

Table 00-13. Activity Concentrations of Radionuclides Measured by Gamma Spectroscopy in Surface Water Samples from Brantley Lake, Lake Carlsbad, and Red Bluff Reservoir Collected during 2000

See CEMRC 2000 Report “Radiological and non-radiological constituents in surface water and sediments at selected reservoirs” for descriptions of locations and methods of data collection.

Isotope	Brantley Lake (Sampled 31 May 2000)					
	0.5 m depth			13.7 m depth		
	Activity Concentration (Bq L ⁻¹)	^a SD (Bq L ⁻¹)	^b MDC (Bq L ⁻¹)	Activity Concentration (Bq L ⁻¹)	SD (Bq L ⁻¹)	MDC (Bq L ⁻¹)
¹⁰⁶ Rh	<MDC		7.08E-01	<MDC		4.74E-01
¹²⁵ Sb	<MDC		2.04E-01	<MDC		1.43E-01
¹³⁴ Cs	<MDC		6.69E-02	<MDC		4.70E-02
¹³⁷ Cs	<MDC		7.33E-02	<MDC		5.19E-02
¹⁴⁴ Ce	<MDC		4.65E-01	<MDC		3.16E-01
¹⁵² Eu	<MDC		2.18E-01	<MDC		1.84E-01
¹⁵⁴ Eu	<MDC		2.38E-01	<MDC		1.59E-01
¹⁵⁵ Eu	<MDC		2.81E-01	<MDC		1.98E-01
²²⁸ Ac	<MDC		2.77E-01	<MDC		1.85E-01
²³³ Pa	<MDC		1.48E-01	<MDC		1.03E-01
^{234m} Pa	<MDC		8.89E+00	<MDC		6.37E+00
²³⁴ Th	<MDC		1.24E+00	<MDC		8.69E-01
²³⁵ U	<MDC		2.82E-01	<MDC		2.00E-01
²⁴⁹ Cf	<MDC		9.28E-02	<MDC		6.18E-02
⁴⁰ K	<MDC		1.21E+00	<MDC		9.05E-01
⁶⁰ Co	<MDC		7.88E-02	<MDC		5.58E-02
⁷ Be	<MDC		6.28E-01	<MDC		4.14E-01
Isotope	Lake Carlsbad (Sampled 24 May 2000)					
	0.5 m depth			2.1 m depth		
	Activity Concentration (Bq L ⁻¹)	SD (Bq L ⁻¹)	MDC (Bq L ⁻¹)	Activity Concentration (Bq L ⁻¹)	SD (Bq L ⁻¹)	MDC (Bq L ⁻¹)
¹⁰⁶ Rh	<MDC		7.11E-01	<MDC		6.60E-01
¹²⁵ Sb	<MDC		2.03E-01	<MDC		1.83E-01
¹³⁴ Cs	<MDC		6.43E-02	<MDC		6.05E-02
¹³⁷ Cs	<MDC		7.41E-02	<MDC		6.93E-02

¹⁴⁴ Ce	<MDC		4.63E-01	<MDC		4.03E-01
¹⁵² Eu	<MDC		2.24E-01	<MDC		1.97E-01
¹⁵⁴ Eu	<MDC		2.44E-01	<MDC		2.18E-01
¹⁵⁵ Eu	<MDC		2.83E-01	<MDC		2.60E-01
²²⁸ Ac	<MDC		2.79E-01	<MDC		2.57E-01
²³³ Pa	<MDC		1.54E-01	<MDC		1.34E-01
^{234m} Pa	<MDC		9.21E+00	<MDC		8.20E+00
²³⁴ Th	<MDC		1.26E+00	<MDC		1.11E+00
²³⁵ U	<MDC		2.77E-01	<MDC		2.49E-01
²⁴⁹ Cf	<MDC		9.22E-02	<MDC		8.21E-02
⁴⁰ K	<MDC		1.12E+00	<MDC		1.07E+00
⁶⁰ Co	<MDC		7.98E-02	<MDC		7.73E-02
⁷ Be	<MDC		6.79E-01	<MDC		6.31E-01
Isotope	Red Bluff Reservoir (Sampled 6 June 2000)					
	0.5 m depth			11.3 m depth		
	Activity Concentration (Bq L⁻¹)	SD (Bq L⁻¹)	MDC (Bq L⁻¹)	Activity Concentration (Bq L⁻¹)	SD (Bq L⁻¹)	MDC (Bq L⁻¹)
¹⁰⁶ Rh	<MDC		6.37E-01	<MDC		7.07E-01
¹²⁵ Sb	<MDC		1.90E-01	<MDC		2.06E-01
¹³⁴ Cs	<MDC		5.88E-02	<MDC		6.44E-02
¹³⁷ Cs	<MDC		6.74E-02	<MDC		7.86E-02
¹⁴⁴ Ce	<MDC		4.07E-01	<MDC		4.62E-01
¹⁵² Eu	<MDC		2.02E-01	<MDC		2.18E-01
¹⁵⁴ Eu	<MDC		2.07E-01	<MDC		2.22E-01
¹⁵⁵ Eu	<MDC		2.54E-01	<MDC		2.86E-01
²²⁸ Ac	<MDC		2.58E-01	<MDC		2.80E-01
²³³ Pa	<MDC		1.35E-01	<MDC		1.45E-01
^{234m} Pa	<MDC		8.56E+00	<MDC		8.44E+00
²³⁴ Th	<MDC		1.16E+00	<MDC		1.24E+00
²³⁵ U	<MDC		2.56E-01	<MDC		2.89E-01
²⁴⁹ Cf	<MDC		8.61E-02	<MDC		9.52E-02
⁴⁰ K	1.26E+00	3.30E-01	1.06E+00	1.22E+00	3.43E-01	1.11E+00
⁶⁰ Co	<MDC		7.40E-02	<MDC		7.43E-02
⁷ Be	<MDC		5.60E-01	<MDC		5.83E-01

^aSD = One standard deviation of the radioanalytical uncertainty

^bMDC = Minimum Detectable Concentration