

Table 99-16. Activity Concentration of Selected Alpha-emitting Radionuclides in Brantley Lake Sediment Samples Collected during 1997-1998

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	Water Depth (m)	^{239,240} Pu		
		^a Activity Concentration (mBq g ⁻¹)	^b SD (mBq g ⁻¹)	^c MDC (mBq g ⁻¹)
3/19/97	12.8	3.26E-01	3.32E-02	9.27E-02
3/19/97	13.4	2.97E-01	3.34E-02	9.42E-02
3/20/97	11.9	1.67E-01	1.13E-02	2.96E-02
3/20/97	12.5	NA	NA	NA
3/20/97	13.4	2.69E-01	1.63E-02	8.25E-02
1/30/98	12.2	2.59E-01	7.40E-02	1.74E-01
1/30/98	12.8	2.22E-01	4.44E-02	5.18E-02
2/4/98	11.6	2.59E-01	4.44E-02	8.51E-02
2/4/98	12.8	2.96E-01	5.55E-02	1.18E-01
10/7/98	11.0	2.46E-01	2.37E-02	2.52E-02
10/7/98	11.9	2.41E-01	2.11E-02	2.33E-02
10/8/98	13.4	2.15E-01	2.63E-02	4.07E-02
10/8/98	14.0	2.93E-01	2.74E-02	2.96E-02

Collection Date	Water Depth (m)	²³⁸ U			²³⁵ U			²³⁴ U		
		Activity Concentration (mBq g ⁻¹)	SD (mBq g ⁻¹)	MDC (mBq g ⁻¹)	Activity Concentration (mBq g ⁻¹)	SD (mBq g ⁻¹)	MDC (mBq g ⁻¹)	Activity Concentration (mBq g ⁻¹)	SD (mBq g ⁻¹)	MDC (mBq g ⁻¹)
3/19/97	12.8	7.49E+00	3.47E-01	3.40E-01	NA	NA	NA	9.87E+00	4.34E-01	4.02E-01
3/19/97	13.4	3.54E+01	1.47E+00	1.82E-01	NA	NA	NA	3.84E+01	1.58E+00	1.70E-01
3/20/97	11.9	8.21E+00	4.43E-01	3.56E-01	NA	NA	NA	1.06E+01	4.19E-01	2.92E-01
3/20/97	12.5	2.97E+01	1.33E+00	1.19E-01	NA	NA	NA	3.48E+01	1.54E+00	1.74E-01
3/20/97	13.4	2.38E+01	1.05E+00	3.65E-02	NA	NA	NA	2.64E+01	1.16E+00	9.87E-02
1/30/98	12.2	4.30E+01	1.81E+00	3.70E-02	1.96E+00	1.55E-01	3.52E-02	6.52E+01	2.70E+00	4.81E-02
1/30/98	12.8	3.63E+01	1.52E+00	2.55E-02	1.62E+00	1.30E-01	2.55E-02	4.08E+01	1.70E+00	2.55E-02
2/4/98	11.6	3.53E+01	1.52E+00	2.96E-02	1.74E+00	1.48E-01	3.22E-02	5.18E+01	2.22E+00	2.89E-02
2/4/98	12.8	4.07E+01	1.70E+00	2.70E-02	2.53E+00	1.81E-01	3.22E-02	5.61E+01	2.33E+00	2.52E-02
10/7/98	11.0	4.11E+01	2.18E+00	4.07E-02	2.15E+00	1.55E-01	4.07E-02	6.37E+01	3.33E+00	4.44E-02
10/7/98	11.9	4.55E+01	2.44E+00	3.37E-02	2.18E+00	1.52E-01	3.40E-02	6.79E+01	3.63E+00	5.18E-02
10/8/98	13.4	4.26E+01	2.81E+00	2.15E-02	2.03E+00	2.44E-01	3.70E-02	6.22E+01	4.07E+00	4.44E-02
10/8/98	14.0	2.97E+01	1.59E+00	3.33E-02	1.71E+00	1.37E-01	4.44E-02	4.34E+01	2.33E+00	4.81E-02

Collection Date	Water Depth (m)	²³² Th			²³⁰ Th			²²⁸ Th		
		Activity Concentration (mBq g ⁻¹)	SD (mBq g ⁻¹)	MDC (mBq g ⁻¹)	Activity Concentration (mBq g ⁻¹)	SD (mBq g ⁻¹)	MDC (mBq g ⁻¹)	Activity Concentration (mBq g ⁻¹)	SD (mBq g ⁻¹)	MDC (mBq g ⁻¹)
3/19/97	12.8	2.11E+01	1.23E+00	3.08E-02	2.67E+01	1.54E+00	3.08E-02	2.25E+01	1.33E+00	3.08E-02
3/19/97	13.4	9.60E+01	1.10E+01	1.67E+00	4.29E+01	5.01E+00	1.44E+00	2.85E+01	3.58E+00	7.02E+00
3/20/97	11.9	1.19E+01	4.56E-01	2.08E-03	1.45E+01	5.47E-01	2.08E-03	1.11E+01	4.25E-01	2.08E-03
3/20/97	12.5	2.44E+01	1.33E+00	2.24E-02	3.28E+01	1.84E+00	2.24E-02	2.56E+01	1.43E+00	2.24E-02
3/20/97	13.4	7.46E+01	4.97E+00	9.19E-01	9.69E+01	6.39E+00	1.36E+00	8.21E+01	5.38E+00	1.38E+00
1/30/98	12.2	2.97E+01	1.96E+00	4.44E-01	3.60E+01	2.33E+00	2.11E+00	3.06E+01	2.07E+00	1.89E+00
1/30/98	12.8	5.01E+01	2.63E+00	4.81E-01	6.54E+01	3.29E+00	1.67E+00	4.50E+01	2.52E+00	1.96E+00
2/4/98	11.6	3.47E+01	2.33E+00	6.66E-01	3.27E+01	2.37E+00	2.00E+00	3.46E+01	2.44E+00	2.11E+00
2/4/98	12.8	3.54E+01	2.33E+00	2.59E-01	4.28E+01	2.74E+00	2.04E+00	3.88E+01	2.52E+00	1.70E+00
10/7/98	11.0	2.95E+01	1.52E+00	4.81E-01	3.23E+01	1.67E+00	1.55E+00	3.35E+01	1.74E+00	2.00E+00
10/7/98	11.9	3.15E+01	1.74E+00	5.18E-01	3.64E+01	2.00E+00	1.89E+00	3.49E+01	1.96E+00	1.92E+00
10/8/98	13.4	3.62E+01	1.78E+00	4.44E-01	3.44E+01	1.78E+00	1.59E+00	3.84E+01	1.92E+00	1.63E+00
10/8/98	14.0	3.96E+01	2.04E+00	4.81E-01	6.02E+01	2.85E+00	1.81E+00	4.31E+01	2.22E+00	1.78E+00

^aActivity concentrations of all radionuclides were measured using alpha spectroscopy

^bSD=count standard deviation

^cMDC = minimum detectable concentration

^dNA = sample was not analyzed for target analyte or analysis failed