

**Table 99-15 . Selected Non-Radiological Constituents
in Red Bluff Reservoir Surface Water Samples Collected during 1998 and 1999**

See CEMRC 1999 Report "Radiological and non-radiological constituents in surface water and sediments
at selected reservoirs" for descriptions of locations and methods of data collection.

Analyte	March 10, 1998 (13.1 m depth)			October 13, 1998 (8.9 m depth)			October 13, 1998 (9.8 m depth)		
	Method	^a MDL (mg L ⁻¹)	Result (mg L ⁻¹)	Method	MDL (mg L ⁻¹)	Result (mg L ⁻¹)	Method	MDL (mg L ⁻¹)	Result (mg L ⁻¹)
Ag	^b ICPMS	^c NA	NA	ICPMS	7.78E-05	<MDL	ICPMS	7.78E-05	<MDL
Al	^d ICPES	2.27E-02	1.17E-01	ICPES	1.14E-02	<MDL	ICPES	1.14E-02	<MDL
As	^e AA	1.35E-04	8.77E-04	AA	1.35E-04	3.72E-03	AA	1.35E-04	3.84E-03
Ba	ICPES	2.89E-04	5.49E-02	ICPMS	4.49E-04	4.69E-02	ICPMS	4.49E-04	7.61E-02
Be	ICPES	8.90E-04	<MDL	ICPMS	2.91E-05	3.82E-05	ICPMS	2.91E-05	<MDL
Ca	ICPES	1.19E-01	3.86E+02	ICPES	5.95E-02	2.90E+02	ICPES	5.95E-02	2.97E+02
Cd	AA	1.60E-04	<MDL	ICPMS	4.63E-04	<MDL	ICPMS	4.63E-04	<MDL
Ce	ICPMS	NA	NA	ICPMS	3.23E-05	<MDL	ICPMS	3.23E-05	<MDL
Chloride	^f IC	3.30E-01	1.39E+03	IC	6.59E-01	1.78E+03	IC	6.59E-01	1.77E+03
Co	ICPES	7.19E-04	1.48E-02	ICPMS	3.39E-05	1.38E-03	ICPMS	3.39E-05	1.48E-03
Cr	AA	5.00E-04	3.09E-03	ICPMS	3.85E-04	6.68E-04	ICPMS	3.85E-04	9.00E-04
Cu	AA	3.00E-04	2.04E-03	ICPMS	1.61E-03	7.24E-03	ICPMS	1.61E-03	7.71E-03
Dy	ICPMS	NA	NA	ICPMS	3.66E-06	4.01E-06	ICPMS	3.66E-06	4.13E-06
Er	ICPMS	NA	NA	ICPMS	1.39E-06	<MDL	ICPMS	1.39E-06	<MDL
Eu	ICPMS	NA	NA	ICPMS	2.03E-06	1.45E-05	ICPMS	2.03E-06	2.18E-05
Fe	ICPES	1.64E-02	8.98E-02	ICPES	8.20E-03	<MDL	ICPES	8.20E-03	<MDL
Fluoride	IC	4.06E-02	1.55E+00	IC	8.11E-02	1.23E+00	IC	8.11E-02	4.05E-01
Gd	ICPMS	NA	NA	ICPMS	4.07E-06	4.29E-06	ICPMS	4.07E-06	4.22E-06
Hg	AA	5.00E-06	<MDL	AA	1.00E-05	<MDL	AA	1.00E-05	<MDL
K	ICPES	1.75E-02	2.21E+01	ICPES	8.75E-03	1.70E+01	ICPES	8.75E-03	1.76E+01
La	ICPMS	NA	NA	ICPMS	1.77E-05	2.84E-05	ICPMS	1.77E-05	3.31E-05

Li	ICPMS	NA	NA	ICPMS	5.30E-04	7.91E-02	ICPMS	5.30E-04	7.82E-02
Mg	ICPES	1.09E-02	1.49E+02	ICPES	5.45E-03	1.14E+02	ICPES	5.45E-03	1.18E+02
Mn	ICPES	4.72E-04	1.54E-02	ICPMS	5.71E-04	1.22E-02	ICPMS	5.71E-04	2.73E-02
Mo	ICPES	4.78E-04	2.36E-03	ICPMS	2.41E-05	4.79E-03	ICPMS	2.41E-05	4.61E-03
Na	ICPES	1.33E-01	8.07E+02	ICPES	6.65E-01	1.20E+03	ICPES	6.65E-01	1.20E+03
Nd	ICPMS	NA	NA	ICPMS	1.41E-05	1.45E-05	ICPMS	1.41E-05	1.66E-05
Ni	AA	5.00E-04	1.24E-03	ICPMS	1.76E-03	1.49E-02	ICPMS	1.76E-03	2.87E-02
Nitrate	IC	5.55E-02	2.26E+00	IC	1.11E-01	<MDL	IC	1.11E-01	<MDL
Pb	AA	1.00E-03	<MDL	ICPMS	1.91E-03	<MDL	ICPMS	1.91E-03	<MDL
Phosphate	IC	1.02E-01	<MDL	IC	2.04E-01	<MDL	IC	2.04E-01	<MDL
Pr	ICPMS	NA	NA	ICPMS	5.17E-06	5.44E-06	ICPMS	5.17E-06	7.27E-06
Sb	AA	2.75E-04	5.60E-04	ICPMS	2.43E-04	4.55E-04	ICPMS	2.43E-04	6.58E-04
Se	AA	2.10E-04	7.99E-04	AA	2.10E-04	9.20E-04	AA	2.10E-04	8.85E-04
Sm	ICPMS	NA	NA	ICPMS	1.95E-06	2.26E-05	ICPMS	1.95E-06	3.77E-05
Sn	ICPMS	NA	NA	ICPMS	1.96E-02	<MDL	ICPMS	1.96E-02	<MDL
Sr	ICPES	3.79E-04	6.21E+00	ICPMS	5.30E-04	8.81E+00	ICPMS	5.30E-04	8.47E+00
Sulfate	IC	1.08E-01	2.04E+03	IC	2.16E-01	2.44E+03	IC	2.16E-01	2.43E+03
Th	ICPMS	NA	NA	ICPMS	5.58E-06	1.97E-05	ICPMS	5.58E-06	1.46E-05
Ti	ICPMS	NA	NA	ICPMS	3.92E-04	5.94E-01	ICPMS	3.92E-04	5.77E-01
Tl	ICPMS	NA	NA	ICPMS	7.91E-03	<MDL	ICPMS	7.91E-03	<MDL
U	ICPMS	NA	NA	ICPMS	1.90E-06	7.89E-03	ICPMS	1.90E-06	7.40E-03
V	ICPES	1.47E-03	3.82E-03	ICPMS	5.09E-04	5.65E-03	ICPMS	5.09E-04	4.47E-03
Zn	ICPES	9.89E-04	1.79E-02	ICPMS	2.15E-02	<MDL	ICPMS	2.15E-02	<MDL

	Collection Date and Sampling Depth					
	July 27, 1999 (0.3 m depth)			July 27, 1999 (13.2 m depth)		
Analyte	Method	MDL (mg L ⁻¹)	Result (mg L ⁻¹)	Method	MDL (mg L ⁻¹)	Result (mg L ⁻¹)
Ag	ICPMS	7.78E-05	<MDL	ICPMS	7.78E-05	<MDL
Al	ICPMS	1.74E-02	<MDL	ICPMS	1.74E-02	1.91E-02
As	AA	6.00E-05	2.88E-03	AA	6.00E-05	4.97E-03
Ba	ICPMS	4.49E-04	7.03E-02	ICPMS	4.49E-04	6.43E-02
Be	ICPMS	2.91E-05	3.29E-05	ICPMS	2.91E-05	<MDL
Ca	ICPMS	1.46E+01	4.20E+02	ICPMS	1.46E+01	4.98E+02
Cd	ICPMS	4.63E-04	<MDL	ICPMS	4.63E-04	<MDL
Ce	ICPMS	3.23E-05	3.93E-05	ICPMS	3.23E-05	6.40E-05
Chloride	IC	3.30E+00	1.16E+03	IC	3.30E+00	2.19E+03
Co	ICPMS	3.39E-05	1.42E-03	ICPMS	3.39E-05	1.93E-03
Cr	ICPMS	3.85E-04	<MDL	ICPMS	3.85E-04	4.59E-04
Cu	ICPMS	1.61E-03	6.73E-03	ICPMS	1.61E-03	8.14E-03
Dy	ICPMS	3.66E-06	<MDL	ICPMS	3.66E-06	<MDL
Er	ICPMS	1.39E-06	2.08E-06	ICPMS	1.39E-06	3.23E-06
Eu	ICPMS	2.03E-06	2.63E-05	ICPMS	2.03E-06	2.21E-05
Fe	ICPMS	3.40E-02	<MDL	ICPMS	3.40E-02	7.15E-02
Fluoride	IC	4.06E-02	3.77E+00	IC	4.06E-02	3.77E+00
Gd	ICPMS	4.07E-06	5.09E-06	ICPMS	4.07E-06	5.85E-06
Hg	AA	6.00E-06	<MDL	AA	6.00E-06	<MDL
K	ICPMS	5.89E+00	1.92E+01	ICPMS	5.89E+00	2.67E+01
La	ICPMS	1.77E-05	3.51E-05	ICPMS	1.77E-05	4.68E-05
Li	ICPMS	5.30E-04	5.14E-02	ICPMS	5.30E-04	6.77E-02
Mg	ICPMS	1.88E+00	1.24E+02	ICPMS	1.88E+00	1.82E+02
Mn	ICPMS	5.71E-04	3.58E-02	ICPMS	5.71E-02	2.72E-01

Mo	ICPMS	2.41E-05	3.86E-03	ICPMS	2.41E-05	3.00E-03
Na	ICPMS	1.93E+01	7.20E+02	ICPMS	1.93E+01	1.04E+03
Nd	ICPMS	1.41E-05	2.06E-05	ICPMS	1.41E-05	3.12E-05
Ni	ICPMS	1.76E-03	1.35E-02	ICPMS	1.76E-03	1.39E-02
Nitrate	IC	5.55E-02	<MDL	IC	5.55E-02	<MDL
Pb	ICPMS	1.91E-03	<MDL	ICPMS	1.91E-03	<MDL
Phosphate	IC	1.02E-01	<MDL	IC	1.02E-01	<MDL
Pr	ICPMS	5.17E-06	7.11E-06	ICPMS	5.17E-06	8.10E-06
Sb	ICPMS	2.43E-04	3.35E-04	ICPMS	2.43E-04	3.93E-04
Se	AA	2.60E-04	<MDL	AA	2.60E-04	<MDL
Sm	ICPMS	1.95E-06	3.80E-05	ICPMS	1.95E-06	3.11E-05
Sn	ICPMS	1.96E-02	<MDL	ICPMS	1.96E-02	<MDL
Sr	ICPMS	5.30E-02	5.80E+00	ICPMS	5.30E-02	7.65E+00
Sulfate	IC	1.08E+00	2.12E+03	IC	1.08E+00	2.31E+03
Th	ICPMS	5.58E-06	<MDL	ICPMS	5.58E-06	1.25E-05
Ti	ICPMS	3.92E-02	6.70E-01	ICPMS	3.92E-02	7.90E-01
Tl	ICPMS	7.91E-03	<MDL	ICPMS	7.91E-03	<MDL
U	ICPMS	1.90E-06	4.71E-03	ICPMS	1.90E-06	5.98E-03
V	ICPMS	5.09E-04	3.37E-03	ICPMS	5.09E-04	2.48E-03
Zn	ICPMS	2.15E-02	<MDL	ICPMS	2.15E-02	<MDL

^aMDL = Method Detection Limit

^bICPMS = Inductively-Coupled Mass Spectrometry

^cNA = Sample was not analyzed for target analyte

^dICPES = Inductively-Coupled Plasma Emission Spectroscopy

^eAA = Atomic Absorption Spectroscopy

^fIC = Ion Chromatography