

Table 99-9. Activity Concentration of Selected Radionuclides Measured by Gamma Spectroscopy in Red Bluff Reservoir Surface Water Samples Collected during 1998

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.

	Collection Date and Sampling Depth					
	March 10, 1998 (0.9 m depth)			March 10, 1998 (9.1 m depth)		
Nuclide	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)
²²⁸ Ac	<MDC		1.05E-01	<MDC		1.00E-01
⁷ Be	<MDC		3.77E-01	<MDC		3.50E-01
²¹² Bi	<MDC		3.01E-01	<MDC		2.23E-01
²¹³ Bi	^d NA	NA	NA	NA	NA	NA
²¹⁴ Bi	<MDC		1.08E-01	<MDC		1.01E-01
¹⁴⁴ Ce	NA	NA	NA	NA	NA	NA
²⁴⁹ Cf	NA	NA	NA	NA	NA	NA
⁶⁰ Co	<MDC		3.44E-02	<MDC		3.11E-02
¹³⁴ Cs	NA	NA	NA	NA	NA	NA
¹³⁷ Cs	<MDC		4.38E-02	<MDC		3.20E-02
¹⁵² Eu	NA	NA	NA	NA	NA	NA
¹⁵⁴ Eu	NA	NA	NA	NA	NA	NA
¹⁵⁵ Eu	NA	NA	NA	NA	NA	NA
⁴⁰ K	3.63E-01	1.07E-01	3.45E-01	2.88E-01	1.11E-01	3.60E-01
²³³ Pa	NA	NA	NA	NA	NA	NA
^{234m} Pa	<MDC		5.44E+00	<MDC		5.08E+00
²¹⁰ Pb	<MDC		7.65E+00	<MDC		5.49E+00
²¹² Pb	<MDC		7.68E-02	<MDC		5.26E-02
²¹⁴ Pb	<MDC		8.45E-02	<MDC		6.11E-02
¹⁰⁶ Rh	NA	NA	NA	NA	NA	NA
¹²⁵ Sb	NA	NA	NA	NA	NA	NA
²³⁴ Th	<MDC		5.29E-01	<MDC		4.91E-01
²⁰⁸ Tl	<MDC		3.19E-02	<MDC		2.89E-02
²³⁵ U	<MDC		2.19E-01	<MDC		2.08E-01

Nuclide	Collection Date and Sampling Depth					
	March 11, 1998 (0.6 m depth)			March 11, 1998 (10.1 m depth)		
	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)
²²⁸ Ac	<MDC		1.05E-01	<MDC		1.05E-01
⁷ Be	<MDC		4.00E-01	<MDC		3.50E-01
²¹² Bi	<MDC		2.49E-01	<MDC		2.33E-01
²¹³ Bi	NA	NA	NA	NA	NA	NA
²¹⁴ Bi	<MDC		1.05E-01	<MDC		9.96E-02
¹⁴⁴ Ce	NA	NA	NA	NA	NA	NA
²⁴⁹ Cf	NA	NA	NA	NA	NA	NA
⁶⁰ Co	<MDC		3.37E-02	<MDC		3.01E-02
¹³⁴ Cs	NA	NA	NA	NA	NA	NA
¹³⁷ Cs	<MDC		3.21E-02	<MDC		3.06E-02
¹⁵² Eu	NA	NA	NA	NA	NA	NA
¹⁵⁴ Eu	NA	NA	NA	NA	NA	NA
¹⁵⁵ Eu	NA	NA	NA	NA	NA	NA
⁴⁰ K	<MDC		4.15E-01	<MDC		4.07E-01
²³³ Pa	NA	NA	NA	NA	NA	NA
^{234m} Pa	<MDC		5.27E+00	<MDC		4.91E+00
²¹⁰ Pb	<MDC		7.59E+00	<MDC		5.57E+00
²¹² Pb	<MDC		7.37E-02	<MDC		5.22E-02
²¹⁴ Pb	<MDC		6.76E-02	<MDC		6.11E-02
¹⁰⁶ Rh	NA	NA	NA	NA	NA	NA
¹²⁵ Sb	NA	NA	NA	NA	NA	NA
²³⁴ Th	<MDC		5.37E-01	<MDC		4.85E-01
²⁰⁸ Tl	<MDC		3.12E-02	<MDC		3.48E-02
²³⁵ U	<MDC		2.24E-01	<MDC		2.07E-01

Nuclide	Collection Date and Sampling Depth					
	October 13, 1998 (0.9 m depth)			October 13, 1998 (9.8 m depth)		
	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)
²²⁸ Ac	<MDC		1.61E-01	<MDC		1.62E-01
⁷ Be	<MDC		3.99E-01	<MDC		4.85E-01
²¹² Bi	<MDC		5.96E-01	<MDC		5.67E-01
²¹³ Bi	<MDC		1.29E-01	<MDC		1.28E-01
²¹⁴ Bi	<MDC		1.26E-01	<MDC		1.22E-01
¹⁴⁴ Ce	<MDC		2.70E-01	<MDC		2.71E-01
²⁴⁹ Cf	<MDC		5.35E-02	<MDC		5.15E-02
⁶⁰ Co	<MDC		4.61E-02	<MDC		4.61E-02
¹³⁴ Cs	<MDC		3.73E-02	<MDC		3.90E-02
¹³⁷ Cs	<MDC		4.49E-02	<MDC		4.57E-02
¹⁵² Eu	<MDC		1.44E-01	<MDC		1.43E-01
¹⁵⁴ Eu	<MDC		1.30E-01	<MDC		1.31E-01
¹⁵⁵ Eu	<MDC		1.65E-01	<MDC		1.63E-01
⁴⁰ K	8.05E-01	2.25E-01	7.30E-01	1.25E+00	2.28E-01	7.29E-01
²³³ Pa	<MDC		8.75E-02	<MDC		8.40E-02
^{234m} Pa	<MDC		5.28E+00	<MDC		5.05E+00
²¹⁰ Pb	<MDC		9.58E+00	<MDC		9.53E+00
²¹² Pb	<MDC		9.97E-02	<MDC		9.96E-02
²¹⁴ Pb	<MDC		8.34E-02	<MDC		8.55E-02
¹⁰⁶ Rh	<MDC		4.01E-01	<MDC		4.09E-01
¹²⁵ Sb	<MDC		1.17E-01	<MDC		1.16E-01
²³⁴ Th	<MDC		7.24E-01	<MDC		7.09E-01
²⁰⁸ Tl	<MDC		5.75E-02	<MDC		5.78E-02
²³⁵ U	<MDC		1.64E-01	<MDC		1.64E-01

^aActivity concentrations of all radionuclides were measured using gamma spectroscopy

^bSD=count standard deviation

^cMDC = minimum detectable concentration

^dNA = sample was not analyzed for target analyte