

Table 2
Representative Minimum Detectable Concentrations for Radiological Analyses

Page 1 of 5

Note: The minimum detectable concentrations (MDCs) are calculated at the 95-percent confidence level using instrument background measurements and typical detector efficiencies, decay times, and counting intervals. Chemical recoveries, air filter collection efficiencies, and line loss factors are assumed to be 100 percent unless typical historical values are available. Sample sizes are presented in table 1, "Sample Media Information." The MDCs for actual samples may be different because of variations in the sample preparation, size, and content, and because of variations in the chemical recoveries, line loss factors, counting efficiencies, reagent blanks, decay times, counting times, and instrument backgrounds.

Nuclide	Surveillance Air	Rainwater ^a	Stream/Effluent Water	River Water
	pCi/m ³	pCi/m ²	pCi/L	pCi/L
H-3	2.00E+01	8.50E+02	8.50E+02	3.10E+02
Be-7	4.07E-02	2.60E+02	5.79E+01	9.58E+00
K-40	1.23E-01	2.50E+02	6.59E+01	1.07E+01
Co-58	5.17E-03	2.83E+01	6.96E+00	1.18E+00
Co-60	6.33E-03	3.17E+01	7.46E+00	1.20E+00
Ru-103	4.48E-03	2.80E+01	7.14E+00	1.14E+00
Ru-106	4.82E-02	2.77E+02	6.86E+01	1.14E+01
I-129	1.64E-02		4.29E-01	
I-131	5.19E-03	3.23E+01	7.28E+00	1.20E+00
Cs-134	5.31E-03	3.28E+01	6.90E+00	1.16E+00
Cs-137	5.36E-03	3.32E+01	7.86E+00	1.31E+00
Ce-141	6.62E-03	4.81E+01	1.11E+01	1.71E+00
Ce-144	3.04E-02	2.07E+02	4.72E+01	7.09E+00
Sr-89,90	5.92E-02	5.82E+01	3.05E+00	2.46E-01
Sr-90				
Tc-99			2.93E+00	2.93E+00
U-234	2.41E-5	3.87E-01	1.20E-02	1.20E-02
U-235	8.05E-6	4.52E-01	1.40E-02	1.40E-02
U-238	1.94E-5	3.55E-01	1.10E-02	1.10E-02
Pu-238	5.55E-6	2.97E-01	9.20E-03	9.20E-03
Pu-239	5.70E-6	2.97E-01	9.20E-03	9.20E-03
Am-241	2.14E-5	8.81E-01	2.73E-02	2.73E-02
Cm-244	6.15E-6	3.19E-01	9.90E-03	9.90E-03
Gross alpha	6.30E-02	8.32E+00	1.24E+00	1.26E+00
Gross beta	1.13E-01	8.92E+00	1.72E+00	1.63E+00

^a Values, except for tritium, reflect wet/dry deposition; tritium values are in pCi/L.

Table 2
Representative Minimum Detectable Concentrations for Radiological Analyses

Page 2 of 5

	Drinking Water	Soil/Sediment	Vegetation	Highway 301 Fish (edible portion)
Nuclide	pCi/L	pCi/g	pCi/g	pCi/g
H-3	8.50E+02		3.71E-01	7.77E-01
Be-7	5.79E+01	2.85E-01	3.47E-01	1.17E-01
K-40	6.59E+01	5.06E-01	8.06E-01	2.52E-01
Co-58	6.96E+00	3.03E-02	4.14E-02	1.36E-02
Co-60	7.46E+00	3.33E-02	4.79E-02	1.54E-02
Ru-103	7.14E+00	3.07E-02	3.86E-02	1.32E-01
Ru-106	6.86E+01	1.66E-01	4.00E-01	1.31E-01
I-129				
I-131	7.28E+00	3.59E-02	4.35E-02	
Cs-134	6.90E+00	3.53E-02	4.53E-02	1.54E-02
Cs-137	7.86E+00	3.59E-02	4.69E-02	1.58E-02
Ce-141	1.11E+01	5.61E-02	6.46E-02	1.64E-02
Ce-144	4.72E+01	2.40E-01	1.83E-01	7.19E-02
Sr-89,90	6.61E-01	1.32E-01	1.38E-01	9.92E-3
Sr-90				
Tc-99				
U-234	1.20E-02	2.92E-03	3.22E-03	
U-235	1.40E-02	3.30E-03	9.91E-04	
U-238	1.10E-02	2.72E-03	8.15E-04	
Pu-238	9.20E-03	2.86E-03	1.03E-03	4.29E-05
Pu-239	9.20E-03	2.84E-03	9.32E-04	4.38E-05
Am-241	2.73E-02	3.94E-03	3.56E-03	
Cm-244	9.90E-03	3.48E-03	8.50E-04	
Gross alpha	7.87E-01	2.87E+00	1.84E+00	4.51E-01
Gross beta	8.44E-01	5.98E+00	3.42E+00	5.55E-01

Table 2
Representative Minimum Detectable Concentrations for Radiological Analyses

Page 3 of 5

Nuclide	River Mouth Fish (edible portion)	Panfish (edible portion)	Fish (nonedible portion)	Panfish (nonedible portion)
	pCi/g	pCi/g	pCi/g	pCi/g
H-3	7.77E-01	7.77E-01		
Be-7	3.17E-01	4.47E-01		
K-40	3.42E-01	9.66E-01		
Co-58	3.55E-02	5.13E-02		
Co-60	3.86E-02	5.81E-02		
Ru-103	4.01E-02	4.96E-02		
Ru-106	3.63E-01	5.05E-01		
I-129				
I-131	3.96E-02	5.72E-02		
Cs-134	3.64E-02	5.73E-02		
Cs-137	4.25E-02	5.90E-02		
Ce-141	5.97E-02	8.73E-02		
Ce-144	2.54E-01	3.71E-01		
Sr-89,90	9.92E-3	1.98E-02	2.63E-02	2.66E-02
Sr-90				
Tc-99				
U-234				
U-235				
U-238				
Pu-238	4.29E-05	8.58E-05		
Pu-239	4.38E-05	8.75E-05		
Am-241				
Cm-244				
Gross alpha	4.63E-01	4.89E-01	1.32E+00	1.31E+00
Gross beta	5.23E-01	4.91E-01	1.68E+00	1.70E+00

Table 2
Representative Minimum Detectable Concentrations for Radiological Analyses

Page 4 of 5

Nuclide	Oysters/Crabs	Food Products	Milk	Deer Muscle
	pCi/g	pCi/g	pCi/L	pCi/g
H-3		3.10E-01	3.10E+02	
Be-7	3.17E-01	4.58E-02	1.80E+01	4.47E-01
K-40	3.42E-01	6.60E-02	4.30E+01	9.66E-01
Co-58	3.55E-02	5.73E-03	2.50E+00	5.13E-02
Co-60	3.86E-02	6.71E-03	2.80E+00	5.81E-02
Ru-103	4.01E-02	5.86E-03	2.40E+00	4.96E-02
Ru-106	3.63E-01	5.58E-02	2.30E+01	5.05E-01
I-129				
I-131	3.96E-02		2.90E+00	5.72E-02
Cs-134	3.64E-02	6.18E-03	2.40E+00	5.73E-02
Cs-137	4.25E-02	6.13E-03	2.70E+00	5.90E-02
Ce-141	5.97E-02	7.86E-03	2.80E+00	8.73E-02
Ce-144	2.54E-01	3.43E-02	1.20E+01	3.71E-01
Sr-89,90	1.98E-02	6.32E-03		1.98E-02
Sr-90			1.27E+00	
Tc-99				
U-234				
U-235				
U-238				
Pu-238		9.73E-05		
Pu-239		9.34E-05		
Am-241				
Cm-244				
Gross alpha	4.93E-01			
Gross beta	9.10E-01			

Table 2
Representative Minimum Detectable Concentrations for Radiological Analyses

Page 5 of 5

Nuclide	Deer Bone	Beef
	pCi/g	pCi/g
H-3		8.10E-02
Be-7		2.02E-01
K-40		2.95E-01
Co-58		2.53E-02
Co-60		2.98E-02
Ru-103		2.59E-02
Ru-106		2.46E-01
I-129		
I-131		2.54E-02
Cs-134		2.73E-02
Cs-137		2.71E-02
Ce-141		3.28E-02
Ce-144		1.42E-01
Sr-89,90	9.92E-01	1.92E-03
Sr-90		
Tc-99		
U-234		
U-235		
U-238		
Pu-238		4.86E-5
Pu-239		4.67E-5
Am-239		
Cm-244		
Gross alpha		3.82E+00
Gross beta		5.68E-01