



Radiochemistry Sampling and Method Guide

TestAmerica holds certifications at both the state and national level to perform analyses using EPA, DOE, ASTM, SW-846 and Eichrom methodologies on matrices such as water, airborne particulates, tissues, soil, sediment, milk, fruits and vegetables. Please contact your Project Manager or sales representative if you have questions about your sampling requirements.

Radiochemistry Test	Method	Matrix	Volume ¹ (Container)	Preservation	QC ²
Americium, Isotopic	DOE* A-R-01	Water	1 L (P)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Carbon-14	EERF C-01	Water	500 mL (P,G)	None	MS/Dup
		Soil	5 g (P,G)	None, DO NOT DRY	MS/Dup
Chlorine-36	SOP – Precipitation, GFPC	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	2 g (P)	None	Duplicate
Curium, Isotopic	DOE* A-R-01	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Gamma Scan	EPA 901.1	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
	DOE* GA-01-R	Soil	500 g (P,G)	None	Duplicate
Gross Alpha/Beta	EPA 900.0	Water	200 mL (P,G)	HNO ₃ (pH < 2)	MS/Dup
	SW 9310	Soil	1 g (P,G)	None	MS/Dup
Iodine-129	• EPA 902.0 • SM 75001-B • EPA 901.1 • DOE* GA-01-R	Water	1 L (P,G)	None	Duplicate
		Soil	500 g (P,G)	None, DO NOT DRY	Duplicate
Iodine-131	EPA 901.1 DOE* GA-01-R	Water	1 L (P,G)	None	Duplicate
		Soil	500 g (P,G)	None, DO NOT DRY	Duplicate
Iron-55	SOP – Column Separation, LSC	Water	500 mL (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Lead-210	SOP – Column Separation, LSC	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate

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THE LEADER IN ENVIRONMENTAL TESTING

Radiochemistry Test	Method	Matrix	Volume ¹ (Container)	Preservation	QC ²
Neptunium-237	DOE* A-R-01	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Nickel-59/63	SOP – Column Separation, LSC	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Plutonium, Isotopic	DOE* A-R-01, followed by LSC for Pu241	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Polonium-210	DOE* A-R-01	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Radium-226	• EPA 903.0 • EPA 903.1 • SW 9315 • SOP Column Separation, Alpha Spec • DOE* GA-01-R	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Radium-228	• EPA 901.1 • EPA 904 • SW 9320 • DOE* GA-01-R	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Radon-222	EPA 913.0	Water	40 ml (G)	None	MS/Dup
Strontium-89/90, Strontium 89 Strontium 90	EPA 905 DOE* Sr-03	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Technetium-99	DOE* TC-02	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	10 g (P,G)	None	Duplicate
Thorium, Isotopic	DOE* A-R-01	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Tritium	EPA 906.0 DOE* H3-04	Water	120 mL (G)	None	MS/Dup
		Soil	100 g (G)	None, DO NOT DRY	MS/Dup
Uranium, Isotopic (or Total by Summation)	EPA 200.8 SW 6020	Water	50 mL (P,G)	HNO ₃ (pH < 2)	MS/MSD
		Soil	5 g (P,G)	None	MS/MSD
	DOE* A-R-01	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	5 g (P,G)	None	Duplicate
Uranium, Total	EPA 200.8 SW 6020	Water	50 mL (P,G)	HNO ₃ (pH < 2)	MS/MSD
		Soil	5 g (P,G)	None	MS/MSD
	ASTM D9174-51	Water	1 L (P,G)	HNO ₃ (pH < 2)	Duplicate
		Soil	50 g (P,G)	None	Duplicate

¹ Sample volumes are based on dry weights; volumes need to be increased if soil is wet/moist. For normal samples, 2 or more times the volume may be required for re-extracts/digestions.

² For samples requiring Matrix QC, 3 times the volume is required. MS = matrix spike. MSD = matrix spike duplicate. Dup = duplicate.

* DOE is shorthand for the Department of Energy (DOE) Environmental Measurements Laboratory (EML) procedure manual HASL 300, 28th Edition

Container Key _____
P = Poly Bottle, G = Glass Bottle



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