

**Table 99-7. Activity Concentration of Selected Radionuclides Measured by Gamma Spectroscopy in Brantley Lake 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					
	January 30, 1998 (1.5 m depth)			January 30, 1998 (12.5 m depth)		
	<sup>a</sup> Activity Concentration (Bq L <sup>-1</sup> )	<sup>b</sup> SD (Bq L <sup>-1</sup> )	<sup>c</sup> MDC (Bq L <sup>-1</sup> )	Activity Concentration (Bq L <sup>-1</sup> )	SD (Bq L <sup>-1</sup> )	MDC (Bq L <sup>-1</sup> )
<sup>228</sup> Ac	<MDC		1.00E-01	<MDC		1.13E-01
<sup>7</sup> Be	<MDC		4.28E-01	<MDC		5.88E-01
<sup>212</sup> Bi	<MDC		2.21E-01	<MDC		2.35E-01
<sup>213</sup> Bi	<sup>d</sup> NA	NA	NA	NA	NA	NA
<sup>214</sup> Bi	<MDC		1.09E-01	<MDC		1.06E-01
<sup>144</sup> Ce	NA	NA	NA	NA	NA	NA
<sup>249</sup> Cf	NA	NA	NA	NA	NA	NA
<sup>60</sup> Co	<MDC		3.12E-02	<MDC		3.32E-02
<sup>134</sup> Cs	NA	NA	NA	NA	NA	NA
<sup>137</sup> Cs	<MDC		2.96E-02	<MDC		3.28E-02
<sup>152</sup> Eu	NA	NA	NA	NA	NA	NA
<sup>154</sup> Eu	NA	NA	NA	NA	NA	NA
<sup>155</sup> Eu	NA	NA	NA	NA	NA	NA
<sup>40</sup> K	<MDC		3.24E-01	<MDC		3.86E-01
<sup>233</sup> Pa	NA	NA	NA	NA	NA	NA
<sup>234m</sup> Pa	<MDC		4.96E+00	<MDC		5.20E+00
<sup>210</sup> Pb	<MDC		5.41E+00	<MDC		7.57E+00
<sup>212</sup> Pb	<MDC		5.17E-02	<MDC		5.58E-02
<sup>214</sup> Pb	<MDC		6.08E-02	<MDC		6.67E-02
<sup>106</sup> Rh	NA	NA	NA	NA	NA	NA
<sup>125</sup> Sb	NA	NA	NA	NA	NA	NA
<sup>234</sup> Th	<MDC		4.81E-01	<MDC		5.24E-01
<sup>208</sup> Tl	<MDC		3.40E-02	<MDC		3.11E-02
<sup>235</sup> U	<MDC		2.02E-01	<MDC		2.20E-01

	Collection Date and Sampling Depth					
	February 4, 1998 (0.6 m depth)			February 4, 1998 (11.3 m depth)		
Nuclide	Activity Concentration (Bq L <sup>-1</sup> )	SD (Bq L <sup>-1</sup> )	MDC (Bq L <sup>-1</sup> )	Activity Concentration (Bq L <sup>-1</sup> )	SD (Bq L <sup>-1</sup> )	MDC (Bq L <sup>-1</sup> )
<sup>228</sup> Ac	<MDC		1.05E-01	<MDC		1.01E-01
<sup>7</sup> Be	<MDC		5.45E-01	<MDC		5.12E-01
<sup>212</sup> Bi	<MDC		2.32E-01	<MDC		2.24E-01
<sup>213</sup> Bi	NA	NA	NA	NA	NA	NA
<sup>214</sup> Bi	<MDC		1.05E-01	<MDC		9.90E-02
<sup>144</sup> Ce	NA	NA	NA	NA	NA	NA
<sup>249</sup> Cf	NA	NA	NA	NA	NA	NA
<sup>60</sup> Co	<MDC		3.25E-02	<MDC		3.11E-02
<sup>134</sup> Cs	NA	NA	NA	NA	NA	NA
<sup>137</sup> Cs	<MDC		3.25E-02	<MDC		3.06E-02
<sup>152</sup> Eu	NA	NA	NA	NA	NA	NA
<sup>154</sup> Eu	NA	NA	NA	NA	NA	NA
<sup>155</sup> Eu	NA	NA	NA	NA	NA	NA
<sup>40</sup> K	<MDC		3.45E-01	<MDC		3.87E-01
<sup>233</sup> Pa	NA	NA	NA	NA	NA	NA
<sup>234m</sup> Pa	<MDC		5.22E+00	<MDC		4.88E+00
<sup>210</sup> Pb	<MDC		7.55E+00	<MDC		5.50E+00
<sup>212</sup> Pb	<MDC		4.49E-02	<MDC		5.14E-02
<sup>214</sup> Pb	<MDC		6.56E-02	<MDC		6.02E-02
<sup>106</sup> Rh	NA	NA	NA	NA	NA	NA
<sup>125</sup> Sb	NA	NA	NA	NA	NA	NA
<sup>234</sup> Th	<MDC		5.24E-01	<MDC		4.81E-01
<sup>208</sup> Tl	<MDC		3.07E-02	<MDC		2.83E-02
<sup>235</sup> U	<MDC		2.20E-01	<MDC		2.04E-01

Nuclide	Collection Date and Sampling Depth					
	October 7, 1998 (0.9 m depth)			October 7, 1998 (13.7 m depth)		
	Activity Concentration (Bq L <sup>-1</sup> )	SD (Bq L <sup>-1</sup> )	MDC (Bq L <sup>-1</sup> )	Activity Concentration (Bq L <sup>-1</sup> )	SD (Bq L <sup>-1</sup> )	MDC (Bq L <sup>-1</sup> )
<sup>228</sup> Ac	<MDC		1.56E-01	<MDC		1.48E-01
<sup>7</sup> Be	<MDC		3.36E-01	<MDC		4.05E-01
<sup>212</sup> Bi	<MDC		5.75E-01	<MDC		8.21E-01
<sup>213</sup> Bi	<MDC		1.31E-01	<MDC		1.24E-01
<sup>214</sup> Bi	<MDC		1.24E-01	<MDC		1.23E-01
<sup>144</sup> Ce	<MDC		2.54E-01	<MDC		2.71E-01
<sup>249</sup> Cf	<MDC		5.17E-02	<MDC		5.21E-02
<sup>60</sup> Co	<MDC		4.51E-02	<MDC		4.50E-02
<sup>134</sup> Cs	<MDC		3.71E-02	<MDC		3.80E-02
<sup>137</sup> Cs	<MDC		4.43E-02	<MDC		4.30E-02
<sup>152</sup> Eu	<MDC		1.41E-01	<MDC		9.94E-02
<sup>154</sup> Eu	<MDC		1.31E-01	<MDC		1.33E-01
<sup>155</sup> Eu	<MDC		1.58E-01	<MDC		1.76E-01
<sup>40</sup> K	<MDC		7.20E-01	<MDC		7.43E-01
<sup>233</sup> Pa	<MDC		8.35E-02	<MDC		8.39E-02
<sup>234m</sup> Pa	<MDC		4.93E+00	<MDC		7.01E+00
<sup>210</sup> Pb	<MDC		9.32E+00	<MDC		9.92E+00
<sup>212</sup> Pb	<MDC		9.86E-02	<MDC		9.61E-02
<sup>214</sup> Pb	<MDC		8.24E-02	<MDC		8.64E-02
<sup>106</sup> Rh	<MDC		3.93E-01	<MDC		4.07E-01
<sup>125</sup> Sb	<MDC		1.16E-01	<MDC		1.17E-01
<sup>234</sup> Th	<MDC		6.97E-01	<MDC		7.08E-01
<sup>208</sup> Tl	<MDC		5.80E-02	<MDC		5.90E-02
<sup>235</sup> U	<MDC		1.62E-01	<MDC		1.67E-01

<sup>a</sup>Activity concentrations of all radionuclides were measured using gamma spectroscopy

<sup>b</sup>SD=count standard deviation

<sup>c</sup>MDC = minimum detectable concentration

<sup>d</sup>NA = sample was not analyzed for target analyte