

Table 99-8. Activity Concentration of Selected Radionuclides Measured by Gamma Spectroscopy in Lake Carlsbad 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.

Nuclide	Collection Date and Sampling Depth					
	March 19, 1998 (0.3 m depth)			March 19, 1998 (1.5 m depth)		
	^a Activity Concentration (Bq L ⁻¹)	^b SD (Bq L ⁻¹)	^c MDC (Bq L ⁻¹)	Activity Concentration (Bq L ⁻¹)	SD (Bq L ⁻¹)	MDC (Bq L ⁻¹)
²²⁸ Ac	<MDC		1.55E-01	<MDC		1.11E-01
⁷ Be	<MDC		3.40E-01	<MDC		3.70E-01
²¹² Bi	<MDC		2.38E-01	<MDC		2.49E-01
²¹³ Bi	NA	NA	NA	NA	NA	NA
²¹⁴ Bi	<MDC		1.01E-01	<MDC		1.07E-01
¹⁴⁴ Ce	NA	NA	NA	NA	NA	NA
²⁴⁹ Cf	NA	NA	NA	NA	NA	NA
⁶⁰ Co	<MDC		2.99E-02	<MDC		3.34E-02
¹³⁴ Cs	NA	NA	NA	NA	NA	NA
¹³⁷ Cs	<MDC		3.02E-02	<MDC		3.39E-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		3.89E-01	<MDC		4.15E-01
²³³ Pa	NA	NA	NA	NA	NA	NA
^{234m} Pa	<MDC		4.93E+00	<MDC		5.32E+00
²¹⁰ Pb	<MDC		5.45E+00	<MDC		7.45E+00
²¹² Pb	<MDC		7.65E-02	<MDC		7.00E-02
²¹⁴ Pb	<MDC		6.08E-02	<MDC		6.63E-02

¹⁰⁶ Rh	NA	NA	NA	NA	NA	NA
¹²⁵ Sb	NA	NA	NA	NA	NA	NA
²³⁴ Th	<MDC		4.76E-01	<MDC		5.13E-01
²⁰⁸ Tl	<MDC		4.85E-02	<MDC		4.10E-02
²³⁵ U	<MDC		2.08E-01	<MDC		2.23E-01
Collection Date and Sampling Depth						
August 19, 1998 (0.5 m depth)			August 19, 1998 (2.1 m depth)			
Nuclide	^aActivity Concentration (Bq L⁻¹)	^bSD (Bq L⁻¹)	^cMDC (Bq L⁻¹)	Activity Concentration (Bq L⁻¹)	SD (Bq L⁻¹)	MDC (Bq L⁻¹)
²²⁸ Ac	<MDC		1.62E-01	<MDC		1.45E-01
⁷ Be	<MDC		3.71E-01	<MDC		3.37E-01
²¹² Bi	<MDC		5.69E-01	<MDC		5.28E-01
²¹³ Bi	<MDC		1.29E-01	<MDC		1.17E-01
²¹⁴ Bi	<MDC		1.21E-01	<MDC		1.15E-01
¹⁴⁴ Ce	<MDC		2.58E-01	<MDC		2.32E-01
²⁴⁹ Cf	<MDC		5.17E-02	<MDC		4.69E-02
⁶⁰ Co	<MDC		4.57E-02	<MDC		3.99E-02
¹³⁴ Cs	<MDC		3.83E-02	<MDC		3.47E-02
¹³⁷ Cs	<MDC		4.43E-02	<MDC		4.04E-02
¹⁵² Eu	<MDC		1.40E-01	<MDC		1.27E-01
¹⁵⁴ Eu	<MDC		1.27E-01	<MDC		1.17E-01
¹⁵⁵ Eu	<MDC		1.61E-01	<MDC		1.44E-01
⁴⁰ K	<MDC		7.10E-01	<MDC		6.76E-01
²³³ Pa	<MDC		8.42E-02	<MDC		7.64E-02
^{234m} Pa	<MDC		4.98E+00	<MDC		4.65E+00
²¹⁰ Pb	<MDC		9.37E+00	<MDC		6.61E+00
²¹² Pb	<MDC		9.83E-02	<MDC		8.87E-02
²¹⁴ Pb	<MDC		8.25E-02	<MDC		7.49E-02
¹⁰⁶ Rh	<MDC		3.89E-01	<MDC		3.67E-01

¹²⁵ Sb	<MDC		1.14E-01	<MDC		1.07E-01
²³⁴ Th	<MDC		7.09E-01	<MDC		6.27E-01
²⁰⁸ Tl	<MDC		5.71E-02	<MDC		5.31E-02
²³⁵ U	<MDC		1.60E-01	<MDC		1.45E-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