

Table 2
Representative Minimum Detectable Concentrations for Radiological Analyses

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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		1.23E+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	1.19E-3	5.82E+01	1.72E+00	2.46E-01
Sr-90				
Tc-99			9.06E+00	9.06E+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	5.34E-4	7.84E+00	8.05E-01	8.05E-01
Gross beta	9.88E-4	1.45E+01	1.49E+00	1.49E+00

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

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	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	1.72E+00	5.97E-01	2.22E-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	8.05E-01	8.05E+00	1.84E+00	4.92E-01
Gross beta	1.49E+00	1.49E+01	3.42E+00	9.10E-01

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Nuclide	River Mouth Fish (edible portion)	Onsite Fish (edible portion)	Panfish (edible portion)	Fish (nonedible portion)
	pCi/g	pCi/g	pCi/g	pCi/g
H-3	7.77E-01	7.77E-01	7.77E-01	
Be-7	3.17E-01	4.47E-01	4.47E-01	
K-40	3.42E-01	9.66E-01	9.66E-01	
Co-58	3.55E-02	5.13E-02	5.13E-02	
Co-60	3.86E-02	5.81E-02	5.81E-02	
Ru-103	4.01E-02	4.96E-02	4.96E-02	
Ru-106	3.63E-01	5.05E-01	5.05E-01	
I-129				
I-131	3.96E-02	5.72E-02	5.72E-02	
Cs-134	3.64E-02	5.73E-02	5.73E-02	
Cs-137	4.25E-02	5.90E-02	5.90E-02	
Ce-141	5.97E-02	8.73E-02	8.73E-02	
Ce-144	2.54E-01	3.71E-01	3.71E-01	
Sr-89,90	9.92E-3	9.92E-03	1.98E-02	7.93E-02
Sr-90				
Tc-99				
U-234				
U-235				
U-238				
Pu-238	4.29E-05	4.29E-05	8.58E-05	
Pu-239	4.38E-05	4.38E-05	8.75E-05	
Am-241				
Cm-244				
Gross alpha	4.92E-01	4.92E-01	4.92E-01	1.48E+00
Gross beta	9.10E-01	9.10E-01	9.10E-01	2.73E+00

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Nuclide	Panfish (nonedible portion)	Oysters/Crabs	Food Products	Milk
	pCi/g	pCi/g	pCi/g	pCi/L
H-3			3.10E-01	3.10E+02
Be-7		3.17E-01	4.58E-02	1.80E+01
K-40		3.42E-01	6.60E-02	4.30E+01
Co-58		3.55E-02	5.73E-03	2.50E+00
Co-60		3.86E-02	6.71E-03	2.80E+00
Ru-103		4.01E-02	5.86E-03	2.40E+00
Ru-106		3.63E-01	5.58E-02	2.30E+01
I-129				
I-131		3.96E-02		2.90E+00
Cs-134		3.64E-02	6.18E-03	2.40E+00
Cs-137		4.25E-02	6.13E-03	2.70E+00
Ce-141		5.97E-02	7.86E-03	2.80E+00
Ce-144		2.54E-01	3.43E-02	1.20E+01
Sr-89,90	7.93E-02	1.98E-02	9.92E-02	
Sr-90				5.66E+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	1.48E+00	4.93E-01		
Gross beta	2.73E+00	9.10E-01		

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Nuclide	Deer Muscle	Deer Bone	Beef
	pCi/g	pCi/g	pCi/g
H-3			8.10E-02
Be-7	4.47E-01		2.02E-01
K-40	9.66E-01		2.95E-01
Co-58	5.13E-02		2.53E-02
Co-60	5.81E-02		2.98E-02
Ru-103	4.96E-02		2.59E-02
Ru-106	5.05E-01		2.46E-01
I-129			
I-131	5.72E-02		2.54E-02
Cs-134	5.73E-02		2.73E-02
Cs-137	5.90E-02		2.71E-02
Ce-141	8.73E-02		3.28E-02
Ce-144	3.71E-01		1.42E-01
Sr-89,90	1.98E-02	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			
Gross beta			