± 0.04	17 ± 1	< 0.2 ± 0.15	5.2 ± 1.4
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	0.0036 ± 0.0005	0.096 ± 0.036	17 ± 1	< 0.2 ± 0.17	5.5 ± 0.6
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	< 0.003 ± 0.001	< 0.08 ± 0.08	16 ± 1	< 0.2 ± 0.18	5.2 ± 1.4
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	< 0.003 ± 0.003	< 0.08 ± 0.08	16 ± 1	< 0.2 ± 0.25	5.4 ± 0.4
Flat Cr.	12/11/96	0.40 µm Mem	1/2	0.041 ± 0.001	0.27 ± 0.07	11 ± 0	< 0.03 ± 0.01	1.7 ± 0.1
Flat Cr.	12/11/96	0.40 µm Mem	2/2	0.037 ± 0.008	< 0.11 ± 0.11	11 ± 0	< 0.03 ± 0.02	1.8 ± 0.1
Flat Cr.	12/11/96	0.45 µm Cap	1/2	0.028 ± 0.000	0.098 ± 0.079	11 ± 0	< 0.07 ± 0.05	1.9 ± 0.3
Flat Cr.	12/11/96	0.45 µm Cap	2/2	0.033 ± 0.002	0.13 ± 0.10	11 ± 0	< 0.03 ± 0.00	2.0 ± 0.3
Flat Cr.	12/11/96	10 kd Tan	1/2	0.018 ± 0.001	< 0.09 ± 0.09	11 ± 0	< 0.07 ± 0.02	1.8 ± 0.2
Flat Cr.	12/11/96	10 kd Tan	2/2	0.016 ± 0.001	< 0.11 ± 0.06	11 ± 0	< 0.03 ± 0.01	1.8 ± 0.1
Flat Cr.	05/29/97	0.40 µm Mem	1/2	0.020 ± 0.001	0.16 ± 0.07	23 ± 1	< 0.2 ± 0.09	5.9 ± 0.2
Flat Cr.	05/29/97	0.40 µm Mem	2/2	0.018 ± 0.000	< 0.1 ± 0.02	23 ± 1	< 0.2 ± 0.05	5.5 ± 0.1
Flat Cr.	05/29/97	0.45 µm Cap	1/2	0.014 ± 0.004	0.17 ± 0.07	23 ± 1	< 0.2 ± 0.07	7.5 ± 1.2
Flat Cr.	05/29/97	0.45 µm Cap	2/2	0.011 ± 0.001	< 0.1 ± 0.09	23 ± 1	< 0.2 ± 0.10	6.9 ± 0.1
Flat Cr.	05/29/97	10 kd Tan	1/2	0.0045 ± 0.0034	< 0.1 ± 0.18	24 ± 1	< 0.2 ± 0.11	6.5 ± 0.7
Flat Cr.	05/29/97	10 kd Tan	2/2	< 0.003 ± 0.002	0.14 ± 0.06	22 ± 2	< 0.2 ± 0.12	8.8 ± 1.0
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	1.8 ± 0.0	0.56 ± 0.02	13 ± 0	< 0.07 ± 0.02	2.7 ± 0.2
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	1.9 ± 0.0	0.61 ± 0.04	13 ± 0	< 0.07 ± 0.02	2.5 ± 0.5
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	1.8 ± 0.0	0.68 ± 0.17	13 ± 0	< 0.07 ± 0.05	3.1 ± 0.1
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	1.8 ± 0.0	0.61 ± 0.17	13 ± 0	< 0.07 ± 0.04	2.5 ± 0.5
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	1.8 ± 0.1	0.88 ± 0.05	13 ± 0	< 0.03 ± 0.02	2.6 ± 0.3

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	1.9 ± 0.0	0.74 ± 0.00	13 ± 0	< 0.07 ± 0.00	2.7 ± 0.3
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	3.0 ± 0.1	1.6 ± 0.2	26 ± 1	< 0.2 ± 0.06	8.2 ± 0.6
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	2.9 ± 0.0	1.7 ± 0.0	26 ± 1	< 0.2 ± 0.07	8.7 ± 0.5
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	2.9 ± 0.2	1.6 ± 0.1	25 ± 0	< 0.2 ± 0.10	7.1 ± 0.4
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	2.8 ± 0.1	1.6 ± 0.1	25 ± 1	< 0.2 ± 0.11	7.7 ± 0.2
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	2.8 ± 0.0	1.6 ± 0.1	26 ± 0	< 0.2 ± 0.14	7.1 ± 0.5
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	2.9 ± 0.1	1.4 ± 0.0	26 ± 0	< 0.2 ± 0.27	6.8 ± 0.1
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	1.2 ± 0.0	0.84 ± 0.03	12 ± 0	0.048 ± 0.029	2.4 ± 0.2
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	1.2 ± 0.0	0.91 ± 0.06	11 ± 0	< 0.04 ± 0.02	2.2 ± 0.2
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	1.3 ± 0.1	0.83 ± 0.02	12 ± 0	< 0.04 ± 0.02	2.4 ± 0.3
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	1.3 ± 0.1	0.94 ± 0.09	11 ± 0	0.052 ± 0.029	2.3 ± 0.2
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	1.2 ± 0.1	0.69 ± 0.06	11 ± 0	< 0.04 ± 0.03	2.4 ± 0.3
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	1.2 ± 0.0	0.67 ± 0.01	11 ± 0	0.058 ± 0.006	2.1 ± 0.1
Whiskeytown	12/11/96	0.40 µm Mem	1/2	0.0043 ± 0.0013	< 0.09 ± 0.00	12 ± 0	< 0.07 ± 0.03	1.8 ± 0.1
Whiskeytown	12/11/96	0.40 µm Mem	2/2	0.0049 ± 0.0027	< 0.11 ± 0.04	12 ± 0	< 0.03 ± 0.04	1.8 ± 0.1
Whiskeytown	12/11/96	0.45 µm Cap	1/2	0.0061 ± 0.0020	< 0.11 ± 0.05	12 ± 0	< 0.03 ± 0.01	1.7 ± 0.1
Whiskeytown	12/11/96	0.45 µm Cap	2/2	0.0055 ± 0.0037	< 0.09 ± 0.01	12 ± 0	< 0.07 ± 0.01	2.2 ± 0.3
Whiskeytown	12/11/96	10 kd Tan	1/2	< 0.0016 ± 0.0016	< 0.11 ± 0.08	12 ± 0	< 0.03 ± 0.02	1.9 ± 0.2
Whiskeytown	12/11/96	10 kd Tan	2/2	< 0.004 ± 0.002	< 0.09 ± 0.05	13 ± 0	< 0.07 ± 0.01	1.9 ± 0.3
Whiskeytown	05/29/97	0.40 µm Mem	1/2	0.0032 ± 0.0032	< 0.1 ± 0.11	13 ± 1	< 0.2 ± 0.09	1.9 ± 0.1
Whiskeytown	05/29/97	0.40 µm Mem	2/2	0.0042 ± 0.0025	< 0.1 ± 0.14	13 ± 1	< 0.2 ± 0.11	1.8 ± 0.5
Whiskeytown	05/29/97	0.45 µm Cap	1/2	0.0046 ± 0.0040	< 0.1 ± 0.22	13 ± 1	< 0.2 ± 0.10	1.8 ± 0.4
Whiskeytown	05/29/97	0.45 µm Cap	2/2	0.0049 ± 0.0026	< 0.1 ± 0.25	12 ± 1	< 0.2 ± 0.12	1.8 ± 0.2
Whiskeytown	05/29/97	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.1 ± 0.17	12 ± 1	< 0.2 ± 0.12	1.8 ± 0.1
Whiskeytown	05/29/97	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.1 ± 0.21	12 ± 0	< 0.2 ± 0.12	1.8 ± 0.2
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	0.0047 ± 0.0005	< 0.06 ± 0.05	— ± —	< 0.04 ± 0.00	— ± —
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	0.0040 ± 0.0007	0.047 ± 0.010	12 ± 0	< 0.01 ± 0.01	1.7 ± 0.0
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	0.010 ± 0.000	< 0.07 ± 0.07	12 ± 0	< 0.02 ± 0.00	1.7 ± 0.0
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	0.0078 ± 0.0018	< 0.07 ± 0.04	12 ± 0	< 0.02 ± 0.01	1.7 ± 0.1
Spring Cr. arm	07/12/96	10 kd Tan	1/3	< 0.003 ± 0.001	< 0.07 ± 0.04	12 ± 0	< 0.02 ± 0.01	1.7 ± 0.0
Spring Cr. arm	07/12/96	10 kd Tan	2/3	< 0.0017 ± 0.0003	0.068 ± 0.050	12 ± 0	< 0.04 ± 0.02	1.7 ± 0.0
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	0.0091 ± 0.0048	< 0.3 ± 0.10	12 ± 0	< 0.02 ± 0.00	1.6 ± 0.0
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	0.010 ± 0.008	< 0.3 ± 0.08	12 ± 1	0.035 ± 0.002	1.8 ± 0.0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Samarium (µg/L) ICP–MS	Selenium (µg/L) ICP–MS	Silica (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (mg/L) ICP–AES
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	0.011 ± 0.002	< 0.3 ± 0.04	12 ± 1	< 0.02 ± 0.01	1.7 ± 0.1
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	0.0074 ± 0.0008	< 0.3 ± 0.01	12 ± 0	< 0.02 ± 0.00	1.7 ± 0.2
Spring Cr. arm	09/18/96	10 kd Tan	1/2	< 0.003 ± 0.001	< 0.3 ± 0.17	12 ± 1	< 0.02 ± 0.01	1.6 ± 0.1
Spring Cr. arm	09/18/96	10 kd Tan	2/2	< 0.003 ± 0.002	< 0.3 ± 0.04	11 ± 0	< 0.02 ± 0.00	1.5 ± 0.1
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	0.026 ± 0.003	< 0.2 ± 0.00	12 ± 0	< 0.05 ± 0.03	2.2 ± 0.2
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	0.020 ± 0.003	< 0.2 ± 0.06	12 ± 0	< 0.05 ± 0.01	2.2 ± 0.2
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	0.028 ± 0.001	< 0.2 ± 0.12	12 ± 1	< 0.05 ± 0.01	2.2 ± 0.2
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	0.026 ± 0.000	< 0.2 ± 0.03	13 ± 0	< 0.05 ± 0.02	2.4 ± 0.3
Spring Cr. arm	11/20/96	10 kd Tan	1/2	0.0049 ± 0.0014	< 0.2 ± 0.11	12 ± 0	< 0.05 ± 0.00	2.1 ± 0.2
Spring Cr. arm	11/20/96	10 kd Tan	2/2	0.0092 ± 0.0019	< 0.2 ± 0.21	12 ± 0	0.068 ± 0.103	2.0 ± 0.1
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	0.031 ± 0.004	< 0.11 ± 0.07	12 ± 0	< 0.03 ± 0.01	2.7 ± 0.4
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	0.030 ± 0.006	0.22 ± 0.12	12 ± 0	< 0.03 ± 0.01	2.5 ± 0.5
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	0.051 ± 0.006	0.10 ± 0.05	12 ± 0	< 0.07 ± 0.01	2.7 ± 0.6
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	0.054 ± 0.004	0.11 ± 0.05	12 ± 0	< 0.07 ± 0.04	2.5 ± 0.5
Spring Cr. arm	12/11/96	10 kd Tan	1/2	0.011 ± 0.001	< 0.09 ± 0.09	12 ± 0	< 0.07 ± 0.03	2.2 ± 0.4
Spring Cr. arm	12/11/96	10 kd Tan	2/2	0.0093 ± 0.0028	0.12 ± 0.04	12 ± 0	< 0.03 ± 0.01	2.0 ± 0.3
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	0.0066 ± 0.0032	< 0.1 ± 0.02	13 ± 1	< 0.2 ± 0.04	1.8 ± 0.3
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	0.0064 ± 0.0029	< 0.1 ± 0.13	13 ± 1	< 0.2 ± 0.05	2.1 ± 0.5
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	0.0090 ± 0.0009	< 0.1 ± 0.13	13 ± 1	< 0.2 ± 0.22	1.9 ± 0.5
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	0.0082 ± 0.0027	< 0.1 ± 0.07	13 ± 0	< 0.2 ± 0.06	2.2 ± 0.9
Spring Cr. arm	05/28/97	10 kd Tan	1/2	< 0.003 ± 0.002	< 0.1 ± 0.13	13 ± 0	< 0.2 ± 0.05	1.6 ± 0.5
Spring Cr. arm	05/28/97	10 kd Tan	2/2	< 0.003 ± 0.001	< 0.1 ± 0.05	13 ± 0	< 0.2 ± 0.07	1.8 ± 0.5
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	0.0038 ± 0.0030	0.40 ± 0.18	20 ± 1	< 0.2 ± 0.07	93 ± 1
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	0.010 ± 0.004	0.35 ± 0.04	20 ± 1	< 0.2 ± 0.15	86 ± 5
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	0.0074 ± 0.0026	0.40 ± 0.07	20 ± 1	< 0.2 ± 0.04	91 ± 3
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	0.0054 ± 0.0035	0.39 ± 0.03	21 ± 1	< 0.2 ± 0.16	87 ± 3
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	< 0.003 ± 0.001	0.35 ± 0.04	20 ± 1	< 0.2 ± 0.17	68 ± 1
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	0.0036 ± 0.0015	0.30 ± 0.07	20 ± 1	< 0.2 ± 0.07	64 ± 16
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	0.013 ± 0.003	0.11 ± 0.01	15 ± 0	< 0.04 ± 0.01	4.7 ± 0.5
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	0.0084 ± 0.0040	0.17 ± 0.00	15 ± 0	< 0.03 ± 0.01	4.5 ± 0.1
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	0.017 ± 0.001	0.12 ± 0.03	16 ± 0	< 0.03 ± 0.01	4.8 ± 0.7
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	0.015 ± 0.002	< 0.07 ± 0.03	14 ± 0	< 0.03 ± 0.01	4.4 ± 0.2
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.0065 ± 0.0021	0.13 ± 0.04	14 ± 0	< 0.03 ± 0.02	3.8 ± 0.0
Yolo Bypass	01/07/97	10 kd Tan	2/2	0.0040 ± 0.0020	0.13 ± 0.05	14 ± 0	< 0.03 ± 0.01	4.0 ± 0.2

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	52 ± 0	0.0014 ± 0.0002	0.0021 ± 0.0007	— ± —	0.00076 ± 0.00028
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	53 ± 0	0.00097 ± 0.00010	0.0023 ± 0.0006	— ± —	0.00061 ± 0.00003
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	52 ± 1	0.0011 ± 0.0000	0.0018 ± 0.0003	— ± —	0.00051 ± 0.00007
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	51 ± 0	0.0014 ± 0.0001	0.0024 ± 0.0003	— ± —	0.00091 ± 0.00007
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	51 ± 0	0.00072 ± 0.00001	0.0027 ± 0.0003	— ± —	0.00029 ± 0.00006
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	49 ± 0	0.00052 ± 0.00023	< 0.0014 ± 0.0003	— ± —	0.00089 ± 0.00012
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	52 ± 0	0.0023 ± 0.0004	< 0.005 ± 0.001	< 0.003 ± 0.000	0.00097 ± 0.00031
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	51 ± 1	0.0028 ± 0.0003	< 0.005 ± 0.002	< 0.003 ± 0.001	0.00083 ± 0.00023
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	50 ± 0	0.0014 ± 0.0004	< 0.005 ± 0.000	< 0.003 ± 0.000	0.00081 ± 0.00029
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	51 ± 1	0.00085 ± 0.00007	0.0023 ± 0.0010	< 0.003 ± 0.000	0.00066 ± 0.00084
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	48 ± 1	0.00069 ± 0.00003	< 0.002 ± 0.002	< 0.003 ± 0.001	< 0.0005 ± 0.0008
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	46 ± 0	0.00088 ± 0.00026	< 0.005 ± 0.000	< 0.003 ± 0.001	< 0.0005 ± 0.0002
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	55 ± 0	0.00086 ± 0.00015	< 0.005 ± 0.000	— ± —	0.00053 ± 0.00016
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	55 ± 1	< 0.0005 ± 0.0004	< 0.005 ± 0.003	— ± —	0.00053 ± 0.00026
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	55 ± 0	0.00083 ± 0.00053	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0003
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	56 ± 1	< 0.0005 ± 0.0004	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0000
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	49 ± 2	< 0.0005 ± 0.0003	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0002
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	49 ± 1	< 0.0005 ± 0.0003	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0000
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	55 ± 1	0.00072 ± 0.00023	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0001
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	56 ± 0	0.00068 ± 0.00011	< 0.004 ± 0.000	— ± —	< 0.0006 ± 0.0005
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	56 ± 0	0.00059 ± 0.00010	< 0.004 ± 0.000	— ± —	0.00057 ± 0.00010
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	56 ± 1	0.0013 ± 0.0006	< 0.004 ± 0.001	— ± —	0.00046 ± 0.00019
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	49 ± 0	< 0.0003 ± 0.0002	< 0.004 ± 0.001	— ± —	< 0.0002 ± 0.0000
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	49 ± 0	< 0.0005 ± 0.0002	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0002
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	53 ± 0	0.0016 ± 0.0003	< 0.008 ± 0.000	— ± —	0.00097 ± 0.00022
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	52 ± 1	0.0013 ± 0.0001	< 0.008 ± 0.002	— ± —	0.00047 ± 0.00010
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	50 ± 2	0.0013 ± 0.0005	< 0.008 ± 0.001	— ± —	0.00049 ± 0.00018
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	51 ± 2	0.00085 ± 0.00012	< 0.008 ± 0.001	— ± —	0.00087 ± 0.00030
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	43 ± 2	< 0.0007 ± 0.0003	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0002
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	42 ± 1	< 0.0007 ± 0.0002	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0001
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	43 ± 0	0.00084 ± 0.00014	0.0015 ± 0.0004	— ± —	0.00059 ± 0.00021

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	44 ± 0	0.0012 ± 0.0001	0.0019 ± 0.0003	— ± —	0.00067 ± 0.00007
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	44 ± 1	0.0012 ± 0.0001	0.0018 ± 0.0001	— ± —	0.00033 ± 0.00006
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	44 ± 0	0.0014 ± 0.0001	0.0012 ± 0.0002	— ± —	0.00067 ± 0.00003
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	43 ± 2	0.00060 ± 0.00013	0.0016 ± 0.0005	— ± —	0.00025 ± 0.00010
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	44 ± 1	0.00072 ± 0.00019	0.0018 ± 0.0005	— ± —	0.00040 ± 0.00013
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	42 ± 1	0.00068 ± 0.00017	0.0024 ± 0.0001	— ± —	0.00033 ± 0.00000
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	38 ± 0	0.0020 ± 0.0005	< 0.005 ± 0.001	< 0.003 ± 0.001	0.00056 ± 0.00025
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	39 ± 1	0.00072 ± 0.00026	< 0.002 ± 0.000	< 0.003 ± 0.001	0.00070 ± 0.00017
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	39 ± 1	0.0018 ± 0.0009	< 0.002 ± 0.002	< 0.003 ± 0.000	0.00056 ± 0.00028
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	38 ± 1	0.0015 ± 0.0004	0.0026 ± 0.0026	< 0.003 ± 0.001	< 0.0005 ± 0.0003
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	32 ± 0	< 0.0008 ± 0.0004	< 0.005 ± 0.002	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	33 ± 0	0.00084 ± 0.00032	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	33 ± 0	< 0.0008 ± 0.0004	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	47 ± 1	0.0022 ± 0.0006	< 0.005 ± 0.002	— ± —	0.0013 ± 0.0004
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	47 ± 2	0.0027 ± 0.0000	< 0.005 ± 0.001	— ± —	0.0015 ± 0.0001
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	45 ± 2	0.0025 ± 0.0005	< 0.005 ± 0.002	— ± —	0.00091 ± 0.00007
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	46 ± 2	0.0024 ± 0.0004	< 0.005 ± 0.001	— ± —	0.0014 ± 0.0006
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	39 ± 1	< 0.0005 ± 0.0005	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0001
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	39 ± 1	0.00059 ± 0.00016	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0002
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	52 ± 0	0.0026 ± 0.0006	< 0.004 ± 0.001	— ± —	0.00077 ± 0.00047
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	52 ± 2	0.0021 ± 0.0011	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0002
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	51 ± 0	0.0027 ± 0.0002	< 0.004 ± 0.002	— ± —	0.00049 ± 0.00022
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	51 ± 2	0.0029 ± 0.0010	< 0.004 ± 0.002	— ± —	0.0010 ± 0.0002
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	42 ± 1	< 0.0005 ± 0.0006	< 0.004 ± 0.003	— ± —	< 0.0006 ± 0.0002
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	42 ± 0	< 0.0005 ± 0.0003	< 0.004 ± 0.003	— ± —	< 0.0006 ± 0.0001
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	49 ± 1	0.0018 ± 0.0008	< 0.004 ± 0.002	— ± —	0.00067 ± 0.00033
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	51 ± 3	0.0020 ± 0.0005	< 0.004 ± 0.000	— ± —	0.00063 ± 0.00072
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	48 ± 2	0.0041 ± 0.0010	< 0.004 ± 0.002	— ± —	0.0012 ± 0.0004
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	50 ± 2	0.0033 ± 0.0006	< 0.004 ± 0.002	— ± —	0.00083 ± 0.00051
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	47 ± 2	0.00064 ± 0.00061	< 0.004 ± 0.002	— ± —	0.00042 ± 0.00010
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	46 ± 2	0.0011 ± 0.0002	< 0.004 ± 0.002	— ± —	0.00047 ± 0.00039
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	46 ± 0	0.0010 ± 0.0003	< 0.007 ± 0.001	— ± —	0.00077 ± 0.00006
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	43 ± 1	0.00097 ± 0.00034	< 0.008 ± 0.000	— ± —	0.00044 ± 0.00026
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	43 ± 0	0.0014 ± 0.0002	< 0.008 ± 0.001	— ± —	0.00065 ± 0.00002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	42 ± 1	0.0011 ± 0.0002	< 0.008 ± 0.001	— ± —	0.00035 ± 0.00016
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	43 ± 1	0.0012 ± 0.0002	< 0.008 ± 0.000	— ± —	0.00067 ± 0.00041
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	37 ± 0	< 0.0007 ± 0.0003	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0000
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	38 ± 1	< 0.0007 ± 0.0002	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0001
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	49 ± 0	0.00068 ± 0.00023	0.0018 ± 0.0007	— ± —	< 0.0003 ± 0.0003
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	48 ± 0	0.0011 ± 0.0001	0.0020 ± 0.0010	— ± —	0.00053 ± 0.00012
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	49 ± 0	0.00060 ± 0.00005	0.0012 ± 0.0000	— ± —	0.00043 ± 0.00010
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	49 ± 0	0.00082 ± 0.00000	0.0026 ± 0.0003	— ± —	0.00038 ± 0.00008
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	51 ± 0	0.00018 ± 0.00010	0.0017 ± 0.0001	— ± —	< 0.00054 ± 0.00010
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	46 ± 0	0.00039 ± 0.00016	0.0023 ± 0.0003	— ± —	< 0.0002 ± 0.0001
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	45 ± 1	0.0010 ± 0.0008	< 0.002 ± 0.000	< 0.003 ± 0.000	< 0.0005 ± 0.0003
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	44 ± 0	0.00073 ± 0.00019	0.0022 ± 0.0012	< 0.0015 ± 0.0004	< 0.0006 ± 0.0003
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	44 ± 0	0.0012 ± 0.0012	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0004
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	44 ± 0	0.0012 ± 0.0005	< 0.0013 ± 0.0012	< 0.0015 ± 0.0004	< 0.0006 ± 0.0002
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	37 ± 0	< 0.0008 ± 0.0001	< 0.005 ± 0.002	< 0.003 ± 0.001	< 0.0005 ± 0.0000
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	38 ± 0	< 0.0008 ± 0.0003	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	67 ± 2	0.0022 ± 0.0002	< 0.005 ± 0.000	— ± —	0.00047 ± 0.00003
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	64 ± 0	0.0012 ± 0.0000	< 0.005 ± 0.001	— ± —	0.00077 ± 0.00005
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	64 ± 1	0.0026 ± 0.0005	< 0.005 ± 0.001	— ± —	0.00067 ± 0.00024
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	66 ± 1	0.0018 ± 0.0003	< 0.005 ± 0.002	— ± —	0.0011 ± 0.0001
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	53 ± 1	< 0.0005 ± 0.0004	< 0.005 ± 0.002	— ± —	< 0.0003 ± 0.0002
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	54 ± 2	< 0.0005 ± 0.0003	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0001
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	59 ± 1	0.0013 ± 0.0004	< 0.004 ± 0.002	— ± —	0.00075 ± 0.00031
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	61 ± 0	0.0019 ± 0.0004	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0005
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	59 ± 1	0.0020 ± 0.0004	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0001
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	57 ± 1	0.0013 ± 0.0006	< 0.004 ± 0.000	— ± —	0.00061 ± 0.00008
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	50 ± 1	< 0.0005 ± 0.0001	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0003
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	49 ± 0	0.00053 ± 0.00055	< 0.004 ± 0.004	— ± —	< 0.0006 ± 0.0001
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	63 ± 2	0.0031 ± 0.0005	< 0.004 ± 0.002	— ± —	0.0012 ± 0.0001
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	62 ± 3	0.0024 ± 0.0008	< 0.004 ± 0.004	— ± —	0.00068 ± 0.00008
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	60 ± 3	0.0030 ± 0.0000	< 0.004 ± 0.004	— ± —	0.0010 ± 0.0003
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	62 ± 2	0.0021 ± 0.0002	< 0.004 ± 0.002	— ± —	0.00087 ± 0.00044

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	55 ± 2	0.00064 ± 0.00027	< 0.004 ± 0.003	— ± —	0.00026 ± 0.00008
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	55 ± 2	0.00049 ± 0.00018	< 0.004 ± 0.002	— ± —	0.00031 ± 0.00005
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	51 ± 0	0.00083 ± 0.00010	< 0.008 ± 0.001	— ± —	0.00052 ± 0.00020
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	51 ± 1	0.00092 ± 0.00019	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0003
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	50 ± 0	0.0013 ± 0.0005	< 0.008 ± 0.001	— ± —	0.00069 ± 0.00027
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	49 ± 1	0.00095 ± 0.00018	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0001
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	44 ± 1	< 0.0007 ± 0.0002	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0003
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	44 ± 1	< 0.0007 ± 0.0003	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0003
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	59 ± 1	0.00071 ± 0.00007	0.0015 ± 0.0001	— ± —	< 0.0003 ± 0.0000
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	60 ± 0	0.00052 ± 0.00008	0.0024 ± 0.0001	— ± —	0.00033 ± 0.00012
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	55 ± 1	0.00070 ± 0.00023	0.0016 ± 0.0014	— ± —	0.00068 ± 0.00003
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	60 ± 1	< 0.0008 ± 0.0004	< 0.005 ± 0.001	< 0.003 ± 0.000	< 0.0005 ± 0.0003
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	59 ± 1	< 0.0008 ± 0.0006	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0002
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	59 ± 1	< 0.0008 ± 0.0002	< 0.005 ± 0.000	< 0.003 ± 0.001	< 0.0005 ± 0.0002
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	61 ± 0	0.00050 ± 0.00012	0.0025 ± 0.0003	< 0.0015 ± 0.0018	< 0.0006 ± 0.0003
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	55 ± 1	< 0.0008 ± 0.0003	< 0.005 ± 0.001	< 0.003 ± 0.002	< 0.0005 ± 0.0003
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	55 ± 0	< 0.0008 ± 0.0002	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0003
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	76 ± 0	0.00060 ± 0.00050	< 0.005 ± 0.002	— ± —	< 0.0003 ± 0.0001
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	75 ± 0	0.00075 ± 0.00027	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0002
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	75 ± 1	0.00057 ± 0.00035	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0000
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	74 ± 1	< 0.0005 ± 0.0001	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0001
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	68 ± 1	< 0.0005 ± 0.0002	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0002
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	70 ± 1	< 0.0005 ± 0.0001	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0002
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	86 ± 1	0.0013 ± 0.0002	< 0.004 ± 0.006	— ± —	0.00078 ± 0.00023
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	88 ± 0	0.0011 ± 0.0003	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0003
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	84 ± 1	0.0013 ± 0.0001	< 0.004 ± 0.001	— ± —	0.00047 ± 0.00012
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	87 ± 3	< 0.0005 ± 0.0000	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0002
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	73 ± 0	< 0.0003 ± 0.0002	< 0.004 ± 0.000	— ± —	< 0.0002 ± 0.0000
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	73 ± 0	< 0.0005 ± 0.0003	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0003
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	83 ± 1	0.0019 ± 0.0008	< 0.004 ± 0.002	— ± —	0.00044 ± 0.00034
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	83 ± 2	0.0020 ± 0.0005	< 0.004 ± 0.003	— ± —	0.00067 ± 0.00010

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	86 ± 4	0.0027 ± 0.0007	< 0.004 ± 0.001	— ± —	0.0012 ± 0.0004
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	88 ± 4	0.0027 ± 0.0002	< 0.004 ± 0.001	— ± —	0.0010 ± 0.0004
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	80 ± 3	0.00058 ± 0.00012	< 0.004 ± 0.002	— ± —	0.00035 ± 0.00015
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	81 ± 0	0.0011 ± 0.0002	< 0.004 ± 0.001	— ± —	0.00053 ± 0.00014
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	64 ± 1	0.00079 ± 0.00020	< 0.008 ± 0.000	— ± —	0.00040 ± 0.00023
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	64 ± 1	0.0010 ± 0.0004	< 0.008 ± 0.000	— ± —	0.00044 ± 0.00003
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	64 ± 1	0.00079 ± 0.00019	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0000
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	64 ± 2	< 0.0007 ± 0.0002	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0002
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	60 ± 0	< 0.0007 ± 0.0001	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0003
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	60 ± 2	< 0.0007 ± 0.0005	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0002
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	61 ± 0	0.00033 ± 0.00008	0.0035 ± 0.0016	— ± —	0.00031 ± 0.00021
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	63 ± 2	0.00097 ± 0.00004	0.0018 ± 0.0004	— ± —	0.00057 ± 0.00007
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	64 ± 0	0.00069 ± 0.00005	0.0012 ± 0.0003	— ± —	< 0.0002 ± 0.0001
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	61 ± 0	0.00073 ± 0.00014	0.0021 ± 0.0006	— ± —	0.00039 ± 0.00011
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	59 ± 0	0.00026 ± 0.00006	0.0014 ± 0.0008	— ± —	< 0.0003 ± 0.0001
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	60 ± 0	< 0.0002 ± 0.0001	0.0014 ± 0.0003	— ± —	< 0.0002 ± 0.0001
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	82 ± 0	0.00039 ± 0.00038	0.0023 ± 0.0014	< 0.0015 ± 0.0006	0.00063 ± 0.00008
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	81 ± 0	0.00059 ± 0.00044	< 0.0013 ± 0.0009	< 0.0015 ± 0.0006	< 0.0006 ± 0.0003
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	82 ± 0	0.00081 ± 0.00039	0.0017 ± 0.0017	0.0016 ± 0.0004	< 0.0006 ± 0.0005
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	82 ± 0	0.00054 ± 0.00036	< 0.0013 ± 0.0012	< 0.0015 ± 0.0011	< 0.0006 ± 0.0002
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	75 ± 1	< 0.0008 ± 0.0004	< 0.005 ± 0.000	< 0.003 ± 0.001	< 0.0005 ± 0.0002
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	75 ± 1	< 0.0008 ± 0.0005	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	86 ± 2	0.0014 ± 0.0003	< 0.005 ± 0.000	— ± —	0.00053 ± 0.00003
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	87 ± 2	0.0015 ± 0.0007	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0001
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	72 ± 0	0.0014 ± 0.0003	< 0.004 ± 0.001	— ± —	0.00036 ± 0.00012
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	73 ± 2	0.00093 ± 0.00040	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0004
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	71 ± 1	0.0018 ± 0.0004	< 0.004 ± 0.004	— ± —	< 0.0006 ± 0.0003
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	71 ± 1	0.0013 ± 0.0001	< 0.004 ± 0.000	— ± —	0.00058 ± 0.00026
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	67 ± 2	< 0.0005 ± 0.0002	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0001
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	68 ± 1	< 0.0005 ± 0.0003	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0003

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	84 ± 1	0.0010 ± 0.0005	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0000
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	83 ± 2	< 0.0007 ± 0.0002	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0001
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	81 ± 2	0.00075 ± 0.00025	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0002
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	83 ± 2	< 0.0007 ± 0.0004	< 0.008 ± 0.000	— ± —	0.00055 ± 0.00019
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	70 ± 5	< 0.0007 ± 0.0003	< 0.008 ± 0.001	— ± —	0.00067 ± 0.00007
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	72 ± 3	< 0.0007 ± 0.0004	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0002
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	57 ± 0	0.00032 ± 0.00002	0.00097 ± 0.00073	— ± —	< 0.0003 ± 0.0000
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	57 ± 0	0.00048 ± 0.00017	< 0.0009 ± 0.0001	— ± —	< 0.0003 ± 0.0001
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	62 ± 0	0.00095 ± 0.00015	0.0028 ± 0.0000	— ± —	0.0011 ± 0.0002
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	59 ± 0	0.00068 ± 0.00003	0.0020 ± 0.0003	— ± —	0.00041 ± 0.00003
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	51 ± 0	0.00025 ± 0.00016	0.0015 ± 0.0001	— ± —	< 0.0002 ± 0.0001
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	63 ± 2	0.00026 ± 0.00004	0.0016 ± 0.0004	— ± —	0.00023 ± 0.00016
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	83 ± 1	< 0.0008 ± 0.0004	< 0.005 ± 0.001	< 0.003 ± 0.000	< 0.0005 ± 0.0001
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	83 ± 3	< 0.0008 ± 0.0003	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	86 ± 2	0.00071 ± 0.00050	< 0.002 ± 0.000	< 0.003 ± 0.002	< 0.0005 ± 0.0003
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	83 ± 0	0.0012 ± 0.0006	< 0.005 ± 0.002	< 0.003 ± 0.000	< 0.0005 ± 0.0001
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	72 ± 0	< 0.0004 ± 0.0001	< 0.0013 ± 0.0010	< 0.0015 ± 0.0006	< 0.0006 ± 0.0001
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	73 ± 4	< 0.0005 ± 0.0001	< 0.002 ± 0.001	< 0.003 ± 0.000	< 0.0005 ± 0.0002
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	73 ± 1	0.00060 ± 0.00059	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0002
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	74 ± 1	0.00062 ± 0.00045	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0003
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	73 ± 2	0.00054 ± 0.00045	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0001
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	73 ± 1	< 0.0005 ± 0.0003	< 0.005 ± 0.001	— ± —	0.00066 ± 0.00014
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	62 ± 1	< 0.0005 ± 0.0002	< 0.005 ± 0.000	— ± —	< 0.0003 ± 0.0002
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	62 ± 1	< 0.0005 ± 0.0001	< 0.005 ± 0.003	— ± —	< 0.0003 ± 0.0001
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	61 ± 1	0.0014 ± 0.0005	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0004
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	63 ± 1	0.0015 ± 0.0009	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0004
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	62 ± 2	0.0021 ± 0.0007	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0006
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	62 ± 1	0.0021 ± 0.0004	< 0.004 ± 0.003	— ± —	0.00090 ± 0.00035
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	57 ± 2	0.00086 ± 0.00042	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0002
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	58 ± 2	< 0.0005 ± 0.0003	< 0.004 ± 0.003	— ± —	< 0.0006 ± 0.0005
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	32 ± 1	0.0031 ± 0.0002	< 0.004 ± 0.002	— ± —	0.0015 ± 0.0001
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	33 ± 0	0.0031 ± 0.0007	< 0.004 ± 0.003	— ± —	0.0014 ± 0.0003

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	32 ± 1	0.0036 ± 0.0018	< 0.004 ± 0.002	— ± —	0.0016 ± 0.0001
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	34 ± 2	0.0031 ± 0.0002	< 0.004 ± 0.003	— ± —	0.0018 ± 0.0002
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	27 ± 2	0.00094 ± 0.00017	< 0.004 ± 0.002	— ± —	0.00038 ± 0.00024
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	26 ± 1	0.00073 ± 0.00011	< 0.004 ± 0.003	— ± —	0.00054 ± 0.00027
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	70 ± 2	< 0.0007 ± 0.0003	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0000
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	72 ± 0	< 0.0007 ± 0.0004	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0001
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	72 ± 2	< 0.0007 ± 0.0001	< 0.008 ± 0.001	— ± —	0.00042 ± 0.00018
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	71 ± 0	0.00080 ± 0.00034	< 0.008 ± 0.001	— ± —	< 0.0004 ± 0.0002
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	58 ± 3	< 0.0007 ± 0.0001	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0001
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	59 ± 2	< 0.0007 ± 0.0005	< 0.008 ± 0.000	— ± —	< 0.0004 ± 0.0002
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	78 ± 0	0.00064 ± 0.00034	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0003
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	76 ± 3	0.00085 ± 0.00043	< 0.004 ± 0.001	— ± —	0.00040 ± 0.00030
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	78 ± 1	0.00062 ± 0.00042	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	78 ± 4	< 0.0004 ± 0.0005	< 0.004 ± 0.002	— ± —	0.00049 ± 0.00013
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	63 ± 2	< 0.0004 ± 0.0002	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0004
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	62 ± 2	< 0.0004 ± 0.0004	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0001
Flat Cr.	12/11/96	0.40 µm Mem	1/2	7.9 ± 0.0	0.0076 ± 0.0011	< 0.004 ± 0.001	— ± —	0.0036 ± 0.0004
Flat Cr.	12/11/96	0.40 µm Mem	2/2	8.0 ± 0.0	0.0077 ± 0.0008	< 0.004 ± 0.001	— ± —	0.0031 ± 0.0002
Flat Cr.	12/11/96	0.45 µm Cap	1/2	7.9 ± 0.1	0.0055 ± 0.0003	< 0.004 ± 0.001	— ± —	0.0027 ± 0.0013
Flat Cr.	12/11/96	0.45 µm Cap	2/2	7.8 ± 0.1	0.0052 ± 0.0009	< 0.004 ± 0.001	— ± —	0.0027 ± 0.0001
Flat Cr.	12/11/96	10 kd Tan	1/2	6.4 ± 0.1	0.0033 ± 0.0006	< 0.004 ± 0.002	— ± —	0.0019 ± 0.0004
Flat Cr.	12/11/96	10 kd Tan	2/2	6.7 ± 0.0	0.0031 ± 0.0003	< 0.004 ± 0.001	— ± —	0.0020 ± 0.0001
Flat Cr.	05/29/97	0.40 µm Mem	1/2	31 ± 0	0.0045 ± 0.0003	0.0051 ± 0.0006	— ± —	0.0028 ± 0.0001
Flat Cr.	05/29/97	0.40 µm Mem	2/2	31 ± 1	0.0045 ± 0.0007	0.0052 ± 0.0012	— ± —	0.0031 ± 0.0002
Flat Cr.	05/29/97	0.45 µm Cap	1/2	32 ± 2	0.0039 ± 0.0004	0.0045 ± 0.0016	— ± —	0.0021 ± 0.0001
Flat Cr.	05/29/97	0.45 µm Cap	2/2	30 ± 1	0.0031 ± 0.0001	0.0072 ± 0.0010	— ± —	0.0024 ± 0.0001
Flat Cr.	05/29/97	10 kd Tan	1/2	26 ± 1	0.00083 ± 0.00012	< 0.004 ± 0.000	— ± —	0.00089 ± 0.00018
Flat Cr.	05/29/97	10 kd Tan	2/2	27 ± 1	0.0013 ± 0.0005	0.0045 ± 0.0007	— ± —	0.00070 ± 0.00010
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	13 ± 0	0.36 ± 0.00	0.039 ± 0.000	— ± —	0.12 ± 0.01
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	13 ± 0	0.38 ± 0.00	0.042 ± 0.000	— ± —	0.13 ± 0.01
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	14 ± 0	0.36 ± 0.01	0.040 ± 0.005	— ± —	0.12 ± 0.01
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	13 ± 0	0.37 ± 0.00	0.038 ± 0.001	— ± —	0.11 ± 0.00
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	13 ± 0	0.38 ± 0.00	0.034 ± 0.001	— ± —	0.12 ± 0.01

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	13 ± 0	0.37 ± 0.02	0.033 ± 0.005	— ± —	0.12 ± 0.01
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	53 ± 2	0.63 ± 0.03	0.47 ± 0.00	— ± —	0.20 ± 0.00
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	53 ± 2	0.62 ± 0.00	0.47 ± 0.00	— ± —	0.20 ± 0.00
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	51 ± 3	0.62 ± 0.05	0.46 ± 0.01	— ± —	0.20 ± 0.00
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	53 ± 0	0.60 ± 0.00	0.48 ± 0.01	— ± —	0.20 ± 0.00
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	50 ± 2	0.60 ± 0.00	0.45 ± 0.00	— ± —	0.20 ± 0.00
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	49 ± 3	0.59 ± 0.00	0.45 ± 0.02	— ± —	0.20 ± 0.01
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	15 ± 1	0.27 ± 0.00	0.15 ± 0.00	— ± —	0.086 ± 0.06
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	15 ± 0	0.25 ± 0.00	0.15 ± 0.00	— ± —	0.087 ± 0.000
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	15 ± 1	0.27 ± 0.00	0.15 ± 0.01	— ± —	0.084 ± 0.008
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	15 ± 1	0.28 ± 0.00	0.14 ± 0.00	— ± —	0.084 ± 0.010
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	15 ± 1	0.24 ± 0.00	0.13 ± 0.01	— ± —	0.079 ± 0.004
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	14 ± 1	0.23 ± 0.00	0.13 ± 0.00	— ± —	0.082 ± 0.004
Whiskeytown	12/11/96	0.40 µm Mem	1/2	23 ± 0	0.00089 ± 0.00012	< 0.004 ± 0.001	— ± —	0.00059 ± 0.00019
Whiskeytown	12/11/96	0.40 µm Mem	2/2	22 ± 0	0.00085 ± 0.00022	< 0.004 ± 0.001	— ± —	0.00050 ± 0.00013
Whiskeytown	12/11/96	0.45 µm Cap	1/2	23 ± 0	0.00085 ± 0.00031	< 0.004 ± 0.001	— ± —	0.00057 ± 0.00017
Whiskeytown	12/11/96	0.45 µm Cap	2/2	23 ± 0	0.0016 ± 0.0006	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0001
Whiskeytown	12/11/96	10 kd Tan	1/2	21 ± 0	0.00067 ± 0.00025	< 0.004 ± 0.001	— ± —	< 0.0002 ± 0.0001
Whiskeytown	12/11/96	10 kd Tan	2/2	21 ± 1	< 0.0005 ± 0.0006	< 0.004 ± 0.002	— ± —	< 0.0006 ± 0.0001
Whiskeytown	05/29/97	0.40 µm Mem	1/2	22 ± 1	0.00074 ± 0.00034	< 0.004 ± 0.001	— ± —	0.00054 ± 0.00027
Whiskeytown	05/29/97	0.40 µm Mem	2/2	22 ± 2	0.0011 ± 0.0003	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0002
Whiskeytown	05/29/97	0.45 µm Cap	1/2	22 ± 1	0.00093 ± 0.00049	< 0.004 ± 0.002	— ± —	0.00071 ± 0.00044
Whiskeytown	05/29/97	0.45 µm Cap	2/2	22 ± 1	0.0012 ± 0.0002	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0001
Whiskeytown	05/29/97	10 kd Tan	1/2	19 ± 1	< 0.0004 ± 0.0003	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0003
Whiskeytown	05/29/97	10 kd Tan	2/2	19 ± 0	< 0.0004 ± 0.0004	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0002
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	20 ± 0	0.00084 ± 0.00005	< 0.0009 ± 0.0003	— ± —	0.00040 ± 0.00008
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	20 ± 0	0.00075 ± 0.00012	< 0.0009 ± 0.0000	— ± —	0.00054 ± 0.00010
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	20 ± 0	0.00065 ± 0.00018	< 0.0014 ± 0.0024	— ± —	< 0.0003 ± 0.0002
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	21 ± 1	0.0012 ± 0.0001	< 0.0014 ± 0.0000	— ± —	0.00072 ± 0.00023
Spring Cr. arm	07/12/96	10 kd Tan	1/3	19 ± 0	0.00072 ± 0.00014	< 0.0014 ± 0.0007	— ± —	< 0.0003 ± 0.0001
Spring Cr. arm	07/12/96	10 kd Tan	2/3	20 ± 0	0.00042 ± 0.00006	< 0.0009 ± 0.0004	— ± —	< 0.0003 ± 0.0000
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	19 ± 0	0.0016 ± 0.0001	< 0.005 ± 0.001	< 0.003 ± 0.002	< 0.0005 ± 0.0000
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	19 ± 0	0.0017 ± 0.0005	< 0.005 ± 0.001	< 0.003 ± 0.001	0.0011 ± 0.0002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	19 ± 0	0.0014 ± 0.0002	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0001
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	19 ± 0	0.0021 ± 0.0003	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0003
Spring Cr. arm	09/18/96	10 kd Tan	1/2	17 ± 0	< 0.0008 ± 0.0002	< 0.005 ± 0.000	< 0.003 ± 0.001	< 0.0005 ± 0.0002
Spring Cr. arm	09/18/96	10 kd Tan	2/2	17 ± 0	< 0.0008 ± 0.0003	< 0.005 ± 0.001	< 0.003 ± 0.001	< 0.0005 ± 0.0003
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	22 ± 1	0.0059 ± 0.0002	< 0.005 ± 0.002	— ± —	0.0018 ± 0.0001
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	22 ± 0	0.0044 ± 0.0005	< 0.005 ± 0.001	— ± —	0.0015 ± 0.0000
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	21 ± 1	0.0054 ± 0.0006	< 0.005 ± 0.000	— ± —	0.0019 ± 0.0000
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	21 ± 1	0.0054 ± 0.0002	< 0.005 ± 0.000	— ± —	0.0016 ± 0.0006
Spring Cr. arm	11/20/96	10 kd Tan	1/2	18 ± 1	0.0011 ± 0.0005	< 0.005 ± 0.002	— ± —	< 0.0003 ± 0.0002
Spring Cr. arm	11/20/96	10 kd Tan	2/2	18 ± 1	< 0.0005 ± 0.0005	< 0.005 ± 0.001	— ± —	< 0.0003 ± 0.0000
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	22 ± 0	0.0054 ± 0.0004	0.0051 ± 0.0002	— ± —	0.0025 ± 0.0000
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	22 ± 0	0.0037 ± 0.0000	< 0.004 ± 0.001	— ± —	0.0015 ± 0.0002
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	22 ± 0	0.0094 ± 0.0009	< 0.004 ± 0.001	— ± —	0.0027 ± 0.0006
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	22 ± 1	0.0089 ± 0.0006	0.0053 ± 0.0017	— ± —	0.0035 ± 0.0002
Spring Cr. arm	12/11/96	10 kd Tan	1/2	17 ± 0	0.00085 ± 0.00071	< 0.004 ± 0.001	— ± —	< 0.0006 ± 0.0003
Spring Cr. arm	12/11/96	10 kd Tan	2/2	18 ± 0	0.0011 ± 0.0001	< 0.004 ± 0.001	— ± —	0.00036 ± 0.00010
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	23 ± 1	0.0023 ± 0.0001	< 0.004 ± 0.001	— ± —	0.00085 ± 0.00017
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	23 ± 1	0.0016 ± 0.0007	< 0.004 ± 0.001	— ± —	0.00073 ± 0.00024
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	22 ± 1	0.0020 ± 0.0003	< 0.004 ± 0.000	— ± —	0.00061 ± 0.00008
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	23 ± 1	0.0016 ± 0.0003	< 0.004 ± 0.002	— ± —	0.00077 ± 0.00019
Spring Cr. arm	05/28/97	10 kd Tan	1/2	18 ± 1	0.00046 ± 0.00007	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0001
Spring Cr. arm	05/28/97	10 kd Tan	2/2	18 ± 0	< 0.0004 ± 0.0003	< 0.004 ± 0.001	— ± —	< 0.0004 ± 0.0001
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	486 ± 10	0.0012 ± 0.0001	< 0.004 ± 0.001	— ± —	0.0017 ± 0.0004
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	479 ± 4	0.0019 ± 0.0004	< 0.004 ± 0.000	— ± —	0.0016 ± 0.0003
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	474 ± 4	0.0015 ± 0.0004	< 0.004 ± 0.001	— ± —	0.0019 ± 0.0003
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	485 ± 2	0.0016 ± 0.0001	< 0.004 ± 0.001	— ± —	0.0019 ± 0.0003
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	437 ± 16	0.0011 ± 0.0000	< 0.004 ± 0.000	— ± —	0.0015 ± 0.0002
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	445 ± 0	0.0013 ± 0.0003	< 0.004 ± 0.001	— ± —	0.0017 ± 0.0003
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	64 ± 3	0.0031 ± 0.0002	< 0.004 ± 0.000	— ± —	0.0012 ± 0.0002
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	65 ± 3	0.0015 ± 0.0004	< 0.004 ± 0.002	— ± —	0.0010 ± 0.0002
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	67 ± 2	0.0028 ± 0.0007	< 0.004 ± 0.003	— ± —	0.0012 ± 0.0003
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	65 ± 3	0.0024 ± 0.0005	< 0.004 ± 0.002	— ± —	0.0013 ± 0.0003
Yolo Bypass	01/07/97	10 kd Tan	1/2	55 ± 3	0.00077 ± 0.00070	< 0.004 ± 0.003	— ± —	0.00057 ± 0.00022
Yolo Bypass	01/07/97	10 kd Tan	2/2	52 ± 2	0.0010 ± 0.0004	< 0.004 ± 0.001	— ± —	0.00030 ± 0.00029

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	0.12 ± 0.00	3.6 ± 0.0	0.0052 ± 0.0017	0.052 ± 0.000
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	0.11 ± 0.00	3.7 ± 0.1	0.0036 ± 0.0002	0.047 ± 0.001
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	0.10 ± 0.00	3.5 ± 0.0	0.0055 ± 0.0006	0.055 ± 0.003
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	0.11 ± 0.00	3.5 ± 0.0	0.0032 ± 0.0004	0.054 ± 0.000
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	0.11 ± 0.00	3.4 ± 0.0	0.0011 ± 0.0001	0.031 ± 0.002
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	0.11 ± 0.00	3.2 ± 0.1	0.0048 ± 0.0006	0.030 ± 0.001
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	0.092 ± 0.015	3.2 ± 0.1	0.0041 ± 0.0001	0.060 ± 0.002
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	0.088 ± 0.017	3.2 ± 0.1	0.0031 ± 0.0005	0.061 ± 0.008
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	0.10 ± 0.01	3.2 ± 0.1	0.0047 ± 0.0005	0.051 ± 0.001
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	0.099 ± 0.015	3.0 ± 0.0	< 0.002 ± 0.000	0.050 ± 0.001
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	0.097 ± 0.021	2.9 ± 0.1	0.0029 ± 0.0024	0.024 ± 0.002
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	0.072 ± 0.013	2.7 ± 0.0	0.0022 ± 0.0009	0.022 ± 0.002
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	0.12 ± 0.00	4.1 ± 0.1	0.0030 ± 0.0022	0.025 ± 0.002
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	0.13 ± 0.00	4.1 ± 0.1	0.0030 ± 0.0013	0.027 ± 0.003
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	0.11 ± 0.00	4.1 ± 0.1	0.0034 ± 0.0028	0.027 ± 0.002
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	0.12 ± 0.00	4.1 ± 0.0	0.0021 ± 0.0007	0.027 ± 0.003
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	0.090 ± 0.002	3.6 ± 0.0	< 0.0014 ± 0.0002	0.011 ± 0.001
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	0.10 ± 0.01	3.6 ± 0.1	< 0.0014 ± 0.0011	0.012 ± 0.001
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	0.14 ± 0.00	4.5 ± 0.0	0.0024 ± 0.0019	0.033 ± 0.003
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	0.14 ± 0.00	4.6 ± 0.1	0.0027 ± 0.0016	0.035 ± 0.003
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	0.13 ± 0.00	4.6 ± 0.0	0.0030 ± 0.0011	0.041 ± 0.003
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	0.13 ± 0.00	4.7 ± 0.4	0.0047 ± 0.0003	0.041 ± 0.001
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	0.099 ± 0.000	3.8 ± 0.1	0.0018 ± 0.0002	0.014 ± 0.001
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	0.10 ± 0.01	3.8 ± 0.0	< 0.002 ± 0.001	0.012 ± 0.001
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	0.091 ± 0.001	3.6 ± 0.1	0.0045 ± 0.0010	0.051 ± 0.003
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	0.098 ± 0.005	3.5 ± 0.1	0.0038 ± 0.0007	0.039 ± 0.000
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	0.089 ± 0.001	3.2 ± 0.0	0.0036 ± 0.0007	0.041 ± 0.001
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	0.091 ± 0.006	3.3 ± 0.0	0.0041 ± 0.0006	0.042 ± 0.000
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	0.064 ± 0.003	2.6 ± 0.0	< 0.0008 ± 0.0011	0.010 ± 0.001
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	0.062 ± 0.002	2.6 ± 0.1	0.00086 ± 0.00086	0.0091 ± 0.0003
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	0.088 ± 0.002	2.7 ± 0.0	0.0035 ± 0.0001	0.038 ± 0.000

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	0.081 ± 0.003	2.7 ± 0.0	0.0043 ± 0.0002	0.041 ± 0.000
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	0.088 ± 0.002	2.7 ± 0.0	0.0064 ± 0.0006	0.047 ± 0.000
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	0.092 ± 0.004	2.8 ± 0.0	0.0047 ± 0.0006	0.048 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	0.081 ± 0.005	2.7 ± 0.1	0.0021 ± 0.0004	0.028 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	0.087 ± 0.010	2.7 ± 0.0	0.0029 ± 0.0002	0.028 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	0.084 ± 0.000	2.6 ± 0.0	0.0023 ± 0.0002	0.027 ± 0.001
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	0.078 ± 0.024	2.0 ± 0.0	0.0063 ± 0.0028	0.059 ± 0.000
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	0.066 ± 0.007	2.1 ± 0.1	0.0061 ± 0.0013	0.049 ± 0.001
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	0.059 ± 0.002	2.1 ± 0.0	0.0056 ± 0.0019	0.057 ± 0.000
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	0.062 ± 0.004	2.0 ± 0.0	0.0034 ± 0.0003	0.053 ± 0.001
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	0.051 ± 0.013	1.7 ± 0.0	< 0.0008 ± 0.0003	0.015 ± 0.003
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	0.049 ± 0.010	1.7 ± 0.0	0.0016 ± 0.0020	0.016 ± 0.001
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	0.044 ± 0.007	1.8 ± 0.0	0.0015 ± 0.0012	0.015 ± 0.001
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	0.091 ± 0.003	3.2 ± 0.1	0.013 ± 0.001	0.091 ± 0.008
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	0.089 ± 0.001	3.1 ± 0.1	0.0097 ± 0.0009	0.089 ± 0.000
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	0.087 ± 0.001	3.1 ± 0.1	0.0071 ± 0.0020	0.086 ± 0.002
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	0.090 ± 0.000	3.0 ± 0.1	0.0087 ± 0.0032	0.076 ± 0.000
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	0.057 ± 0.001	2.5 ± 0.0	< 0.0014 ± 0.0004	0.018 ± 0.002
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	0.059 ± 0.000	2.5 ± 0.1	0.0015 ± 0.0019	0.015 ± 0.001
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	0.12 ± 0.02	4.0 ± 0.0	0.0065 ± 0.0013	0.080 ± 0.001
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	0.12 ± 0.01	4.1 ± 0.1	0.0067 ± 0.0014	0.075 ± 0.002
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	0.11 ± 0.00	4.0 ± 0.1	0.0049 ± 0.0009	0.075 ± 0.002
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	0.12 ± 0.01	3.9 ± 0.1	0.0052 ± 0.0026	0.079 ± 0.002
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	0.085 ± 0.004	3.1 ± 0.0	< 0.002 ± 0.002	0.017 ± 0.001
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	0.075 ± 0.002	3.1 ± 0.0	< 0.002 ± 0.001	0.018 ± 0.002
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	0.094 ± 0.005	2.5 ± 0.0	0.0044 ± 0.0004	0.065 ± 0.002
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	0.094 ± 0.005	2.5 ± 0.0	0.0045 ± 0.0021	0.068 ± 0.004
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	0.088 ± 0.006	2.7 ± 0.1	0.011 ± 0.000	0.10 ± 0.00
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	0.093 ± 0.002	2.8 ± 0.0	0.0075 ± 0.0013	0.10 ± 0.00
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	0.081 ± 0.001	2.3 ± 0.1	0.0021 ± 0.0008	0.036 ± 0.003
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	0.087 ± 0.009	2.2 ± 0.0	0.0016 ± 0.0005	0.037 ± 0.001
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	0.088 ± 0.003	2.3 ± 0.0	0.0032 ± 0.0009	0.035 ± 0.002
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	0.071 ± 0.003	2.6 ± 0.2	0.0028 ± 0.0012	0.034 ± 0.000
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	0.076 ± 0.005	2.7 ± 0.1	0.0031 ± 0.0011	0.041 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	0.073 ± 0.004	2.6 ± 0.1	0.0045 ± 0.0010	0.040 ± 0.003
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	0.075 ± 0.003	2.5 ± 0.0	0.0031 ± 0.0007	0.042 ± 0.001
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	0.053 ± 0.007	2.2 ± 0.1	< 0.0008 ± 0.0002	0.015 ± 0.000
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	0.056 ± 0.001	2.2 ± 0.1	0.0010 ± 0.0003	0.014 ± 0.000
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	0.087 ± 0.002	2.9 ± 0.0	0.0037 ± 0.0001	0.028 ± 0.001
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	0.074 ± 0.005	2.8 ± 0.0	0.0035 ± 0.0003	0.031 ± 0.003
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	0.083 ± 0.001	2.9 ± 0.0	0.0033 ± 0.0001	0.033 ± 0.002
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	0.091 ± 0.009	2.9 ± 0.0	0.0031 ± 0.0003	0.035 ± 0.000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	0.086 ± 0.001	2.9 ± 0.0	0.00080 ± 0.00011	0.030 ± 0.001
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	0.077 ± 0.002	2.7 ± 0.0	0.0016 ± 0.0003	0.014 ± 0.000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	0.058 ± 0.005	2.3 ± 0.1	< 0.002 ± 0.001	0.029 ± 0.003
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	0.065 ± 0.001	2.4 ± 0.0	0.0035 ± 0.0007	0.028 ± 0.001
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	0.063 ± 0.009	2.2 ± 0.1	0.0036 ± 0.0018	0.037 ± 0.004
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	0.057 ± 0.006	2.5 ± 0.0	0.0017 ± 0.0006	0.037 ± 0.001
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	0.040 ± 0.012	1.8 ± 0.0	0.0013 ± 0.0011	0.0084 ± 0.0009
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	0.047 ± 0.012	1.8 ± 0.0	< 0.0008 ± 0.0003	0.0063 ± 0.0008
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	0.085 ± 0.003	3.1 ± 0.1	0.0070 ± 0.0006	0.071 ± 0.001
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	0.083 ± 0.006	3.0 ± 0.1	0.0060 ± 0.0021	0.068 ± 0.003
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	0.082 ± 0.004	3.0 ± 0.0	0.0054 ± 0.0011	0.068 ± 0.005
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	0.080 ± 0.002	3.0 ± 0.1	0.0066 ± 0.0021	0.068 ± 0.002
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	0.049 ± 0.002	2.4 ± 0.1	< 0.0014 ± 0.0003	0.0080 ± 0.0005
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	0.054 ± 0.003	2.4 ± 0.1	< 0.0014 ± 0.0008	0.010 ± 0.000
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	0.10 ± 0.00	3.5 ± 0.0	0.0046 ± 0.0019	0.047 ± 0.002
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	0.11 ± 0.00	3.4 ± 0.0	0.0042 ± 0.0009	0.055 ± 0.004
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	0.099 ± 0.011	3.4 ± 0.1	0.0034 ± 0.0015	0.052 ± 0.003
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	0.093 ± 0.004	3.2 ± 0.1	0.0061 ± 0.0017	0.054 ± 0.001
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	0.066 ± 0.002	2.8 ± 0.0	< 0.002 ± 0.000	0.010 ± 0.000
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	0.065 ± 0.007	2.8 ± 0.1	< 0.002 ± 0.001	0.0089 ± 0.0005
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	0.087 ± 0.009	2.3 ± 0.0	0.0098 ± 0.0001	0.084 ± 0.005
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	0.080 ± 0.003	2.2 ± 0.0	0.0067 ± 0.0007	0.056 ± 0.002
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	0.080 ± 0.002	2.1 ± 0.1	0.0076 ± 0.0011	0.065 ± 0.002
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	0.077 ± 0.001	2.2 ± 0.0	0.0071 ± 0.0013	0.070 ± 0.005

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	0.072 ± 0.006	1.8 ± 0.0	0.0035 ± 0.0008	0.027 ± 0.003
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	0.071 ± 0.008	1.8 ± 0.0	0.0031 ± 0.0016	0.030 ± 0.001
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	0.063 ± 0.002	2.6 ± 0.1	0.0031 ± 0.0003	0.035 ± 0.000
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	0.059 ± 0.004	2.6 ± 0.1	0.0025 ± 0.0011	0.031 ± 0.000
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	0.066 ± 0.006	2.6 ± 0.1	0.0027 ± 0.0009	0.036 ± 0.000
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	0.066 ± 0.002	2.5 ± 0.1	0.0032 ± 0.0005	0.036 ± 0.000
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	0.053 ± 0.004	2.2 ± 0.1	< 0.0008 ± 0.0006	0.013 ± 0.000
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	0.053 ± 0.007	2.2 ± 0.1	0.0015 ± 0.0003	0.012 ± 0.000
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	0.096 ± 0.001	3.2 ± 0.0	0.0021 ± 0.0009	0.022 ± 0.000
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	0.091 ± 0.010	3.2 ± 0.0	0.0023 ± 0.0004	0.030 ± 0.001
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	0.087 ± 0.006	3.0 ± 0.3	0.0038 ± 0.0006	0.025 ± 0.001
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	0.10 ± 0.01	3.0 ± 0.0	0.0011 ± 0.0013	0.019 ± 0.002
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	0.17 ± 0.01	3.1 ± 0.0	0.0016 ± 0.0006	0.017 ± 0.002
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	0.13 ± 0.04	3.2 ± 0.0	0.0018 ± 0.0000	0.021 ± 0.001
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	0.11 ± 0.00	3.2 ± 0.0	0.0026 ± 0.0008	0.023 ± 0.000
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	0.098 ± 0.007	2.7 ± 0.0	0.0014 ± 0.0013	0.0079 ± 0.0012
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	0.093 ± 0.003	2.8 ± 0.0	0.0020 ± 0.0003	0.0055 ± 0.0002
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	0.13 ± 0.00	3.6 ± 0.0	0.0020 ± 0.0012	0.024 ± 0.001
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	0.13 ± 0.00	3.6 ± 0.1	< 0.0014 ± 0.0013	0.023 ± 0.003
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	0.12 ± 0.00	3.6 ± 0.0	0.0018 ± 0.0015	0.023 ± 0.001
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	0.13 ± 0.01	3.7 ± 0.1	0.0022 ± 0.0013	0.022 ± 0.001
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	0.11 ± 0.00	3.2 ± 0.0	< 0.0014 ± 0.0006	0.0063 ± 0.0008
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	0.11 ± 0.00	3.3 ± 0.1	< 0.0014 ± 0.0005	0.0066 ± 0.0000
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	0.11 ± 0.00	3.5 ± 0.0	0.0035 ± 0.0021	0.039 ± 0.002
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	0.11 ± 0.00	3.5 ± 0.0	0.0029 ± 0.0018	0.039 ± 0.001
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	0.11 ± 0.00	3.4 ± 0.1	0.0042 ± 0.0009	0.039 ± 0.002
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	0.11 ± 0.01	3.6 ± 0.0	0.0040 ± 0.0009	0.042 ± 0.002
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	0.081 ± 0.006	2.9 ± 0.0	0.0012 ± 0.0011	0.010 ± 0.001
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	0.085 ± 0.002	3.0 ± 0.0	0.0021 ± 0.0016	0.012 ± 0.002
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	0.057 ± 0.002	1.7 ± 0.0	0.0071 ± 0.0017	0.063 ± 0.004
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	0.061 ± 0.003	1.7 ± 0.0	0.0076 ± 0.0007	0.065 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	0.052 ± 0.004	1.7 ± 0.0	0.0091 ± 0.0014	0.075 ± 0.005
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	0.054 ± 0.002	1.8 ± 0.0	0.0067 ± 0.0012	0.079 ± 0.003
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	0.062 ± 0.006	1.6 ± 0.0	0.0050 ± 0.0007	0.052 ± 0.000
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	0.060 ± 0.001	1.6 ± 0.1	0.0039 ± 0.0013	0.046 ± 0.003
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	0.094 ± 0.008	2.9 ± 0.0	0.0020 ± 0.0004	0.022 ± 0.002
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	0.094 ± 0.002	3.0 ± 0.0	0.0040 ± 0.0000	0.031 ± 0.001
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	0.089 ± 0.001	2.9 ± 0.0	0.0015 ± 0.0003	0.021 ± 0.001
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	0.091 ± 0.005	2.9 ± 0.0	0.0020 ± 0.0011	0.021 ± 0.001
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	0.083 ± 0.004	2.7 ± 0.0	0.00097 ± 0.00078	0.0093 ± 0.0009
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	0.084 ± 0.006	2.7 ± 0.0	< 0.0008 ± 0.0008	0.0094 ± 0.0007
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	0.13 ± 0.00	2.8 ± 0.0	0.0032 ± 0.0003	0.018 ± 0.001
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	0.12 ± 0.00	2.8 ± 0.1	0.0035 ± 0.0003	0.026 ± 0.002
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	0.12 ± 0.00	2.8 ± 0.0	0.0016 ± 0.0006	0.022 ± 0.000
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	0.13 ± 0.00	2.6 ± 0.0	0.0028 ± 0.0001	0.022 ± 0.001
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	0.11 ± 0.01	2.5 ± 0.0	0.00077 ± 0.00042	0.014 ± 0.000
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	0.13 ± 0.00	2.6 ± 0.0	0.00097 ± 0.00041	0.012 ± 0.001
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	0.19 ± 0.00	3.6 ± 0.0	0.0033 ± 0.0009	0.033 ± 0.001
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	0.19 ± 0.00	3.5 ± 0.0	0.0018 ± 0.0006	0.016 ± 0.001
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	0.19 ± 0.00	3.5 ± 0.1	< 0.0006 ± 0.0013	0.017 ± 0.004
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	0.18 ± 0.02	3.5 ± 0.1	0.0023 ± 0.0010	0.021 ± 0.003
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	0.16 ± 0.02	3.0 ± 0.1	0.00084 ± 0.00055	0.0091 ± 0.0043
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	0.17 ± 0.01	3.1 ± 0.0	< 0.0008 ± 0.0002	0.010 ± 0.001
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	0.22 ± 0.00	3.2 ± 0.1	0.0025 ± 0.0004	0.035 ± 0.002
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	0.21 ± 0.00	3.3 ± 0.0	0.0027 ± 0.0010	0.036 ± 0.001
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	0.11 ± 0.00	2.5 ± 0.0	0.0045 ± 0.0008	0.045 ± 0.000
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	0.11 ± 0.00	2.5 ± 0.0	0.0036 ± 0.0008	0.039 ± 0.003
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	0.099 ± 0.001	2.4 ± 0.0	0.0053 ± 0.0020	0.044 ± 0.002
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	0.11 ± 0.01	2.4 ± 0.0	0.0043 ± 0.0025	0.043 ± 0.001
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	0.093 ± 0.004	2.3 ± 0.1	0.0031 ± 0.0017	0.018 ± 0.001
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	0.088 ± 0.004	2.3 ± 0.0	0.0025 ± 0.0011	0.023 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	0.16 ± 0.00	3.5 ± 0.1	0.0020 ± 0.0013	0.018 ± 0.002
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	0.17 ± 0.01	3.5 ± 0.1	0.0014 ± 0.0006	0.014 ± 0.001
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	0.16 ± 0.01	3.4 ± 0.0	0.0022 ± 0.0008	0.020 ± 0.000
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	0.16 ± 0.01	3.5 ± 0.0	0.0024 ± 0.0009	0.018 ± 0.001
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	0.14 ± 0.00	2.9 ± 0.1	< 0.0008 ± 0.0002	0.0067 ± 0.0005
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	0.13 ± 0.00	3.0 ± 0.0	0.00077 ± 0.00049	0.0071 ± 0.0008
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	0.12 ± 0.01	2.5 ± 0.0	0.0014 ± 0.0003	0.017 ± 0.000
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	0.11 ± 0.00	2.5 ± 0.0	0.0021 ± 0.0002	0.020 ± 0.000
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	0.13 ± 0.00	2.6 ± 0.0	0.0037 ± 0.0000	0.025 ± 0.000
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	0.11 ± 0.00	2.5 ± 0.0	0.0012 ± 0.0004	0.024 ± 0.001
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	0.087 ± 0.001	2.2 ± 0.0	0.00094 ± 0.00063	0.0052 ± 0.0004
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	0.14 ± 0.00	2.7 ± 0.0	0.0011 ± 0.0005	0.0090 ± 0.0004
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	0.21 ± 0.00	3.2 ± 0.0	0.0026 ± 0.0027	0.016 ± 0.001
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	0.26 ± 0.03	3.1 ± 0.0	0.0016 ± 0.0008	0.014 ± 0.001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	0.20 ± 0.00	3.2 ± 0.1	< 0.002 ± 0.001	0.021 ± 0.001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	0.20 ± 0.02	3.2 ± 0.0	< 0.0008 ± 0.0004	0.023 ± 0.002
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	0.14 ± 0.00	2.6 ± 0.0	< 0.0006 ± 0.0002	0.0054 ± 0.0005
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	0.15 ± 0.00	2.7 ± 0.0	0.0022 ± 0.0003	0.0065 ± 0.0017
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	0.16 ± 0.00	2.4 ± 0.0	0.0019 ± 0.0014	0.015 ± 0.000
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	0.16 ± 0.01	2.4 ± 0.1	0.0026 ± 0.0021	0.017 ± 0.001
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	0.15 ± 0.01	2.4 ± 0.0	0.0016 ± 0.0008	0.021 ± 0.002
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	0.14 ± 0.00	2.4 ± 0.0	0.0017 ± 0.0004	0.017 ± 0.000
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	0.095 ± 0.005	1.9 ± 0.1	< 0.0014 ± 0.0006	0.0041 ± 0.0012
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	0.093 ± 0.002	1.9 ± 0.0	< 0.0014 ± 0.0002	0.0033 ± 0.0006
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	0.089 ± 0.006	2.1 ± 0.0	0.0045 ± 0.0011	0.044 ± 0.004
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	0.091 ± 0.008	2.1 ± 0.0	0.0032 ± 0.0000	0.043 ± 0.003
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	0.082 ± 0.004	2.1 ± 0.1	0.0054 ± 0.0017	0.057 ± 0.003
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	0.084 ± 0.006	2.0 ± 0.0	0.0074 ± 0.0012	0.052 ± 0.002
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	0.082 ± 0.006	1.8 ± 0.0	0.0021 ± 0.0015	0.022 ± 0.002
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	0.077 ± 0.009	1.9 ± 0.0	0.0037 ± 0.0006	0.025 ± 0.001
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	0.052 ± 0.004	0.95 ± 0.02	0.011 ± 0.002	0.095 ± 0.002
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	0.051 ± 0.003	0.99 ± 0.02	0.0087 ± 0.0002	0.090 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	0.047 ± 0.002	0.96 ± 0.01	0.011 ± 0.001	0.10 ± 0.01
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	0.053 ± 0.006	1.0 ± 0.0	0.011 ± 0.001	0.11 ± 0.00
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	0.024 ± 0.002	0.80 ± 0.04	0.0022 ± 0.0001	0.026 ± 0.003
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	0.026 ± 0.001	0.82 ± 0.04	0.0027 ± 0.0008	0.025 ± 0.001
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	0.14 ± 0.01	2.9 ± 0.0	0.0013 ± 0.0008	0.014 ± 0.001
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	0.15 ± 0.00	2.9 ± 0.1	0.00080 ± 0.00085	0.014 ± 0.001
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	0.13 ± 0.00	2.9 ± 0.0	0.0019 ± 0.0010	0.017 ± 0.001
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	0.13 ± 0.01	2.9 ± 0.0	0.0019 ± 0.0005	0.019 ± 0.001
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	0.095 ± 0.001	2.2 ± 0.0	< 0.0008 ± 0.0009	0.0050 ± 0.0013
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	0.092 ± 0.005	2.2 ± 0.0	< 0.0008 ± 0.0008	0.0053 ± 0.0003
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	0.15 ± 0.01	3.3 ± 0.0	0.0021 ± 0.0008	0.018 ± 0.002
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	0.15 ± 0.00	3.2 ± 0.0	0.0042 ± 0.0012	0.025 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	0.15 ± 0.01	3.3 ± 0.0	0.0035 ± 0.0016	0.018 ± 0.001
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	0.14 ± 0.01	3.5 ± 0.1	0.0019 ± 0.0005	0.019 ± 0.002
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	0.11 ± 0.00	2.5 ± 0.1	0.0011 ± 0.0005	0.0062 ± 0.0009
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	0.10 ± 0.01	2.6 ± 0.0	< 0.001 ± 0.001	0.0057 ± 0.0004
Flat Cr.	12/11/96	0.40 µm Mem	1/2	0.0040 ± 0.0016	0.27 ± 0.02	0.026 ± 0.000	0.24 ± 0.01
Flat Cr.	12/11/96	0.40 µm Mem	2/2	0.0043 ± 0.0010	0.27 ± 0.02	0.026 ± 0.001	0.23 ± 0.00
Flat Cr.	12/11/96	0.45 µm Cap	1/2	0.0035 ± 0.0012	0.24 ± 0.02	0.021 ± 0.008	0.17 ± 0.00
Flat Cr.	12/11/96	0.45 µm Cap	2/2	0.0030 ± 0.0005	0.24 ± 0.02	0.019 ± 0.003	0.18 ± 0.00
Flat Cr.	12/11/96	10 kd Tan	1/2	< 0.0019 ± 0.0004	0.21 ± 0.01	0.013 ± 0.001	0.10 ± 0.00
Flat Cr.	12/11/96	10 kd Tan	2/2	0.0029 ± 0.0004	0.21 ± 0.02	0.013 ± 0.000	0.10 ± 0.00
Flat Cr.	05/29/97	0.40 µm Mem	1/2	< 0.002 ± 0.000	0.35 ± 0.00	0.021 ± 0.003	0.19 ± 0.00
Flat Cr.	05/29/97	0.40 µm Mem	2/2	0.0026 ± 0.0015	0.38 ± 0.03	0.020 ± 0.003	0.18 ± 0.00
Flat Cr.	05/29/97	0.45 µm Cap	1/2	< 0.002 ± 0.001	0.37 ± 0.04	0.018 ± 0.001	0.17 ± 0.00
Flat Cr.	05/29/97	0.45 µm Cap	2/2	< 0.002 ± 0.002	0.37 ± 0.07	0.022 ± 0.001	0.17 ± 0.00
Flat Cr.	05/29/97	10 kd Tan	1/2	< 0.002 ± 0.001	0.22 ± 0.06	0.0071 ± 0.0017	0.061 ± 0.001
Flat Cr.	05/29/97	10 kd Tan	2/2	< 0.002 ± 0.001	0.22 ± 0.03	0.0067 ± 0.0008	0.066 ± 0.001
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	0.092 ± 0.003	0.027 ± 0.015	0.78 ± 0.05	10 ± 0
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	0.083 ± 0.001	< 0.02 ± 0.01	0.76 ± 0.00	10 ± 0
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	0.097 ± 0.013	< 0.02 ± 0.00	0.79 ± 0.07	10 ± 0
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	0.093 ± 0.004	< 0.02 ± 0.00	0.79 ± 0.10	9.8 ± 0.0
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	0.098 ± 0.002	0.012 ± 0.005	0.78 ± 0.02	10 ± 0

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	0.094 ± 0.007	< 0.02 ± 0.01	0.78 ± 0.06	9.8 ± 0.1
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	0.13 ± 0.01	< 0.05 ± 0.02	1.3 ± 0.0	16 ± 0.0
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	0.13 ± 0.01	< 0.05 ± 0.03	1.3 ± 0.0	17 ± 0
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	0.12 ± 0.01	< 0.05 ± 0.03	1.2 ± 0.0	16 ± 0
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	0.13 ± 0.01	< 0.05 ± 0.03	1.3 ± 0.1	17 ± 0
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	0.13 ± 0.01	< 0.05 ± 0.03	1.2 ± 0.0	16 ± 0
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	0.13 ± 0.01	< 0.05 ± 0.03	1.2 ± 0.0	16 ± 1
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	0.21 ± 0.00	0.027 ± 0.04	0.57 ± 0.03	6.9 ± 0.2
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	0.22 ± 0.02	0.028 ± 0.005	0.60 ± 0.01	6.7 ± 0.0
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	0.21 ± 0.00	0.11 ± 0.01	0.56 ± 0.04	6.6 ± 0.2
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	0.23 ± 0.00	0.12 ± 0.00	0.59 ± 0.05	7.1 ± 0.1
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	0.22 ± 0.00	0.037 ± 0.002	0.54 ± 0.00	6.8 ± 0.0
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	0.21 ± 0.00	0.038 ± 0.002	0.55 ± 0.02	6.5 ± 0.2
Whiskeytown	12/11/96	0.40 µm Mem	1/2	0.038 ± 0.003	0.46 ± 0.02	0.0041 ± 0.0005	0.042 ± 0.001
Whiskeytown	12/11/96	0.40 µm Mem	2/2	0.040 ± 0.002	0.50 ± 0.01	0.0041 ± 0.0004	0.045 ± 0.000
Whiskeytown	12/11/96	0.45 µm Cap	1/2	0.035 ± 0.001	0.46 ± 0.00	0.0033 ± 0.0007	0.042 ± 0.001
Whiskeytown	12/11/96	0.45 µm Cap	2/2	0.037 ± 0.005	0.47 ± 0.01	0.0038 ± 0.0007	0.040 ± 0.002
Whiskeytown	12/11/96	10 kd Tan	1/2	0.032 ± 0.001	0.43 ± 0.02	0.0024 ± 0.0006	0.023 ± 0.002
Whiskeytown	12/11/96	10 kd Tan	2/2	0.033 ± 0.003	0.42 ± 0.04	0.0022 ± 0.0003	0.019 ± 0.003
Whiskeytown	05/29/97	0.40 µm Mem	1/2	0.032 ± 0.002	0.48 ± 0.06	0.0032 ± 0.0009	0.027 ± 0.003
Whiskeytown	05/29/97	0.40 µm Mem	2/2	0.032 ± 0.005	0.52 ± 0.05	0.0033 ± 0.0011	0.032 ± 0.003
Whiskeytown	05/29/97	0.45 µm Cap	1/2	0.029 ± 0.004	0.47 ± 0.04	0.0031 ± 0.0004	0.033 ± 0.001
Whiskeytown	05/29/97	0.45 µm Cap	2/2	0.028 ± 0.001	0.48 ± 0.08	0.0042 ± 0.0013	0.033 ± 0.002
Whiskeytown	05/29/97	10 kd Tan	1/2	0.018 ± 0.001	0.43 ± 0.07	< 0.001 ± 0.001	0.011 ± 0.001
Whiskeytown	05/29/97	10 kd Tan	2/2	0.019 ± 0.001	0.41 ± 0.04	< 0.001 ± 0.000	0.011 ± 0.001
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	0.028 ± 0.004	0.45 ± 0.01	0.0026 ± 0.0002	0.036 ± 0.000
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	0.029 ± 0.003	0.45 ± 0.00	0.0026 ± 0.0005	0.036 ± 0.001
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	0.026 ± 0.005	0.49 ± 0.06	0.0028 ± 0.0008	0.037 ± 0.001
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	0.029 ± 0.005	0.54 ± 0.24	0.0029 ± 0.0005	0.038 ± 0.001
Spring Cr. arm	07/12/96	10 kd Tan	1/3	0.027 ± 0.005	0.47 ± 0.06	0.0046 ± 0.0005	0.019 ± 0.001
Spring Cr. arm	07/12/96	10 kd Tan	2/3	0.023 ± 0.003	0.43 ± 0.00	0.0013 ± 0.0003	0.021 ± 0.000
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	0.032 ± 0.009	0.45 ± 0.02	0.0060 ± 0.0012	0.058 ± 0.002
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	0.11 ± 0.01	0.44 ± 0.02	0.0039 ± 0.0019	0.055 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (µg/L) ICP–MS	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	0.017 ± 0.005	0.41 ± 0.03	0.0041 ± 0.0009	0.058 ± 0.001
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	0.019 ± 0.006	0.42 ± 0.01	0.0072 ± 0.0002	0.053 ± 0.004
Spring Cr. arm	09/18/96	10 kd Tan	1/2	0.017 ± 0.006	0.38 ± 0.01	< 0.0008 ± 0.0004	0.019 ± 0.001
Spring Cr. arm	09/18/96	10 kd Tan	2/2	< 0.013 ± 0.000	0.37 ± 0.01	0.0016 ± 0.0003	0.017 ± 0.001
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	0.030 ± 0.002	0.44 ± 0.03	0.014 ± 0.001	0.18 ± 0.00
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	0.029 ± 0.001	0.38 ± 0.01	0.012 ± 0.000	0.13 ± 0.00
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	0.025 ± 0.002	0.38 ± 0.03	0.012 ± 0.002	0.17 ± 0.00
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	0.022 ± 0.005	0.38 ± 0.04	0.015 ± 0.001	0.17 ± 0.00
Spring Cr. arm	11/20/96	10 kd Tan	1/2	0.018 ± 0.001	0.33 ± 0.07	0.0033 ± 0.0026	0.033 ± 0.003
Spring Cr. arm	11/20/96	10 kd Tan	2/2	0.022 ± 0.003	0.30 ± 0.00	0.0033 ± 0.0008	0.033 ± 0.003
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	0.032 ± 0.002	0.31 ± 0.01	0.011 ± 0.002	0.21 ± 0.00
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	0.032 ± 0.001	0.30 ± 0.01	0.0091 ± 0.0001	0.16 ± 0.00
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	0.027 ± 0.004	0.31 ± 0.01	0.025 ± 0.003	0.35 ± 0.00
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	0.024 ± 0.001	0.32 ± 0.02	0.026 ± 0.001	0.34 ± 0.02
Spring Cr. arm	12/11/96	10 kd Tan	1/2	0.022 ± 0.003	0.26 ± 0.01	0.0022 ± 0.0008	0.053 ± 0.002
Spring Cr. arm	12/11/96	10 kd Tan	2/2	0.024 ± 0.001	0.26 ± 0.01	0.0030 ± 0.0010	0.051 ± 0.003
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	0.034 ± 0.005	0.52 ± 0.02	0.0056 ± 0.0016	0.051 ± 0.002
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	0.030 ± 0.002	0.49 ± 0.02	0.0049 ± 0.0017	0.050 ± 0.003
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	0.029 ± 0.006	0.49 ± 0.04	0.0050 ± 0.0005	0.059 ± 0.001
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	0.027 ± 0.005	0.51 ± 0.04	0.0050 ± 0.0015	0.059 ± 0.001
Spring Cr. arm	05/28/97	10 kd Tan	1/2	0.017 ± 0.001	0.38 ± 0.01	< 0.001 ± 0.001	0.011 ± 0.001
Spring Cr. arm	05/28/97	10 kd Tan	2/2	0.017 ± 0.001	0.38 ± 0.03	0.0011 ± 0.0011	0.010 ± 0.002
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	1.5 ± 0.1	10 ± 0	0.012 ± 0.001	0.082 ± 0.001
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	1.6 ± 0.0	10 ± 0	0.015 ± 0.001	0.087 ± 0.003
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	1.6 ± 0.0	9.8 ± 0.2	0.013 ± 0.000	0.079 ± 0.000
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	1.6 ± 0.0	10 ± 1	0.017 ± 0.000	0.077 ± 0.003
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	1.3 ± 0.1	9.0 ± 0.4	0.0099 ± 0.0013	0.066 ± 0.004
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	1.3 ± 0.1	9.3 ± 0.0	0.010 ± 0.001	0.066 ± 0.000
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	0.081 ± 0.006	2.1 ± 0.0	0.0065 ± 0.0013	0.068 ± 0.003
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	0.082 ± 0.001	2.1 ± 0.0	0.0048 ± 0.0015	0.053 ± 0.002
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	0.075 ± 0.002	2.1 ± 0.1	0.0078 ± 0.0030	0.079 ± 0.001
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	0.081 ± 0.000	2.1 ± 0.0	0.0065 ± 0.0024	0.075 ± 0.001
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.061 ± 0.003	1.7 ± 0.1	0.0031 ± 0.0018	0.029 ± 0.005
Yolo Bypass	01/07/97	10 kd Tan	2/2	0.059 ± 0.001	1.6 ± 0.0	0.0038 ± 0.0004	0.024 ± 0.001

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	0.40 µm Mem	1/1	2.3 ± 0.1	0.054 ± 0.003
Sac. R.–Shasta	07/12/96	0.40 µm Mem	2/2	2.2 ± 0.1	0.045 ± 0.000
Sac. R.–Shasta	07/12/96	0.45 µm Cap	1/1	3.1 ± 0.0	< 0.017 ± 0.000
Sac. R.–Shasta	07/12/96	0.45 µm Cap	2/2	2.3 ± 0.1	0.023 ± 0.007
Sac. R.–Shasta	07/12/96	10 kd Tan	1/3	2.2 ± 0.0	< 0.017 ± 0.003
Sac. R.–Shasta	07/12/96	10 kd Tan	2/3	2.4 ± 0.1	0.019 ± 0.007
Sac. R.–Shasta	07/12/96	10 kd Tan	3/3	— ± —	— ± —
Sac. R.–Shasta	09/19/96	0.40 µm Mem	1/2	4.5 ± 0.2	0.043 ± 0.000
Sac. R.–Shasta	09/19/96	0.40 µm Mem	2/2	4.3 ± 0.1	0.029 ± 0.010
Sac. R.–Shasta	09/19/96	0.45 µm Cap	1/2	4.9 ± 0.4	0.015 ± 0.010
Sac. R.–Shasta	09/19/96	0.45 µm Cap	2/2	4.3 ± 0.1	0.0094 ± 0.0000
Sac. R.–Shasta	09/19/96	10 kd Tan	1/2	3.6 ± 0.1	< 0.003 ± 0.001
Sac. R.–Shasta	09/19/96	10 kd Tan	2/2	3.5 ± 0.1	< 0.008 ± 0.005
Sac. R.–Shasta	11/19/96	0.40 µm Mem	1/2	1.0 ± 0.2	0.016 ± 0.003
Sac. R.–Shasta	11/19/96	0.40 µm Mem	2/2	0.86 ± 0.06	0.015 ± 0.007
Sac. R.–Shasta	11/19/96	0.45 µm Cap	1/2	0.77 ± 0.09	0.011 ± 0.004
Sac. R.–Shasta	11/19/96	0.45 µm Cap	2/2	0.94 ± 0.09	0.0078 ± 0.0046
Sac. R.–Shasta	11/19/96	10 kd Tan	1/2	1.3 ± 0.2	< 0.005 ± 0.000
Sac. R.–Shasta	11/19/96	10 kd Tan	2/2	1.1 ± 0.0	0.0070 ± 0.0011
Sac. R.–Shasta	12/12/96	0.40 µm Mem	1/2	3.7 ± 0.1	0.014 ± 0.005
Sac. R.–Shasta	12/12/96	0.40 µm Mem	2/2	4.0 ± 0.1	0.022 ± 0.007
Sac. R.–Shasta	12/12/96	0.45 µm Cap	1/2	4.9 ± 0.2	0.028 ± 0.003
Sac. R.–Shasta	12/12/96	0.45 µm Cap	2/2	5.0 ± 0.2	0.015 ± 0.005
Sac. R.–Shasta	12/12/96	10 kd Tan	1/2	3.3 ± 0.0	0.013 ± 0.007
Sac. R.–Shasta	12/12/96	10 kd Tan	2/2	3.5 ± 0.1	< 0.006 ± 0.001
Sac. R.–Shasta	05/29/97	0.40 µm Mem	1/2	1.1 ± 0.0	0.069 ± 0.009
Sac. R.–Shasta	05/29/97	0.40 µm Mem	2/2	0.99 ± 0.12	0.038 ± 0.005
Sac. R.–Shasta	05/29/97	0.45 µm Cap	1/2	1.1 ± 0.1	0.027 ± 0.000
Sac. R.–Shasta	05/29/97	0.45 µm Cap	2/2	1.0 ± 0.1	0.017 ± 0.002
Sac. R.–Shasta	05/29/97	10 kd Tan	1/2	0.79 ± 0.07	< 0.005 ± 0.005
Sac. R.–Shasta	05/29/97	10 kd Tan	2/2	0.63 ± 0.07	< 0.005 ± 0.005
Sac. R.–Keswick	07/11/96	0.40 µm Mem	1/2	3.1 ± 0.4	0.028 ± 0.005

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Keswick	07/11/96	0.40 µm Mem	2/2	1.7 ± 0.1	0.030 ± 0.005
Sac. R.–Keswick	07/11/96	0.45 µm Cap	1/2	1.8 ± 0.1	0.031 ± 0.007
Sac. R.–Keswick	07/11/96	0.45 µm Cap	2/2	1.8 ± 0.1	0.029 ± 0.003
Sac. R.–Keswick	07/11/96	10 kd Tan	1/3	1.8 ± 0.0	0.019 ± 0.004
Sac. R.–Keswick	07/11/96	10 kd Tan	2/3	2.2 ± 0.5	0.016 ± 0.004
Sac. R.–Keswick	07/11/96	10 kd Tan	3/3	2.1 ± 0.6	0.012 ± 0.006
Sac. R.–Keswick	09/19/96	0.40 µm Mem	1/2	2.9 ± 0.0	0.016 ± 0.005
Sac. R.–Keswick	09/19/96	0.40 µm Mem	2/2	3.4 ± 0.0	0.013 ± 0.004
Sac. R.–Keswick	09/19/96	0.45 µm Cap	1/2	3.5 ± 0.1	0.0092 ± 0.0030
Sac. R.–Keswick	09/19/96	0.45 µm Cap	2/2	3.0 ± 0.1	0.0077 ± 0.0019
Sac. R.–Keswick	09/19/96	10 kd Tan	1/3	2.6 ± 0.1	< 0.008 ± 0.001
Sac. R.–Keswick	09/19/96	10 kd Tan	2/3	2.3 ± 0.1	< 0.008 ± 0.005
Sac. R.–Keswick	09/19/96	10 kd Tan	3/3	2.4 ± 0.1	< 0.008 ± 0.003
Sac. R.–Keswick	11/21/96	0.40 µm Mem	1/2	3.9 ± 0.1	0.0084 ± 0.0026
Sac. R.–Keswick	11/21/96	0.40 µm Mem	2/2	4.0 ± 0.2	0.014 ± 0.008
Sac. R.–Keswick	11/21/96	0.45 µm Cap	1/2	4.5 ± 0.3	0.0096 ± 0.0056
Sac. R.–Keswick	11/21/96	0.45 µm Cap	2/2	4.5 ± 0.1	0.0086 ± 0.0042
Sac. R.–Keswick	11/21/96	10 kd Tan	1/2	2.9 ± 0.1	0.0055 ± 0.0004
Sac. R.–Keswick	11/21/96	10 kd Tan	2/2	2.9 ± 0.1	< 0.005 ± 0.005
Sac. R.–Keswick	12/11/96	0.40 µm Mem	1/2	7.0 ± 0.1	0.015 ± 0.008
Sac. R.–Keswick	12/11/96	0.40 µm Mem	2/2	6.5 ± 0.2	0.012 ± 0.001
Sac. R.–Keswick	12/11/96	0.45 µm Cap	1/2	8.4 ± 0.2	0.014 ± 0.005
Sac. R.–Keswick	12/11/96	0.45 µm Cap	2/2	8.8 ± 0.4	0.026 ± 0.006
Sac. R.–Keswick	12/11/96	10 kd Tan	1/2	4.9 ± 0.2	< 0.006 ± 0.003
Sac. R.–Keswick	12/11/96	10 kd Tan	2/2	4.9 ± 0.1	0.0081 ± 0.0031
Sac. R.–Keswick	01/02/97	0.40 µm Mem	1/2	8.9 ± 0.2	0.011 ± 0.005
Sac. R.–Keswick	01/02/97	0.40 µm Mem	2/2	9.2 ± 0.2	0.014 ± 0.004
Sac. R.–Keswick	01/02/97	0.45 µm Cap	1/2	16 ± 1	0.010 ± 0.004
Sac. R.–Keswick	01/02/97	0.45 µm Cap	2/2	16 ± 0	0.017 ± 0.006
Sac. R.–Keswick	01/02/97	10 kd Tan	1/3	8.1 ± 0.2	< 0.006 ± 0.000
Sac. R.–Keswick	01/02/97	10 kd Tan	2/3	8.1 ± 0.2	0.0084 ± 0.0039
Sac. R.–Keswick	01/02/97	10 kd Tan	3/3	7.9 ± 0.3	< 0.007 ± 0.001
Sac. R.–Keswick	05/28/97	0.40 µm Mem	1/2	1.5 ± 0.1	0.019 ± 0.004
Sac. R.–Keswick	05/28/97	0.40 µm Mem	2/2	1.5 ± 0.0	0.038 ± 0.003

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Keswick	05/28/97	0.45 µm Cap	1/2	2.6 ± 0.1	0.017 ± 0.002
Sac. R.–Keswick	05/28/97	0.45 µm Cap	2/2	2.2 ± 0.2	0.013 ± 0.003
Sac. R.–Keswick	05/28/97	10 kd Tan	1/2	1.6 ± 0.1	< 0.005 ± 0.002
Sac. R.–Keswick	05/28/97	10 kd Tan	2/2	1.7 ± 0.1	0.0063 ± 0.0046
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	1/2	1.7 ± 0.0	0.051 ± 0.003
Sac. R.–Bend Br.	07/11/96	0.40 µm Mem	2/2	1.5 ± 0.0	0.029 ± 0.000
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	1/2	1.6 ± 0.0	0.031 ± 0.003
Sac. R.–Bend Br.	07/11/96	0.45 µm Cap	2/2	1.3 ± 0.1	0.022 ± 0.000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/3	1.3 ± 0.1	< 0.017 ± 0.002
Sac. R.–Bend Br.	07/11/96	10 kd Tan	2/3	1.2 ± 0.1	0.020 ± 0.007
Sac. R.–Bend Br.	07/11/96	10 kd Tan	3/3	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	1/2	2.8 ± 0.7	0.016 ± 0.002
Sac. R.–Bend Br.	09/20/96	0.40 µm Mem	2/2	2.6 ± 0.6	0.022 ± 0.005
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	1/2	2.9 ± 0.1	0.023 ± 0.004
Sac. R.–Bend Br.	09/20/96	0.45 µm Cap	2/2	2.7 ± 0.1	0.017 ± 0.003
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/2	1.9 ± 0.1	< 0.008 ± 0.003
Sac. R.–Bend Br.	09/20/96	10 kd Tan	2/2	2.3 ± 0.2	< 0.008 ± 0.005
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	1/2	2.0 ± 0.1	0.058 ± 0.011
Sac. R.–Bend Br.	11/22/96	0.40 µm Mem	2/2	2.0 ± 0.1	0.054 ± 0.005
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	1/2	2.7 ± 0.1	0.044 ± 0.007
Sac. R.–Bend Br.	11/22/96	0.45 µm Cap	2/2	2.7 ± 0.0	0.041 ± 0.005
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/2	1.9 ± 0.3	< 0.005 ± 0.001
Sac. R.–Bend Br.	11/22/96	10 kd Tan	2/2	1.9 ± 0.4	< 0.005 ± 0.007
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	1/2	1.1 ± 0.1	0.031 ± 0.005
Sac. R.–Bend Br.	12/12/96	0.40 µm Mem	2/2	1.2 ± 0.0	0.032 ± 0.006
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	1/2	1.4 ± 0.0	0.026 ± 0.004
Sac. R.–Bend Br.	12/12/96	0.45 µm Cap	2/2	1.9 ± 0.1	0.020 ± 0.008
Sac. R.–Bend Br.	12/12/96	10 kd Tan	1/2	0.80 ± 0.06	< 0.006 ± 0.002
Sac. R.–Bend Br.	12/12/96	10 kd Tan	2/2	0.76 ± 0.02	0.0075 ± 0.0046
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	1/2	0.79 ± 0.05	0.078 ± 0.015
Sac. R.–Bend Br.	01/03/97	0.40 µm Mem	2/2	0.32 ± 0.04	0.037 ± 0.009
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	1/2	2.0 ± 0.0	0.033 ± 0.005
Sac. R.–Bend Br.	01/03/97	0.45 µm Cap	2/2	0.84 ± 0.02	0.028 ± 0.002

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Bend Br.	01/03/97	10 kd Tan	1/2	0.43 ± 0.07	0.0093 ± 0.0028
Sac. R.–Bend Br.	01/03/97	10 kd Tan	2/2	0.36 ± 0.03	0.017 ± 0.004
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	1/2	1.1 ± 0.2	0.046 ± 0.004
Sac. R.–Bend Br.	05/30/97	0.40 µm Mem	2/2	0.94 ± 0.07	0.038 ± 0.000
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	1/2	2.3 ± 0.3	0.028 ± 0.004
Sac. R.–Bend Br.	05/30/97	0.45 µm Cap	2/2	3.2 ± 0.1	0.027 ± 0.003
Sac. R.–Bend Br.	05/30/97	10 kd Tan	1/2	1.1 ± 0.1	0.0067 ± 0.0023
Sac. R.–Bend Br.	05/30/97	10 kd Tan	2/2	1.0 ± 0.1	< 0.005 ± 0.003
Sac. R.–Colusa	07/16/96	0.40 µm Mem	1/2	0.62 ± 0.21	0.035 ± 0.006
Sac. R.–Colusa	07/16/96	0.40 µm Mem	2/2	0.67 ± 0.07	0.035 ± 0.001
Sac. R.–Colusa	07/16/96	0.45 µm Cap	1/1	1.4 ± 0.0	0.034 ± 0.004
Sac. R.–Colusa	07/16/96	10 kd Tan	1/2	— ± —	— ± —
Sac. R.–Colusa	07/16/96	10 kd Tan	2/2	— ± —	— ± —
Sac. R.–Colusa	09/25/96	0.40 µm Mem	1/2	0.49 ± 0.03	0.021 ± 0.006
Sac. R.–Colusa	09/25/96	0.40 µm Mem	2/2	1.3 ± 0.1	0.034 ± 0.008
Sac. R.–Colusa	09/25/96	0.45 µm Cap	1/2	0.94 ± 0.10	0.018 ± 0.000
Sac. R.–Colusa	09/25/96	0.45 µm Cap	2/2	1.2 ± 0.4	0.019 ± 0.001
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	0.33 ± 0.04	0.013 ± 0.004
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	0.39 ± 0.04	0.014 ± 0.003
Sac. R.–Colusa	11/13/96	0.40 µm Mem	1/2	0.55 ± 0.03	0.035 ± 0.008
Sac. R.–Colusa	11/13/96	0.40 µm Mem	2/2	0.50 ± 0.02	0.039 ± 0.000
Sac. R.–Colusa	11/13/96	0.45 µm Cap	1/2	0.51 ± 0.03	0.022 ± 0.003
Sac. R.–Colusa	11/13/96	0.45 µm Cap	2/2	0.48 ± 0.04	0.023 ± 0.009
Sac. R.–Colusa	11/13/96	10 kd Tan	1/2	0.34 ± 0.01	0.0070 ± 0.0051
Sac. R.–Colusa	11/13/96	10 kd Tan	2/2	0.50 ± 0.12	0.010 ± 0.009
Sac. R.–Colusa	12/16/96	0.40 µm Mem	1/2	0.61 ± 0.05	0.039 ± 0.009
Sac. R.–Colusa	12/16/96	0.40 µm Mem	2/2	0.71 ± 0.21	0.023 ± 0.006
Sac. R.–Colusa	12/16/96	0.45 µm Cap	1/2	1.8 ± 0.2	0.032 ± 0.008
Sac. R.–Colusa	12/16/96	0.45 µm Cap	2/2	0.87 ± 0.01	0.020 ± 0.003
Sac. R.–Colusa	12/16/96	10 kd Tan	1/2	0.55 ± 0.07	0.015 ± 0.001
Sac. R.–Colusa	12/16/96	10 kd Tan	2/2	0.61 ± 0.06	0.0074 ± 0.0022
Sac. R.–Colusa	01/04/97	0.40 µm Mem	1/2	0.16 ± 0.02	0.074 ± 0.012
Sac. R.–Colusa	01/04/97	0.40 µm Mem	2/2	0.21 ± 0.08	0.049 ± 0.015

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Colusa	01/04/97	0.45 µm Cap	1/2	1.1 ± 0.0	0.067 ± 0.012
Sac. R.–Colusa	01/04/97	0.45 µm Cap	2/2	0.40 ± 0.06	0.081 ± 0.006
Sac. R.–Colusa	01/04/97	10 kd Tan	1/2	0.17 ± 0.03	0.043 ± 0.008
Sac. R.–Colusa	01/04/97	10 kd Tan	2/2	0.20 ± 0.04	0.041 ± 0.019
Sac. R.–Colusa	06/03/97	0.40 µm Mem	1/2	1.0 ± 0.3	0.029 ± 0.000
Sac. R.–Colusa	06/03/97	0.40 µm Mem	2/2	0.46 ± 0.06	0.067 ± 0.005
Sac. R.–Colusa	06/03/97	0.45 µm Cap	1/2	1.2 ± 0.0	0.017 ± 0.001
Sac. R.–Colusa	06/03/97	0.45 µm Cap	2/2	0.99 ± 0.13	0.016 ± 0.002
Sac. R.–Colusa	06/03/97	10 kd Tan	1/2	0.60 ± 0.28	< 0.005 ± 0.002
Sac. R.–Colusa	06/03/97	10 kd Tan	2/2	0.88 ± 0.33	0.0055 ± 0.0042
Sac. R.–Verona	07/18/96	0.40 µm Mem	1/2	1.3 ± 0.1	0.039 ± 0.005
Sac. R.–Verona	07/18/96	0.40 µm Mem	2/2	1.9 ± 0.7	0.032 ± 0.006
Sac. R.–Verona	07/18/96	0.45 µm Cap	1/2	0.37 ± 0.04	0.033 ± 0.009
Sac. R.–Verona	07/18/96	0.45 µm Cap	2/2	0.62 ± 0.17	0.027 ± 0.008
Sac. R.–Verona	07/18/96	10 kd Tan	1/3	0.24 ± 0.03	< 0.017 ± 0.000
Sac. R.–Verona	07/18/96	10 kd Tan	2/3	0.17 ± 0.08	0.017 ± 0.004
Sac. R.–Verona	07/18/96	10 kd Tan	3/3	— ± —	— ± —
Sac. R.–Verona	09/26/96	0.40 µm Mem	1/2	0.63 ± 0.06	0.025 ± 0.000
Sac. R.–Verona	09/26/96	0.40 µm Mem	2/2	0.71 ± 0.19	0.013 ± 0.003
Sac. R.–Verona	09/26/96	0.45 µm Cap	1/2	0.58 ± 0.07	0.019 ± 0.004
Sac. R.–Verona	09/26/96	0.45 µm Cap	2/2	0.64 ± 0.09	0.017 ± 0.002
Sac. R.–Verona	09/26/96	10 kd Tan	1/2	0.33 ± 0.13	< 0.008 ± 0.003
Sac. R.–Verona	09/26/96	10 kd Tan	2/2	0.35 ± 0.07	< 0.008 ± 0.003
Sac. R.–Verona	11/14/96	0.40 µm Mem	1/1	— ± —	— ± —
Sac. R.–Verona	11/14/96	0.45 µm Cap	1/2	0.63 ± 0.07	0.047 ± 0.015
Sac. R.–Verona	11/14/96	0.45 µm Cap	2/2	0.55 ± 0.06	0.073 ± 0.036
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	— ± —	— ± —
Sac. R.–Verona	12/18/96	0.40 µm Mem	1/2	0.62 ± 0.10	0.035 ± 0.005
Sac. R.–Verona	12/18/96	0.40 µm Mem	2/2	0.58 ± 0.03	0.038 ± 0.013
Sac. R.–Verona	12/18/96	0.45 µm Cap	1/2	0.59 ± 0.03	0.033 ± 0.003
Sac. R.–Verona	12/18/96	0.45 µm Cap	2/2	0.70 ± 0.06	0.032 ± 0.005
Sac. R.–Verona	12/18/96	10 kd Tan	1/2	0.62 ± 0.07	0.016 ± 0.006
Sac. R.–Verona	12/18/96	10 kd Tan	2/2	0.30 ± 0.08	0.013 ± 0.005

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	0.40 µm Mem	1/2	0.49 ± 0.08	0.025 ± 0.012
Sac. R.–Verona	06/04/97	0.40 µm Mem	2/2	0.32 ± 0.21	0.024 ± 0.009
Sac. R.–Verona	06/04/97	0.45 µm Cap	1/2	1.2 ± 0.0	0.013 ± 0.003
Sac. R.–Verona	06/04/97	0.45 µm Cap	2/2	1.1 ± 0.5	0.013 ± 0.004
Sac. R.–Verona	06/04/97	10 kd Tan	1/2	0.27 ± 0.08	0.0057 ± 0.0074
Sac. R.–Verona	06/04/97	10 kd Tan	2/2	0.57 ± 0.17	< 0.005 ± 0.003
Sac. R.–Freeport	07/17/96	0.40 µm Mem	1/2	0.59 ± 0.05	< 0.017 ± 0.001
Sac. R.–Freeport	07/17/96	0.40 µm Mem	2/2	1.1 ± 0.1	0.019 ± 0.008
Sac. R.–Freeport	07/17/96	0.45 µm Cap	1/2	0.81 ± 0.04	0.067 ± 0.000
Sac. R.–Freeport	07/17/96	0.45 µm Cap	2/2	0.55 ± 0.04	0.036 ± 0.002
Sac. R.–Freeport	07/17/96	10 kd Tan	1/3	0.34 ± 0.08	0.014 ± 0.006
Sac. R.–Freeport	07/17/96	10 kd Tan	2/3	0.37 ± 0.12	0.018 ± 0.004
Sac. R.–Freeport	07/17/96	10 kd Tan	3/3	— ± —	— ± —
Sac. R.–Freeport	09/24/96	0.40 µm Mem	1/2	0.96 ± 0.06	0.015 ± 0.004
Sac. R.–Freeport	09/24/96	0.40 µm Mem	2/2	0.64 ± 0.08	0.013 ± 0.003
Sac. R.–Freeport	09/24/96	0.45 µm Cap	1/2	0.67 ± 0.04	0.012 ± 0.001
Sac. R.–Freeport	09/24/96	0.45 µm Cap	2/2	0.69 ± 0.03	0.025 ± 0.014
Sac. R.–Freeport	09/24/96	10 kd Tan	1/2	2.2 ± 0.1	< 0.009 ± 0.003
Sac. R.–Freeport	09/24/96	10 kd Tan	2/2	0.58 ± 0.01	< 0.003 ± 0.001
Sac. R.–Freeport	11/12/96	0.40 µm Mem	1/2	0.75 ± 0.07	0.027 ± 0.003
Sac. R.–Freeport	11/12/96	0.40 µm Mem	2/2	0.61 ± 0.05	0.017 ± 0.006
Sac. R.–Freeport	11/12/96	0.45 µm Cap	1/2	1.0 ± 0.0	0.014 ± 0.004
Sac. R.–Freeport	11/12/96	0.45 µm Cap	2/2	1.0 ± 0.1	0.015 ± 0.000
Sac. R.–Freeport	11/12/96	10 kd Tan	1/2	0.54 ± 0.03	< 0.005 ± 0.005
Sac. R.–Freeport	11/12/96	10 kd Tan	2/2	0.70 ± 0.06	< 0.005 ± 0.001
Sac. R.–Freeport	12/17/96	0.40 µm Mem	1/2	0.63 ± 0.13	0.047 ± 0.006
Sac. R.–Freeport	12/17/96	0.40 µm Mem	2/2	0.47 ± 0.28	0.10 ± 0.01
Sac. R.–Freeport	12/17/96	0.45 µm Cap	1/2	0.51 ± 0.06	0.062 ± 0.019
Sac. R.–Freeport	12/17/96	0.45 µm Cap	2/2	0.65 ± 0.09	0.053 ± 0.014
Sac. R.–Freeport	12/17/96	10 kd Tan	1/2	0.42 ± 0.06	0.023 ± 0.003
Sac. R.–Freeport	12/17/96	10 kd Tan	2/2	0.34 ± 0.11	0.019 ± 0.003
Sac. R.–Freeport	01/06/97	0.40 µm Mem	1/2	0.11 ± 0.02	0.10 ± 0.00
Sac. R.–Freeport	01/06/97	0.40 µm Mem	2/2	0.31 ± 0.07	0.10 ± 0.01

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Sac. R.–Freeport	01/06/97	0.45 µm Cap	1/2	1.1 ± 0.2	0.091 ± 0.018
Sac. R.–Freeport	01/06/97	0.45 µm Cap	2/2	0.20 ± 0.02	0.090 ± 0.014
Sac. R.–Freeport	01/06/97	10 kd Tan	1/2	1.2 ± 0.1	0.017 ± 0.003
Sac. R.–Freeport	01/06/97	10 kd Tan	2/2	0.085 ± 0.014	0.022 ± 0.002
Sac. R.–Freeport	06/05/97	0.40 µm Mem	1/2	1.1 ± 0.1	0.015 ± 0.003
Sac. R.–Freeport	06/05/97	0.40 µm Mem	2/2	0.23 ± 0.04	0.013 ± 0.005
Sac. R.–Freeport	06/05/97	0.45 µm Cap	1/2	0.22 ± 0.02	0.013 ± 0.002
Sac. R.–Freeport	06/05/97	0.45 µm Cap	2/2	0.28 ± 0.04	0.016 ± 0.002
Sac. R.–Freeport	06/05/97	10 kd Tan	1/2	0.35 ± 0.05	< 0.005 ± 0.002
Sac. R.–Freeport	06/05/97	10 kd Tan	2/2	0.32 ± 0.03	< 0.005 ± 0.003
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	1/2	0.39 ± 0.10	0.024 ± 0.004
Sac. R.–Freeport, dup	06/05/97	0.40 µm Mem	2/2	0.35 ± 0.15	0.027 ± 0.003
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	1/2	0.25 ± 0.14	0.018 ± 0.003
Sac. R.–Freeport, dup	06/05/97	0.45 µm Cap	2/2	0.25 ± 0.09	0.021 ± 0.001
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	1/2	0.093 ± 0.056	< 0.004 ± 0.002
Sac. R.–Freeport, dup	06/05/97	10 kd Tan	2/2	0.13 ± 0.08	< 0.004 ± 0.000
Flat Cr.	12/11/96	0.40 µm Mem	1/2	23 ± 1	0.026 ± 0.004
Flat Cr.	12/11/96	0.40 µm Mem	2/2	23 ± 1	0.020 ± 0.004
Flat Cr.	12/11/96	0.45 µm Cap	1/2	18 ± 0	0.020 ± 0.001
Flat Cr.	12/11/96	0.45 µm Cap	2/2	18 ± 1	0.023 ± 0.006
Flat Cr.	12/11/96	10 kd Tan	1/2	13 ± 0	0.0084 ± 0.0021
Flat Cr.	12/11/96	10 kd Tan	2/2	12 ± 0	0.011 ± 0.004
Flat Cr.	05/29/97	0.40 µm Mem	1/2	5.5 ± 0.1	0.0066 ± 0.0060
Flat Cr.	05/29/97	0.40 µm Mem	2/2	5.9 ± 0.2	0.0068 ± 0.0009
Flat Cr.	05/29/97	0.45 µm Cap	1/2	6.8 ± 0.3	0.0070 ± 0.0015
Flat Cr.	05/29/97	0.45 µm Cap	2/2	7.8 ± 0.1	0.0053 ± 0.0028
Flat Cr.	05/29/97	10 kd Tan	1/2	5.3 ± 0.3	< 0.004 ± 0.002
Flat Cr.	05/29/97	10 kd Tan	2/2	5.0 ± 0.1	< 0.004 ± 0.000
Spring Cr.–Weir	12/11/96	0.40 µm Mem	1/2	529 ± 9	0.039 ± 0.006
Spring Cr.–Weir	12/11/96	0.40 µm Mem	2/2	565 ± 27	0.040 ± 0.005
Spring Cr.–Weir	12/11/96	0.45 µm Cap	1/2	568 ± 7	0.044 ± 0.002
Spring Cr.–Weir	12/11/96	0.45 µm Cap	2/2	567 ± 18	0.036 ± 0.009
Spring Cr.–Weir	12/11/96	10 kd Tan	1/2	560 ± 4	0.041 ± 0.000

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Spring Cr.–Weir	12/11/96	10 kd Tan	2/2	544 ± 7	0.043 ± 0.006
Spring Cr.–Weir	05/28/97	0.40 µm Mem	1/2	992 ± 40	0.010 ± 0.001
Spring Cr.–Weir	05/28/97	0.40 µm Mem	2/2	1,020 ± 50	0.0088 ± 0.0022
Spring Cr.–Weir	05/28/97	0.45 µm Cap	1/2	916 ± 15	0.011 ± 0.001
Spring Cr.–Weir	05/28/97	0.45 µm Cap	2/2	968 ± 4	0.0079 ± 0.0013
Spring Cr.–Weir	05/28/97	10 kd Tan	1/2	853 ± 2	0.0076 ± 0.0037
Spring Cr.–Weir	05/28/97	10 kd Tan	2/2	884 ± 4	0.0076 ± 0.0020
Spring Cr.–Road	01/02/97	0.40 µm Mem	1/2	1,360 ± 30	0.051 ± 0.004
Spring Cr.–Road	01/02/97	0.40 µm Mem	2/2	1,350 ± 40	0.066 ± 0.020
Spring Cr.–Road	01/02/97	0.45 µm Cap	1/2	1,320 ± 0	0.063 ± 0.007
Spring Cr.–Road	01/02/97	0.45 µm Cap	2/2	1,340 ± 20	0.064 ± 0.002
Spring Cr.–Road	01/02/97	10 kd Tan	1/2	1,280 ± 20	0.057 ± 0.007
Spring Cr.–Road	01/02/97	10 kd Tan	2/2	1,250 ± 30	0.053 ± 0.004
Whiskeytown	12/11/96	0.40 µm Mem	1/2	0.55 ± 0.04	0.036 ± 0.024
Whiskeytown	12/11/96	0.40 µm Mem	2/2	0.66 ± 0.04	0.020 ± 0.005
Whiskeytown	12/11/96	0.45 µm Cap	1/2	1.1 ± 0.0	0.011 ± 0.003
Whiskeytown	12/11/96	0.45 µm Cap	2/2	1.3 ± 0.1	0.012 ± 0.003
Whiskeytown	12/11/96	10 kd Tan	1/2	0.92 ± 0.11	0.016 ± 0.009
Whiskeytown	12/11/96	10 kd Tan	2/2	0.94 ± 0.08	< 0.006 ± 0.002
Whiskeytown	05/29/97	0.40 µm Mem	1/2	0.18 ± 0.05	0.011 ± 0.003
Whiskeytown	05/29/97	0.40 µm Mem	2/2	0.18 ± 0.06	0.014 ± 0.002
Whiskeytown	05/29/97	0.45 µm Cap	1/2	0.67 ± 0.04	0.010 ± 0.003
Whiskeytown	05/29/97	0.45 µm Cap	2/2	3.8 ± 0.4	0.0091 ± 0.0023
Whiskeytown	05/29/97	10 kd Tan	1/2	0.17 ± 0.03	< 0.004 ± 0.001
Whiskeytown	05/29/97	10 kd Tan	2/2	0.34 ± 0.15	< 0.004 ± 0.002
Spring Cr. arm	07/12/96	0.40 µm Mem	1/2	1.6 ± 0.1	< 0.017 ± 0.005
Spring Cr. arm	07/12/96	0.40 µm Mem	2/2	1.6 ± 0.2	0.016 ± 0.001
Spring Cr. arm	07/12/96	0.45 µm Cap	1/2	1.3 ± 0.0	0.024 ± 0.008
Spring Cr. arm	07/12/96	0.45 µm Cap	2/2	1.2 ± 0.2	0.029 ± 0.012
Spring Cr. arm	07/12/96	10 kd Tan	1/3	0.84 ± 0.05	0.019 ± 0.005
Spring Cr. arm	07/12/96	10 kd Tan	2/3	0.68 ± 0.05	< 0.017 ± 0.001
Spring Cr. arm	07/12/96	10 kd Tan	3/3	— ± —	— ± —
Spring Cr. arm	09/18/96	0.40 µm Mem	1/2	2.5 ± 0.0	0.0092 ± 0.0074
Spring Cr. arm	09/18/96	0.40 µm Mem	2/2	2.5 ± 0.0	< 0.008 ± 0.004

Table A4-1. Concentrations of major cations and trace elements in filtered water samples—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Zinc (µg/L) ICP–MS	Zirconium (µg/L) ICP–MS
Spring Cr. arm	09/18/96	0.45 µm Cap	1/2	2.8 ± 0.0	< 0.008 ± 0.004
Spring Cr. arm	09/18/96	0.45 µm Cap	2/2	2.9 ± 0.2	< 0.008 ± 0.001
Spring Cr. arm	09/18/96	10 kd Tan	1/2	2.2 ± 0.0	< 0.008 ± 0.001
Spring Cr. arm	09/18/96	10 kd Tan	2/2	2.5 ± 0.5	< 0.008 ± 0.004
Spring Cr. arm	11/20/96	0.40 µm Mem	1/2	14 ± 0	0.014 ± 0.008
Spring Cr. arm	11/20/96	0.40 µm Mem	2/2	12 ± 0	0.0088 ± 0.0087
Spring Cr. arm	11/20/96	0.45 µm Cap	1/2	15 ± 1	0.0054 ± 0.0037
Spring Cr. arm	11/20/96	0.45 µm Cap	2/2	16 ± 0	0.0078 ± 0.0062
Spring Cr. arm	11/20/96	10 kd Tan	1/2	11 ± 0	< 0.005 ± 0.005
Spring Cr. arm	11/20/96	10 kd Tan	2/2	11 ± 0	< 0.005 ± 0.002
Spring Cr. arm	12/11/96	0.40 µm Mem	1/2	47 ± 1	0.0053 ± 0.0042
Spring Cr. arm	12/11/96	0.40 µm Mem	2/2	47 ± 1	0.0050 ± 0.0017
Spring Cr. arm	12/11/96	0.45 µm Cap	1/2	56 ± 1	0.0059 ± 0.0022
Spring Cr. arm	12/11/96	0.45 µm Cap	2/2	55 ± 1	< 0.006 ± 0.002
Spring Cr. arm	12/11/96	10 kd Tan	1/2	36 ± 0	< 0.006 ± 0.002
Spring Cr. arm	12/11/96	10 kd Tan	2/2	35 ± 0	0.0037 ± 0.0026
Spring Cr. arm	05/28/97	0.40 µm Mem	1/2	2.3 ± 0.3	0.0091 ± 0.0011
Spring Cr. arm	05/28/97	0.40 µm Mem	2/2	2.0 ± 0.1	0.0097 ± 0.0027
Spring Cr. arm	05/28/97	0.45 µm Cap	1/2	3.1 ± 0.2	< 0.004 ± 0.000
Spring Cr. arm	05/28/97	0.45 µm Cap	2/2	2.8 ± 0.1	0.0074 ± 0.0015
Spring Cr. arm	05/28/97	10 kd Tan	1/2	2.3 ± 0.2	< 0.004 ± 0.000
Spring Cr. arm	05/28/97	10 kd Tan	2/2	1.8 ± 0.2	< 0.004 ± 0.001
Colusa Basin Drain	06/06/97	0.40 µm Mem	1/2	0.43 ± 0.07	0.040 ± 0.010
Colusa Basin Drain	06/06/97	0.40 µm Mem	2/2	0.53 ± 0.26	0.041 ± 0.003
Colusa Basin Drain	06/06/97	0.45 µm Cap	1/2	0.40 ± 0.09	0.033 ± 0.008
Colusa Basin Drain	06/06/97	0.45 µm Cap	2/2	0.50 ± 0.10	0.036 ± 0.004
Colusa Basin Drain	06/06/97	10 kd Tan	1/2	0.26 ± 0.09	0.0094 ± 0.0034
Colusa Basin Drain	06/06/97	10 kd Tan	2/2	0.35 ± 0.08	0.016 ± 0.007
Yolo Bypass	01/07/97	0.40 µm Mem	1/2	0.56 ± 0.14	0.080 ± 0.004
Yolo Bypass	01/07/97	0.40 µm Mem	2/2	0.35 ± 0.01	0.052 ± 0.009
Yolo Bypass	01/07/97	0.45 µm Cap	1/2	0.88 ± 0.10	0.088 ± 0.006
Yolo Bypass	01/07/97	0.45 µm Cap	2/2	0.49 ± 0.01	0.095 ± 0.004
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.18 ± 0.04	0.019 ± 0.004
Yolo Bypass	01/07/97	10 kd Tan	2/2	0.23 ± 0.08	0.015 ± 0.005

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples

[Ax, axial; Br., bridge; Cr., creek; CV–AFS, cold–vapor/atomic fluorescence spectrometry; dup, duplicate; ICP–AES, inductively coupled plasma–atomic emission spectrometry; ICP–MS, inductively coupled plasma–mass spectrometry; R., river; Sac.,Sacramento; Split replicate (1/2), first number identifies which replicate was analyzed, second number represents number of replicate samples; UV–VIS, ultraviolet–visible spectroscopy; mm/dd/yy, month/day/year; µg/L, microgram per liter; mg/L, milligram per liter. <, less than the indicated detection limit; —, no data available]

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Aluminum (µg/L) ICP–MS/ICP–AES	Antimony (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS	Bismuth (µg/L) ICP–AES
Sac. R.–Shasta	07/12/96	1/2	209 ± 1	0.041 ± 0.004	15 ± 1	<0.03 ± 0.04	<0.003 ± 0.004
Sac. R.–Shasta	07/12/96	2/2	187 ± 5	0.033 ± 0.005	15 ± 0	<0.03 ± 0.00	<0.003 ± 0.003
Sac. R.–Shasta	09/19/96	1/2	73 ± 3	0.044 ± 0.015	15 ± 0	<0.03 ± 0.02	<0.003 ± 0.001
Sac. R.–Shasta	09/19/96	2/2	98 ± 14	0.046 ± 0.006	15 ± 1	<0.1 ± 0.1	<0.004 ± 0.000
Sac. R.–Shasta	11/19/96	1/2	53 ± 4	0.043 ± 0.013	14 ± 0	<0.1 ± 0.1	<0.004 ± 0.001
Sac. R.–Shasta	11/19/96	2/2	52 ± 4	0.051 ± 0.007	14 ± 1	<0.1 ± 0.0	<0.004 ± 0.001
Sac. R.–Shasta	12/12/96	1/2	97 ± 3	0.047 ± 0.010	14 ± 0	<0.03 ± 0.00	<0.004 ± 0.001
Sac. R.–Shasta	12/12/96	2/2	95 ± 4	0.053 ± 0.008	14 ± 0	<0.03 ± 0.01	0.0065 ± 0.0007
Sac. R.–Shasta	05/29/97	1/2	397 ± 23	0.040 ± 0.005	16 ± 0	<0.03 ± 0.04	<0.004 ± 0.001
Sac. R.–Shasta	05/29/97	2/2	414 ± 7	0.052 ± 0.015	15 ± 1	<0.03 ± 0.02	<0.004 ± 0.001
Sac. R.–Keswick	07/11/96	1/2	175 ± 14	0.038 ± 0.005	13 ± 0	<0.03 ± 0.02	<0.003 ± 0.002
Sac. R.–Keswick	07/11/96	2/2	169 ± 2	0.040 ± 0.006	13 ± 0	<0.03 ± 0.02	<0.003 ± 0.001
Sac. R.–Keswick	09/19/96	1/2	85 ± 15	0.041 ± 0.000	11 ± 1	0.12 ± 0.10	0.0052 ± 0.0028
Sac. R.–Keswick	09/19/96	2/2	57 ± 3	0.035 ± 0.010	11 ± 0	<0.03 ± 0.01	<0.003 ± 0.001
Sac. R.–Keswick	11/21/96	1/2	243 ± 31	0.078 ± 0.008	12 ± 1	0.12 ± 0.09	0.012 ± 0.001
Sac. R.–Keswick	11/21/96	2/2	222 ± 5	0.087 ± 0.009	12 ± 0	<0.1 ± 0.1	0.015 ± 0.001
Sac. R.–Keswick	12/11/96	1/2	157 ± 2	0.060 ± 0.007	13 ± 0	<0.03 ± 0.00	0.0087 ± 0.0032
Sac. R.–Keswick	12/11/96	2/2	165 ± 3	0.053 ± 0.003	13 ± 0	<0.03 ± 0.02	0.0066 ± 0.0024
Sac. R.–Keswick	01/02/97	1/2	609 ± 5	0.072 ± 0.004	18 ± 1	<0.03 ± 0.02	0.013 ± 0.005
Sac. R.–Keswick	01/02/97	2/2	594 ± 13	0.062 ± 0.009	17 ± 0	<0.03 ± 0.02	0.0090 ± 0.0001
Sac. R.–Keswick	05/28/97	1/2	390 ± 17	0.040 ± 0.005	14 ± 1	<0.03 ± 0.02	<0.004 ± 0.001
Sac. R.–Keswick	05/28/97	2/2	386 ± 21	0.041 ± 0.005	14 ± 1	<0.03 ± 0.04	<0.004 ± 0.001
Sac. R.–Bend Br.	07/11/96	1/2	223 ± 5	0.042 ± 0.006	15 ± 1	<0.03 ± 0.02	<0.003 ± 0.001
Sac. R.–Bend Br.	07/11/96	2/2	230 ± 5	0.053 ± 0.016	16 ± 0	<0.03 ± 0.02	<0.003 ± 0.000
Sac. R.–Bend Br.	09/20/96	1/2	131 ± 5	0.042 ± 0.004	14 ± 0	<0.03 ± 0.02	<0.003 ± 0.001
Sac. R.–Bend Br.	09/20/96	2/2	154 ± 20	0.047 ± 0.010	14 ± 1	0.12 ± 0.08	<0.004 ± 0.001
Sac. R.–Bend Br.	11/22/96	1/2	558 ± 55	0.094 ± 0.004	20 ± 0	<0.1 ± 0.1	0.012 ± 0.000
Sac. R.–Bend Br.	11/22/96	2/2	520 ± 11	0.086 ± 0.002	20 ± 0	<0.1 ± 0.0	0.013 ± 0.001
Sac. R.–Bend Br.	12/12/96	1/2	1,730 ± 36	0.093 ± 0.007	28 ± 2	0.035 ± 0.011	0.011 ± 0.000
Sac. R.–Bend Br.	12/12/96	2/2	1,730 ± 120	0.10 ± 0.01	25 ± 0	0.032 ± 0.018	0.017 ± 0.001
Sac. R.–Bend Br.	01/03/97	1/2	6,030 ± 1,012	0.14 ± 0.01	58 ± 5	0.12 ± 0.03	0.031 ± 0.001
Sac. R.–Bend Br.	01/03/97	2/2	6,010 ± 780	0.13 ± 0.01	58 ± 0	0.11 ± 0.01	0.031 ± 0.003

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Aluminum (µg/L) ICP–MS/ICP–AES	Antimony (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS	Bismuth (µg/L) ICP–AES
Sac. R.–Bend Br.	05/30/97	1/2	396 ± 16	0.047 ± 0.006	15 ± 0	<0.03 ± 0.02	<0.004 ± 0.001
Sac. R.–Bend Br.	05/30/97	2/2	405 ± 24	0.050 ± 0.007	16 ± 0	<0.03 ± 0.05	<0.004 ± 0.001
Sac. R.–Colusa	07/16/96	1/1	2,787 ± 278	0.066 ± 0.004	35 ± 2	0.028 ± 0.013	0.0066 ± 0.0007
Sac. R.–Colusa	09/25/96	1/2	559 ± 25	0.074 ± 0.013	21 ± 1	<0.1 ± 0.1	0.0073 ± 0.0012
Sac. R.–Colusa	09/25/96	2/2	608 ± 66	0.071 ± 0.020	21 ± 0	0.12 ± 0.04	<0.004 ± 0.001
Sac. R.–Colusa	11/13/96	1/2	1,062 ± 53	0.077 ± 0.012	25 ± 1	<0.03 ± 0.01	<0.005 ± 0.000
Sac. R.–Colusa	11/13/96	2/2	1,108 ± 67	0.067 ± 0.005	25 ± 1	<0.03 ± 0.01	<0.005 ± 0.003
Sac. R.–Colusa	12/16/96	1/2	3,381 ± 142	0.12 ± 0.00	48 ± 1	0.057 ± 0.006	0.016 ± 0.001
Sac. R.–Colusa	12/16/96	2/2	3,450 ± 50	0.13 ± 0.00	47 ± 1	0.059 ± 0.002	0.028 ± 0.003
Sac. R.–Colusa	01/04/97	1/2	21,567 ± 276	0.33 ± 0.01	133 ± 8	0.34 ± 0.03	0.091 ± 0.002
Sac. R.–Colusa	01/04/97	2/2	21,312 ± 307	0.33 ± 0.01	143 ± 0	0.30 ± 0.02	0.087 ± 0.001
Sac. R.–Colusa	06/03/97	1/2	1,012 ± 23	0.081 ± 0.003	21 ± 3	<0.03 ± 0.01	0.0075 ± 0.0022
Sac. R.–Colusa	06/03/97	2/2	1,082 ± 74	0.088 ± 0.002	19 ± 4	<0.03 ± 0.01	<0.005 ± 0.001
Sac. R.–Verona	07/18/96	1/2	1,203 ± 129	0.056 ± 0.006	24 ± 1	<0.03 ± 0.01	<0.005 ± 0.001
Sac. R.–Verona	07/18/96	2/2	1,183 ± 51	0.058 ± 0.015	20 ± 5	<0.03 ± 0.01	<0.005 ± 0.002
Sac. R.–Verona	09/26/96	1/2	1,602 ± 37	0.074 ± 0.002	31 ± 1	0.026 ± 0.009	0.0060 ± 0.0019
Sac. R.–Verona	09/26/96	2/2	1,604 ± 64	0.077 ± 0.005	30 ± 1	0.029 ± 0.004	0.0070 ± 0.0018
Sac. R.–Verona	11/14/96	1/2	1,127 ± 58	0.084 ± 0.011	30 ± 2	<0.03 ± 0.02	<0.005 ± 0.000
Sac. R.–Verona	11/14/96	2/2	1,162 ± 85	0.073 ± 0.002	30 ± 1	0.027 ± 0.018	<0.005 ± 0.001
Sac. R.–Verona	12/18/96	1/2	1,770 ± 31	0.088 ± 0.008	30 ± 2	0.034 ± 0.010	0.018 ± 0.001
Sac. R.–Verona	12/18/96	2/2	1,773 ± 35	0.076 ± 0.002	29 ± 2	0.029 ± 0.001	0.0078 ± 0.0004
Sac. R.–Verona	06/04/97	1/2	1,181 ± 137	0.089 ± 0.006	29 ± 2	<0.03 ± 0.01	0.0060 ± 0.0009
Sac. R.–Verona	06/04/97	2/2	1,199 ± 119	0.091 ± 0.009	21 ± 1	<0.03 ± 0.01	<0.005 ± 0.001
Sac. R.–Freeport	07/17/96	1/2	965 ± 12	0.060 ± 0.005	22 ± 1	<0.03 ± 0.00	0.0068 ± 0.0021
Sac. R.–Freeport	07/17/96	2/2	902 ± 13	0.062 ± 0.017	22 ± 0	<0.03 ± 0.04	0.0063 ± 0.0014
Sac. R.–Freeport	09/24/96	1/2	737 ± 70	0.074 ± 0.001	27 ± 1	<0.1 ± 0.1	0.0078 ± 0.0001
Sac. R.–Freeport	09/24/96	2/2	765 ± 13	0.070 ± 0.000	27 ± 0	<0.03 ± 0.02	<0.003 ± 0.001
Sac. R.–Freeport	11/12/96	1/2	323 ± 29	0.061 ± 0.008	23 ± 1	<0.1 ± 0.1	0.0038 ± 0.0019
Sac. R.–Freeport	11/12/96	2/2	317 ± 22	0.062 ± 0.012	22 ± 0	<0.1 ± 0.0	0.0047 ± 0.0025
Sac. R.–Freeport	12/17/96	1/2	2,016 ± 109	0.075 ± 0.006	30 ± 0	0.026 ± 0.008	0.013 ± 0.001
Sac. R.–Freeport	12/17/96	2/2	1,948 ± 192	0.076 ± 0.001	32 ± 1	0.033 ± 0.010	0.0084 ± 0.0004
Sac. R.–Freeport	01/06/97	1/2	9,786 ± 1,627	0.10 ± 0.00	86 ± 3	0.19 ± 0.00	0.050 ± 0.000
Sac. R.–Freeport	01/06/97	1/2	9,886 ± 1,164	0.092 ± 0.008	87 ± 4	0.19 ± 0.00	0.051 ± 0.003
Sac. R.–Freeport	06/05/97	1/2	802 ± 36	0.089 ± 0.006	23 ± 0	<0.03 ± 0.01	<0.004 ± 0.001
Sac. R.–Freeport	06/05/97	2/2	809 ± 39	0.10 ± 0.00	23 ± 1	<0.03 ± 0.02	0.0048 ± 0.0002
Sac. R.–Freeport, dup	06/05/97	1/2	456 ± 26	0.089 ± 0.006	21 ± 1	<0.03 ± 0.03	<0.004 ± 0.002

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Aluminum (µg/L) ICP–MS/ICP–AES	Antimony (µg/L) ICP–MS	Barium (µg/L) ICP–MS	Beryllium (µg/L) ICP–MS	Bismuth (µg/L) ICP–AES
Sac. R.–Freeport, dup	06/05/97	2/2	456 ± 25	0.089 ± 0.006	21 ± 1	<0.03 ± 0.04	<0.004 ± 0.001
Flat Cr.	12/11/96	1/2	321 ± 7	0.044 ± 0.006	5.4 ± 0.3	<0.03 ± 0.03	<0.004 ± 0.001
Flat Cr.	12/11/96	2/2	323 ± 13	0.038 ± 0.002	5.3 ± 0.2	<0.03 ± 0.04	<0.004 ± 0.002
Flat Cr.	05/29/97	1/2	5 ± 0	0.071 ± 0.005	7.6 ± 0.5	<0.03 ± 0.03	0.0039 ± 0.0037
Flat Cr.	05/29/97	2/2	5 ± 0	0.061 ± 0.005	7.5 ± 0.4	<0.03 ± 0.02	<0.004 ± 0.001
Spring Cr.–Weir	12/11/96	1/2	2,900 ± 129	0.032 ± 0.006	8.6 ± 0.2	0.061 ± 0.008	0.0079 ± 0.0015
Spring Cr.–Weir	12/11/96	2/2	2,960 ± 31	0.034 ± 0.007	8.7 ± 0.2	0.054 ± 0.003	0.0084 ± 0.0005
Spring Cr.–Weir	05/28/97	1/2	5,450 ± 328	<0.02 ± 0.00	25 ± 4	0.12 ± 0.02	<0.005 ± 0.000
Spring Cr.–Weir	05/28/97	2/2	5,390 ± 124	<0.02 ± 0.00	22 ± 2	0.14 ± 0.02	<0.005 ± 0.000
Spring Cr.–Road	01/02/97	1/2	2,590 ± 167	0.16 ± 0.01	19 ± 1	0.039 ± 0.009	0.015 ± 0.001
Spring Cr.–Road	01/02/97	2/2	2,650 ± 187	0.17 ± 0.01	18 ± 0	0.049 ± 0.015	0.018 ± 0.001
Whiskeytown	12/11/96	1/2	33 ± 1	0.030 ± 0.005	6.9 ± 0.2	<0.03 ± 0.01	<0.004 ± 0.001
Whiskeytown	12/11/96	2/2	32 ± 1	0.029 ± 0.005	7.4 ± 0.2	<0.03 ± 0.00	<0.003 ± 0.001
Whiskeytown	05/29/97	1/2	419 ± 18	0.052 ± 0.004	8.4 ± 0.1	<0.03 ± 0.02	<0.004 ± 0.000
Whiskeytown	05/29/97	2/2	411 ± 14	0.062 ± 0.007	8.0 ± 0.3	<0.03 ± 0.02	<0.004 ± 0.001
Spring Cr. arm	07/12/96	1/2	20 ± 3	0.025 ± 0.003	7.2 ± 0.4	<0.03 ± 0.04	<0.003 ± 0.001
Spring Cr. arm	07/12/96	2/2	20 ± 3	0.024 ± 0.004	7.1 ± 0.5	<0.03 ± 0.01	<0.003 ± 0.001
Spring Cr. arm	09/18/96	1/2	26 ± 1	0.026 ± 0.008	6.6 ± 0.3	<0.03 ± 0.01	<0.003 ± 0.001
Spring Cr. arm	09/18/96	2/2	36 ± 3	0.054 ± 0.033	6.6 ± 0.6	0.14 ± 0.10	<0.004 ± 0.001
Spring Cr. arm	11/20/96	1/2	205 ± 23	0.029 ± 0.004	7.2 ± 0.3	<0.1 ± 0.1	<0.004 ± 0.002
Spring Cr. arm	11/20/96	2/2	203 ± 18	0.037 ± 0.013	7.1 ± 0.3	<0.1 ± 0.1	<0.004 ± 0.001
Spring Cr. arm	12/11/96	1/2	359 ± 17	0.035 ± 0.010	7.2 ± 0.2	<0.03 ± 0.03	<0.004 ± 0.000
Spring Cr. arm	12/11/96	2/2	364 ± 24	0.035 ± 0.005	7.5 ± 0.1	<0.03 ± 0.01	<0.004 ± 0.002
Spring Cr. arm	05/28/97	1/2	436 ± 29	0.070 ± 0.006	8.1 ± 0.5	<0.03 ± 0.02	0.0050 ± 0.0003
Spring Cr. arm	05/28/97	2/2	427 ± 25	0.044 ± 0.008	8.5 ± 0.3	<0.03 ± 0.03	<0.004 ± 0.002
Colusa Basin Drain	06/06/97	1/2	5,220 ± 174	0.30 ± 0.03	139 ± 22	0.11 ± 0.01	0.030 ± 0.002
Colusa Basin Drain	06/06/97	2/2	5,420 ± 229	0.29 ± 0.01	153 ± 3	0.14 ± 0.01	0.025 ± 0.002
Yolo Bypass	01/07/97	1/2	8,890 ± 559	0.20 ± 0.01	76 ± 1	0.15 ± 0.01	0.048 ± 0.000
Yolo Bypass	01/07/97	2/2	9,510 ± 147	0.20 ± 0.01	75 ± 2	0.16 ± 0.01	0.040 ± 0.002

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Boron (µg/L) ICP–AES	Cadmium (µg/L) ICP–MS	Calcium (µg/L) ICP–AES	Cerium (µg/L) ICP–MS	Chromium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	0.032 ± 0.004	0.033 ± 0.007	11 ± 1	0.11 ± 0.00	19 ± 1
Sac. R.–Shasta	07/12/96	2/2	0.029 ± 0.002	0.032 ± 0.005	10 ± 0	0.11 ± 0.00	20 ± 2
Sac. R.–Shasta	09/19/96	1/2	0.030 ± 0.002	0.033 ± 0.002	11 ± 0	0.060 ± 0.001	21 ± 2
Sac. R.–Shasta	09/19/96	2/2	0.030 ± 0.002	0.043 ± 0.001	11 ± 0	0.066 ± 0.005	16 ± 3
Sac. R.–Shasta	11/19/96	1/2	0.040 ± 0.001	0.012 ± 0.006	12 ± 1	0.037 ± 0.003	17 ± 1
Sac. R.–Shasta	11/19/96	2/2	0.039 ± 0.001	0.018 ± 0.003	12 ± 0	0.036 ± 0.005	16 ± 1
Sac. R.–Shasta	12/12/96	1/2	0.047 ± 0.002	0.050 ± 0.004	11 ± 0	0.083 ± 0.002	13 ± 0
Sac. R.–Shasta	12/12/96	2/2	0.049 ± 0.001	0.088 ± 0.003	10 ± 0	0.098 ± 0.006	14 ± 1
Sac. R.–Shasta	05/29/97	1/2	0.032 ± 0.002	0.023 ± 0.002	11 ± 0	0.27 ± 0.01	13 ± 1
Sac. R.–Shasta	05/29/97	2/2	0.032 ± 0.001	0.026 ± 0.004	11 ± 0	0.26 ± 0.00	13 ± 1
Sac. R.–Keswick	07/11/96	1/2	0.025 ± 0.001	0.032 ± 0.008	8.6 ± 0.3	0.096 ± 0.004	20 ± 2
Sac. R.–Keswick	07/11/96	2/2	0.030 ± 0.005	0.024 ± 0.004	9.1 ± 0.2	0.099 ± 0.003	20 ± 3
Sac. R.–Keswick	09/19/96	1/2	0.020 ± 0.002	0.040 ± 0.012	8.5 ± 0.5	0.059 ± 0.007	17 ± 2
Sac. R.–Keswick	09/19/96	2/2	0.024 ± 0.002	0.022 ± 0.002	8.7 ± 0.1	0.053 ± 0.002	22 ± 2
Sac. R.–Keswick	11/21/96	1/2	0.033 ± 0.001	0.093 ± 0.003	9.8 ± 0.8	0.11 ± 0.00	18 ± 3
Sac. R.–Keswick	11/21/96	2/2	0.032 ± 0.001	0.086 ± 0.006	10 ± 0	0.11 ± 0.00	16 ± 3
Sac. R.–Keswick	12/11/96	1/2	0.044 ± 0.000	0.094 ± 0.003	10 ± 1	0.16 ± 0.01	15 ± 1
Sac. R.–Keswick	12/11/96	2/2	0.044 ± 0.002	0.099 ± 0.004	9.8 ± 0.2	0.15 ± 0.01	13 ± 1
Sac. R.–Keswick	01/02/97	1/2	0.038 ± 0.004	0.21 ± 0.00	10 ± 1	0.53 ± 0.03	21 ± 1
Sac. R.–Keswick	01/02/97	2/2	0.036 ± 0.004	0.20 ± 0.01	10 ± 0	0.52 ± 0.01	20 ± 1
Sac. R.–Keswick	05/28/97	1/2	0.026 ± 0.003	0.020 ± 0.006	9.0 ± 0.4	0.23 ± 0.01	14 ± 1
Sac. R.–Keswick	05/28/97	2/2	0.028 ± 0.003	0.024 ± 0.006	9.3 ± 0.3	0.23 ± 0.01	13 ± 1
Sac. R.–Bend Br.	07/11/96	1/2	0.028 ± 0.004	0.030 ± 0.005	9.4 ± 0.9	0.12 ± 0.00	19 ± 3
Sac. R.–Bend Br.	07/11/96	2/2	0.027 ± 0.001	0.033 ± 0.001	9.1 ± 0.3	0.14 ± 0.00	20 ± 4
Sac. R.–Bend Br.	09/20/96	1/2	0.027 ± 0.001	0.026 ± 0.004	9.4 ± 0.1	0.10 ± 0.00	21 ± 2
Sac. R.–Bend Br.	09/20/96	2/2	0.025 ± 0.001	0.033 ± 0.013	8.8 ± 0.4	0.099 ± 0.006	16 ± 3
Sac. R.–Bend Br.	11/22/96	1/2	0.039 ± 0.000	0.064 ± 0.005	12 ± 0	0.28 ± 0.00	19 ± 2
Sac. R.–Bend Br.	11/22/96	2/2	0.037 ± 0.003	0.062 ± 0.004	11 ± 1	0.28 ± 0.00	19 ± 3
Sac. R.–Bend Br.	12/12/96	1/2	0.044 ± 0.006	0.082 ± 0.006	10 ± 0	1.1 ± 0.1	24 ± 0
Sac. R.–Bend Br.	12/12/96	2/2	0.040 ± 0.002	0.089 ± 0.003	10 ± 1	1.1 ± 0.1	16 ± 0
Sac. R.–Bend Br.	01/03/97	1/2	0.038 ± 0.009	0.11 ± 0.00	11 ± 0	4.2 ± 0.4	26 ± 0
Sac. R.–Bend Br.	01/03/97	2/2	0.036 ± 0.006	0.11 ± 0.00	9.9 ± 1.0	4.2 ± 0.0	23 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Boron (µg/L) ICP–AES	Cadmium (µg/L) ICP–MS	Calcium (µg/L) ICP–AES	Cerium (µg/L) ICP–MS	Chromium (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	0.027 ± 0.001	0.034 ± 0.006	9.5 ± 0.2	0.24 ± 0.00	14 ± 2
Sac. R.–Bend Br.	05/30/97	2/2	0.028 ± 0.002	0.035 ± 0.003	9.5 ± 0.2	0.25 ± 0.02	13 ± 2
Sac. R.–Colusa	07/16/96	1/1	0.036 ± 0.001	0.074 ± 0.008	11 ± 1	1.1 ± 0.3	14 ± 0
Sac. R.–Colusa	09/25/96	1/2	0.035 ± 0.001	0.028 ± 0.001	12 ± 0	0.27 ± 0.02	18 ± 4
Sac. R.–Colusa	09/25/96	2/2	0.040 ± 0.000	0.040 ± 0.009	11 ± 1	0.30 ± 0.02	18 ± 2
Sac. R.–Colusa	11/13/96	1/2	0.054 ± 0.002	0.033 ± 0.004	13 ± 0	0.42 ± 0.03	11 ± 1
Sac. R.–Colusa	11/13/96	2/2	0.052 ± 0.000	0.030 ± 0.001	13 ± 1	0.41 ± 0.03	11 ± 0
Sac. R.–Colusa	12/16/96	1/2	0.056 ± 0.003	0.086 ± 0.001	13 ± 0	1.8 ± 0.0	18 ± 1
Sac. R.–Colusa	12/16/96	2/2	0.054 ± 0.001	0.10 ± 0.00	13 ± 0	2.1 ± 0.0	18 ± 2
Sac. R.–Colusa	01/04/97	1/2	0.073 ± 0.005	0.20 ± 0.00	14 ± 1	11 ± 1	52 ± 1
Sac. R.–Colusa	01/04/97	2/2	0.074 ± 0.005	0.22 ± 0.01	14 ± 1	12 ± 0	53 ± 2
Sac. R.–Colusa	06/03/97	1/2	0.037 ± 0.001	0.042 ± 0.001	11 ± 0	0.58 ± 0.10	12 ± 0
Sac. R.–Colusa	06/03/97	2/2	0.037 ± 0.001	0.029 ± 0.003	11 ± 0	0.57 ± 0.15	12 ± 0
Sac. R.–Verona	07/18/96	1/2	0.030 ± 0.005	0.038 ± 0.003	9.7 ± 1.1	0.67 ± 0.05	12 ± 0
Sac. R.–Verona	07/18/96	2/2	0.032 ± 0.001	0.071 ± 0.000	9.7 ± 0.3	0.58 ± 0.15	12 ± 0
Sac. R.–Verona	09/26/96	1/2	0.047 ± 0.002	0.042 ± 0.000	13 ± 0	0.76 ± 0.03	16 ± 1
Sac. R.–Verona	09/26/96	2/2	0.042 ± 0.002	0.038 ± 0.001	13 ± 0	0.76 ± 0.01	15 ± 2
Sac. R.–Verona	11/14/96	1/2	0.046 ± 0.001	0.037 ± 0.004	14 ± 0	0.63 ± 0.07	13 ± 1
Sac. R.–Verona	11/14/96	2/2	0.044 ± 0.006	0.034 ± 0.003	14 ± 1	0.60 ± 0.13	11 ± 0
Sac. R.–Verona	12/18/96	1/2	0.038 ± 0.001	0.049 ± 0.002	11 ± 0	1.1 ± 0.1	15 ± 2
Sac. R.–Verona	12/18/96	2/2	0.037 ± 0.003	0.036 ± 0.004	11 ± 0	0.98 ± 0.06	15 ± 2
Sac. R.–Verona	06/04/97	1/2	0.040 ± 0.004	0.040 ± 0.003	12 ± 1	0.86 ± 0.08	12 ± 0
Sac. R.–Verona	06/04/97	2/2	0.043 ± 0.003	0.038 ± 0.004	12 ± 1	0.63 ± 0.01	12 ± 0
Sac. R.–Freeport	07/17/96	1/2	0.025 ± 0.005	0.037 ± 0.002	9.3 ± 0.3	0.63 ± 0.01	22 ± 4
Sac. R.–Freeport	07/17/96	2/2	0.025 ± 0.002	0.045 ± 0.005	8.8 ± 0.1	0.57 ± 0.03	23 ± 4
Sac. R.–Freeport	09/24/96	1/2	0.036 ± 0.003	0.041 ± 0.007	12 ± 1	0.47 ± 0.01	18 ± 3
Sac. R.–Freeport	09/24/96	2/2	0.040 ± 0.002	0.021 ± 0.004	12 ± 0	0.50 ± 0.00	21 ± 3
Sac. R.–Freeport	11/12/96	1/2	0.032 ± 0.003	0.017 ± 0.008	11 ± 0	0.21 ± 0.00	16 ± 2
Sac. R.–Freeport	11/12/96	2/2	0.032 ± 0.001	0.020 ± 0.010	11 ± 0	0.21 ± 0.01	16 ± 2
Sac. R.–Freeport	12/17/96	1/2	0.028 ± 0.001	0.060 ± 0.003	9.3 ± 0.5	1.3 ± 0.0	16 ± 0
Sac. R.–Freeport	12/17/96	2/2	0.028 ± 0.003	0.049 ± 0.007	9.0 ± 0.9	1.4 ± 0.1	15 ± 0
Sac. R.–Freeport	01/06/97	1/2	0.018 ± 0.006	0.079 ± 0.000	6.2 ± 1.0	12 ± 1	21 ± 2
Sac. R.–Freeport	01/06/97	1/2	0.020 ± 0.004	0.071 ± 0.005	6.2 ± 0.7	13 ± 0	21 ± 1
Sac. R.–Freeport	06/05/97	1/2	0.033 ± 0.002	0.026 ± 0.002	11 ± 0	0.58 ± 0.00	14 ± 1
Sac. R.–Freeport	06/05/97	2/2	0.033 ± 0.004	0.026 ± 0.004	11 ± 0	0.58 ± 0.04	14 ± 1
Sac. R.–Freeport, dup	06/05/97	1/2	0.027 ± 0.002	0.020 ± 0.007	10 ± 0	0.39 ± 0.001	14 ± 1

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Boron (µg/L) ICP–AES	Cadmium (µg/L) ICP–MS	Calcium (µg/L) ICP–AES	Cerium (µg/L) ICP–MS	Chromium (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	0.031 ± 0.001	0.022 ± 0.001	10 ± 0	0.41 ± 0.01	13 ± 1
Flat Cr.	12/11/96	1/2	<0.005 ± 0.002	0.17 ± 0.01	2.9 ± 0.1	0.23 ± 0.00	13 ± 1
Flat Cr.	12/11/96	2/2	<0.005 ± 0.003	0.19 ± 0.01	2.9 ± 0.2	0.21 ± 0.01	12 ± 1
Flat Cr.	05/29/97	1/2	0.0076 ± 0.0014	0.092 ± 0.005	13 ± 1	0.040 ± 0.001	11 ± 1
Flat Cr.	05/29/97	2/2	0.0068 ± 0.0018	0.086 ± 0.005	14 ± 0	0.039 ± 0.004	12 ± 1
Spring Cr.–Weir	12/11/96	1/2	0.0066 ± 0.0017	3.7 ± 0.0	8.1 ± 0.4	4.6 ± 0.0	11 ± 1
Spring Cr.–Weir	12/11/96	2/2	0.0083 ± 0.0011	3.7 ± 0.0	8.3 ± 0.3	4.8 ± 0.1	13 ± 1
Spring Cr.–Weir	05/28/97	1/2	0.0092 ± 0.0014	6.6 ± 0.0	45 ± 3	9.8 ± 0.0	7.7 ± 1.3
Spring Cr.–Weir	05/28/97	2/2	0.0089 ± 0.0015	6.5 ± 0.0	45 ± 1	9.9 ± 0.4	7.3 ± 0.9
Spring Cr.–Road	01/02/97	1/2	0.024 ± 0.001	8.2 ± 0.0	5.7 ± 0.4	3.0 ± 0.1	7.3 ± 1.9
Spring Cr.–Road	01/02/97	2/2	0.025 ± 0.003	8.2 ± 0.2	5.8 ± 0.6	3.0 ± 0.0	7.2 ± 2.9
Whiskeytown	12/11/96	1/2	0.011 ± 0.001	0.014 ± 0.002	4.8 ± 0.4	0.033 ± 0.001	13 ± 1
Whiskeytown	12/11/96	2/2	0.012 ± 0.001	<0.006 ± 0.000	4.7 ± 0.1	0.034 ± 0.003	20 ± 3
Whiskeytown	05/29/97	1/2	0.0076 ± 0.0008	0.010 ± 0.001	4.8 ± 0.1	0.18 ± 0.01	14 ± 1
Whiskeytown	05/29/97	2/2	0.012 ± 0.001	0.016 ± 0.004	4.8 ± 0.1	0.17 ± 0.01	17 ± 1
Spring Cr. arm	07/12/96	1/2	0.011 ± 0.004	<0.006 ± 0.001	4.5 ± 0.1	0.019 ± 0.001	19 ± 3
Spring Cr. arm	07/12/96	2/2	0.0091 ± 0.0009	0.012 ± 0.004	4.4 ± 0.2	0.021 ± 0.001	20 ± 3
Spring Cr. arm	09/18/96	1/2	0.0081 ± 0.0004	0.015 ± 0.002	4.5 ± 0.2	0.038 ± 0.003	21 ± 1
Spring Cr. arm	09/18/96	2/2	0.0072 ± 0.0016	0.028 ± 0.008	4.4 ± 0.1	0.043 ± 0.001	17 ± 2
Spring Cr. arm	11/20/96	1/2	0.0050 ± 0.0020	0.13 ± 0.01	5.3 ± 0.3	0.23 ± 0.01	16 ± 2
Spring Cr. arm	11/20/96	2/2	0.011 ± 0.002	0.16 ± 0.00	5.3 ± 0.3	0.24 ± 0.02	15 ± 2
Spring Cr. arm	12/11/96	1/2	0.0089 ± 0.0010	0.49 ± 0.00	5.4 ± 0.2	0.60 ± 0.01	13 ± 1
Spring Cr. arm	12/11/96	2/2	0.0083 ± 0.0012	0.47 ± 0.02	5.3 ± 0.2	0.64 ± 0.01	13 ± 1
Spring Cr. arm	05/28/97	1/2	0.011 ± 0.003	0.042 ± 0.011	5.0 ± 0.1	0.20 ± 0.01	18 ± 2
Spring Cr. arm	05/28/97	2/2	0.0097 ± 0.0026	0.040 ± 0.004	5.0 ± 0.2	0.21 ± 0.00	17 ± 2
Colusa Basin Drain	06/06/97	1/2	0.33 ± 0.00	0.044 ± 0.003	38 ± 1	3.9 ± 0.6	24 ± 1
Colusa Basin Drain	06/06/97	2/2	0.34 ± 0.01	0.046 ± 0.001	39 ± 2	4.2 ± 0.2	24 ± 1
Yolo Bypass	01/07/97	1/2	0.039 ± 0.004	0.099 ± 0.006	9.0 ± 0.8	5.7 ± 0.1	28 ± 1
Yolo Bypass	01/07/97	2/2	0.040 ± 0.003	0.10 ± 0.00	9.9 ± 0.5	5.6 ± 0.1	27 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS	Europium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	0.042 ± 0.010	1.8 ± 0.1	0.016 ± 0.001	0.013 ± 0.000	0.0057 ± 0.0016
Sac. R.–Shasta	07/12/96	2/2	0.036 ± 0.009	1.9 ± 0.2	0.020 ± 0.005	0.013 ± 0.006	0.0048 ± 0.0009
Sac. R.–Shasta	09/19/96	1/2	0.014 ± 0.007	1.4 ± 0.1	0.013 ± 0.001	0.012 ± 0.003	0.0033 ± 0.0006
Sac. R.–Shasta	09/19/96	2/2	0.015 ± 0.012	1.7 ± 0.1	0.015 ± 0.004	0.0087 ± 0.0056	0.0062 ± 0.0009
Sac. R.–Shasta	11/19/96	1/2	0.025 ± 0.007	1.4 ± 0.1	0.013 ± 0.005	0.0097 ± 0.0041	0.0056 ± 0.0012
Sac. R.–Shasta	11/19/96	2/2	0.022 ± 0.004	1.3 ± 0.1	0.014 ± 0.004	0.0086 ± 0.0021	0.0047 ± 0.0016
Sac. R.–Shasta	12/12/96	1/2	0.060 ± 0.008	4.1 ± 0.2	0.023 ± 0.002	0.0087 ± 0.0011	0.0048 ± 0.0010
Sac. R.–Shasta	12/12/96	2/2	0.061 ± 0.005	4.3 ± 0.2	0.021 ± 0.000	0.011 ± 0.000	0.0069 ± 0.0015
Sac. R.–Shasta	05/29/97	1/2	0.13 ± 0.00	1.7 ± 0.1	0.041 ± 0.006	0.020 ± 0.002	0.014 ± 0.002
Sac. R.–Shasta	05/29/97	2/2	0.13 ± 0.01	1.7 ± 0.0	0.034 ± 0.004	0.022 ± 0.002	0.011 ± 0.002
Sac. R.–Keswick	07/11/96	1/2	0.038 ± 0.003	1.6 ± 0.2	0.019 ± 0.003	0.010 ± 0.002	0.0048 ± 0.0010
Sac. R.–Keswick	07/11/96	2/2	0.040 ± 0.002	1.5 ± 0.1	0.012 ± 0.000	0.011 ± 0.001	0.0062 ± 0.0002
Sac. R.–Keswick	09/19/96	1/2	0.041 ± 0.006	1.9 ± 0.1	0.023 ± 0.002	0.012 ± 0.005	0.0060 ± 0.0016
Sac. R.–Keswick	09/19/96	2/2	0.027 ± 0.005	1.6 ± 0.1	0.015 ± 0.002	0.0093 ± 0.0009	0.0036 ± 0.0012
Sac. R.–Keswick	11/21/96	1/2	0.17 ± 0.02	4.4 ± 0.4	0.044 ± 0.003	0.024 ± 0.005	0.0070 ± 0.0012
Sac. R.–Keswick	11/21/96	2/2	0.17 ± 0.02	4.3 ± 0.4	0.044 ± 0.003	0.027 ± 0.004	0.0084 ± 0.0027
Sac. R.–Keswick	12/11/96	1/2	0.12 ± 0.01	7.7 ± 0.2	0.059 ± 0.002	0.030 ± 0.003	0.011 ± 0.002
Sac. R.–Keswick	12/11/96	2/2	0.13 ± 0.01	7.8 ± 0.1	0.048 ± 0.006	0.025 ± 0.002	0.013 ± 0.003
Sac. R.–Keswick	01/02/97	1/2	0.48 ± 0.01	14 ± 0	0.10 ± 0.01	0.067 ± 0.002	0.019 ± 0.000
Sac. R.–Keswick	01/02/97	2/2	0.46 ± 0.01	14 ± 2	0.11 ± 0.00	0.069 ± 0.008	0.023 ± 0.003
Sac. R.–Keswick	05/28/97	1/2	0.24 ± 0.02	2.0 ± 0.2	0.038 ± 0.001	0.020 ± 0.002	0.011 ± 0.002
Sac. R.–Keswick	05/28/97	2/2	0.24 ± 0.02	1.9 ± 0.1	0.034 ± 0.001	0.019 ± 0.001	0.0089 ± 0.0004
Sac. R.–Bend Br.	07/11/96	1/2	0.13 ± 0.00	1.7 ± 0.1	0.022 ± 0.001	0.015 ± 0.001	0.0056 ± 0.0002
Sac. R.–Bend Br.	07/11/96	2/2	0.12 ± 0.01	1.7 ± 0.0	0.019 ± 0.005	0.013 ± 0.002	0.0049 ± 0.0013
Sac. R.–Bend Br.	09/20/96	1/2	0.074 ± 0.010	1.6 ± 0.0	0.021 ± 0.001	0.010 ± 0.002	0.0039 ± 0.0011
Sac. R.–Bend Br.	09/20/96	2/2	0.082 ± 0.013	2.0 ± 0.1	0.021 ± 0.005	0.015 ± 0.005	0.0056 ± 0.0007
Sac. R.–Bend Br.	11/22/96	1/2	0.39 ± 0.04	4.3 ± 0.3	0.056 ± 0.006	0.039 ± 0.001	0.013 ± 0.001
Sac. R.–Bend Br.	11/22/96	2/2	0.38 ± 0.04	4.3 ± 0.0	0.061 ± 0.008	0.033 ± 0.007	0.014 ± 0.002
Sac. R.–Bend Br.	12/12/96	1/2	1.1 ± 0.0	7.9 ± 0.0	0.15 ± 0.00	0.078 ± 0.007	0.038 ± 0.001
Sac. R.–Bend Br.	12/12/96	2/2	1.1 ± 0.0	8.3 ± 0.1	0.16 ± 0.01	0.079 ± 0.004	0.034 ± 0.001
Sac. R.–Bend Br.	01/03/97	1/2	3.3 ± 0.1	14 ± 0	0.52 ± 0.01	0.25 ± 0.01	0.12 ± 0.00
Sac. R.–Bend Br.	01/03/97	2/2	3.3 ± 0.0	14 ± 0	0.49 ± 0.02	0.24 ± 0.00	0.13 ± 0.00

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS	Europium (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	0.26 ± 0.03	2.2 ± 0.1	0.038 ± 0.004	0.018 ± 0.001	0.011 ± 0.002
Sac. R.–Bend Br.	05/30/97	2/2	0.27 ± 0.02	2.2 ± 0.2	0.035 ± 0.002	0.020 ± 0.004	0.012 ± 0.001
Sac. R.–Colusa	07/16/96	1/1	1.2 ± 0.1	5.4 ± 0.4	0.16 ± 0.02	0.082 ± 0.002	0.042 ± 0.002
Sac. R.–Colusa	09/25/96	1/2	0.30 ± 0.04	2.7 ± 0.2	0.039 ± 0.002	0.020 ± 0.004	0.011 ± 0.002
Sac. R.–Colusa	09/25/96	2/2	0.30 ± 0.04	3.0 ± 0.2	0.038 ± 0.006	0.023 ± 0.002	0.015 ± 0.001
Sac. R.–Colusa	11/13/96	1/2	0.45 ± 0.02	2.7 ± 0.2	0.064 ± 0.005	0.036 ± 0.004	0.017 ± 0.001
Sac. R.–Colusa	11/13/96	2/2	0.43 ± 0.02	2.7 ± 0.1	0.057 ± 0.001	0.027 ± 0.002	0.015 ± 0.001
Sac. R.–Colusa	12/16/96	1/2	1.8 ± 0.0	8.5 ± 0.1	0.26 ± 0.01	0.13 ± 0.01	0.066 ± 0.005
Sac. R.–Colusa	12/16/96	2/2	1.9 ± 0.1	12 ± 0	0.29 ± 0.01	0.14 ± 0.00	0.075 ± 0.003
Sac. R.–Colusa	01/04/97	1/2	12 ± 0	35 ± 0	1.6 ± 0.1	0.84 ± 0.02	0.40 ± 0.00
Sac. R.–Colusa	01/04/97	2/2	11 ± 0	35 ± 0	1.6 ± 0.0	0.83 ± 0.01	0.41 ± 0.00
Sac. R.–Colusa	06/03/97	1/2	0.64 ± 0.03	3.6 ± 0.2	0.087 ± 0.004	0.045 ± 0.003	0.019 ± 0.002
Sac. R.–Colusa	06/03/97	2/2	0.70 ± 0.08	3.9 ± 0.5	0.093 ± 0.005	0.048 ± 0.002	0.020 ± 0.000
Sac. R.–Verona	07/18/96	1/2	0.56 ± 0.02	3.1 ± 0.1	0.081 ± 0.006	0.040 ± 0.006	0.019 ± 0.000
Sac. R.–Verona	07/18/96	2/2	0.61 ± 0.03	3.2 ± 0.3	0.078 ± 0.010	0.039 ± 0.006	0.019 ± 0.005
Sac. R.–Verona	09/26/96	1/2	0.70 ± 0.01	3.8 ± 0.1	0.10 ± 0.00	0.056 ± 0.001	0.027 ± 0.002
Sac. R.–Verona	09/26/96	2/2	0.70 ± 0.01	3.7 ± 0.1	0.10 ± 0.00	0.058 ± 0.001	0.028 ± 0.001
Sac. R.–Verona	11/14/96	1/2	0.55 ± 0.02	3.4 ± 0.3	0.079 ± 0.004	0.043 ± 0.002	0.019 ± 0.003
Sac. R.–Verona	11/14/96	2/2	0.53 ± 0.02	3.7 ± 0.5	0.083 ± 0.006	0.044 ± 0.005	0.020 ± 0.001
Sac. R.–Verona	12/18/96	1/2	0.98 ± 0.05	5.6 ± 0.2	0.15 ± 0.01	0.075 ± 0.006	0.037 ± 0.001
Sac. R.–Verona	12/18/96	2/2	0.89 ± 0.02	4.4 ± 0.1	0.13 ± 0.00	0.067 ± 0.002	0.034 ± 0.003
Sac. R.–Verona	06/04/97	1/2	0.72 ± 0.02	4.0 ± 0.1	0.11 ± 0.00	0.057 ± 0.003	0.025 ± 0.002
Sac. R.–Verona	06/04/97	2/2	0.77 ± 0.05	4.3 ± 0.4	0.11 ± 0.01	0.052 ± 0.004	0.023 ± 0.001
Sac. R.–Freeport	07/17/96	1/2	0.38 ± 0.01	2.5 ± 0.0	0.069 ± 0.005	0.036 ± 0.002	0.020 ± 0.001
Sac. R.–Freeport	07/17/96	2/2	0.43 ± 0.06	2.6 ± 0.1	0.065 ± 0.013	0.037 ± 0.003	0.017 ± 0.002
Sac. R.–Freeport	09/24/96	1/2	0.42 ± 0.04	3.1 ± 0.3	0.055 ± 0.005	0.027 ± 0.004	0.019 ± 0.003
Sac. R.–Freeport	09/24/96	2/2	0.31 ± 0.00	2.4 ± 0.1	0.052 ± 0.007	0.028 ± 0.003	0.015 ± 0.001
Sac. R.–Freeport	11/12/96	1/2	0.20 ± 0.02	2.1 ± 0.1	0.029 ± 0.001	0.014 ± 0.006	0.0098 ± 0.0016
Sac. R.–Freeport	11/12/96	2/2	0.19 ± 0.03	2.2 ± 0.1	0.026 ± 0.002	0.016 ± 0.004	0.0077 ± 0.0008
Sac. R.–Freeport	12/17/96	1/2	1.1 ± 0.0	5.2 ± 0.1	0.16 ± 0.01	0.082 ± 0.007	0.039 ± 0.002
Sac. R.–Freeport	12/17/96	2/2	1.1 ± 0.0	4.8 ± 0.1	0.17 ± 0.01	0.084 ± 0.006	0.041 ± 0.001
Sac. R.–Freeport	01/06/97	1/2	4.6 ± 0.1	14 ± 0	0.69 ± 0.01	0.35 ± 0.00	0.19 ± 0.01
Sac. R.–Freeport	01/06/97	1/2	4.4 ± 0.1	14 ± 0	0.68 ± 0.01	0.35 ± 0.00	0.20 ± 0.00
Sac. R.–Freeport	06/05/97	1/2	0.43 ± 0.03	2.8 ± 0.1	0.068 ± 0.001	0.032 ± 0.007	0.021 ± 0.000
Sac. R.–Freeport	06/05/97	2/2	0.45 ± 0.02	2.9 ± 0.1	0.066 ± 0.001	0.031 ± 0.000	0.022 ± 0.003
Sac. R.–Freeport, dup	06/05/97	1/2	0.28 ± 0.002	2.3 ± 0.1	0.043 ± 0.002	0.017 ± 0.002	0.017 ± 0.001

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Cobalt (µg/L) ICP–MS	Copper (µg/L) ICP–MS	Dysprosium (µg/L) ICP–MS	Erbium (µg/L) ICP–MS	Europium (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	0.29 ± 0.03	2.3 ± 0.1	0.049 ± 0.002	0.025 ± 0.004	0.014 ± 0.000
Flat Cr.	12/11/96	1/2	0.30 ± 0.01	11 ± 0	0.11 ± 0.00	0.064 ± 0.005	0.023 ± 0.000
Flat Cr.	12/11/96	2/2	0.30 ± 0.02	11 ± 0	0.11 ± 0.01	0.066 ± 0.004	0.023 ± 0.004
Flat Cr.	05/29/97	1/2	0.35 ± 0.02	1.8 ± 0.1	0.041 ± 0.002	0.031 ± 0.004	0.0061 ± 0.0020
Flat Cr.	05/29/97	2/2	0.35 ± 0.02	1.8 ± 0.1	0.040 ± 0.007	0.032 ± 0.006	0.0056 ± 0.0017
Spring Cr.–Weir	12/11/96	1/2	4.4 ± 0.0	402 ± 17	2.2 ± 0.0	1.1 ± 0.0	0.33 ± 0.01
Spring Cr.–Weir	12/11/96	2/2	4.4 ± 0.1	410 ± 15	2.2 ± 0.0	1.1 ± 0.0	0.33 ± 0.01
Spring Cr.–Weir	05/28/97	1/2	12 ± 0	500 ± 31	3.8 ± 0.2	1.9 ± 0.1	0.51 ± 0.00
Spring Cr.–Weir	05/28/97	2/2	12 ± 0	496 ± 13	3.7 ± 0.0	1.8 ± 0.1	0.52 ± 0.01
Spring Cr.–Road	01/02/97	1/2	6.3 ± 0.1	547 ± 2	1.4 ± 0.0	0.73 ± 0.01	0.22 ± 0.00
Spring Cr.–Road	01/02/97	2/2	6.3 ± 0.3	539 ± 43	1.4 ± 0.0	0.69 ± 0.01	0.22 ± 0.00
Whiskeytown	12/11/96	1/2	0.025 ± 0.003	1.2 ± 0.0	0.012 ± 0.001	0.0061 ± 0.0032	<0.001 ± 0.002
Whiskeytown	12/11/96	2/2	0.018 ± 0.007	1.1 ± 0.1	0.010 ± 0.002	0.0075 ± 0.0012	0.0016 ± 0.0009
Whiskeytown	05/29/97	1/2	0.61 ± 0.04	1.7 ± 0.1	0.029 ± 0.004	0.016 ± 0.002	0.0083 ± 0.0006
Whiskeytown	05/29/97	2/2	0.58 ± 0.01	1.7 ± 0.1	0.026 ± 0.002	0.013 ± 0.004	0.0090 ± 0.0005
Spring Cr. arm	07/12/96	1/2	0.029 ± 0.014	0.80 ± 0.07	0.0086 ± 0.0021	0.0034 ± 0.0009	0.0018 ± 0.0012
Spring Cr. arm	07/12/96	2/2	0.027 ± 0.011	0.89 ± 0.03	0.0088 ± 0.0027	0.0079 ± 0.0016	0.0023 ± 0.0012
Spring Cr. arm	09/18/96	1/2	0.047 ± 0.006	1.2 ± 0.0	0.016 ± 0.002	0.0087 ± 0.0033	0.0021 ± 0.0003
Spring Cr. arm	09/18/96	2/2	0.053 ± 0.013	1.7 ± 0.0	0.019 ± 0.004	0.011 ± 0.002	0.0035 ± 0.0013
Spring Cr. arm	11/20/96	1/2	0.35 ± 0.03	11 ± 0	0.10 ± 0.01	0.066 ± 0.004	0.018 ± 0.003
Spring Cr. arm	11/20/96	2/2	0.36 ± 0.03	12 ± 0	0.089 ± 0.003	0.052 ± 0.003	0.016 ± 0.002
Spring Cr. arm	12/11/96	1/2	0.60 ± 0.02	46 ± 2	0.27 ± 0.00	0.14 ± 0.00	0.052 ± 0.001
Spring Cr. arm	12/11/96	2/2	0.59 ± 0.04	49 ± 1	0.30 ± 0.00	0.14 ± 0.00	0.060 ± 0.002
Spring Cr. arm	05/28/97	1/2	0.67 ± 0.02	3.4 ± 0.3	0.034 ± 0.001	0.022 ± 0.002	0.0087 ± 0.0004
Spring Cr. arm	05/28/97	2/2	0.63 ± 0.04	3.1 ± 0.0	0.034 ± 0.003	0.022 ± 0.006	0.011 ± 0.002
Colusa Basin Drain	06/06/97	1/2	3.7 ± 0.1	13 ± 0	0.47 ± 0.03	0.21 ± 0.01	0.11 ± 0.00
Colusa Basin Drain	06/06/97	2/2	3.5 ± 0.1	12 ± 0	0.49 ± 0.01	0.22 ± 0.00	0.11 ± 0.00
Yolo Bypass	01/07/97	1/2	4.9 ± 0.0	17 ± 0	0.72 ± 0.01	0.36 ± 0.00	0.18 ± 0.00
Yolo Bypass	01/07/97	2/2	4.9 ± 0.0	17 ± 0	0.70 ± 0.01	0.36 ± 0.01	0.17 ± 0.00

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES	Iron (µg/L) UV–vis	Iron (II) (µg/L) UV–vis
Sac. R.–Shasta	07/12/96	1/2	0.023 ± 0.000	0.0040 ± 0.0005	147 ± 15	105 ± 2	54 ± 13
Sac. R.–Shasta	07/12/96	2/2	0.031 ± 0.000	0.0036 ± 0.0007	130 ± 28	— ± —	— ± —
Sac. R.–Shasta	09/19/96	1/2	0.021 ± 0.002	0.0032 ± 0.0002	39 ± 6	41 ± —	29 ± —
Sac. R.–Shasta	09/19/96	2/2	0.023 ± 0.005	0.0028 ± 0.0001	71 ± 21	— ± —	— ± —
Sac. R.–Shasta	11/19/96	1/2	0.016 ± 0.004	0.0019 ± 0.0003	49 ± 12	30 ± 0	22 ± 0
Sac. R.–Shasta	11/19/96	2/2	0.017 ± 0.002	0.0017 ± 0.0006	45 ± 13	— ± —	— ± —
Sac. R.–Shasta	12/12/96	1/2	0.027 ± 0.002	0.0037 ± 0.0004	83 ± 9	51 ± —	27 ± —
Sac. R.–Shasta	12/12/96	2/2	0.029 ± 0.004	0.0043 ± 0.0009	83 ± 10	— ± —	— ± —
Sac. R.–Shasta	05/29/97	1/2	0.056 ± 0.007	0.0067 ± 0.0005	338 ± 34	152 ± 3	46 ± 1
Sac. R.–Shasta	05/29/97	2/2	0.057 ± 0.006	0.0069 ± 0.0003	349 ± 18	— ± —	— ± —
Sac. R.–Keswick	07/11/96	1/2	0.028 ± 0.003	0.0041 ± 0.0002	114 ± 15	40 ± 0	16 ± 9
Sac. R.–Keswick	07/11/96	2/2	0.024 ± 0.001	0.0031 ± 0.0009	118 ± 6	— ± —	— ± —
Sac. R.–Keswick	09/19/96	1/2	0.028 ± 0.005	0.0044 ± 0.0002	70 ± 13	40 ± 4	31 ± 2
Sac. R.–Keswick	09/19/96	2/2	0.024 ± 0.004	0.0025 ± 0.0008	33 ± 12	— ± —	— ± —
Sac. R.–Keswick	11/21/96	1/2	0.060 ± 0.006	0.0088 ± 0.0012	248 ± 32	132 ± —	73 ± —
Sac. R.–Keswick	11/21/96	2/2	0.056 ± 0.008	0.0086 ± 0.0004	250 ± 41	— ± —	— ± —
Sac. R.–Keswick	12/11/96	1/2	0.072 ± 0.004	0.0095 ± 0.0007	153 ± 6	101 ± —	37 ± —
Sac. R.–Keswick	12/11/96	2/2	0.074 ± 0.010	0.0097 ± 0.0012	163 ± 11	— ± —	— ± —
Sac. R.–Keswick	01/02/97	1/2	0.16 ± 0.03	0.020 ± 0.001	812 ± 15	436 ± —	145 ± —
Sac. R.–Keswick	01/02/97	2/2	0.16 ± 0.00	0.016 ± 0.000	809 ± 119	— ± —	— ± —
Sac. R.–Keswick	05/28/97	1/2	0.051 ± 0.005	0.0068 ± 0.0010	392 ± 37	167 ± 6	49 ± 2
Sac. R.–Keswick	05/28/97	2/2	0.052 ± 0.006	0.0071 ± 0.0010	380 ± 39	— ± —	— ± —
Sac. R.–Bend Br.	07/11/96	1/2	0.023 ± 0.003	0.0034 ± 0.0009	175 ± 9	181 ± 4	70 ± 0
Sac. R.–Bend Br.	07/11/96	2/2	0.032 ± 0.004	0.0039 ± 0.0004	182 ± 12	— ± —	— ± —
Sac. R.–Bend Br.	09/20/96	1/2	0.028 ± 0.003	0.0035 ± 0.0005	113 ± 7	122 ± —	67 ± —
Sac. R.–Bend Br.	09/20/96	2/2	0.032 ± 0.003	0.0030 ± 0.0000	150 ± 30	— ± —	— ± —
Sac. R.–Bend Br.	11/22/96	1/2	0.077 ± 0.009	0.011 ± 0.000	645 ± 53	385 ± —	248 ± —
Sac. R.–Bend Br.	11/22/96	2/2	0.079 ± 0.003	0.012 ± 0.001	602 ± 20	— ± —	— ± —
Sac. R.–Bend Br.	12/12/96	1/2	0.21 ± 0.01	0.024 ± 0.001	2,080 ± 48	1,060 ± —	397 ± —
Sac. R.–Bend Br.	12/12/96	2/2	0.21 ± 0.01	0.027 ± 0.001	2,070 ± 110	— ± —	— ± —
Sac. R.–Bend Br.	01/03/97	1/2	0.70 ± 0.04	0.086 ± 0.001	7,210 ± 590	2,320 ± —	657 ± —
Sac. R.–Bend Br.	01/03/97	2/2	0.66 ± 0.01	0.083 ± 0.004	7,150 ± 450	— ± —	— ± —

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES	Iron (µg/L) UV–vis	Iron (II) (µg/L) UV–vis
Sac. R.–Bend Br.	05/30/97	1/2	0.052 ± 0.007	0.0066 ± 0.0007	408 ± 34	214 ± 5	79 ± 3
Sac. R.–Bend Br.	05/30/97	2/2	0.054 ± 0.012	0.0071 ± 0.0006	386 ± 3	— ± —	— ± —
Sac. R.–Colusa	07/16/96	1/1	0.23 ± 0.02	0.028 ± 0.000	2,330 ± 120	1,610 ± 11	647 ± 14
Sac. R.–Colusa	09/25/96	1/2	0.057 ± 0.008	0.0084 ± 0.0011	593 ± 72	406 ± —	201 ± —
Sac. R.–Colusa	09/25/96	2/2	0.060 ± 0.004	0.0068 ± 0.0011	596 ± 49	— ± —	— ± —
Sac. R.–Colusa	11/13/96	1/2	0.099 ± 0.006	0.010 ± 0.001	847 ± 11	771 ± —	334 ± —
Sac. R.–Colusa	11/13/96	2/2	0.087 ± 0.004	0.0098 ± 0.0011	826 ± 8	— ± —	— ± —
Sac. R.–Colusa	12/16/96	1/2	0.37 ± 0.00	0.044 ± 0.001	3,830 ± 66	1,860 ± —	478 ± —
Sac. R.–Colusa	12/16/96	2/2	0.41 ± 0.02	0.049 ± 0.001	4,050 ± 130	— ± —	— ± —
Sac. R.–Colusa	01/04/97	1/2	2.1 ± 0.0	0.27 ± 0.00	23,700 ± 5	6,670 ± —	1,640 ± —
Sac. R.–Colusa	01/04/97	2/2	2.1 ± 0.0	0.27 ± 0.00	23,200 ± 21	— ± —	— ± —
Sac. R.–Colusa	06/03/97	1/2	0.13 ± 0.02	0.015 ± 0.001	1,120 ± 61	471 ± 17	148 ± 46
Sac. R.–Colusa	06/03/97	2/2	0.14 ± 0.02	0.015 ± 0.001	1,250 ± 120	— ± —	— ± —
Sac. R.–Verona	07/18/96	1/2	0.12 ± 0.01	0.012 ± 0.000	1,010 ± 29	1,060 ± —	384 ± —
Sac. R.–Verona	07/18/96	2/2	0.12 ± 0.01	0.012 ± 0.001	1,090 ± 64	— ± —	— ± —
Sac. R.–Verona	09/26/96	1/2	0.15 ± 0.02	0.017 ± 0.000	1,590 ± 36	1,370 ± —	544 ± —
Sac. R.–Verona	09/26/96	2/2	0.16 ± 0.01	0.018 ± 0.001	1,590 ± 36	— ± —	— ± —
Sac. R.–Verona	11/14/96	1/2	0.13 ± 0.01	0.013 ± 0.001	1,090 ± 41	850 ± —	331 ± —
Sac. R.–Verona	11/14/96	2/2	0.12 ± 0.01	0.014 ± 0.001	1,090 ± 30	— ± —	— ± —
Sac. R.–Verona	12/18/96	1/2	0.20 ± 0.02	0.025 ± 0.001	1,980 ± 75	986 ± —	294 ± —
Sac. R.–Verona	12/18/96	2/2	0.19 ± 0.01	0.021 ± 0.000	1,870 ± 49	— ± —	— ± —
Sac. R.–Verona	06/04/97	1/2	0.16 ± 0.01	0.019 ± 0.001	1,330 ± 68	532 ± 15	146 ± 33
Sac. R.–Verona	06/04/97	2/2	0.15 ± 0.01	0.018 ± 0.002	1,490 ± 79	— ± —	— ± —
Sac. R.–Freeport	07/17/96	1/2	0.10 ± 0.02	0.011 ± 0.001	861 ± 69	745 ± —	271 ± —
Sac. R.–Freeport	07/17/96	2/2	0.098 ± 0.002	0.0097 ± 0.0014	845 ± 17	— ± —	— ± —
Sac. R.–Freeport	09/24/96	1/2	0.092 ± 0.008	0.0092 ± 0.0005	691 ± 31	540 ± —	237 ± —
Sac. R.–Freeport	09/24/96	2/2	0.079 ± 0.001	0.0087 ± 0.0001	700 ± 19	— ± —	— ± —
Sac. R.–Freeport	11/12/96	1/2	0.044 ± 0.006	0.0066 ± 0.0010	413 ± 41	261 ± 7	127 ± 1
Sac. R.–Freeport	11/12/96	2/2	0.046 ± 0.000	0.0049 ± 0.0005	414 ± 26	— ± —	— ± —
Sac. R.–Freeport	12/17/96	1/2	0.21 ± 0.01	0.026 ± 0.001	2,220 ± 73	983 ± —	305 ± —
Sac. R.–Freeport	12/17/96	2/2	0.22 ± 0.02	0.027 ± 0.002	2,240 ± 84	— ± —	— ± —
Sac. R.–Freeport	01/06/97	1/2	0.98 ± 0.03	0.11 ± 0.00	8,470 ± 94	3,400 ± —	841 ± —
Sac. R.–Freeport	01/06/97	1/2	0.97 ± 0.03	0.11 ± 0.00	8,300 ± 38	— ± —	— ± —
Sac. R.–Freeport	06/05/97	1/2	0.097 ± 0.002	0.012 ± 0.001	852 ± 11	303 ± 26	76 ± 14
Sac. R.–Freeport	06/05/97	2/2	0.11 ± 0.01	0.013 ± 0.001	870 ± 0	— ± —	— ± —
Sac. R.–Freeport, dup	06/05/97	1/2	0.068 ± 0.009	0.0086 ± 0.0011	583 ± 54	204 ± 7	54 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Gadolinium (µg/L) ICP–MS	Holmium (µg/L) ICP–MS	Iron (µg/L) ICP–AES	Iron (µg/L) UV–vis	Iron (II) (µg/L) UV–vis
Sac. R.–Freeport, dup	06/05/97	2/2	0.065 ± 0.002	0.0083 ± 0.0009	580 ± 48	— ± —	— ± —
Flat Cr.	12/11/96	1/2	0.16 ± 0.00	0.023 ± 0.001	227 ± 15	100 ± —	49 ± —
Flat Cr.	12/11/96	2/2	0.15 ± 0.01	0.021 ± 0.001	225 ± 18	— ± —	— ± —
Flat Cr.	05/29/97	1/2	0.057 ± 0.008	0.0083 ± 0.0001	354 ± 34	351 ± 6	153 ± 17
Flat Cr.	05/29/97	2/2	0.055 ± 0.003	0.0087 ± 0.0002	355 ± 39	— ± —	— ± —
Spring Cr.–Weir	12/11/96	1/2	2.8 ± 0.1	0.37 ± 0.00	1,420 ± 50	1,180 ± 4	880 ± 9
Spring Cr.–Weir	12/11/96	2/2	2.8 ± 0.0	0.37 ± 0.00	1,400 ± 33	— ± —	— ± —
Spring Cr.–Weir	05/28/97	1/2	5.0 ± 0.1	0.64 ± 0.00	1,860 ± 92	1,930 ± 150	848 ± 110
Spring Cr.–Weir	05/28/97	2/2	5.1 ± 0.1	0.61 ± 0.00	1,800 ± 12	— ± —	— ± —
Spring Cr.–Road	01/02/97	1/2	1.8 ± 0.0	0.24 ± 0.00	12,800 ± 640	13,300 ± 800	11,800 ± 710
Spring Cr.–Road	01/02/97	2/2	1.8 ± 0.0	0.24 ± 0.00	13,000 ± 920	— ± —	— ± —
Whiskeytown	12/11/96	1/2	0.016 ± 0.002	0.0020 ± 0.0002	45 ± 5	30 ± —	22 ± —
Whiskeytown	12/11/96	2/2	0.014 ± 0.001	0.0024 ± 0.0005	35 ± 9	— ± —	— ± —
Whiskeytown	05/29/97	1/2	0.037 ± 0.003	0.0047 ± 0.0010	563 ± 34	245 ± 1	55 ± 4
Whiskeytown	05/29/97	2/2	0.037 ± 0.005	0.0042 ± 0.0004	560 ± 28	— ± —	— ± —
Spring Cr. arm	07/12/96	1/2	0.014 ± 0.002	0.0020 ± 0.0007	<30 ± 30	40 ± —	27 ± —
Spring Cr. arm	07/12/96	2/2	0.012 ± 0.004	0.0022 ± 0.0013	<30 ± 28	— ± —	— ± —
Spring Cr. arm	09/18/96	1/2	0.024 ± 0.002	0.0024 ± 0.0005	<30 ± 4	35 ± 2	25 ± 1
Spring Cr. arm	09/18/96	2/2	0.028 ± 0.004	0.0031 ± 0.0003	63 ± 20	— ± —	— ± —
Spring Cr. arm	11/20/96	1/2	0.13 ± 0.02	0.018 ± 0.001	213 ± 33	165 ± 5	44 ± 1
Spring Cr. arm	11/20/96	2/2	0.14 ± 0.00	0.018 ± 0.001	218 ± 24	— ± —	— ± —
Spring Cr. arm	12/11/96	1/2	0.38 ± 0.00	0.046 ± 0.000	198 ± 13	162 ± —	42 ± —
Spring Cr. arm	12/11/96	2/2	0.40 ± 0.00	0.048 ± 0.001	201 ± 29	— ± —	— ± —
Spring Cr. arm	05/28/97	1/2	0.054 ± 0.003	0.0085 ± 0.0001	577 ± 62	264 ± 3	64 ± 1
Spring Cr. arm	05/28/97	2/2	0.054 ± 0.005	0.0068 ± 0.0003	529 ± 18	— ± —	— ± —
Colusa Basin Drain	06/06/97	1/2	0.73 ± 0.05	0.073 ± 0.001	6,840 ± 95	1,980 ± 210	202 ± 60
Colusa Basin Drain	06/06/97	2/2	0.72 ± 0.02	0.075 ± 0.001	6,660 ± 32	— ± —	— ± —
Yolo Bypass	01/07/97	1/2	0.93 ± 0.01	0.12 ± 0.00	10,800 ± 510	3,870 ± —	700 ± —
Yolo Bypass	01/07/97	2/2	0.93 ± 0.02	0.12 ± 0.00	10,700 ± 320	— ± —	— ± —

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Lanthanum (μg/L) ICP–MS	Lead (μg/L) ICP–MS	Lithium (μg/L) I0CP–MS	Lutetium (μg/L) ICP–MS	Magnesium (mg/L) ICP–AES
Sac. R.–Shasta	07/12/96	1/2	0.061 ± 0.001	0.056 ± 0.004	1.9 ± 0.5	0.0023 ± 0.0005	4.4 ± 0.3
Sac. R.–Shasta	07/12/96	2/2	0.062 ± 0.005	0.060 ± 0.014	1.4 ± 0.2	0.0022 ± 0.0002	4.1 ± 0.1
Sac. R.–Shasta	09/19/96	1/2	0.043 ± 0.002	0.023 ± 0.005	1.7 ± 0.2	0.0011 ± 0.0007	4.3 ± 0.0
Sac. R.–Shasta	09/19/96	2/2	0.042 ± 0.005	0.043 ± 0.007	2.0 ± 0.0	0.0021 ± 0.0006	4.2 ± 0.1
Sac. R.–Shasta	11/19/96	1/2	0.025 ± 0.000	0.029 ± 0.006	3.2 ± 0.4	0.0014 ± 0.0005	4.7 ± 0.2
Sac. R.–Shasta	11/19/96	2/2	0.023 ± 0.003	0.022 ± 0.001	3.1 ± 0.4	0.0017 ± 0.0008	4.8 ± 0.1
Sac. R.–Shasta	12/12/96	1/2	0.038 ± 0.001	0.076 ± 0.005	2.9 ± 0.1	0.0013 ± 0.0004	5.0 ± 0.1
Sac. R.–Shasta	12/12/96	2/2	0.041 ± 0.000	0.16 ± 0.01	2.8 ± 0.1	0.0020 ± 0.0002	4.8 ± 0.1
Sac. R.–Shasta	05/29/97	1/2	0.12 ± 0.00	0.12 ± 0.00	1.7 ± 0.1	0.0029 ± 0.0005	4.3 ± 0.1
Sac. R.–Shasta	05/29/97	2/2	0.11 ± 0.00	0.11 ± 0.00	1.8 ± 0.2	0.0028 ± 0.0001	4.2 ± 0.1
Sac. R.–Keswick	07/11/96	1/2	0.056 ± 0.003	0.078 ± 0.010	1.4 ± 0.3	0.0018 ± 0.0004	4.5 ± 0.1
Sac. R.–Keswick	07/11/96	2/2	0.052 ± 0.000	0.076 ± 0.003	1.4 ± 0.2	0.0016 ± 0.0005	4.8 ± 0.1
Sac. R.–Keswick	09/19/96	1/2	0.038 ± 0.003	0.051 ± 0.007	1.8 ± 0.3	0.0022 ± 0.0005	5.0 ± 0.2
Sac. R.–Keswick	09/19/96	2/2	0.035 ± 0.002	0.038 ± 0.003	1.3 ± 0.2	0.0009 ± 0.0003	5.2 ± 0.1
Sac. R.–Keswick	11/21/96	1/2	0.046 ± 0.002	0.29 ± 0.00	2.7 ± 0.6	0.0034 ± 0.0015	4.8 ± 0.3
Sac. R.–Keswick	11/21/96	2/2	0.051 ± 0.001	0.30 ± 0.00	2.2 ± 0.1	0.0033 ± 0.0006	4.9 ± 0.2
Sac. R.–Keswick	12/11/96	1/2	0.068 ± 0.003	0.36 ± 0.01	2.5 ± 0.1	0.0034 ± 0.0003	5.3 ± 0.1
Sac. R.–Keswick	12/11/96	2/2	0.065 ± 0.002	0.21 ± 0.00	2.6 ± 0.2	0.0030 ± 0.0004	5.0 ± 0.1
Sac. R.–Keswick	01/02/97	1/2	0.20 ± 0.00	0.55 ± 0.02	2.2 ± 0.2	0.0078 ± 0.0001	4.5 ± 0.2
Sac. R.–Keswick	01/02/97	2/2	0.19 ± 0.00	0.52 ± 0.04	2.0 ± 0.4	0.0068 ± 0.0006	4.4 ± 0.1
Sac. R.–Keswick	05/28/97	1/2	0.097 ± 0.001	0.11 ± 0.00	1.5 ± 0.1	0.0026 ± 0.0005	4.7 ± 0.1
Sac. R.–Keswick	05/28/97	2/2	0.10 ± 0.00	0.097 ± 0.003	1.5 ± 0.2	0.0024 ± 0.0001	4.9 ± 0.0
Sac. R.–Bend Br.	07/11/96	1/2	0.062 ± 0.001	0.091 ± 0.024	1.5 ± 0.3	0.0014 ± 0.0004	4.9 ± 0.4
Sac. R.–Bend Br.	07/11/96	2/2	0.072 ± 0.001	0.10 ± 0.01	1.6 ± 0.5	0.0025 ± 0.0002	4.8 ± 0.1
Sac. R.–Bend Br.	09/20/96	1/2	0.049 ± 0.001	0.065 ± 0.001	1.3 ± 0.2	0.0017 ± 0.0006	5.3 ± 0.1
Sac. R.–Bend Br.	09/20/96	2/2	0.050 ± 0.005	0.078 ± 0.002	2.0 ± 0.5	0.0024 ± 0.0011	5.1 ± 0.2
Sac. R.–Bend Br.	11/22/96	1/2	0.12 ± 0.01	0.41 ± 0.00	3.0 ± 0.5	0.0048 ± 0.0012	5.7 ± 0.1
Sac. R.–Bend Br.	11/22/96	2/2	0.12 ± 0.00	0.43 ± 0.02	3.0 ± 0.7	0.0051 ± 0.0007	5.5 ± 0.3
Sac. R.–Bend Br.	12/12/96	1/2	0.45 ± 0.03	0.69 ± 0.02	3.6 ± 0.0	0.0081 ± 0.0008	6.0 ± 0.1
Sac. R.–Bend Br.	12/12/96	2/2	0.47 ± 0.04	1.1 ± 0.0	3.7 ± 0.1	0.0096 ± 0.0005	5.9 ± 0.3
Sac. R.–Bend Br.	01/03/97	1/2	1.7 ± 0.1	2.3 ± 0.1	6.0 ± 0.1	0.030 ± 0.002	6.6 ± 0.0
Sac. R.–Bend Br.	01/03/97	2/2	1.7 ± 0.0	2.2 ± 0.0	6.6 ± 0.3	0.030 ± 0.001	6.1 ± 0.5

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Lanthanum (µg/L) ICP–MS	Lead (µg/L) ICP–MS	Lithium (µg/L) IOCP–MS	Lutetium (µg/L) ICP–MS	Magnesium (mg/L) ICP–AES
Sac. R.–Bend Br.	05/30/97	1/2	0.097 ± 0.002	0.16 ± 0.00	1.6 ± 0.1	0.0033 ± 0.0003	5.2 ± 0.2
Sac. R.–Bend Br.	05/30/97	2/2	0.10 ± 0.00	0.16 ± 0.01	1.6 ± 0.2	0.0027 ± 0.0003	5.1 ± 0.1
Sac. R.–Colusa	07/16/96	1/1	0.44 ± 0.11	0.73 ± 0.02	3.5 ± 0.0	0.0083 ± 0.0004	6.1 ± 0.5
Sac. R.–Colusa	09/25/96	1/2	0.12 ± 0.00	0.16 ± 0.00	2.6 ± 0.3	0.0040 ± 0.0006	5.7 ± 0.3
Sac. R.–Colusa	09/25/96	2/2	0.14 ± 0.00	0.19 ± 0.02	3.0 ± 0.5	0.0025 ± 0.0011	5.7 ± 0.2
Sac. R.–Colusa	11/13/96	1/2	0.18 ± 0.01	0.25 ± 0.01	3.3 ± 0.1	0.0036 ± 0.0004	6.6 ± 0.2
Sac. R.–Colusa	11/13/96	2/2	0.18 ± 0.01	0.24 ± 0.00	3.4 ± 0.0	0.0035 ± 0.0006	6.6 ± 0.4
Sac. R.–Colusa	12/16/96	1/2	0.75 ± 0.02	1.1 ± 0.0	5.3 ± 0.1	0.016 ± 0.000	6.9 ± 0.2
Sac. R.–Colusa	12/16/96	2/2	0.87 ± 0.03	5.2 ± 0.0	5.6 ± 0.0	0.016 ± 0.001	6.9 ± 0.0
Sac. R.–Colusa	01/04/97	1/2	4.2 ± 0.3	7.8 ± 0.0	24 ± 0	0.098 ± 0.000	12 ± 1
Sac. R.–Colusa	01/04/97	2/2	4.4 ± 0.1	7.6 ± 0.0	23 ± 1	0.098 ± 0.001	13 ± 0
Sac. R.–Colusa	06/03/97	1/2	0.23 ± 0.04	0.37 ± 0.02	2.6 ± 0.1	0.0054 ± 0.0011	5.9 ± 0.1
Sac. R.–Colusa	06/03/97	2/2	0.22 ± 0.06	0.40 ± 0.04	2.6 ± 0.1	0.0059 ± 0.0003	6.2 ± 0.7
Sac. R.–Verona	07/18/96	1/2	0.28 ± 0.02	0.41 ± 0.01	1.9 ± 0.0	0.0043 ± 0.0006	4.9 ± 0.5
Sac. R.–Verona	07/18/96	2/2	0.24 ± 0.06	0.41 ± 0.03	1.9 ± 0.0	0.0049 ± 0.0005	4.9 ± 0.2
Sac. R.–Verona	09/26/96	1/2	0.32 ± 0.02	0.42 ± 0.02	2.9 ± 0.1	0.0060 ± 0.0008	7.3 ± 0.0
Sac. R.–Verona	09/26/96	2/2	0.32 ± 0.01	0.43 ± 0.02	2.9 ± 0.1	0.0063 ± 0.0005	7.4 ± 0.1
Sac. R.–Verona	11/14/96	1/2	0.26 ± 0.03	0.37 ± 0.02	2.6 ± 0.1	0.0045 ± 0.0005	7.7 ± 0.2
Sac. R.–Verona	11/14/96	2/2	0.24 ± 0.06	0.39 ± 0.02	2.7 ± 0.1	0.0051 ± 0.0009	7.7 ± 0.3
Sac. R.–Verona	12/18/96	1/2	0.47 ± 0.03	2.2 ± 0.0	2.8 ± 0.0	0.0092 ± 0.0010	5.6 ± 0.1
Sac. R.–Verona	12/18/96	2/2	0.41 ± 0.03	0.60 ± 0.01	2.8 ± 0.1	0.0086 ± 0.0004	5.6 ± 0.1
Sac. R.–Verona	06/04/97	1/2	0.33 ± 0.03	0.50 ± 0.01	2.4 ± 0.2	0.0063 ± 0.0003	6.5 ± 0.6
Sac. R.–Verona	06/04/97	2/2	0.28 ± 0.07	0.52 ± 0.02	2.5 ± 0.0	0.0066 ± 0.0005	6.6 ± 0.5
Sac. R.–Freeport	07/17/96	1/2	0.29 ± 0.02	0.36 ± 0.00	1.3 ± 0.1	0.0057 ± 0.0002	4.6 ± 0.1
Sac. R.–Freeport	07/17/96	2/2	0.24 ± 0.00	0.38 ± 0.01	1.4 ± 0.0	0.0039 ± 0.0002	4.4 ± 0.0
Sac. R.–Freeport	09/24/96	1/2	0.20 ± 0.00	0.29 ± 0.00	2.4 ± 0.0	0.0045 ± 0.0008	6.4 ± 0.1
Sac. R.–Freeport	09/24/96	2/2	0.20 ± 0.00	0.27 ± 0.01	1.8 ± 0.2	0.0039 ± 0.0006	6.7 ± 0.0
Sac. R.–Freeport	11/12/96	1/2	0.092 ± 0.003	0.14 ± 0.01	2.2 ± 0.3	0.0022 ± 0.0014	5.7 ± 0.1
Sac. R.–Freeport	11/12/96	2/2	0.094 ± 0.003	0.14 ± 0.01	2.2 ± 0.5	0.0023 ± 0.0011	5.6 ± 0.1
Sac. R.–Freeport	12/17/96	1/2	0.55 ± 0.01	1.4 ± 0.0	2.5 ± 0.1	0.010 ± 0.000	4.9 ± 0.2
Sac. R.–Freeport	12/17/96	2/2	0.58 ± 0.02	0.81 ± 0.02	2.5 ± 0.0	0.011 ± 0.001	4.7 ± 0.4
Sac. R.–Freeport	01/06/97	1/2	4.6 ± 0.2	4.4 ± 0.1	4.9 ± 0.1	0.046 ± 0.002	3.9 ± 0.5
Sac. R.–Freeport	01/06/97	1/2	4.7 ± 0.2	4.5 ± 0.0	4.8 ± 0.0	0.046 ± 0.000	3.9 ± 0.4
Sac. R.–Freeport	06/05/97	1/2	0.23 ± 0.00	0.39 ± 0.01	1.8 ± 0.1	0.0043 ± 0.0005	5.4 ± 0.1
Sac. R.–Freeport	06/05/97	2/2	0.23 ± 0.01	0.38 ± 0.01	1.8 ± 0.2	0.0046 ± 0.0003	5.4 ± 0.2
Sac. R.–Freeport, dup	06/05/97	1/2	0.16 ± 0.01	0.26 ± 0.01	1.6 ± 0.2	0.0032 ± 0.0001	5.3 ± 0.1

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Lanthanum (µg/L) ICP–MS	Lead (µg/L) ICP–MS	Lithium (µg/L) I0CP–MS	Lutetium (µg/L) ICP–MS	Magnesium (mg/L) ICP–AES
Sac. R.–Freeport, dup	06/05/97	2/2	0.16 ± 0.00	0.29 ± 0.01	1.7 ± 0.3	0.0039 ± 0.0002	5.3 ± 0.1
Flat Cr.	12/11/96	1/2	0.073 ± 0.000	0.15 ± 0.00	0.43 ± 0.06	0.0099 ± 0.0008	1.7 ± 0.0
Flat Cr.	12/11/96	2/2	0.065 ± 0.002	0.23 ± 0.01	0.44 ± 0.13	0.0094 ± 0.0004	1.7 ± 0.1
Flat Cr.	05/29/97	1/2	0.019 ± 0.002	0.034 ± 0.008	0.17 ± 0.06	0.0048 ± 0.0002	6.8 ± 0.5
Flat Cr.	05/29/97	2/2	0.020 ± 0.003	0.020 ± 0.004	<0.1 ± 0.1	0.0043 ± 0.0002	7.1 ± 0.2
Spring Cr.–Weir	12/11/96	1/2	2.0 ± 0.0	1.4 ± 0.1	3.2 ± 0.0	0.12 ± 0.00	3.7 ± 0.2
Spring Cr.–Weir	12/11/96	2/2	2.1 ± 0.0	1.4 ± 0.0	3.3 ± 0.1	0.11 ± 0.00	3.7 ± 0.1
Spring Cr.–Weir	05/28/97	1/2	3.8 ± 0.0	3.8 ± 0.0	8.9 ± 0.4	0.17 ± 0.01	15 ± 1
Spring Cr.–Weir	05/28/97	2/2	3.9 ± 0.2	3.7 ± 0.1	9.1 ± 0.1	0.16 ± 0.00	15 ± 0
Spring Cr.–Road	01/02/97	1/2	1.5 ± 0.0	4.0 ± 0.0	1.7 ± 0.0	0.076 ± 0.001	3.2 ± 0.2
Spring Cr.–Road	01/02/97	2/2	1.4 ± 0.0	4.0 ± 0.1	1.8 ± 0.1	0.072 ± 0.000	3.3 ± 0.3
Whiskeytown	12/11/96	1/2	0.015 ± 0.001	0.069 ± 0.002	0.87 ± 0.09	<0.0008 ± 0.0001	5.7 ± 0.4
Whiskeytown	12/11/96	2/2	0.018 ± 0.001	0.052 ± 0.009	0.68 ± 0.19	0.0013 ± 0.0003	5.5 ± 0.2
Whiskeytown	05/29/97	1/2	0.067 ± 0.001	0.12 ± 0.01	0.90 ± 0.16	0.0020 ± 0.0004	6.5 ± 0.2
Whiskeytown	05/29/97	2/2	0.065 ± 0.003	0.12 ± 0.00	0.89 ± 0.15	0.0017 ± 0.0003	6.4 ± 0.2
Spring Cr. arm	07/12/96	1/2	0.013 ± 0.001	0.030 ± 0.008	0.40 ± 0.08	0.0010 ± 0.00092	6.1 ± 0.1
Spring Cr. arm	07/12/96	2/2	0.015 ± 0.001	0.031 ± 0.004	0.45 ± 0.03	0.0011 ± 0.0005	6.1 ± 0.0
Spring Cr. arm	09/18/96	1/2	0.019 ± 0.001	0.026 ± 0.016	0.72 ± 0.12	0.0015 ± 0.0004	6.3 ± 0.2
Spring Cr. arm	09/18/96	2/2	0.023 ± 0.001	0.047 ± 0.007	1.1 ± 0.1	0.0016 ± 0.0006	6.2 ± 0.1
Spring Cr. arm	11/20/96	1/2	0.085 ± 0.002	0.11 ± 0.01	1.1 ± 0.3	0.0079 ± 0.0010	6.2 ± 0.3
Spring Cr. arm	11/20/96	2/2	0.085 ± 0.001	0.10 ± 0.01	1.1 ± 0.3	0.0059 ± 0.0009	6.1 ± 0.4
Spring Cr. arm	12/11/96	1/2	0.25 ± 0.00	0.26 ± 0.00	1.2 ± 0.2	0.015 ± 0.000	5.5 ± 0.2
Spring Cr. arm	12/11/96	2/2	0.28 ± 0.00	0.26 ± 0.01	1.2 ± 0.2	0.014 ± 0.001	5.5 ± 0.1
Spring Cr. arm	05/28/97	1/2	0.078 ± 0.005	0.080 ± 0.001	1.1 ± 0.1	0.0028 ± 0.0009	6.4 ± 0.0
Spring Cr. arm	05/28/97	2/2	0.079 ± 0.001	0.086 ± 0.005	0.96 ± 0.13	0.0029 ± 0.0008	6.4 ± 0.1
Colusa Basin Drain	06/06/97	1/2	1.4 ± 0.2	2.2 ± 0.0	15 ± 1	0.024 ± 0.000	29 ± 1
Colusa Basin Drain	06/06/97	2/2	1.5 ± 0.1	2.1 ± 0.0	15 ± 0	0.024 ± 0.001	30 ± 1
Yolo Bypass	01/07/97	1/2	2.2 ± 0.0	3.5 ± 0.0	8.5 ± 0.3	0.046 ± 0.001	6.8 ± 0.5
Yolo Bypass	01/07/97	2/2	2.1 ± 0.0	3.5 ± 0.1	8.4 ± 0.1	0.043 ± 0.000	7.4 ± 0.3

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Manganese (µg/L) ICP–MS	Mercury (mg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS	Nickel (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	3.8 ± 0.2	0.0007 ± 0.0003	0.38 ± 0.02	0.091 ± 0.003	1.0 ± 0.1
Sac. R.–Shasta	07/12/96	2/2	3.3 ± 0.3	0.0009 ± 0.0002	0.34 ± 0.01	0.087 ± 0.007	0.87 ± 0.05
Sac. R.–Shasta	09/19/96	1/2	4.5 ± 0.1	<0.0004 ± 0.0002	0.32 ± 0.02	0.060 ± 0.006	1.0 ± 0.0
Sac. R.–Shasta	09/19/96	2/2	5.3 ± 0.4	<0.0004 ± 0.0002	0.40 ± 0.02	0.060 ± 0.007	1.4 ± 0.1
Sac. R.–Shasta	11/19/96	1/2	21 ± 1	0.0010 ± 0.0001	0.56 ± 0.03	0.030 ± 0.005	0.70 ± 0.07
Sac. R.–Shasta	11/19/96	2/2	21 ± 1	0.0008 ± 0.0001	0.56 ± 0.01	0.033 ± 0.007	0.89 ± 0.27
Sac. R.–Shasta	12/12/96	1/2	7.9 ± 0.4	0.0007 ± 0.0001	0.49 ± 0.01	0.064 ± 0.011	0.85 ± 0.03
Sac. R.–Shasta	12/12/96	2/2	7.8 ± 0.4	0.0011 ± 0.0002	0.52 ± 0.01	0.076 ± 0.005	0.87 ± 0.03
Sac. R.–Shasta	05/29/97	1/2	5.1 ± 0.4	0.0024 ± 0.0002	0.32 ± 0.01	0.17 ± 0.01	2.4 ± 0.2
Sac. R.–Shasta	05/29/97	2/2	5.0 ± 0.2	0.0024 ± 0.0004	0.33 ± 0.04	0.16 ± 0.00	2.5 ± 0.0
Sac. R.–Keswick	07/11/96	1/2	4.2 ± 0.3	0.0010 ± 0.0002	0.29 ± 0.03	0.078 ± 0.003	1.6 ± 0.1
Sac. R.–Keswick	07/11/96	2/2	4.2 ± 0.2	0.0012 ± 0.0000	0.27 ± 0.03	0.077 ± 0.006	1.5 ± 0.0
Sac. R.–Keswick	09/19/96	1/2	6.3 ± 0.3	0.0006 ± 0.0002	0.29 ± 0.03	0.052 ± 0.005	2.7 ± 0.2
Sac. R.–Keswick	09/19/96	2/2	5.3 ± 0.3	0.0010 ± 0.0002	0.24 ± 0.02	0.055 ± 0.006	2.0 ± 0.1
Sac. R.–Keswick	11/21/96	1/2	22 ± 2	0.0026 ± 0.0003	0.44 ± 0.04	0.099 ± 0.010	1.2 ± 0.1
Sac. R.–Keswick	11/21/96	2/2	21 ± 1	0.0021 ± 0.0001	0.40 ± 0.01	0.10 ± 0.00	1.3 ± 0.2
Sac. R.–Keswick	12/11/96	1/2	12 ± 0	0.0017 ± 0.0003	0.43 ± 0.00	0.14 ± 0.01	1.1 ± 0.0
Sac. R.–Keswick	12/11/96	2/2	12 ± 0	0.0016 ± 0.0001	0.43 ± 0.02	0.14 ± 0.01	1.0 ± 0.1
Sac. R.–Keswick	01/02/97	1/2	25 ± 0	0.0075 ± 0.0003	0.35 ± 0.03	0.37 ± 0.03	1.6 ± 0.0
Sac. R.–Keswick	01/02/97	2/2	25 ± 3	0.0082 ± 0.0004	0.33 ± 0.04	0.39 ± 0.01	1.6 ± 0.0
Sac. R.–Keswick	05/28/97	1/2	7.2 ± 0.5	0.0023 ± 0.0004	0.24 ± 0.01	0.15 ± 0.01	6.8 ± 0.2
Sac. R.–Keswick	05/28/97	2/2	7.1 ± 0.6	0.0050 ± 0.0002	0.23 ± 0.02	0.15 ± 0.01	7.0 ± 0.4
Sac. R.–Bend Br.	07/11/96	1/2	6.5 ± 0.2	0.0015 ± 0.0002	0.30 ± 0.01	0.090 ± 0.009	1.7 ± 0.0
Sac. R.–Bend Br.	07/11/96	2/2	7.1 ± 0.4	0.0017 ± 0.0002	0.39 ± 0.01	0.091 ± 0.011	1.7 ± 0.1
Sac. R.–Bend Br.	09/20/96	1/2	7.4 ± 0.3	0.0019 ± 0.0001	0.25 ± 0.00	0.071 ± 0.007	1.9 ± 0.0
Sac. R.–Bend Br.	09/20/96	2/2	8.5 ± 0.7	0.0006 ± 0.0001	0.31 ± 0.01	0.064 ± 0.004	2.6 ± 0.1
Sac. R.–Bend Br.	11/22/96	1/2	28 ± 2	0.0033 ± 0.0004	0.46 ± 0.03	0.18 ± 0.00	3.5 ± 0.3
Sac. R.–Bend Br.	11/22/96	2/2	29 ± 1	0.0034 ± 0.0001	0.44 ± 0.03	0.18 ± 0.01	3.3 ± 0.1
Sac. R.–Bend Br.	12/12/96	1/2	51 ± 1	0.0072 ± 0.0001	0.31 ± 0.02	0.62 ± 0.04	9.1 ± 0.2
Sac. R.–Bend Br.	12/12/96	2/2	52 ± 1	0.0064 ± 0.0006	0.31 ± 0.03	0.65 ± 0.05	10 ± 0
Sac. R.–Bend Br.	01/03/97	1/2	148 ± 2	0.019 ± 0.000	0.21 ± 0.01	2.3 ± 0.2	16 ± 1
Sac. R.–Bend Br.	01/03/97	2/2	149 ± 0	— ± —	0.22 ± 0.01	2.2 ± 0.0	16 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Manganese (µg/L) ICP–MS	Mercury (mg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS	Nickel (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	9.6 ± 0.6	0.0032 ± 0.0004	0.30 ± 0.01	0.15 ± 0.00	6.5 ± 0.1
Sac. R.–Bend Br.	05/30/97	2/2	9.8 ± 0.7	0.0025 ± 0.0004	0.27 ± 0.03	0.15 ± 0.00	6.7 ± 0.3
Sac. R.–Colusa	07/16/96	1/1	50 ± 3	0.0065 ± 0.0001	0.22 ± 0.01	0.59 ± 0.10	7.9 ± 0.5
Sac. R.–Colusa	09/25/96	1/2	20 ± 2	0.0017 ± 0.0003	0.53 ± 0.18	0.14 ± 0.00	3.3 ± 0.3
Sac. R.–Colusa	09/25/96	2/2	20 ± 1	0.0017 ± 0.0003	0.43 ± 0.02	0.16 ± 0.01	3.3 ± 0.3
Sac. R.–Colusa	11/13/96	1/2	25 ± 0	0.0022 ± 0.0001	0.34 ± 0.00	0.25 ± 0.01	3.1 ± 0.2
Sac. R.–Colusa	11/13/96	2/2	25 ± 0	0.0025 ± 0.0001	0.37 ± 0.02	0.24 ± 0.00	3.1 ± 0.1
Sac. R.–Colusa	12/16/96	1/2	82 ± 1	0.010 ± 0.000	0.27 ± 0.03	1.1 ± 0.0	11 ± 0
Sac. R.–Colusa	12/16/96	2/2	94 ± 1	0.010 ± 0.001	0.32 ± 0.02	1.2 ± 0.0	11 ± 0
Sac. R.–Colusa	01/04/97	1/2	467 ± 2	0.081 ± 0.000	0.23 ± 0.01	6.3 ± 0.1	52 ± 1
Sac. R.–Colusa	01/04/97	2/2	458 ± 1	0.081 ± 0.000	0.28 ± 0.09	6.2 ± 0.0	51 ± 0
Sac. R.–Colusa	06/03/97	1/2	30 ± 2	0.0047 ± 0.0001	0.28 ± 0.02	0.33 ± 0.06	7.1 ± 0.4
Sac. R.–Colusa	06/03/97	2/2	34 ± 3	0.0044 ± 0.0001	0.29 ± 0.05	0.32 ± 0.06	7.5 ± 0.9
Sac. R.–Verona	07/18/96	1/2	33 ± 1	0.0043 ± 0.0001	0.29 ± 0.03	0.34 ± 0.02	3.8 ± 0.1
Sac. R.–Verona	07/18/96	2/2	36 ± 2	0.0048 ± 0.0001	0.30 ± 0.04	0.30 ± 0.06	4.2 ± 0.4
Sac. R.–Verona	09/26/96	1/2	44 ± 0	0.0047 ± 0.0000	0.39 ± 0.03	0.44 ± 0.01	4.2 ± 0.1
Sac. R.–Verona	09/26/96	2/2	44 ± 0	0.0052 ± 0.0001	0.37 ± 0.00	0.44 ± 0.02	4.1 ± 0.1
Sac. R.–Verona	11/14/96	1/2	55 ± 2	0.0036 ± 0.0004	0.48 ± 0.00	0.33 ± 0.03	3.4 ± 0.4
Sac. R.–Verona	11/14/96	2/2	55 ± 1	— ± —	0.44 ± 0.01	0.32 ± 0.05	3.4 ± 0.1
Sac. R.–Verona	12/18/96	1/2	49 ± 1	0.0072 ± 0.0005	0.26 ± 0.02	0.64 ± 0.04	5.9 ± 0.1
Sac. R.–Verona	12/18/96	2/2	46 ± 0	0.0073 ± 0.0001	0.25 ± 0.00	0.56 ± 0.03	5.4 ± 0.2
Sac. R.–Verona	06/04/97	1/2	48 ± 2	0.0055 ± 0.0003	0.35 ± 0.03	0.45 ± 0.02	5.5 ± 0.1
Sac. R.–Verona	06/04/97	2/2	54 ± 4	0.0047 ± 0.0000	0.35 ± 0.01	0.40 ± 0.09	6.3 ± 0.5
Sac. R.–Freeport	07/17/96	1/2	30 ± 1	0.0042 ± 0.0004	0.31 ± 0.05	0.33 ± 0.00	2.4 ± 0.0
Sac. R.–Freeport	07/17/96	2/2	29 ± 1	0.0041 ± 0.0003	0.28 ± 0.03	0.32 ± 0.00	2.5 ± 0.0
Sac. R.–Freeport	09/24/96	1/2	34 ± 3	0.0025 ± 0.0003	0.52 ± 0.02	0.24 ± 0.00	3.0 ± 0.3
Sac. R.–Freeport	09/24/96	2/2	27 ± 1	0.0022 ± 0.0004	0.41 ± 0.04	0.27 ± 0.01	2.1 ± 0.1
Sac. R.–Freeport	11/12/96	1/2	21 ± 1	0.0013 ± 0.0003	0.49 ± 0.02	0.13 ± 0.01	1.7 ± 0.2
Sac. R.–Freeport	11/12/96	2/2	21 ± 1	0.0018 ± 0.0006	0.48 ± 0.03	0.11 ± 0.00	1.6 ± 0.1
Sac. R.–Freeport	12/17/96	1/2	55 ± 0	0.0097 ± 0.0001	0.18 ± 0.01	0.71 ± 0.01	6.6 ± 0.1
Sac. R.–Freeport	12/17/96	2/2	57 ± 1	0.0094 ± 0.0001	0.19 ± 0.01	0.74 ± 0.03	6.5 ± 0.1
Sac. R.–Freeport	01/06/97	1/2	201 ± 1	0.028 ± 0.000	0.14 ± 0.01	4.8 ± 0.0	17 ± 0
Sac. R.–Freeport	01/06/97	1/2	194 ± 6	0.030 ± 0.000	0.15 ± 0.01	4.7 ± 0.2	16 ± 0
Sac. R.–Freeport	06/05/97	1/2	31 ± 1	0.0051 ± 0.0003	0.35 ± 0.01	0.30 ± 0.00	3.7 ± 0.2
Sac. R.–Freeport	06/05/97	2/2	32 ± 0	0.0046 ± 0.0002	0.35 ± 0.01	0.29 ± 0.01	3.8 ± 0.3
Sac. R.–Freeport, dup	06/05/97	1/2	23 ± 2	0.0031 ± 0.0001	0.37 ± 0.01	0.21 ± 0.01	2.7 ± 0.2

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Manganese (µg/L) ICP–MS	Mercury (mg/L) CV–AFS	Molybdenum (µg/L) ICP–MS	Neodymium (µg/L) ICP–MS	Nickel (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	23 ± 1	0.0033 ± 0.0003	0.37 ± 0.04	0.22 ± 0.01	2.7 ± 0.2
Flat Cr.	12/11/96	1/2	19 ± 1	0.0031 ± 0.0004	<0.08 ± 0.01	0.23 ± 0.01	0.94 ± 0.00
Flat Cr.	12/11/96	2/2	19 ± 1	0.0035 ± 0.0000	<0.08 ± 0.01	0.21 ± 0.01	1.3 ± 0.2
Flat Cr.	05/29/97	1/2	119 ± 7	0.0019 ± 0.0000	0.24 ± 0.02	0.069 ± 0.007	0.13 ± 0.02
Flat Cr.	05/29/97	2/2	114 ± 3	0.0021 ± 0.0002	0.22 ± 0.03	0.073 ± 0.002	0.12 ± 0.03
Spring Cr.–Weir	12/11/96	1/2	160 ± 1	0.012 ± 0.000	<0.1 ± 0.0	4.8 ± 0.0	1.6 ± 0.0
Spring Cr.–Weir	12/11/96	2/2	161 ± 2	0.014 ± 0.000	<0.1 ± 0.0	5.0 ± 0.1	1.6 ± 0.1
Spring Cr.–Weir	05/28/97	1/2	536 ± 4	0.0092 ± 0.0004	<0.09 ± 0.00	8.7 ± 0.1	4.4 ± 0.1
Spring Cr.–Weir	05/28/97	2/2	531 ± 8	0.0088 ± 0.0002	<0.09 ± 0.03	8.8 ± 0.3	4.2 ± 0.2
Spring Cr.–Road	01/02/97	1/2	197 ± 3	0.038 ± 0.000	<0.1 ± 0.0	3.3 ± 0.0	1.8 ± 0.0
Spring Cr.–Road	01/02/97	2/2	200 ± 7	0.042 ± 0.000	<0.1 ± 0.0	3.3 ± 0.0	1.8 ± 0.1
Whiskeytown	12/11/96	1/2	5.8 ± 0.1	0.0009 ± 0.00035	0.15 ± 0.01	0.022 ± 0.001	2.6 ± 0.1
Whiskeytown	12/11/96	2/2	5.8 ± 0.2	0.0010 ± 0.0003	0.15 ± 0.04	0.026 ± 0.002	2.3 ± 0.1
Whiskeytown	05/29/97	1/2	12 ± 1	0.0028 ± 0.0002	<0.08 ± 0.02	0.095 ± 0.007	21 ± 1
Whiskeytown	05/29/97	2/2	12 ± 1	0.0028 ± 0.0003	0.11 ± 0.04	0.088 ± 0.007	20 ± 0
Spring Cr. arm	07/12/96	1/2	4.4 ± 0.5	0.0012 ± 0.0001	0.086 ± 0.009	0.026 ± 0.006	3.5 ± 0.4
Spring Cr. arm	07/12/96	2/2	4.6 ± 0.4	0.0011 ± 0.0002	0.090 ± 0.020	0.024 ± 0.006	3.4 ± 0.0
Spring Cr. arm	09/18/96	1/2	6.1 ± 0.1	0.0010 ± 0.00018	0.090 ± 0.017	0.037 ± 0.003	3.6 ± 0.1
Spring Cr. arm	09/18/96	2/2	7.3 ± 0.4	0.0009 ± 0.00025	0.11 ± 0.00	0.044 ± 0.007	4.9 ± 0.3
Spring Cr. arm	11/20/96	1/2	24 ± 2	0.0010 ± 0.0002	0.13 ± 0.00	0.21 ± 0.01	3.6 ± 0.3
Spring Cr. arm	11/20/96	2/2	24 ± 2	0.0013 ± 0.0002	0.15 ± 0.01	0.20 ± 0.02	3.7 ± 0.2
Spring Cr. arm	12/11/96	1/2	26 ± 1	0.0035 ± 0.0003	0.098 ± 0.008	0.60 ± 0.02	2.5 ± 0.1
Spring Cr. arm	12/11/96	2/2	26 ± 2	0.0031 ± 0.0002	0.11 ± 0.02	0.65 ± 0.01	2.5 ± 0.2
Spring Cr. arm	05/28/97	1/2	14 ± 1	0.0040 ± 0.0002	0.086 ± 0.009	0.11 ± 0.00	20 ± 1
Spring Cr. arm	05/28/97	2/2	14 ± 1	0.0040 ± 0.0000	<0.08 ± 0.01	0.12 ± 0.01	20 ± 1
Colusa Basin Drain	06/06/97	1/2	284 ± 3	0.0083 ± 0.0001	2.1 ± 0.1	2.0 ± 0.3	24 ± 1
Colusa Basin Drain	06/06/97	2/2	278 ± 2	0.0098 ± 0.0002	2.0 ± 0.0	2.1 ± 0.1	23 ± 1
Yolo Bypass	01/07/97	1/2	206 ± 3	0.046 ± 0.000	0.20 ± 0.01	3.0 ± 0.0	25 ± 0
Yolo Bypass	01/07/97	2/2	204 ± 1	0.046 ± 0.001	0.20 ± 0.01	3.0 ± 0.0	25 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Potassium (mg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS	Samarium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	1.1 ± 0.0	0.018 ± 0.002	<0.001 ± 0.001	2.1 ± 0.0	0.022 ± 0.002
Sac. R.–Shasta	07/12/96	2/2	1.1 ± 0.0	0.019 ± 0.000	<0.001 ± 0.000	2.1 ± 0.2	0.023 ± 0.002
Sac. R.–Shasta	09/19/96	1/2	0.97 ± 0.00	0.011 ± 0.001	<0.001 ± 0.001	2.0 ± 0.1	0.017 ± 0.004
Sac. R.–Shasta	09/19/96	2/2	0.96 ± 0.01	0.011 ± 0.000	0.0017 ± 0.0007	2.2 ± 0.0	0.025 ± 0.012
Sac. R.–Shasta	11/19/96	1/2	1.2 ± 0.0	0.0067 ± 0.0009	0.0025 ± 0.0017	3.2 ± 0.1	0.015 ± 0.006
Sac. R.–Shasta	11/19/96	2/2	1.2 ± 0.0	0.0067 ± 0.0006	0.0032 ± 0.0009	3.2 ± 0.1	0.0099 ± 0.0135
Sac. R.–Shasta	12/12/96	1/2	1.4 ± 0.0	0.012 ± 0.000	<0.002 ± 0.001	3.2 ± 0.0	0.020 ± 0.001
Sac. R.–Shasta	12/12/96	2/2	1.3 ± 0.0	0.013 ± 0.001	<0.002 ± 0.001	3.1 ± 0.1	0.024 ± 0.004
Sac. R.–Shasta	05/29/97	1/2	1.1 ± 0.0	0.035 ± 0.002	<0.002 ± 0.001	2.1 ± 0.1	0.047 ± 0.000
Sac. R.–Shasta	05/29/97	2/2	1.1 ± 0.0	0.033 ± 0.001	<0.002 ± 0.000	2.0 ± 0.0	0.044 ± 0.004
Sac. R.–Keswick	07/11/96	1/2	0.90 ± 0.02	0.016 ± 0.001	<0.001 ± 0.000	1.7 ± 0.1	0.015 ± 0.004
Sac. R.–Keswick	07/11/96	2/2	0.91 ± 0.02	0.015 ± 0.001	<0.001 ± 0.001	1.7 ± 0.1	0.022 ± 0.006
Sac. R.–Keswick	09/19/96	1/2	0.69 ± 0.00	0.010 ± 0.002	<0.001 ± 0.001	1.4 ± 0.1	0.019 ± 0.003
Sac. R.–Keswick	09/19/96	2/2	0.69 ± 0.00	0.011 ± 0.001	<0.001 ± 0.001	1.3 ± 0.0	0.014 ± 0.002
Sac. R.–Keswick	11/21/96	1/2	1.0 ± 0.0	0.018 ± 0.000	0.0035 ± 0.0007	2.5 ± 0.0	0.036 ± 0.008
Sac. R.–Keswick	11/21/96	2/2	1.0 ± 0.0	0.020 ± 0.000	0.0021 ± 0.0009	2.4 ± 0.0	0.047 ± 0.006
Sac. R.–Keswick	12/11/96	1/2	1.2 ± 0.0	0.025 ± 0.002	<0.002 ± 0.001	2.7 ± 0.0	0.043 ± 0.004
Sac. R.–Keswick	12/11/96	2/2	1.2 ± 0.0	0.022 ± 0.001	<0.002 ± 0.000	2.7 ± 0.0	0.046 ± 0.002
Sac. R.–Keswick	01/02/97	1/2	1.1 ± 0.0	0.071 ± 0.004	<0.001 ± 0.000	2.5 ± 0.1	0.095 ± 0.002
Sac. R.–Keswick	01/02/97	2/2	1.1 ± 0.0	0.065 ± 0.001	<0.001 ± 0.001	2.5 ± 0.0	0.12 ± 0.01
Sac. R.–Keswick	05/28/97	1/2	0.90 ± 0.01	0.030 ± 0.003	<0.002 ± 0.001	1.6 ± 0.1	0.037 ± 0.003
Sac. R.–Keswick	05/28/97	2/2	0.89 ± 0.01	0.028 ± 0.002	<0.002 ± 0.000	1.6 ± 0.1	0.042 ± 0.002
Sac. R.–Bend Br.	07/11/96	1/2	0.94 ± 0.00	0.018 ± 0.001	0.0012 ± 0.0013	1.7 ± 0.1	0.023 ± 0.004
Sac. R.–Bend Br.	07/11/96	2/2	0.94 ± 0.02	0.019 ± 0.001	<0.001 ± 0.000	1.7 ± 0.0	0.026 ± 0.007
Sac. R.–Bend Br.	09/20/96	1/2	0.83 ± 0.01	0.015 ± 0.001	<0.001 ± 0.001	1.6 ± 0.0	0.022 ± 0.006
Sac. R.–Bend Br.	09/20/96	2/2	0.82 ± 0.00	0.012 ± 0.000	0.0017 ± 0.0010	1.8 ± 0.1	0.024 ± 0.007
Sac. R.–Bend Br.	11/22/96	1/2	1.1 ± 0.0	0.036 ± 0.001	0.0019 ± 0.0015	2.6 ± 0.0	0.054 ± 0.011
Sac. R.–Bend Br.	11/22/96	2/2	1.1 ± 0.0	0.036 ± 0.001	0.0026 ± 0.0012	2.5 ± 0.0	0.056 ± 0.013
Sac. R.–Bend Br.	12/12/96	1/2	1.3 ± 0.0	0.13 ± 0.01	0.0012 ± 0.0003	2.9 ± 0.0	0.16 ± 0.01
Sac. R.–Bend Br.	12/12/96	2/2	1.3 ± 0.0	0.13 ± 0.01	0.0012 ± 0.0003	2.9 ± 0.1	0.17 ± 0.01
Sac. R.–Bend Br.	01/03/97	1/2	1.6 ± 0.1	0.47 ± 0.04	0.0008 ± 0.0003	4.1 ± 0.1	0.63 ± 0.01
Sac. R.–Bend Br.	01/03/97	2/2	1.5 ± 0.0	0.47 ± 0.01	<0.0006 ± 0.0005	4.1 ± 0.0	0.56 ± 0.01

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Potassium (mg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS	Samarium (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	0.96 ± 0.02	0.027 ± 0.000	<0.002 ± 0.000	1.7 ± 0.0	0.037 ± 0.006
Sac. R.–Bend Br.	05/30/97	2/2	0.95 ± 0.01	0.032 ± 0.000	<0.002 ± 0.000	1.7 ± 0.0	0.043 ± 0.006
Sac. R.–Colusa	07/16/96	1/1	1.2 ± 0.0	0.12 ± 0.03	<0.0008 ± 0.0003	2.8 ± 0.1	0.18 ± 0.03
Sac. R.–Colusa	09/25/96	1/2	1.1 ± 0.0	0.031 ± 0.001	0.0022 ± 0.0010	2.1 ± 0.1	0.052 ± 0.014
Sac. R.–Colusa	09/25/96	2/2	1.1 ± 0.0	0.035 ± 0.000	0.0031 ± 0.0007	2.1 ± 0.1	0.060 ± 0.005
Sac. R.–Colusa	11/13/96	1/2	1.3 ± 0.0	0.049 ± 0.004	0.0010 ± 0.0004	2.5 ± 0.0	0.073 ± 0.009
Sac. R.–Colusa	11/13/96	2/2	1.3 ± 0.0	0.047 ± 0.004	<0.0008 ± 0.0005	2.4 ± 0.0	0.068 ± 0.008
Sac. R.–Colusa	12/16/96	1/2	1.5 ± 0.0	0.22 ± 0.01	0.0007 ± 0.0001	2.9 ± 0.0	0.30 ± 0.00
Sac. R.–Colusa	12/16/96	2/2	1.5 ± 0.0	0.26 ± 0.01	0.0011 ± 0.0005	3.0 ± 0.0	0.34 ± 0.01
Sac. R.–Colusa	01/04/97	1/2	2.3 ± 0.0	1.3 ± 0.0	0.0011 ± 0.0003	7.4 ± 0.0	1.7 ± 0.1
Sac. R.–Colusa	01/04/97	2/2	2.3 ± 0.0	1.3 ± 0.0	0.0011 ± 0.0005	7.5 ± 0.0	1.7 ± 0.0
Sac. R.–Colusa	06/03/97	1/2	1.1 ± 0.0	0.064 ± 0.010	<0.0008 ± 0.0001	2.0 ± 0.1	0.096 ± 0.012
Sac. R.–Colusa	06/03/97	2/2	1.1 ± 0.0	0.067 ± 0.016	<0.0008 ± 0.0004	2.0 ± 0.1	0.095 ± 0.018
Sac. R.–Verona	07/18/96	1/2	0.97 ± 0.00	0.074 ± 0.006	<0.0008 ± 0.0001	1.7 ± 0.0	0.097 ± 0.014
Sac. R.–Verona	07/18/96	2/2	0.98 ± 0.02	0.063 ± 0.016	<0.0008 ± 0.0002	1.7 ± 0.0	0.088 ± 0.019
Sac. R.–Verona	09/26/96	1/2	1.2 ± 0.0	0.090 ± 0.005	<0.0006 ± 0.0004	2.0 ± 0.0	0.12 ± 0.00
Sac. R.–Verona	09/26/96	2/2	1.2 ± 0.0	0.092 ± 0.005	0.0007 ± 0.00034	2.0 ± 0.0	0.12 ± 0.01
Sac. R.–Verona	11/14/96	1/2	1.4 ± 0.0	0.071 ± 0.007	<0.0008 ± 0.0004	1.9 ± 0.0	0.10 ± 0.01
Sac. R.–Verona	11/14/96	2/2	1.4 ± 0.0	0.068 ± 0.016	<0.0008 ± 0.0003	1.9 ± 0.0	0.093 ± 0.022
Sac. R.–Verona	12/18/96	1/2	1.3 ± 0.0	0.13 ± 0.01	<0.0006 ± 0.0002	2.0 ± 0.1	0.16 ± 0.01
Sac. R.–Verona	12/18/96	2/2	1.3 ± 0.0	0.12 ± 0.01	<0.0006 ± 0.0001	1.8 ± 0.0	0.15 ± 0.01
Sac. R.–Verona	06/04/97	1/2	1.1 ± 0.0	0.093 ± 0.008	<0.0008 ± 0.0002	1.8 ± 0.1	0.12 ± 0.01
Sac. R.–Verona	06/04/97	2/2	1.1 ± 0.0	0.069 ± 0.000	<0.0008 ± 0.0004	1.8 ± 0.0	0.12 ± 0.03
Sac. R.–Freeport	07/17/96	1/2	0.90 ± 0.01	0.071 ± 0.001	<0.001 ± 0.000	1.5 ± 0.0	0.091 ± 0.007
Sac. R.–Freeport	07/17/96	2/2	0.92 ± 0.01	0.068 ± 0.001	<0.001 ± 0.001	1.5 ± 0.0	0.084 ± 0.006
Sac. R.–Freeport	09/24/96	1/2	1.1 ± 0.0	0.054 ± 0.001	0.0035 ± 0.0006	1.7 ± 0.1	0.066 ± 0.011
Sac. R.–Freeport	09/24/96	2/2	1.1 ± 0.0	0.056 ± 0.001	<0.001 ± 0.001	1.5 ± 0.0	0.069 ± 0.010
Sac. R.–Freeport	11/12/96	1/2	1.2 ± 0.0	0.025 ± 0.001	0.0027 ± 0.0013	1.5 ± 0.1	0.035 ± 0.005
Sac. R.–Freeport	11/12/96	2/2	1.2 ± 0.0	0.024 ± 0.000	0.0017 ± 0.0014	1.6 ± 0.0	0.031 ± 0.007
Sac. R.–Freeport	12/17/96	1/2	1.2 ± 0.0	0.15 ± 0.00	0.0008 ± 0.00014	2.0 ± 0.0	0.17 ± 0.01
Sac. R.–Freeport	12/17/96	2/2	1.3 ± 0.0	0.16 ± 0.00	0.0008 ± 0.00054	2.1 ± 0.0	0.18 ± 0.00
Sac. R.–Freeport	01/06/97	1/2	1.8 ± 0.0	1.1 ± 0.0	<0.0006 ± 0.0004	7.9 ± 0.1	1.0 ± 0.0
Sac. R.–Freeport	01/06/97	1/2	1.9 ± 0.0	1.1 ± 0.0	<0.0006 ± 0.0003	7.9 ± 0.2	1.0 ± 0.0
Sac. R.–Freeport	06/05/97	1/2	1.0 ± 0.0	0.064 ± 0.001	<0.002 ± 0.001	1.6 ± 0.0	0.076 ± 0.000
Sac. R.–Freeport	06/05/97	2/2	1.0 ± 0.0	0.065 ± 0.003	<0.002 ± 0.000	1.6 ± 0.1	0.087 ± 0.005
Sac. R.–Freeport, dup	06/05/97	1/2	1.0 ± 0.0	0.046 ± 0.003	<0.002 ± 0.000	1.4 ± 0.0	0.058 ± 0.001

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Potassium (mg/L) ICP–AES-Ax	Praseodymium (µg/L) ICP–MS	Rhenium (µg/L) ICP–MS	Rubidium (µg/L) ICP–MS	Samarium (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	0.99 ± 0.00	0.044 ± 0.000	<0.002 ± 0.000	1.4 ± 0.1	0.055 ± 0.010
Flat Cr.	12/11/96	1/2	0.19 ± 0.01	0.038 ± 0.000	<0.002 ± 0.000	0.14 ± 0.01	0.10 ± 0.00
Flat Cr.	12/11/96	2/2	0.18 ± 0.00	0.036 ± 0.001	<0.002 ± 0.000	0.15 ± 0.01	0.092 ± 0.005
Flat Cr.	05/29/97	1/2	0.33 ± 0.01	0.010 ± 0.001	<0.002 ± 0.000	0.29 ± 0.01	0.028 ± 0.004
Flat Cr.	05/29/97	2/2	0.33 ± 0.00	0.0095 ± 0.0005	<0.002 ± 0.001	0.29 ± 0.02	0.030 ± 0.004
Spring Cr.–Weir	12/11/96	1/2	0.37 ± 0.00	0.84 ± 0.00	0.0031 ± 0.0001	0.36 ± 0.01	1.7 ± 0.0
Spring Cr.–Weir	12/11/96	2/2	0.38 ± 0.00	0.90 ± 0.01	0.0029 ± 0.0003	0.37 ± 0.02	1.8 ± 0.1
Spring Cr.–Weir	05/28/97	1/2	2.5 ± 0.0	1.5 ± 0.0	0.020 ± 0.000	4.5 ± 0.0	3.2 ± 0.1
Spring Cr.–Weir	05/28/97	2/2	2.5 ± 0.0	1.5 ± 0.0	0.019 ± 0.000	4.5 ± 0.0	3.2 ± 0.1
Spring Cr.–Road	01/02/97	1/2	0.50 ± 0.01	0.59 ± 0.01	0.0022 ± 0.0004	0.46 ± 0.00	1.2 ± 0.0
Spring Cr.–Road	01/02/97	2/2	0.50 ± 0.01	0.58 ± 0.01	0.0020 ± 0.0001	0.45 ± 0.00	1.1 ± 0.0
Whiskeytown	12/11/96	1/2	0.34 ± 0.01	0.0045 ± 0.0005	<0.002 ± 0.000	0.31 ± 0.01	0.0076 ± 0.0032
Whiskeytown	12/11/96	2/2	0.35 ± 0.01	0.0044 ± 0.0002	<0.001 ± 0.000	0.30 ± 0.02	0.0084 ± 0.0046
Whiskeytown	05/29/97	1/2	0.36 ± 0.01	0.019 ± 0.000	<0.002 ± 0.001	0.40 ± 0.01	0.028 ± 0.004
Whiskeytown	05/29/97	2/2	0.36 ± 0.01	0.018 ± 0.001	<0.002 ± 0.000	0.39 ± 0.03	0.024 ± 0.005
Spring Cr. arm	07/12/96	1/2	0.31 ± 0.00	0.0044 ± 0.0009	<0.001 ± 0.000	0.30 ± 0.03	0.0062 ± 0.0051
Spring Cr. arm	07/12/96	2/2	0.31 ± 0.01	0.0047 ± 0.0006	0.0020 ± 0.0025	0.29 ± 0.01	0.013 ± 0.004
Spring Cr. arm	09/18/96	1/2	0.31 ± 0.00	0.0066 ± 0.0004	<0.001 ± 0.001	0.31 ± 0.01	0.014 ± 0.004
Spring Cr. arm	09/18/96	2/2	0.31 ± 0.01	0.0076 ± 0.0002	<0.001 ± 0.000	0.36 ± 0.01	0.014 ± 0.012
Spring Cr. arm	11/20/96	1/2	0.34 ± 0.01	0.035 ± 0.001	0.0017 ± 0.0012	0.37 ± 0.02	0.079 ± 0.014
Spring Cr. arm	11/20/96	2/2	0.35 ± 0.00	0.037 ± 0.000	0.0022 ± 0.0019	0.38 ± 0.00	0.064 ± 0.001
Spring Cr. arm	12/11/96	1/2	0.35 ± 0.01	0.10 ± 0.00	<0.002 ± 0.000	0.31 ± 0.02	0.21 ± 0.02
Spring Cr. arm	12/11/96	2/2	0.35 ± 0.01	0.11 ± 0.00	0.0016 ± 0.0004	0.32 ± 0.02	0.22 ± 0.01
Spring Cr. arm	05/28/97	1/2	0.37 ± 0.01	0.023 ± 0.002	<0.002 ± 0.000	0.40 ± 0.03	0.032 ± 0.001
Spring Cr. arm	05/28/97	2/2	0.36 ± 0.00	0.024 ± 0.001	<0.002 ± 0.000	0.42 ± 0.02	0.036 ± 0.004
Colusa Basin Drain	06/06/97	1/2	2.5 ± 0.0	0.41 ± 0.06	0.0043 ± 0.0001	4.3 ± 0.1	0.55 ± 0.06
Colusa Basin Drain	06/06/97	2/2	2.5 ± 0.1	0.43 ± 0.01	0.0036 ± 0.0004	4.2 ± 0.1	0.59 ± 0.03
Yolo Bypass	01/07/97	1/2	1.7 ± 0.0	0.62 ± 0.01	<0.0006 ± 0.0003	4.5 ± 0.0	0.79 ± 0.02
Yolo Bypass	01/07/97	2/2	1.8 ± 0.1	0.61 ± 0.00	<0.0006 ± 0.0003	4.4 ± 0.0	0.78 ± 0.01

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Silica (as SiO_2) (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (µg/L) ICP–AES	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	24 ± 2	<0.2 ± 0.0	6.7 ± 0.2	52 ± 0	0.0036 ± 0.0002
Sac. R.–Shasta	07/12/96	2/2	21 ± 0	<0.2 ± 0.0	5.6 ± 0.2	51 ± 1	0.0038 ± 0.0008
Sac. R.–Shasta	09/19/96	1/2	21 ± 0	<0.2 ± 0.0	5.5 ± 0.0	52 ± 2	0.0031 ± 0.0006
Sac. R.–Shasta	09/19/96	2/2	21 ± 1	<0.09 ± 0.04	5.1 ± 0.3	76 ± 0	0.0030 ± 0.0011
Sac. R.–Shasta	11/19/96	1/2	24 ± 1	<0.09 ± 0.00	6.5 ± 0.3	64 ± 2	0.0027 ± 0.0009
Sac. R.–Shasta	11/19/96	2/2	25 ± 0	<0.09 ± 0.01	6.7 ± 0.3	64 ± 1	0.0020 ± 0.0011
Sac. R.–Shasta	12/12/96	1/2	25 ± 0	<0.2 ± 0.3	7.3 ± 0.1	56 ± 2	0.0039 ± 0.0009
Sac. R.–Shasta	12/12/96	2/2	24 ± 0	<0.2 ± 0.0	6.9 ± 0.0	55 ± 3	0.0038 ± 0.0011
Sac. R.–Shasta	05/29/97	1/2	24 ± 1	<0.2 ± 0.0	6.0 ± 0.2	52 ± 3	0.0078 ± 0.0006
Sac. R.–Shasta	05/29/97	2/2	23 ± 1	<0.2 ± 0.1	5.7 ± 0.3	50 ± 1	0.0069 ± 0.0010
Sac. R.–Keswick	07/11/96	1/2	19 ± 1	<0.2 ± 0.0	4.6 ± 0.2	45 ± 2	0.0039 ± 0.0009
Sac. R.–Keswick	07/11/96	2/2	20 ± 1	<0.2 ± 0.0	4.9 ± 0.1	45 ± 2	0.0033 ± 0.0006
Sac. R.–Keswick	09/19/96	1/2	18 ± 1	<0.09 ± 0.02	3.8 ± 0.3	43 ± 1	0.0030 ± 0.0006
Sac. R.–Keswick	09/19/96	2/2	18 ± 0	<0.2 ± 0.0	3.8 ± 0.0	40 ± 1	0.0028 ± 0.0006
Sac. R.–Keswick	11/21/96	1/2	21 ± 1	<0.09 ± 0.07	5.4 ± 0.5	53 ± 2	0.0080 ± 0.0006
Sac. R.–Keswick	11/21/96	2/2	22 ± 1	<0.09 ± 0.04	5.5 ± 0.2	54 ± 3	0.0087 ± 0.0016
Sac. R.–Keswick	12/11/96	1/2	24 ± 0	<0.2 ± 0.0	6.6 ± 0.4	51 ± 1	0.0091 ± 0.0014
Sac. R.–Keswick	12/11/96	2/2	23 ± 0	<0.2 ± 0.0	6.5 ± 0.0	52 ± 1	0.0096 ± 0.0007
Sac. R.–Keswick	01/02/97	1/2	24 ± 2	<0.2 ± 0.2	5.9 ± 0.5	51 ± 0	0.020 ± 0.001
Sac. R.–Keswick	01/02/97	2/2	24 ± 1	<0.2 ± 0.1	5.8 ± 0.2	52 ± 1	0.021 ± 0.001
Sac. R.–Keswick	05/28/97	1/2	21 ± 1	<0.2 ± 0.0	4.7 ± 0.3	44 ± 2	0.0078 ± 0.0014
Sac. R.–Keswick	05/28/97	2/2	21 ± 0	<0.2 ± 0.0	4.9 ± 0.1	43 ± 1	0.0069 ± 0.0011
Sac. R.–Bend Br.	07/11/96	1/2	21 ± 2	<0.2 ± 0.0	5.3 ± 0.7	49 ± 1	0.0042 ± 0.0007
Sac. R.–Bend Br.	07/11/96	2/2	20 ± 0	<0.2 ± 0.2	5.0 ± 0.2	50 ± 2	0.0040 ± 0.0003
Sac. R.–Bend Br.	09/20/96	1/2	19 ± 0	<0.2 ± 0.0	4.6 ± 0.0	46 ± 1	0.0027 ± 0.0008
Sac. R.–Bend Br.	09/20/96	2/2	18 ± 1	<0.09 ± 0.06	4.3 ± 0.3	50 ± 2	0.0041 ± 0.0009
Sac. R.–Bend Br.	11/22/96	1/2	24 ± 0	<0.09 ± 0.04	7.0 ± 0.0	75 ± 2	0.011 ± 0.001
Sac. R.–Bend Br.	11/22/96	2/2	23 ± 1	<0.09 ± 0.05	6.6 ± 0.3	73 ± 1	0.012 ± 0.002
Sac. R.–Bend Br.	12/12/96	1/2	29 ± 0	<0.2 ± 0.0	6.4 ± 0.2	61 ± 1	0.028 ± 0.002
Sac. R.–Bend Br.	12/12/96	2/2	28 ± 2	<0.2 ± 0.0	6.2 ± 0.5	59 ± 0	0.030 ± 0.001
Sac. R.–Bend Br.	01/03/97	1/2	41 ± 6	<0.2 ± 0.0	5.7 ± 0.2	73 ± 0	0.098 ± 0.005
Sac. R.–Bend Br.	01/03/97	2/2	41 ± 5	<0.2 ± 0.0	5.1 ± 0.7	71 ± 1	0.089 ± 0.000

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Silica (as SiO_2) (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (µg/L) ICP–AES	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	21 ± 0	<0.2 ± 0.0	5.1 ± 0.2	51 ± 2	0.0069 ± 0.0009
Sac. R.–Bend Br.	05/30/97	2/2	21 ± 0	<0.2 ± 0.0	5.1 ± 0.2	50 ± 0	0.0063 ± 0.0015
Sac. R.–Colusa	07/16/96	1/1	32 ± 3	<0.2 ± 0.0	6.3 ± 0.8	66 ± 2	0.033 ± 0.000
Sac. R.–Colusa	09/25/96	1/2	22 ± 1	0.26 ± 0.03	6.3 ± 0.4	70 ± 3	0.0069 ± 0.0006
Sac. R.–Colusa	09/25/96	2/2	22 ± 1	<0.09 ± 0.00	6.2 ± 0.4	70 ± 2	0.0084 ± 0.0005
Sac. R.–Colusa	11/13/96	1/2	25 ± 1	<0.2 ± 0.0	7.8 ± 0.8	77 ± 1	0.012 ± 0.001
Sac. R.–Colusa	11/13/96	2/2	25 ± 1	<0.2 ± 0.0	7.3 ± 0.7	79 ± 1	0.012 ± 0.001
Sac. R.–Colusa	12/16/96	1/2	36 ± 1	<0.2 ± 0.0	7.9 ± 0.1	93 ± 1	0.050 ± 0.001
Sac. R.–Colusa	12/16/96	2/2	36 ± 0	<0.2 ± 0.0	7.5 ± 0.1	94 ± 0	0.058 ± 0.002
Sac. R.–Colusa	01/04/97	1/2	88 ± 4	<0.2 ± 0.0	5.6 ± 0.3	121 ± 1	0.31 ± 0.00
Sac. R.–Colusa	01/04/97	2/2	90 ± 1	0.21 ± 0.15	5.7 ± 0.1	124 ± 3	0.31 ± 0.01
Sac. R.–Colusa	06/03/97	1/2	23 ± 1	<0.2 ± 0.0	6.0 ± 0.2	64 ± 2	0.017 ± 0.003
Sac. R.–Colusa	06/03/97	2/2	23 ± 0	<0.2 ± 0.0	6.0 ± 0.2	65 ± 2	0.017 ± 0.003
Sac. R.–Verona	07/18/96	1/2	22 ± 1	<0.2 ± 0.0	5.5 ± 0.7	63 ± 1	0.016 ± 0.001
Sac. R.–Verona	07/18/96	2/2	21 ± 1	<0.2 ± 0.0	5.4 ± 0.2	63 ± 2	0.014 ± 0.002
Sac. R.–Verona	09/26/96	1/2	26 ± 1	<0.2 ± 0.0	8.9 ± 0.4	86 ± 1	0.021 ± 0.001
Sac. R.–Verona	09/26/96	2/2	26 ± 0	<0.2 ± 0.0	8.7 ± 0.4	85 ± 2	0.021 ± 0.002
Sac. R.–Verona	11/14/96	1/2	24 ± 1	<0.2 ± 0.1	9.3 ± 1.3	91 ± 3	0.015 ± 0.002
Sac. R.–Verona	11/14/96	2/2	25 ± 2	<0.2 ± 0.0	9.3 ± 1.8	91 ± 2	0.015 ± 0.002
Sac. R.–Verona	12/18/96	1/2	25 ± 0	<0.2 ± 0.0	6.1 ± 0.1	74 ± 0	0.028 ± 0.001
Sac. R.–Verona	12/18/96	2/2	25 ± 0	<0.2 ± 0.0	6.2 ± 0.3	72 ± 0	0.025 ± 0.002
Sac. R.–Verona	06/04/97	1/2	22 ± 2	<0.2 ± 0.0	7.8 ± 0.7	82 ± 3	0.021 ± 0.000
Sac. R.–Verona	06/04/97	2/2	23 ± 1	<0.2 ± 0.0	7.8 ± 0.8	83 ± 3	0.021 ± 0.003
Sac. R.–Freeport	07/17/96	1/2	20 ± 1	<0.2 ± 0.0	5.3 ± 0.2	61 ± 0	0.014 ± 0.000
Sac. R.–Freeport	07/17/96	2/2	19 ± 0	<0.2 ± 0.0	5.0 ± 0.1	61 ± 0	0.012 ± 0.000
Sac. R.–Freeport	09/24/96	1/2	20 ± 1	<0.09 ± 0.09	8.0 ± 0.2	100 ± 3	0.011 ± 0.000
Sac. R.–Freeport	09/24/96	2/2	21 ± 0	<0.2 ± 0.0	8.7 ± 0.1	86 ± 3	0.010 ± 0.001
Sac. R.–Freeport	11/12/96	1/2	18 ± 1	<0.09 ± 0.06	7.4 ± 0.2	85 ± 3	0.0059 ± 0.0004
Sac. R.–Freeport	11/12/96	2/2	18 ± 0	<0.09 ± 0.02	7.1 ± 0.3	85 ± 1	0.0050 ± 0.0016
Sac. R.–Freeport	12/17/96	1/2	24 ± 1	<0.2 ± 0.0	5.0 ± 0.3	65 ± 1	0.031 ± 0.001
Sac. R.–Freeport	12/17/96	2/2	24 ± 2	<0.2 ± 0.0	4.8 ± 0.6	66 ± 0	0.031 ± 0.003
Sac. R.–Freeport	01/06/97	1/2	41 ± 6	<0.2 ± 0.0	2.6 ± 0.5	58 ± 0	0.13 ± 0.00
Sac. R.–Freeport	01/06/97	1/2	42 ± 4	<0.2 ± 0.0	2.6 ± 0.3	59 ± 0	0.14 ± 0.00
Sac. R.–Freeport	06/05/97	1/2	20 ± 0	<0.2 ± 0.0	6.4 ± 0.3	71 ± 0	0.011 ± 0.001
Sac. R.–Freeport	06/05/97	2/2	20 ± 1	<0.2 ± 0.0	6.8 ± 0.1	71 ± 0	0.013 ± 0.001
Sac. R.–Freeport, dup	06/05/97	1/2	19 ± 1	<0.2 ± 0.0	6.5 ± 0.2	72 ± 4	0.0095 ± 0.0007

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Silica (as SiO_2) (mg/L) ICP–AES	Silver (µg/L) ICP–MS	Sodium (µg/L) ICP–AES	Strontium (µg/L) ICP–MS	Terbium (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	19 ± 0	<0.2 ± 0.0	6.1 ± 0.8	72 ± 3	0.0074 ± 0.0017
Flat Cr.	12/11/96	1/2	12 ± 0	<0.2 ± 0.0	2.0 ± 0.1	8.0 ± 0.2	0.020 ± 0.001
Flat Cr.	12/11/96	2/2	12 ± 0	<0.2 ± 0.0	2.0 ± 0.1	8.0 ± 0.4	0.020 ± 0.001
Flat Cr.	05/29/97	1/2	23 ± 1	<0.2 ± 0.0	8.2 ± 0.8	30 ± 1	0.0067 ± 0.0011
Flat Cr.	05/29/97	2/2	25 ± 1	<0.2 ± 0.0	8.3 ± 1.1	30 ± 1	0.0064 ± 0.0006
Spring Cr.–Weir	12/11/96	1/2	14 ± 0	<0.2 ± 0.0	2.6 ± 0.2	13 ± 0	0.40 ± 0.00
Spring Cr.–Weir	12/11/96	2/2	14 ± 0	<0.2 ± 0.0	2.6 ± 0.2	13 ± 0	0.42 ± 0.00
Spring Cr.–Weir	05/28/97	1/2	26 ± 1	<0.2 ± 0.0	7.2 ± 0.4	49 ± 0	0.70 ± 0.04
Spring Cr.–Weir	05/28/97	2/2	27 ± 2	<0.2 ± 0.0	7.6 ± 0.7	50 ± 1	0.69 ± 0.02
Spring Cr.–Road	01/02/97	1/2	12 ± 1	<0.2 ± 0.0	1.9 ± 0.1	13 ± 0	0.26 ± 0.00
Spring Cr.–Road	01/02/97	2/2	12 ± 1	<0.2 ± 0.0	2.0 ± 0.2	13 ± 0	0.26 ± 0.01
Whiskeytown	12/11/96	1/2	12 ± 1	<0.2 ± 0.0	2.0 ± 0.2	23 ± 0	0.0015 ± 0.0004
Whiskeytown	12/11/96	2/2	12 ± 0	<0.2 ± 0.0	2.0 ± 0.0	23 ± 1	0.0019 ± 0.0008
Whiskeytown	05/29/97	1/2	15 ± 0	<0.2 ± 0.0	2.0 ± 0.1	22 ± 1	0.0049 ± 0.0004
Whiskeytown	05/29/97	2/2	15 ± 0	<0.2 ± 0.0	1.9 ± 0.1	21 ± 1	0.0042 ± 0.0005
Spring Cr. arm	07/12/96	1/2	13 ± 1	<0.2 ± 0.0	1.8 ± 0.0	23 ± 2	0.0016 ± 0.0007
Spring Cr. arm	07/12/96	2/2	12 ± 0	<0.2 ± 0.0	1.7 ± 0.1	21 ± 1	0.0015 ± 0.0004
Spring Cr. arm	09/18/96	1/2	12 ± 0	<0.2 ± 0.0	1.7 ± 0.1	20 ± 0	0.0026 ± 0.0007
Spring Cr. arm	09/18/96	2/2	12 ± 0	<0.09 ± 0.00	1.6 ± 0.0	22 ± 0	0.0031 ± 0.0006
Spring Cr. arm	11/20/96	1/2	13 ± 1	<0.09 ± 0.03	1.9 ± 0.1	24 ± 1	0.017 ± 0.003
Spring Cr. arm	11/20/96	2/2	12 ± 1	<0.09 ± 0.13	1.9 ± 0.1	24 ± 1	0.017 ± 0.002
Spring Cr. arm	12/11/96	1/2	12 ± 0	<0.2 ± 0.0	2.2 ± 0.1	24 ± 1	0.048 ± 0.001
Spring Cr. arm	12/11/96	2/2	12 ± 0	<0.2 ± 0.0	2.1 ± 0.1	22 ± 1	0.052 ± 0.001
Spring Cr. arm	05/28/97	1/2	15 ± 0	<0.2 ± 0.0	2.0 ± 0.0	22 ± 2	0.0082 ± 0.0006
Spring Cr. arm	05/28/97	2/2	15 ± 0	<0.2 ± 0.0	2.0 ± 0.1	22 ± 1	0.0067 ± 0.0008
Colusa Basin Drain	06/06/97	1/2	42 ± 1	<0.2 ± 0.0	76 ± 1	479 ± 9	0.090 ± 0.006
Colusa Basin Drain	06/06/97	2/2	44 ± 2	<0.2 ± 0.0	82 ± 2	479 ± 1	0.094 ± 0.003
Yolo Bypass	01/07/97	1/2	47 ± 2	<0.2 ± 0.0	4.4 ± 0.4	78 ± 1	0.14 ± 0.00
Yolo Bypass	01/07/97	2/2	50 ± 1	<0.2 ± 0.0	4.8 ± 0.2	78 ± 1	0.14 ± 0.00

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS	Tin (µg/L) ICP–MS	Titanium (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	<0.003 ± 0.001	0.0051 ± 0.0013	0.0017 ± 0.0003	0.75 ± 0.03	7.2 ± 0.8
Sac. R.–Shasta	07/12/96	2/2	<0.003 ± 0.000	0.0047 ± 0.0010	0.0007 ± 0.0002	0.17 ± 0.05	5.2 ± 0.6
Sac. R.–Shasta	09/19/96	1/2	<0.003 ± 0.000	<0.003 ± 0.001	0.0011 ± 0.0006	1.1 ± 0.1	1.8 ± 0.3
Sac. R.–Shasta	09/19/96	2/2	0.0047 ± 0.0046	<0.003 ± 0.003	0.0009 ± 0.0004	1.6 ± 0.0	2.3 ± 0.3
Sac. R.–Shasta	11/19/96	1/2	0.0047 ± 0.0008	<0.003 ± 0.001	0.0013 ± 0.0006	0.33 ± 0.12	2.0 ± 0.1
Sac. R.–Shasta	11/19/96	2/2	<0.003 ± 0.001	<0.003 ± 0.002	0.0008 ± 0.0011	0.19 ± 0.07	2.0 ± 0.2
Sac. R.–Shasta	12/12/96	1/2	0.0046 ± 0.0027	<0.003 ± 0.000	0.0013 ± 0.0002	0.81 ± 0.00	1.6 ± 0.2
Sac. R.–Shasta	12/12/96	2/2	<0.002 ± 0.001	0.0027 ± 0.0003	0.0013 ± 0.0001	0.13 ± 0.01	1.8 ± 0.2
Sac. R.–Shasta	05/29/97	1/2	0.0025 ± 0.0018	0.0083 ± 0.0002	0.0023 ± 0.0005	0.12 ± 0.03	11 ± 0
Sac. R.–Shasta	05/29/97	2/2	0.0038 ± 0.0031	0.014 ± 0.000	0.0027 ± 0.0010	0.39 ± 0.20	12 ± 0
Sac. R.–Keswick	07/11/96	1/2	<0.003 ± 0.001	0.0039 ± 0.0013	0.0015 ± 0.0002	<0.1 ± 0.0	4.4 ± 0.5
Sac. R.–Keswick	07/11/96	2/2	<0.003 ± 0.001	0.0044 ± 0.0005	0.0014 ± 0.0001	0.77 ± 0.01	4.4 ± 0.3
Sac. R.–Keswick	09/19/96	1/2	<0.003 ± 0.002	0.0045 ± 0.0018	0.0008 ± 0.0005	1.2 ± 0.0	1.9 ± 0.4
Sac. R.–Keswick	09/19/96	2/2	<0.003 ± 0.002	<0.003 ± 0.003	0.0011 ± 0.0004	1.1 ± 0.1	1.1 ± 0.1
Sac. R.–Keswick	11/21/96	1/2	0.0040 ± 0.0023	0.0032 ± 0.0014	0.0034 ± 0.0002	0.55 ± 0.04	3.8 ± 0.2
Sac. R.–Keswick	11/21/96	2/2	0.0053 ± 0.0030	<0.003 ± 0.000	0.0036 ± 0.0003	0.58 ± 0.06	3.5 ± 0.5
Sac. R.–Keswick	12/11/96	1/2	0.0019 ± 0.0007	0.0042 ± 0.0013	0.0026 ± 0.0006	0.39 ± 0.04	2.1 ± 0.2
Sac. R.–Keswick	12/11/96	2/2	0.0019 ± 0.0023	0.0032 ± 0.0017	0.0028 ± 0.0003	0.20 ± 0.05	2.1 ± 0.1
Sac. R.–Keswick	01/02/97	1/2	0.0095 ± 0.0006	0.013 ± 0.003	0.0054 ± 0.0002	0.18 ± 0.16	11 ± 0
Sac. R.–Keswick	01/02/97	2/2	0.011 ± 0.000	0.012 ± 0.003	0.0068 ± 0.0007	<0.1 ± 0.1	9.9 ± 0.6
Sac. R.–Keswick	05/28/97	1/2	0.0018 ± 0.0024	0.0097 ± 0.0016	0.0026 ± 0.0005	1.0 ± 0.0	10 ± 1
Sac. R.–Keswick	05/28/97	2/2	0.0024 ± 0.0002	0.0086 ± 0.0012	0.0024 ± 0.0005	1.0 ± 0.1	9.8 ± 1.2
Sac. R.–Bend Br.	07/11/96	1/2	<0.003 ± 0.001	0.0057 ± 0.0004	0.0016 ± 0.0004	0.75 ± 0.04	6.1 ± 0.3
Sac. R.–Bend Br.	07/11/96	2/2	<0.003 ± 0.001	0.0064 ± 0.0014	0.0018 ± 0.0011	0.33 ± 0.34	5.9 ± 0.0
Sac. R.–Bend Br.	09/20/96	1/2	<0.003 ± 0.000	0.0032 ± 0.0022	0.0011 ± 0.0001	0.52 ± 0.01	3.3 ± 0.4
Sac. R.–Bend Br.	09/20/96	2/2	<0.003 ± 0.004	0.0059 ± 0.0031	0.0019 ± 0.0001	0.32 ± 0.00	3.3 ± 0.3
Sac. R.–Bend Br.	11/22/96	1/2	0.0042 ± 0.0017	0.011 ± 0.002	0.0038 ± 0.0002	0.24 ± 0.08	11 ± 1
Sac. R.–Bend Br.	11/22/96	2/2	0.0038 ± 0.0008	0.0087 ± 0.0054	0.0038 ± 0.0007	0.19 ± 0.03	10 ± 0
Sac. R.–Bend Br.	12/12/96	1/2	0.0090 ± 0.0010	0.068 ± 0.001	0.0078 ± 0.0005	0.39 ± 0.06	50 ± 0
Sac. R.–Bend Br.	12/12/96	2/2	0.0091 ± 0.0024	0.068 ± 0.006	0.0083 ± 0.0004	0.32 ± 0.16	50 ± 1
Sac. R.–Bend Br.	01/03/97	1/2	0.026 ± 0.000	0.25 ± 0.02	0.025 ± 0.001	0.70 ± 0.16	135 ± 1
Sac. R.–Bend Br.	01/03/97	2/2	0.023 ± 0.001	0.25 ± 0.02	0.025 ± 0.002	0.18 ± 0.05	135 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS	Tin (µg/L) ICP–MS	Titanium (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	0.0035 ± 0.0025	0.0070 ± 0.0004	0.0029 ± 0.0006	0.26 ± 0.02	10 ± 1
Sac. R.–Bend Br.	05/30/97	2/2	0.0018 ± 0.0007	0.0078 ± 0.0030	0.0029 ± 0.0005	0.28 ± 0.08	9.6 ± 0.3
Sac. R.–Colusa	07/16/96	1/1	0.010 ± 0.002	0.052 ± 0.001	0.0097 ± 0.0009	<0.2 ± 0.0	59 ± 0
Sac. R.–Colusa	09/25/96	1/2	<0.003 ± 0.001	0.0064 ± 0.0010	0.0032 ± 0.0001	0.37 ± 0.03	11 ± 1
Sac. R.–Colusa	09/25/96	2/2	<0.003 ± 0.000	0.0074 ± 0.0002	0.0026 ± 0.0002	0.47 ± 0.02	11 ± 0
Sac. R.–Colusa	11/13/96	1/2	<0.003 ± 0.000	0.019 ± 0.002	0.0044 ± 0.0002	0.18 ± 0.16	29 ± 1
Sac. R.–Colusa	11/13/96	2/2	0.0047 ± 0.0021	0.018 ± 0.000	0.0039 ± 0.0005	0.21 ± 0.10	18 ± 0
Sac. R.–Colusa	12/16/96	1/2	0.014 ± 0.001	0.087 ± 0.000	0.013 ± 0.001	1.0 ± 0.0	80 ± 0
Sac. R.–Colusa	12/16/96	2/2	0.012 ± 0.002	0.081 ± 0.004	0.015 ± 0.001	1.6 ± 0.0	83 ± 2
Sac. R.–Colusa	01/04/97	1/2	0.069 ± 0.002	0.70 ± 0.00	0.085 ± 0.003	0.27 ± 0.04	329 ± 1
Sac. R.–Colusa	01/04/97	2/2	0.064 ± 0.001	0.70 ± 0.01	0.084 ± 0.003	0.67 ± 0.44	314 ± 6
Sac. R.–Colusa	06/03/97	1/2	0.0051 ± 0.0012	0.018 ± 0.000	0.0066 ± 0.0007	0.35 ± 0.18	22 ± 0
Sac. R.–Colusa	06/03/97	2/2	0.0062 ± 0.0018	0.020 ± 0.002	0.0059 ± 0.0009	0.94 ± 0.15	25 ± 3
Sac. R.–Verona	07/18/96	1/2	<0.003 ± 0.001	0.029 ± 0.002	0.0060 ± 0.0010	0.94 ± 0.05	27 ± 1
Sac. R.–Verona	07/18/96	2/2	0.0039 ± 0.0011	0.033 ± 0.002	0.0043 ± 0.0003	0.51 ± 0.51	31 ± 1
Sac. R.–Verona	09/26/96	1/2	0.0052 ± 0.0006	0.038 ± 0.005	0.0057 ± 0.0003	0.41 ± 0.02	36 ± 1
Sac. R.–Verona	09/26/96	2/2	0.0069 ± 0.0015	0.036 ± 0.003	0.0055 ± 0.0003	<0.1 ± 0.0	34 ± 1
Sac. R.–Verona	11/14/96	1/2	<0.003 ± 0.002	0.027 ± 0.002	0.0057 ± 0.0003	0.68 ± 0.24	23 ± 1
Sac. R.–Verona	11/14/96	2/2	0.0076 ± 0.0049	0.026 ± 0.001	0.0052 ± 0.0006	0.39 ± 0.07	23 ± 0
Sac. R.–Verona	12/18/96	1/2	0.0079 ± 0.0012	0.046 ± 0.003	0.0078 ± 0.0005	0.64 ± 0.03	45 ± 0
Sac. R.–Verona	12/18/96	2/2	0.0062 ± 0.0014	0.043 ± 0.002	0.0071 ± 0.0005	0.91 ± 0.04	41 ± 1
Sac. R.–Verona	06/04/97	1/2	0.0045 ± 0.0006	0.020 ± 0.001	0.0073 ± 0.0004	<0.2 ± 0.0	26 ± 1
Sac. R.–Verona	06/04/97	2/2	0.0061 ± 0.0007	0.022 ± 0.003	0.0068 ± 0.0002	0.29 ± 0.06	28 ± 3
Sac. R.–Freeport	07/17/96	1/2	0.0084 ± 0.0010	0.026 ± 0.001	0.0037 ± 0.0004	0.17 ± 0.14	20 ± 0
Sac. R.–Freeport	07/17/96	2/2	0.0040 ± 0.0001	0.022 ± 0.002	0.0032 ± 0.0002	0.24 ± 0.10	21 ± 1
Sac. R.–Freeport	09/24/96	1/2	<0.003 ± 0.000	0.025 ± 0.002	0.0034 ± 0.0017	0.67 ± 0.14	18 ± 1
Sac. R.–Freeport	09/24/96	2/2	0.0032 ± 0.0006	0.016 ± 0.002	0.0025 ± 0.0006	<0.1 ± 0.1	15 ± 0
Sac. R.–Freeport	11/12/96	1/2	<0.003 ± 0.001	0.0052 ± 0.0013	0.0025 ± 0.0000	0.66 ± 0.04	6.9 ± 0.7
Sac. R.–Freeport	11/12/96	2/2	<0.003 ± 0.002	0.0064 ± 0.0019	0.0017 ± 0.0003	0.51 ± 0.10	6.4 ± 0.3
Sac. R.–Freeport	12/17/96	1/2	0.0084 ± 0.0016	0.059 ± 0.002	0.0082 ± 0.0004	0.46 ± 0.00	51 ± 1
Sac. R.–Freeport	12/17/96	2/2	0.0090 ± 0.0012	0.060 ± 0.001	0.0086 ± 0.0002	0.33 ± 0.02	53 ± 1
Sac. R.–Freeport	01/06/97	1/2	0.054 ± 0.001	1.1 ± 0.0	0.036 ± 0.002	0.26 ± 0.00	329 ± 2
Sac. R.–Freeport	01/06/97	1/2	0.055 ± 0.001	1.1 ± 0.0	0.037 ± 0.000	0.28 ± 0.03	318 ± 11
Sac. R.–Freeport	06/05/97	1/2	0.0036 ± 0.0009	0.018 ± 0.001	0.0043 ± 0.0007	0.10 ± 0.05	17 ± 0
Sac. R.–Freeport	06/05/97	2/2	0.0033 ± 0.0014	0.015 ± 0.000	0.0035 ± 0.0011	0.89 ± 0.07	18 ± 1
Sac. R.–Freeport, dup	06/05/97	1/2	0.0036 ± 0.0017	0.010 ± 0.001	0.0022 ± 0.0003	0.11 ± 0.01	11 ± 1

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Thallium (µg/L) ICP–MS	Thorium (µg/L) ICP–MS	Thulium (µg/L) ICP–MS	Tin (µg/L) ICP–MS	Titanium (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	0.0061 ± 0.0001	0.012 ± 0.001	0.0032 ± 0.0007	<0.06 ± 0.01	11 ± 1
Flat Cr.	12/11/96	1/2	0.0039 ± 0.0034	0.0042 ± 0.0008	0.0091 ± 0.0007	0.80 ± 0.02	2.4 ± 0.1
Flat Cr.	12/11/96	2/2	0.0030 ± 0.0015	0.0053 ± 0.0008	0.0081 ± 0.0004	0.84 ± 0.06	2.3 ± 0.3
Flat Cr.	05/29/97	1/2	0.0099 ± 0.0005	0.0030 ± 0.0010	0.0037 ± 0.0009	0.23 ± 0.03	<0.1 ± 0.3
Flat Cr.	05/29/97	2/2	0.0060 ± 0.0022	<0.003 ± 0.001	0.0037 ± 0.0008	<0.06 ± 0.04	<0.1 ± 0.1
Spring Cr.–Weir	12/11/96	1/2	0.038 ± 0.001	0.0085 ± 0.0004	0.11 ± 0.00	0.27 ± 0.01	1.9 ± 0.2
Spring Cr.–Weir	12/11/96	2/2	0.038 ± 0.002	0.0076 ± 0.0009	0.11 ± 0.00	0.33 ± 0.01	2.1 ± 0.2
Spring Cr.–Weir	05/28/97	1/2	0.44 ± 0.03	0.0034 ± 0.0008	0.25 ± 0.02	0.21 ± 0.06	0.55 ± 0.31
Spring Cr.–Weir	05/28/97	2/2	0.44 ± 0.02	0.0041 ± 0.0004	0.23 ± 0.01	0.19 ± 0.12	0.56 ± 0.37
Spring Cr.–Road	01/02/97	1/2	0.15 ± 0.00	0.016 ± 0.004	0.071 ± 0.000	0.37 ± 0.01	5.0 ± 0.2
Spring Cr.–Road	01/02/97	2/2	0.15 ± 0.00	0.014 ± 0.000	0.068 ± 0.000	0.39 ± 0.04	5.3 ± 0.2
Whiskeytown	12/11/96	1/2	<0.002 ± 0.001	<0.003 ± 0.001	0.0010 ± 0.0005	0.83 ± 0.03	0.83 ± 0.18
Whiskeytown	12/11/96	2/2	<0.003 ± 0.001	<0.003 ± 0.001	0.0010 ± 0.00058	0.78 ± 0.05	0.87 ± 0.23
Whiskeytown	05/29/97	1/2	0.0060 ± 0.0011	0.012 ± 0.003	0.0019 ± 0.0004	0.33 ± 0.13	8.2 ± 0.4
Whiskeytown	05/29/97	2/2	<0.002 ± 0.001	0.013 ± 0.001	0.0017 ± 0.0003	0.31 ± 0.12	8.2 ± 0.5
Spring Cr. arm	07/12/96	1/2	<0.003 ± 0.000	<0.003 ± 0.001	<0.0005 ± 0.0001	0.72 ± 0.04	0.54 ± 0.02
Spring Cr. arm	07/12/96	2/2	<0.003 ± 0.001	<0.003 ± 0.001	0.0006 ± 0.00036	<0.1 ± 0.0	0.57 ± 0.28
Spring Cr. arm	09/18/96	1/2	<0.003 ± 0.001	<0.003 ± 0.001	0.0006 ± 0.00027	0.27 ± 0.02	0.63 ± 0.13
Spring Cr. arm	09/18/96	2/2	<0.003 ± 0.003	0.0037 ± 0.0007	0.0011 ± 0.0007	0.75 ± 0.06	0.95 ± 0.20
Spring Cr. arm	11/20/96	1/2	<0.003 ± 0.005	0.0036 ± 0.0013	0.0056 ± 0.0007	0.18 ± 0.10	1.1 ± 0.1
Spring Cr. arm	11/20/96	2/2	0.0055 ± 0.0022	<0.003 ± 0.002	0.0062 ± 0.0014	0.26 ± 0.12	1.0 ± 0.2
Spring Cr. arm	12/11/96	1/2	0.0059 ± 0.0033	0.0046 ± 0.0010	0.016 ± 0.000	0.26 ± 0.04	0.99 ± 0.08
Spring Cr. arm	12/11/96	2/2	0.0048 ± 0.0020	0.0038 ± 0.0023	0.015 ± 0.001	0.48 ± 0.05	0.96 ± 0.20
Spring Cr. arm	05/28/97	1/2	0.0044 ± 0.0025	0.010 ± 0.002	0.0024 ± 0.0002	0.35 ± 0.17	8.1 ± 0.1
Spring Cr. arm	05/28/97	2/2	0.0020 ± 0.0024	0.013 ± 0.001	0.0030 ± 0.0002	0.23 ± 0.05	8.3 ± 0.9
Colusa Basin Drain	06/06/97	1/2	0.021 ± 0.001	0.12 ± 0.00	0.029 ± 0.002	0.50 ± 0.22	79 ± 1
Colusa Basin Drain	06/06/97	2/2	0.023 ± 0.005	0.13 ± 0.00	0.030 ± 0.001	<0.2 ± 0.0	75 ± 1
Yolo Bypass	01/07/97	1/2	0.031 ± 0.001	0.29 ± 0.02	0.039 ± 0.000	0.20 ± 0.04	191 ± 1
Yolo Bypass	01/07/97	2/2	0.032 ± 0.001	0.29 ± 0.01	0.038 ± 0.001	0.17 ± 0.05	190 ± 2

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (mg/L) ICP–AES	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS	Zinc (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	0.089 ± 0.002	0.0074 ± 0.0020	0.010 ± 0.003	0.12 ± 0.00	4.0 ± 0.1
Sac. R.–Shasta	07/12/96	2/2	0.092 ± 0.003	<0.004 ± 0.001	0.010 ± 0.002	0.12 ± 0.01	3.8 ± 0.1
Sac. R.–Shasta	09/19/96	1/2	0.080 ± 0.002	<0.003 ± 0.001	0.0064 ± 0.0007	0.088 ± 0.006	4.8 ± 0.1
Sac. R.–Shasta	09/19/96	2/2	0.089 ± 0.006	0.0042 ± 0.0016	0.011 ± 0.003	0.097 ± 0.005	6.2 ± 0.0
Sac. R.–Shasta	11/19/96	1/2	0.13 ± 0.00	<0.003 ± 0.002	0.0072 ± 0.0030	0.063 ± 0.004	3.1 ± 0.8
Sac. R.–Shasta	11/19/96	2/2	0.13 ± 0.01	0.0048 ± 0.0009	0.0077 ± 0.0022	0.064 ± 0.002	2.4 ± 0.0
Sac. R.–Shasta	12/12/96	1/2	0.13 ± 0.01	<0.004 ± 0.001	0.0079 ± 0.0015	0.11 ± 0.00	6.3 ± 0.3
Sac. R.–Shasta	12/12/96	2/2	0.13 ± 0.00	0.0043 ± 0.0018	0.0086 ± 0.0022	0.11 ± 0.00	7.2 ± 0.4
Sac. R.–Shasta	05/29/97	1/2	0.10 ± 0.01	<0.005 ± 0.001	0.016 ± 0.003	0.20 ± 0.02	2.9 ± 0.1
Sac. R.–Shasta	05/29/97	2/2	0.10 ± 0.00	0.0057 ± 0.0003	0.017 ± 0.002	0.19 ± 0.01	3.0 ± 0.5
Sac. R.–Keswick	07/11/96	1/2	0.075 ± 0.004	<0.004 ± 0.000	0.0088 ± 0.0015	0.10 ± 0.01	3.6 ± 0.0
Sac. R.–Keswick	07/11/96	2/2	0.078 ± 0.002	0.0061 ± 0.0006	0.0095 ± 0.0023	0.10 ± 0.00	3.1 ± 0.1
Sac. R.–Keswick	09/19/96	1/2	0.060 ± 0.004	<0.003 ± 0.001	0.011 ± 0.001	0.10 ± 0.00	4.3 ± 0.4
Sac. R.–Keswick	09/19/96	2/2	0.055 ± 0.005	0.0041 ± 0.0013	0.0079 ± 0.0014	0.090 ± 0.004	3.2 ± 0.1
Sac. R.–Keswick	11/21/96	1/2	0.10 ± 0.01	0.0046 ± 0.0008	0.025 ± 0.001	0.25 ± 0.01	8.6 ± 0.6
Sac. R.–Keswick	11/21/96	2/2	0.10 ± 0.01	0.0062 ± 0.0015	0.028 ± 0.003	0.26 ± 0.02	7.8 ± 0.2
Sac. R.–Keswick	12/11/96	1/2	0.11 ± 0.00	0.0045 ± 0.0006	0.018 ± 0.001	0.25 ± 0.01	11 ± 1
Sac. R.–Keswick	12/11/96	2/2	0.12 ± 0.00	0.0041 ± 0.0020	0.019 ± 0.001	0.26 ± 0.01	11 ± 0
Sac. R.–Keswick	01/02/97	1/2	0.11 ± 0.00	0.0048 ± 0.0012	0.041 ± 0.002	0.55 ± 0.01	27 ± 1
Sac. R.–Keswick	01/02/97	2/2	0.11 ± 0.00	0.0051 ± 0.0015	0.042 ± 0.005	0.56 ± 0.02	25 ± 2
Sac. R.–Keswick	05/28/97	1/2	0.086 ± 0.002	<0.005 ± 0.000	0.016 ± 0.002	0.18 ± 0.01	4.0 ± 0.3
Sac. R.–Keswick	05/28/97	2/2	0.087 ± 0.007	0.0049 ± 0.0014	0.015 ± 0.001	0.18 ± 0.01	4.2 ± 0.4
Sac. R.–Bend Br.	07/11/96	1/2	0.071 ± 0.000	<0.005 ± 0.002	0.0090 ± 0.0008	0.11 ± 0.00	3.6 ± 0.1
Sac. R.–Bend Br.	07/11/96	2/2	0.073 ± 0.002	<0.004 ± 0.002	0.012 ± 0.002	0.11 ± 0.01	3.5 ± 0.2
Sac. R.–Bend Br.	09/20/96	1/2	0.055 ± 0.000	<0.003 ± 0.001	0.0073 ± 0.0012	0.10 ± 0.00	4.9 ± 0.2
Sac. R.–Bend Br.	09/20/96	2/2	0.057 ± 0.001	<0.003 ± 0.001	0.012 ± 0.001	0.11 ± 0.01	5.2 ± 0.4
Sac. R.–Bend Br.	11/22/96	1/2	0.095 ± 0.003	0.0041 ± 0.0014	0.031 ± 0.002	0.31 ± 0.00	9.3 ± 0.7
Sac. R.–Bend Br.	11/22/96	2/2	0.10 ± 0.01	0.0045 ± 0.0028	0.030 ± 0.004	0.32 ± 0.00	9.6 ± 0.5
Sac. R.–Bend Br.	12/12/96	1/2	0.12 ± 0.00	0.0059 ± 0.0018	0.055 ± 0.004	0.66 ± 0.01	11 ± 0
Sac. R.–Bend Br.	12/12/96	2/2	0.12 ± 0.00	0.0057 ± 0.0011	0.056 ± 0.006	0.67 ± 0.03	12 ± 0
Sac. R.–Bend Br.	01/03/97	1/2	0.22 ± 0.01	0.015 ± 0.002	0.18 ± 0.01	2.2 ± 0.1	24 ± 0
Sac. R.–Bend Br.	01/03/97	2/2	0.21 ± 0.01	0.015 ± 0.002	0.18 ± 0.00	2.1 ± 0.1	23 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (mg/L) ICP–AES	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS	Zinc (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	0.077 ± 0.002	<0.005 ± 0.001	0.016 ± 0.003	0.19 ± 0.01	4.5 ± 0.2
Sac. R.–Bend Br.	05/30/97	2/2	0.074 ± 0.004	<0.005 ± 0.002	0.019 ± 0.002	0.19 ± 0.00	3.9 ± 0.3
Sac. R.–Colusa	07/16/96	1/1	0.12 ± 0.02	0.0092 ± 0.0020	0.056 ± 0.002	0.68 ± 0.03	11 ± 0
Sac. R.–Colusa	09/25/96	1/2	0.11 ± 0.01	0.0041 ± 0.0021	0.022 ± 0.002	0.19 ± 0.00	3.4 ± 0.2
Sac. R.–Colusa	09/25/96	2/2	0.11 ± 0.01	0.0052 ± 0.0007	0.013 ± 0.000	0.19 ± 0.01	3.4 ± 0.3
Sac. R.–Colusa	11/13/96	1/2	0.13 ± 0.01	<0.005 ± 0.008	0.025 ± 0.001	0.27 ± 0.01	4.3 ± 0.1
Sac. R.–Colusa	11/13/96	2/2	0.13 ± 0.00	0.0060 ± 0.0018	0.021 ± 0.004	0.26 ± 0.01	4.6 ± 0.0
Sac. R.–Colusa	12/16/96	1/2	0.15 ± 0.00	0.011 ± 0.002	0.093 ± 0.006	1.1 ± 0.0	15 ± 0
Sac. R.–Colusa	12/16/96	2/2	0.15 ± 0.00	0.010 ± 0.000	0.10 ± 0.00	1.2 ± 0.0	20 ± 0
Sac. R.–Colusa	01/04/97	1/2	0.44 ± 0.01	0.039 ± 0.002	0.60 ± 0.01	6.5 ± 0.0	59 ± 1
Sac. R.–Colusa	01/04/97	2/2	0.42 ± 0.00	0.040 ± 0.001	0.61 ± 0.00	6.7 ± 0.0	60 ± 1
Sac. R.–Colusa	06/03/97	1/2	0.12 ± 0.01	<0.005 ± 0.003	0.036 ± 0.004	0.39 ± 0.01	5.3 ± 0.2
Sac. R.–Colusa	06/03/97	2/2	0.12 ± 0.02	0.0075 ± 0.0014	0.037 ± 0.003	0.42 ± 0.02	5.6 ± 0.5
Sac. R.–Verona	07/18/96	1/2	0.14 ± 0.01	0.0060 ± 0.0010	0.033 ± 0.006	0.36 ± 0.01	4.5 ± 0.3
Sac. R.–Verona	07/18/96	2/2	0.14 ± 0.01	0.0060 ± 0.0013	0.033 ± 0.005	0.35 ± 0.02	4.3 ± 0.3
Sac. R.–Verona	09/26/96	1/2	0.19 ± 0.00	0.0068 ± 0.0013	0.036 ± 0.003	0.44 ± 0.01	5.6 ± 0.2
Sac. R.–Verona	09/26/96	2/2	0.18 ± 0.01	0.0059 ± 0.0009	0.041 ± 0.002	0.45 ± 0.01	5.3 ± 0.1
Sac. R.–Verona	11/14/96	1/2	0.22 ± 0.01	0.0052 ± 0.0027	0.030 ± 0.004	0.35 ± 0.02	4.4 ± 0.1
Sac. R.–Verona	11/14/96	2/2	0.21 ± 0.00	0.0053 ± 0.0045	0.031 ± 0.004	0.38 ± 0.00	4.5 ± 0.4
Sac. R.–Verona	12/18/96	1/2	0.14 ± 0.01	0.0046 ± 0.0010	0.052 ± 0.001	0.61 ± 0.03	8.3 ± 0.2
Sac. R.–Verona	12/18/96	2/2	0.14 ± 0.00	<0.004 ± 0.002	0.050 ± 0.004	0.57 ± 0.03	6.3 ± 0.2
Sac. R.–Verona	06/04/97	1/2	0.21 ± 0.01	0.0056 ± 0.0022	0.045 ± 0.002	0.45 ± 0.00	5.5 ± 0.3
Sac. R.–Verona	06/04/97	2/2	0.23 ± 0.00	0.0069 ± 0.0011	0.045 ± 0.008	0.49 ± 0.02	5.8 ± 0.0
Sac. R.–Freeport	07/17/96	1/2	0.12 ± 0.00	<0.005 ± 0.001	0.028 ± 0.001	0.30 ± 0.00	3.5 ± 0.2
Sac. R.–Freeport	07/17/96	2/2	0.12 ± 0.01	<0.004 ± 0.001	0.026 ± 0.001	0.29 ± 0.02	3.3 ± 0.1
Sac. R.–Freeport	09/24/96	1/2	0.23 ± 0.01	0.0035 ± 0.0015	0.022 ± 0.000	0.28 ± 0.00	3.6 ± 0.3
Sac. R.–Freeport	09/24/96	2/2	0.19 ± 0.00	0.0049 ± 0.0019	0.021 ± 0.002	0.23 ± 0.00	3.1 ± 0.1
Sac. R.–Freeport	11/12/96	1/2	0.17 ± 0.01	0.0035 ± 0.0036	0.012 ± 0.002	0.14 ± 0.01	3.2 ± 0.1
Sac. R.–Freeport	11/12/96	2/2	0.16 ± 0.00	<0.003 ± 0.001	0.013 ± 0.001	0.14 ± 0.00	3.3 ± 0.2
Sac. R.–Freeport	12/17/96	1/2	0.13 ± 0.01	0.0072 ± 0.0034	0.059 ± 0.002	0.67 ± 0.02	8.1 ± 0.1
Sac. R.–Freeport	12/17/96	2/2	0.13 ± 0.00	<0.005 ± 0.001	0.061 ± 0.003	0.69 ± 0.03	7.6 ± 0.3
Sac. R.–Freeport	01/06/97	1/2	0.67 ± 0.00	0.017 ± 0.001	0.27 ± 0.01	2.9 ± 0.0	18 ± 0
Sac. R.–Freeport	01/06/97	1/2	0.67 ± 0.00	0.015 ± 0.001	0.28 ± 0.00	2.8 ± 0.1	17 ± 0
Sac. R.–Freeport	06/05/97	1/2	0.17 ± 0.00	0.0070 ± 0.0012	0.025 ± 0.001	0.31 ± 0.01	3.3 ± 0.1
Sac. R.–Freeport	06/05/97	2/2	0.16 ± 0.00	<0.005 ± 0.002	0.026 ± 0.005	0.32 ± 0.01	3.5 ± 0.3
Sac. R.–Freeport, dup	06/05/97	1/2	0.16 ± 0.00	0.0051 ± 0.0017	0.018 ± 0.002	0.22 ± 0.01	2.7 ± 0.2

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Uranium (µg/L) ICP–MS	Vanadium (mg/L) ICP–AES	Ytterbium (µg/L) ICP–MS	Yttrium (µg/L) ICP–MS	Zinc (µg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	0.16 ± 0.00	0.0050 ± 0.0013	0.019 ± 0.002	0.21 ± 0.00	2.8 ± 0.2
Flat Cr.	12/11/96	1/2	0.0081 ± 0.0022	<0.004 ± 0.000	0.055 ± 0.002	0.56 ± 0.00	26 ± 0
Flat Cr.	12/11/96	2/2	0.0072 ± 0.0024	<0.004 ± 0.002	0.054 ± 0.001	0.56 ± 0.01	26 ± 2
Flat Cr.	05/29/97	1/2	0.0023 ± 0.0017	<0.005 ± 0.001	0.028 ± 0.003	0.29 ± 0.01	5.5 ± 0.3
Flat Cr.	05/29/97	2/2	<0.002 ± 0.002	<0.005 ± 0.000	0.026 ± 0.004	0.29 ± 0.00	5.6 ± 0.4
Spring Cr.–Weir	12/11/96	1/2	0.092 ± 0.005	<0.005 ± 0.001	0.75 ± 0.01	9.9 ± 0.0	482 ± 16
Spring Cr.–Weir	12/11/96	2/2	0.094 ± 0.001	<0.004 ± 0.002	0.77 ± 0.01	10 ± 0	471 ± 41
Spring Cr.–Weir	05/28/97	1/2	0.12 ± 0.01	<0.005 ± 0.002	1.3 ± 0.0	18 ± 1	913 ± 43
Spring Cr.–Weir	05/28/97	2/2	0.12 ± 0.01	<0.005 ± 0.003	1.3 ± 0.1	17 ± 0	909 ± 19
Spring Cr.–Road	01/02/97	1/2	0.19 ± 0.01	<0.004 ± 0.004	0.49 ± 0.01	6.2 ± 0.1	1343 ± 97
Spring Cr.–Road	01/02/97	2/2	0.19 ± 0.01	<0.004 ± 0.001	0.47 ± 0.01	6.2 ± 0.1	1396 ± 5
Whiskeytown	12/11/96	1/2	0.040 ± 0.005	<0.004 ± 0.002	0.0052 ± 0.0015	0.067 ± 0.003	1.4 ± 0.1
Whiskeytown	12/11/96	2/2	0.038 ± 0.001	<0.005 ± 0.002	0.0050 ± 0.0013	0.067 ± 0.002	0.81 ± 0.15
Whiskeytown	05/29/97	1/2	0.045 ± 0.003	<0.005 ± 0.002	0.013 ± 0.002	0.14 ± 0.00	1.1 ± 0.1
Whiskeytown	05/29/97	2/2	0.041 ± 0.001	<0.005 ± 0.001	0.014 ± 0.003	0.14 ± 0.00	1.1 ± 0.1
Spring Cr. arm	07/12/96	1/2	0.026 ± 0.001	<0.005 ± 0.001	0.0061 ± 0.0034	0.054 ± 0.009	0.96 ± 0.09
Spring Cr. arm	07/12/96	2/2	0.024 ± 0.003	<0.004 ± 0.001	0.0045 ± 0.0021	0.055 ± 0.004	0.86 ± 0.05
Spring Cr. arm	09/18/96	1/2	0.023 ± 0.001	<0.003 ± 0.002	0.0042 ± 0.0002	0.080 ± 0.006	2.8 ± 0.1
Spring Cr. arm	09/18/96	2/2	0.029 ± 0.002	<0.003 ± 0.002	0.0073 ± 0.0023	0.092 ± 0.003	4.4 ± 0.5
Spring Cr. arm	11/20/96	1/2	0.034 ± 0.004	<0.003 ± 0.001	0.044 ± 0.003	0.54 ± 0.00	20 ± 0
Spring Cr. arm	11/20/96	2/2	0.041 ± 0.004	<0.003 ± 0.002	0.043 ± 0.001	0.54 ± 0.01	21 ± 1
Spring Cr. arm	12/11/96	1/2	0.047 ± 0.003	<0.004 ± 0.000	0.088 ± 0.000	1.4 ± 0.0	60 ± 3
Spring Cr. arm	12/11/96	2/2	0.048 ± 0.005	<0.004 ± 0.001	0.096 ± 0.002	1.4 ± 0.0	60 ± 4
Spring Cr. arm	05/28/97	1/2	0.039 ± 0.001	<0.005 ± 0.000	0.016 ± 0.001	0.21 ± 0.01	4.8 ± 0.5
Spring Cr. arm	05/28/97	2/2	0.046 ± 0.002	<0.005 ± 0.000	0.016 ± 0.002	0.20 ± 0.01	4.8 ± 0.5
Colusa Basin Drain	06/06/97	1/2	1.6 ± 0.1	0.024 ± 0.001	0.16 ± 0.00	1.9 ± 0.0	18 ± 0
Colusa Basin Drain	06/06/97	2/2	1.6 ± 0.0	0.022 ± 0.001	0.16 ± 0.01	1.9 ± 0.0	19 ± 0
Yolo Bypass	01/07/97	1/2	0.28 ± 0.01	0.018 ± 0.001	0.28 ± 0.01	3.0 ± 0.0	25 ± 0
Yolo Bypass	01/07/97	2/2	0.29 ± 0.01	0.020 ± 0.002	0.28 ± 0.00	3.0 ± 0.0	25 ± 0

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Zirconium (μg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/2	0.27 ± 0.01
Sac. R.–Shasta	07/12/96	2/2	0.26 ± 0.00
Sac. R.–Shasta	09/19/96	1/2	0.089 ± 0.003
Sac. R.–Shasta	09/19/96	2/2	0.12 ± 0.01
Sac. R.–Shasta	11/19/96	1/2	0.033 ± 0.010
Sac. R.–Shasta	11/19/96	2/2	0.026 ± 0.008
Sac. R.–Shasta	12/12/96	1/2	0.062 ± 0.016
Sac. R.–Shasta	12/12/96	2/2	0.086 ± 0.010
Sac. R.–Shasta	05/29/97	1/2	0.31 ± 0.04
Sac. R.–Shasta	05/29/97	2/2	0.36 ± 0.01
Sac. R.–Keswick	07/11/96	1/2	0.23 ± 0.00
Sac. R.–Keswick	07/11/96	2/2	0.21 ± 0.01
Sac. R.–Keswick	09/19/96	1/2	0.14 ± 0.03
Sac. R.–Keswick	09/19/96	2/2	0.049 ± 0.004
Sac. R.–Keswick	11/21/96	1/2	0.066 ± 0.008
Sac. R.–Keswick	11/21/96	2/2	0.039 ± 0.009
Sac. R.–Keswick	12/11/96	1/2	0.054 ± 0.006
Sac. R.–Keswick	12/11/96	2/2	0.043 ± 0.007
Sac. R.–Keswick	01/02/97	1/2	0.22 ± 0.01
Sac. R.–Keswick	01/02/97	2/2	0.21 ± 0.01
Sac. R.–Keswick	05/28/97	1/2	0.27 ± 0.04
Sac. R.–Keswick	05/28/97	2/2	0.31 ± 0.01
Sac. R.–Bend Br.	07/11/96	1/2	0.22 ± 0.01
Sac. R.–Bend Br.	07/11/96	2/2	0.23 ± 0.01
Sac. R.–Bend Br.	09/20/96	1/2	0.067 ± 0.002
Sac. R.–Bend Br.	09/20/96	2/2	0.088 ± 0.003
Sac. R.–Bend Br.	11/22/96	1/2	0.16 ± 0.01
Sac. R.–Bend Br.	11/22/96	2/2	0.16 ± 0.01
Sac. R.–Bend Br.	12/12/96	1/2	0.31 ± 0.00
Sac. R.–Bend Br.	12/12/96	2/2	0.36 ± 0.02
Sac. R.–Bend Br.	01/03/97	1/2	0.36 ± 0.02
Sac. R.–Bend Br.	01/03/97	2/2	0.32 ± 0.01

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Zirconium (µg/L) ICP–MS
Sac. R.–Bend Br.	05/30/97	1/2	0.22 ± 0.02
Sac. R.–Bend Br.	05/30/97	2/2	0.16 ± 0.01
Sac. R.–Colusa	07/16/96	1/1	0.47 ± 0.02
Sac. R.–Colusa	09/25/96	1/2	0.18 ± 0.00
Sac. R.–Colusa	09/25/96	2/2	0.18 ± 0.01
Sac. R.–Colusa	11/13/96	1/2	0.29 ± 0.02
Sac. R.–Colusa	11/13/96	2/2	0.27 ± 0.02
Sac. R.–Colusa	12/16/96	1/2	0.39 ± 0.01
Sac. R.–Colusa	12/16/96	2/2	0.48 ± 0.02
Sac. R.–Colusa	01/04/97	1/2	0.68 ± 0.01
Sac. R.–Colusa	01/04/97	2/2	0.62 ± 0.02
Sac. R.–Colusa	06/03/97	1/2	0.20 ± 0.01
Sac. R.–Colusa	06/03/97	2/2	0.22 ± 0.01
Sac. R.–Verona	07/18/96	1/2	0.28 ± 0.00
Sac. R.–Verona	07/18/96	2/2	0.28 ± 0.01
Sac. R.–Verona	09/26/96	1/2	0.31 ± 0.00
Sac. R.–Verona	09/26/96	2/2	0.31 ± 0.01
Sac. R.–Verona	11/14/96	1/2	0.28 ± 0.01
Sac. R.–Verona	11/14/96	2/2	0.28 ± 0.01
Sac. R.–Verona	12/18/96	1/2	0.46 ± 0.00
Sac. R.–Verona	12/18/96	2/2	0.32 ± 0.00
Sac. R.–Verona	06/04/97	1/2	0.19 ± 0.00
Sac. R.–Verona	06/04/97	2/2	0.20 ± 0.02
Sac. R.–Freeport	07/17/96	1/2	0.22 ± 0.00
Sac. R.–Freeport	07/17/96	2/2	0.22 ± 0.01
Sac. R.–Freeport	09/24/96	1/2	0.25 ± 0.00
Sac. R.–Freeport	09/24/96	2/2	0.19 ± 0.00
Sac. R.–Freeport	11/12/96	1/2	0.12 ± 0.01
Sac. R.–Freeport	11/12/96	2/2	0.14 ± 0.01
Sac. R.–Freeport	12/17/96	1/2	0.42 ± 0.01
Sac. R.–Freeport	12/17/96	2/2	0.39 ± 0.01
Sac. R.–Freeport	01/06/97	1/2	1.1 ± 0.0
Sac. R.–Freeport	01/06/97	1/2	1.1 ± 0.0
Sac. R.–Freeport	06/05/97	1/2	0.18 ± 0.02
Sac. R.–Freeport	06/05/97	2/2	0.16 ± 0.02
Sac. R.–Freeport, dup	06/05/97	1/2	0.15 ± 0.02

Table A4-2. Concentrations of major cations and trace elements in unfiltered (whole) water samples—Continued

Site	Date	Split replicate	Zirconium (μg/L) ICP–MS
Sac. R.–Freeport, dup	06/05/97	2/2	0.19 ± 0.01
Flat Cr.	12/11/96	1/2	0.040 ± 0.006
Flat Cr.	12/11/96	2/2	0.022 ± 0.003
Flat Cr.	05/29/97	1/2	0.038 ± 0.010
Flat Cr.	05/29/97	2/2	0.012 ± 0.005
Spring Cr.–Weir	12/11/96	1/2	0.048 ± 0.007
Spring Cr.–Weir	12/11/96	2/2	0.051 ± 0.003
Spring Cr.–Weir	05/28/97	1/2	0.044 ± 0.017
Spring Cr.–Weir	05/28/97	2/2	0.046 ± 0.006
Spring Cr.–Road	01/02/97	1/2	0.069 ± 0.004
Spring Cr.–Road	01/02/97	2/2	0.083 ± 0.002
Whiskeytown	12/11/96	1/2	<0.01 ± 0.01
Whiskeytown	12/11/96	2/2	0.033 ± 0.005
Whiskeytown	05/29/97	1/2	0.12 ± 0.01
Whiskeytown	05/29/97	2/2	0.10 ± 0.01
Spring Cr. arm	07/12/96	1/2	0.026 ± 0.009
Spring Cr. arm	07/12/96	2/2	0.017 ± 0.003
Spring Cr. arm	09/18/96	1/2	0.031 ± 0.011
Spring Cr. arm	09/18/96	2/2	0.025 ± 0.011
Spring Cr. arm	11/20/96	1/2	0.017 ± 0.006
Spring Cr. arm	11/20/96	2/2	0.021 ± 0.002
Spring Cr. arm	12/11/96	1/2	0.023 ± 0.008
Spring Cr. arm	12/11/96	2/2	0.036 ± 0.011
Spring Cr. arm	05/28/97	1/2	0.11 ± 0.02
Spring Cr. arm	05/28/97	2/2	0.10 ± 0.02
Colusa Basin Drain	06/06/97	1/2	0.69 ± 0.00
Colusa Basin Drain	06/06/97	2/2	0.86 ± 0.01
Yolo Bypass	01/07/97	1/2	0.54 ± 0.00
Yolo Bypass	01/07/97	2/2	0.63 ± 0.01

Table A4-3. Lead concentrations in filtered water samples collected at a single point in the stream cross section

[Br., bridge; Cap, capsule filter (Gelman); Cr., creek; dup, duplicate; ICP–MS, inductively coupled plasma/mass spectrometry; Mem, membrane filter (Nuclepore); R., River; Sac., Sacramento; Split replicate (1/2), first number identifies which replicate was analyzed, second number represents number of replicate samples. Tan, tangential-flow ultrafilter (Millpore Minitan); kd, kilodalton; mm/dd/yy, month-day-year. µg/L, microgram per liter; µm, micrometer; <, less than the detection limit]

Site	Date (mm/dd/yy)	Filter	Split replicate	Lead (Pb) (µg/L) ICP–MS
Sac. R.–Shasta	07/12/96	40 µm Mem	1/1	< 0.005 ± 0.001
Sac. R.–Shasta	07/12/96	45 µm Cap	1/1	0.020 ± 0.004
Sac. R.–Shasta	07/12/96	10 kd Tan	1/1	0.006 ± 0.002
Sac. R.–Shasta	09/19/96	40 µm Mem	1/1	< 0.005 ± 0.001
Sac. R.–Shasta	09/19/96	45 µm Cap	1/1	< 0.008 ± 0.005
Sac. R.–Shasta	09/19/96	10 kd Tan	1/1	0.022 ± 0.015`
Sac. R.–Shasta	11/19/96	40 µm Mem	1/1	< 0.018 ± 0.009
Sac. R.–Shasta	11/19/96	45 µm Cap	1/1	< 0.018 ± 0.001
Sac. R.–Shasta	11/19/96	10 kd Tan	1/1	< 0.018 ± 0.006
Sac. R.–Keswick	07/11/96	40 µm Mem	1/1	0.005 ± 0.001
Sac. R.–Keswick	07/11/96	45 µm Cap	1/1	0.036 ± 0.000
Sac. R.–Keswick	07/11/96	10 kd Tan	1/2	0.031 ± 0.001
Sac. R.–Keswick	07/11/96	10 kd Tan	2/2	< 0.005 ± 0.004
Sac. R.–Keswick	09/19/96	40 µm Mem	1/1	0.007 ± 0.002
Sac. R.–Keswick	09/19/96	45 µm Cap	1/1	0.021 ± 0.003
Sac. R.–Keswick	09/19/96	10 kd Tan	1/2	< 0.005 ± 0.002
Sac. R.–Keswick	09/19/96	10 kd Tan	2/2	< 0.008 ± 0.004
Sac. R.–Keswick	11/21/96	40 µm Mem	1/1	0.016 ± 0.003
Sac. R.–Keswick	11/21/96	45 µm Cap	1/1	< 0.012 ± 0.015
Sac. R.–Keswick	11/21/96	10 kd Tan	1/1	< 0.012 ± 0.013
Sac. R.–Keswick	05/28/97	40 µm Mem	1/1	< 0.008 ± 0.008
Sac. R.–Keswick	05/28/97	45 µm Cap	1/1	0.066 ± 0.005
Sac. R.–Keswick	05/28/97	10 kd Tan	1/1	< 0.008 ± 0.004
Sac. R.–Bend Br.	07/11/96	40 µm Mem	1/1	0.006 ± 0.002
Sac. R.–Bend Br.	07/11/96	45 µm Cap	1/1	0.005 ± 0.000
Sac. R.–Bend Br.	07/11/96	10 kd Tan	1/1	0.008 ± 0.006
Sac. R.–Bend Br.	09/20/96	40 µm Mem	1/1	< 0.005 ± 0.003
Sac. R.–Bend Br.	09/20/96	45 µm Cap	1/1	0.009 ± 0.002
Sac. R.–Bend Br.	09/20/96	10 kd Tan	1/1	< 0.005 ± 0.001
Sac. R.–Verona	11/14/96	10 kd Tan	1/1	0.005 ± 0.004
Sac. R.–Verona	12/18/96	40 µm Mem	1/1	< 0.012 ± 0.002
Sac. R.–Verona	12/18/96	45 µm Cap	1/1	0.021 ± 0.008
Sac. R.–Verona	12/18/96	10 kd Tan	1/1	< 0.012 ± 0.023
Sac. R.–Verona	06/04/97	40 µm Mem	1/1	< 0.008 ± 0.003
Sac. R.–Verona	06/04/97	45 µm Cap	1/1	< 0.008 ± 0.002
Sac. R.–Bend Br.	11/22/96	40 µm Mem	1/1	< 0.018 ± 0.004
Sac. R.–Bend Br.	11/22/96	45 µm Cap	1/1	< 0.018 ± 0.006
Sac. R.–Bend Br.	11/22/96	10 kd Tan	1/1	< 0.018 ± 0.003
Sac. R.–Bend Br.	01/03/97	40 µm Mem	1/1	0.015 ± 0.004
Sac. R.–Bend Br.	01/03/97	45 µm Cap	1/1	0.042 ± 0.007
Sac. R.–Colusa	07/16/96	40 µm Mem	1/1	0.041 ± 0.003
Sac. R.–Colusa	07/16/96	45 µm Cap	1/1	0.039 ± 0.004
Sac. R.–Colusa	07/16/96	10 kd Tan	1/1	0.033 ± 0.001
Sac. R.–Colusa	09/25/96	40 µm Mem	1/1	0.020 ± 0.002
Sac. R.–Colusa	09/25/96	45 µm Cap	1/1	0.014 ± 0.003
Sac. R.–Colusa	09/25/96	10 kd Tan	1/2	< 0.005 ± 0.001
Sac. R.–Colusa	09/25/96	10 kd Tan	2/2	< 0.009 ± 0.002
Sac. R.–Colusa	11/13/96	40 µm Mem	1/1	0.017 ± 0.003
Sac. R.–Colusa	11/13/96	45 µm Cap	1/1	0.015 ± 0.007
Sac. R.–Colusa	11/13/96	10 kd Tan	1/1	0.010 ± 0.012
Sac. R.–Colusa	01/04/97	40 µm Mem	1/1	0.014 ± 0.004
Sac. R.–Colusa	01/04/97	45 µm Cap	1/1	0.048 ± 0.006
Sac. R.–Colusa	01/04/97	10 kd Tan	1/1	0.007 ± 0.001
Sac. R.–Colusa	06/03/97	40 µm Mem	1/1	0.012 ± 0.001
Sac. R.–Colusa	06/03/97	45 µm Cap	1/1	0.049 ± 0.004
Sac. R.–Colusa	06/03/97	10 kd Tan	1/1	< 0.008 ± 0.003
Sac. R.–Verona	07/18/96	40 µm Mem	1/1	0.017 ± 0.002
Sac. R.–Verona	07/18/96	45 µm Cap	1/1	0.030 ± 0.004
Sac. R.–Verona	07/18/96	10 kd Tan	1/1	0.007 ± 0.009
Sac. R.–Verona	09/26/96	40 µm Mem	1/1	0.043 ± 0.003
Sac. R.–Verona	09/26/96	45 µm Cap	1/1	0.012 ± 0.003
Sac. R.–Verona	09/26/96	10 kd Tan	1/1	0.006 ± 0.001
Sac. R.–Verona	11/14/96	40 µm Mem	1/1	0.015 ± 0.011
Sac. R.–Verona	11/14/96	45 µm Cap	1/1	0.042 ± 0.011
Spring Cr.–Weir	05/28/97	45 µm Cap	1/1	3.4 ± 0.2
Spring Cr. arm	07/12/96	40 µm Mem	1/1	< 0.005 ± 0.002
Spring Cr. arm	07/12/96	45 µm Cap	1/1	0.032 ± 0.009
Spring Cr. arm	07/12/96	10 kd Tan	1/1	0.096 ± 0.001
Spring Cr. arm	09/18/96	40 µm Mem	1/1	0.008 ± 0.002
Spring Cr. arm	09/18/96	45 µm Cap	1/1	0.011 ± 0.003

Table A4-3. Lead concentrations in filtered water samples collected at a single point in the stream cross section—*Continued*

Site	Date (mm/dd/yy)	Filter	Split replicate	Lead (Pb) (µg/L) ICP–MS
Sac. R.–Verona	06/04/97	10 kd Tan	1/1	< 0.008 ± 0.002
Sac. R.–Freeport	07/17/96	40 µm Mem	1/1	0.013 ± 0.000
Sac. R.–Freeport	07/17/96	45 µm Cap	1/1	0.038 ± 0.002
Sac. R.–Freeport	07/17/96	10 kd Tan	1/1	0.97 ± 0,00
Sac. R.–Freeport	09/24/96	40 µm Mem	1/1	0.009 ± 0.002
Sac. R.–Freeport	09/24/96	45 µm Cap	1/1	0.011 ± 0.003
Sac. R.–Freeport	09/24/96	10 kd Tan	1/1	0.005 ± 0.002
Sac. R.–Freeport	11/12/96	40 µm Mem	1/1	0.010 ± 0.004
Sac. R.–Freeport	11/12/96	45 µm Cap	1/1	0.011 ± 0.004
Sac. R.–Freeport	11/12/96	10 kd Tan	1/1	0.074 ± 0.004
Sac. R.–Freeport	12/17/96	40 µm Mem	1/1	< 0.012 ± 0.005
Sac. R.–Freeport	12/17/96	45 µm Cap	1/1	< 0.012 ± 0.003
Sac. R.–Freeport	12/17/96	10 kd Tan	1/1	< 0.012 ± 0.002
Sac. R.–Freeport	01/06/97	40 µm Mem	1/1	0.035 ± 0.004
Sac. R.–Freeport	01/06/97	45 µm Cap	1/1	0.062 ± 0.005
Sac. R.–Freeport	01/06/97	10 kd Tan	1/1	0.007 ± 0.008
Sac. R.–Freeport	06/05/97	40 µm Mem	1/1	0.012 ± 0.003
Sac. R.–Freeport	06/05/97	45 µm Cap	1/1	0.009 ± 0.001
Sac. R.–Freeport	06/05/97	10 kd Tan	1/1	< 0.008 ± 0.003
Sac. R.–Freeport, dup.	06/05/97	45 µm Cap	1/1	0.008 ± 0.008
Spring Cr. arm	09/18/96	10 kd Tan	1/2	< 0.005 ± 0.002
Spring Cr. arm	09/18/96	10 kd Tan	2/2	< 0.005 ± 0.004
Spring Cr. arm	11/20/96	40 µm Mem	1/1	0.012 ± 0.003
Spring Cr. arm	11/20/96	45 µm Cap	1/1	0.016 ± 0.006
Spring Cr. arm	11/20/96	10 kd Tan	1/1	< 0.012 ± 0.004
Colusa Basin Drain	06/06/97	40 µm Mem	1/1	0.022 ± 0.005
Colusa Basin Drain	06/06/97	45 µm Cap	1/1	0.023 ± 0.007
Colusa Basin Drain	06/06/97	10 kd Tan	1/1	< 0.008 ± 0.004
Yolo Bypass	01/07/97	40 µm Mem	1/1	0.013 ± 0.001
Yolo Bypass	01/07/97	45 µm Cap	1/1	0.028 ± 0.004
Yolo Bypass	01/07/97	10 kd Tan	1/2	0.029 ± 0.004
Yolo Bypass	01/07/97	10 kd Tan	2/2	< 0.005 ± 0.004

Table A4-4. Lead concentrations in unfiltered (whole) water samples collected from a single point in the stream cross section

[Br., bridge; Cr., creek; dup, duplicate; ICP–MS, inductively coupled plasma/mass spectrometry; R., River; Sac., Sacramento; Split replicate (1/2), first number identifies which replicate was analyzed, second number represents number of replicate samples. mm/dd/yy, month/day/year. µg/L, microgram per liter]

Site	Date (mm/dd/yy)	Split replicate	Lead (mg/L) ICP–MS
Sac. R.–Shasta	07/12/96	1/1	0.04 ± 0.01
Sac. R.–Shasta	09/19/96	1/1	0.026 ± 0.001
Sac. R.–Shasta	11/19/96	1/1	0.041 ± 0.010
Sac. R.–Keswick	07/11/96	1/1	0.05 ± 0.00
Sac. R.–Keswick	09/19/96	1/1	0.029 ± 0.004
Sac. R.–Keswick	11/21/96	1/1	0.31 ± 0.01
Sac. R.–Keswick	05/28/97	1/1	0.16 ± 0.00
Sac. R.–Bend Br.	07/11/96	1/1	0.09 ± 0.00
Sac. R.–Bend Br.	09/20/96	1/1	0.065 ± 0.010
Sac. R.–Bend Br.	11/22/96	1/1	0.32 ± 0.00
Sac. R.–Bend Br.	01/03/97	1/1	4.2 ± 0.2
Sac. R.–Colusa	07/16/96	1/1	0.32 ± 0.02
Sac. R.–Colusa	09/25/96	1/1	0.073 ± 0.000
Sac. R.–Colusa	11/13/96	1/1	0.076 ± 0.002
Sac. R.–Colusa	01/04/97	1/1	8.3 ± 0.1
Sac. R.–Colusa	06/03/97	1/1	0.39 ± 0.02
Sac. R.–Verona	07/18/96	1/1	0.24 ± 0.00
Sac. R.–Verona	09/26/96	1/1	0.26 ± 0.01
Sac. R.–Verona	11/14/96	1/1	0.36 ± 0.02
Sac. R.–Verona	12/18/96	1/1	0.52 ± 0.00
Sac. R.–Verona	06/04/97	1/1	0.49 ± 0.02
Sac. R.–Verona	07/18/96	1/1	0.24 ± 0.00
Sac. R.–Verona	09/26/96	1/1	0.26 ± 0.01
Sac. R.–Verona	11/14/96	1/1	0.36 ± 0.02
Sac. R.–Verona	12/18/96	1/1	0.52 ± 0.00
Sac. R.–Verona	06/04/97	1/1	0.49 ± 0.02
Sac. R.–Freeport	07/17/96	1/1	0.33 ± 0.00
Sac. R.–Freeport	09/24/96	1/1	0.30 ± 0.00
Sac. R.–Freeport	11/12/96	1/1	0.17 ± 0.00
Sac. R.–Freeport	12/17/96	1/1	0.88 ± 0.01
Sac. R.–Freeport	01/06/97	1/1	4.5 ± 0.0
Sac. R.–Freeport	06/05/97	1/1	0.35 ± 0.01
Freeport, dup.	06/05/97	1/1	0.28 ± 0.01
Spring Cr.	05/28/97	1/1	3.7 ± 0.0
Spring Cr. arm	07/12/96	1/1	0.02 ± 0.01
Spring Cr. arm	09/18/96	1/1	0.044 ± 0.007
Spring Cr. arm	11/20/96	1/1	0.11 ± 0.01
Colusa Basin Drain	06/06/97	1/1	2.1 ± 0.1
Yolo Bypass	01/07/97	1/2	3.4 ± 0.0
Yolo Bypass	01/07/97	2/2	3.5 ± 0.0