



Soil

Matrices designed to fulfill requirements for monitoring soil and solid matrices. Dried and homogenized standards of soil and sewage sludge may be used to satisfy PT requirements.



Soil (including UST in Soil) PT Schedule

2026 Schedule

	Scheme #	Opens	Closes
Q	SOIL 133	Jan 26	Mar 12
Q	SOIL 134	Apr 27	Jun 11
Q	SOIL 135	Jul 27	Sep 10
Q	SOIL 136	Oct 23	Dec 7

2027 Schedule

	Scheme #	Opens	Closes
Q	SOIL 137	Jan 25	Mar 11
Q	SOIL 138	Apr 26	Jun 10
Q	SOIL 139	Jul 26	Sep 9
Q	SOIL 140	Oct 22	Dec 6

Schedule subject to change - see Waters ERA's website at eraqc.com

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CRM Certified Reference Material
PT Proficiency Testing
QR QuiK Response
RM Reference Material

All Waters ERA Soil PTs open quarterly (Q) or biannually (B), unless otherwise noted.

Biannual months are January and July.

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CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at eraqc.com/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

Metals

SOIL

Metals in Soil

CRM Cat. #540	PT Cat. #620	Q	QR Cat. #540QR
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One 30 g soil sample in a screw-cap bottle for all ICP and AA, RCRA and Superfund Methods including EPA Digestion Methods 3050 Hot Plate and 3051 Microwave, or other applicable methods. Includes all metals shown below.

Aluminum	2500-25,000 mg/kg
Antimony	80-300 mg/kg
Arsenic	40-400 mg/kg
Barium	100-1000 mg/kg
Beryllium	40-400 mg/kg
Boron	80-800 mg/kg
Cadmium	40-400 mg/kg
Calcium	1500-25,000 mg/kg
Chromium	40-400 mg/kg
Cobalt	40-400 mg/kg
Copper	40-400 mg/kg
Iron	5000-50000 mg/kg
Lead	40-400 mg/kg
Lithium	50-250 mg/kg
Magnesium	1200-25,000 mg/kg
Manganese	100-2000 mg/kg
Mercury	1-35 mg/kg
Molybdenum	30-300 mg/kg
Nickel	40-500 mg/kg
Potassium	1400-25,000 mg/kg
Selenium	40-400 mg/kg
Silver	20-100 mg/kg
Sodium	150-15,000 mg/kg
Strontium	40-400 mg/kg
Thallium	40-400 mg/kg
Tin	50-250 mg/kg
Titanium	10-2000 mg/kg
Uranium	1-250 mg/kg
Vanadium	40-400 mg/kg
Zinc	100-1000 mg/kg

Hexavalent Chromium in Soil

CRM Cat. #921	PT Cat. #876	Q	QR Cat. #921QR
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One 40 g standard in a screw-cap bottle for use with all promulgated hexavalent chromium methods.

Hexavalent chromium	40-300 mg/kg
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TCLP Metals in Soil

CRM Cat. #544	PT Cat. #629	Q	QR Cat. #544QR
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One 105 g soil standard in a screw-cap bottle designed specifically to meet all state requirements for TCLP extraction and analysis for the metals listed below. Sample is designed to be extracted with fluid #1.

Antimony	Cadmium	Nickel
Arsenic	Chromium	Selenium
Barium	Lead	Silver
Beryllium	Mercury	Zinc

Metals in Sewage Sludge

CRM Cat. #160	PT Cat. #619	Q	QR Cat. #160QR
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One 40 g sludge standard in a screw-cap bottle to be analyzed for the metals listed below.

Aluminum	1000-50,000 mg/kg
Antimony	80-300 mg/kg
Arsenic	50-400 mg/kg
Barium	250-2000 mg/kg
Beryllium	30-200 mg/kg
Cadmium	40-300 mg/kg
Calcium	5000-70,000 mg/kg
Chromium	40-300 mg/kg
Cobalt	5-50 mg/kg
Copper	40-1000 mg/kg
Iron	1000-50,000 mg/kg
Lead	50-250 mg/kg
Magnesium	1200-25,000 mg/kg
Manganese	100-2000 mg/kg
Mercury	1-50 mg/kg
Molybdenum	5-250 mg/kg
Nickel	40-250 mg/kg
Potassium	1400-25,000 mg/kg
Selenium	50-250 mg/kg
Silver	50-250 mg/kg
Sodium	150-15,000 mg/kg
Strontium	200-2000 mg/kg
Thallium	50-250 mg/kg
Vanadium	5-250 mg/kg
Zinc	70-1500 mg/kg

Physical Parameters

Corrosivity/pH in Soil

CRM Cat. #914	PT Cat. #875	Q	QR Cat. #914QR
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One 100 g soil standard in a screw-cap bottle. Use to measure corrosivity.

Corrosivity/pH	2-12 S.U.
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Ignitability/Flash Point

CRM Cat. #979	PT Cat. #874	Q	QR Cat. #979QR
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One standard packaged in three 30 mL bottles. Use to measure ignitability.

Ignitability/flashpoint	100-200 °F
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Oil & Grease

Oil & Grease in Soil

CRM Cat. #549	PT Cat. #867	Q	QR Cat. #549QR
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One screw-cap bottle containing 50 g of soil ready to analyze. Use with gravimetric method 9071B or infrared spectrometric analysis.

n-Hexane extractable material (O&G) (Gravimetric).....	300-3000 mg/kg
n-Hexane extractable material (O&G) (Infrared).....	300-3000 mg/kg

Inorganics

Anions in Soil

CRM Cat. #543	PT Cat. #873	Q	QR Cat. #543QR
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One 40 g soil standard in a screw-cap bottle designed for a DI water extraction procedure for all the anions listed below.

Bromide.....	10-100 mg/kg
Chloride.....	200-1000 mg/kg
Fluoride.....	25-500 mg/kg
Nitrate as N.....	25-500 mg/kg
Nitrite as N.....	0-500 mg/kg
Nitrate + Nitrite as N.....	0-2000 mg/kg
Phosphate as P.....	25-500 mg/kg
Sulfate.....	25-2000 mg/kg

Cyanide in Soil

CRM Cat. #541	PT Cat. #621	Q	QR Cat. #541QR
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One 40 g soil standard in a screw-cap bottle for all distillation/colorimetric methods.

Total cyanide.....	20-200 mg/kg
Amenable cyanide.....	0-100 mg/kg

Nutrients in Soil

CRM Cat. #542	PT Cat. #869	Q	QR Cat. #542QR
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One 40 g soil standard in a screw-cap bottle. Use to analyze for all the nutrients listed below.

Ammonia as N.....	300-3000 mg/kg
Total Kjeldahl nitrogen as N.....	400-4000 mg/kg
Total organic carbon (TOC).....	1000-20,000 mg/kg
Total phosphorus as P.....	300-3000 mg/kg

Nutrients in Sludge

CRM -	RM Cat. #545	-	QR -
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One 40 g sludge standard in a screw-cap bottle is ready for analysis.

Ammonia as N.....	0.1-5% (w/w)
Total Kjeldahl nitrogen as N.....	2-10% (w/w)
Total organic carbon (TOC).....	5-50% (w/w)
Total phosphorus as P.....	0.5-10% (w/w)

Volatiles

Volatiles in Soil

CRM Cat. #721	PT Cat. #623	Q	QR Cat. #721QR
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One 2 mL flame-sealed ampule in methanol requires spiking onto the provided ten grams of solid matrix before analysis. Use with EPA Methods 8021, 8260, or other applicable methods. Includes a subset of the analytes listed below at 20-200 µg/kg (40-400 µg/kg for total xylenes, 80-1000 for selected ketones, and 100-1000 µg/kg for acetone/nitrile).

Acetone	1,2-Dibromoethane (EDB)	4-Methyl-2-pentanone (MIBK)
Acetonitrile	Dibromomethane	Methylene chloride
Acrolein	1,2-Dichlorobenzene	Naphthalene
Benzene	1,3-Dichlorobenzene	Nitrobenzene
Bromobenzene	1,4-Dichlorobenzene	n-Propylbenzene
Bromochloromethane	Dichlorodifluoromethane	Styrene
Bromodichloromethane	1,1-Dichloroethane	1,1,2-Tetrachloroethane
Bromoform	1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
Bromomethane	1,1-Dichloroethylene	Tetrachloroethene
2-Butanone (MEK)	cis-1,2-Dichloroethylene	Toluene
n-Butylbenzene	trans-1,2-Dichloroethylene	1,2,3-Trichlorobenzene
sec-Butylbenzene	1,2-Dichloropropane	1,2,4-Trichlorobenzene
tert-Butylbenzene	1,3-Dichloropropane	1,1,1-Trichloroethane
Carbon disulfide	2,2-Dichloropropane	1,1,2-Trichloroethane
Carbon tetrachloride	1,1-Dichloropropene	Trichloroethene
Chlorobenzene	cis-1,3-Dichloropropylene	Trichlorofluoromethane
Chlorodibromomethane	trans-1,3-Dichloropropylene	1,2,3-Trichloropropane
Chloroethane	Dichloropropylene	1,2,4-Trimethylbenzene
Chloroform	Ethylbenzene	1,3,5-Trimethylbenzene
Chloromethane	Hexachlorobutadiene	Vinyl acetate
2-Chlorotoluene	Hexachloroethane	Vinyl chloride
4-Chlorotoluene	2-Hexanone	m&p-Xylene
1,2-Dibromo-3-chloropropane (DBCP)	Isopropylbenzene	o-Xylene
	p-Isopropyltoluene	Xylenes, total (MTBE)

This standard is not compliant with the NELAC concentration for hexachloroethane, hexachlorobutadiene, and nitrobenzene. If a NELAC compliant sample is required for these analytes, use Ready-to-Use VOAs in Soil, or Base/Neutrals and Acids in Soil.

1,4-Dioxane in Soil

CRM Cat. #538	PT Cat. #461	B	QR Cat. #538QR
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One 2 mL flame-sealed ampule requires spiking onto the provided ten grams of solid matrix before analysis. Use with modified versions of EPA method 8260, 1624 or other applicable methods.

1,4-Dioxane.....	20-200 ug/kg
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Gasoline Range Organics (GRO) in Soil

CRM Cat. #763	PT Cat. #630	Q	QR Cat. #763QR
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One flame-sealed ampule with 20 g of soil spiked with unleaded regular gasoline in the range 100-2000 mg/kg. Use with purge and trap and modified EPA 8015 GC/FID Methods, or other applicable methods. Also use to test for BTEX in gasoline.

Note: This standard is not compliant with the NELAC concentration ranges for the BTEX analytes. If a NELAC-compliant sample for these analytes is required, use Volatiles in Soil, Cat. #623 or BTEX & MTBE Soil, Cat. #633.

Volatiles (continued)

BTEX & MTBE in Soil

CRM Cat. #761	PT Cat. #633	Q	QR Cat. #761QR
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One 2 mL flame-sealed ampule requires spiking onto the ten grams of provided certified clean soil. Includes the analytes below at 20–200 µg/kg (40–400 µg/kg for total xylenes). Use with EPA Method 8021, or other applicable methods.

Benzene	Methyl tert-butyl ether (MTBE)	Xylenes, total
Ethylbenzene	Toluene	m&p Xylene o-Xylene

Ready-to-Use VOAs in Soil

CRM Cat. #924	PT Cat. #870	Q	QR Cat. #924QR
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One 20 mL flame-sealed ampule containing 10 g of soil and 10 mL of methanol is ready to analyze. Use with EPA Methods 8021, 8260, or other applicable methods. Includes a subset of the analytes listed below at 1000–20,000 µg/kg.

Acetone	1,2-Dibromoethane (EDB)	4-Methyl-2-pentanone (MIBK)
Acetonitrile	Dibromomethane	Methylene chloride
Acrolein	1,2-Dichlorobenzene	Naphthalene
Benzene	1,3-Dichlorobenzene	Nitrobenzene
Bromobenzene	1,4-Dichlorobenzene	n-Propylbenzene
Bromochloromethane	Dichlorodifluoromethane	Styrene
Bromodichloromethane	1,1-Dichloroethane	1,1,1,2-Tetrachloroethane
Bromoform	1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
Bromomethane	1,1-Dichloroethene	Tetrachloroethene
2-Butanone (MEK)	cis-1,2-Dichloroethylene	Toluene
n-Butylbenzene	trans-1,2-Dichloroethylene	1,2,3-Trichlorobenzene
sec-Butylbenzene	1,2-Dichloropropane	1,2,4-Trichlorobenzene
tert-Butylbenzene	1,3-Dichloropropane	1,1,1-Trichloroethane
Carbon disulfide	2,2-Dichloropropane	1,1,2-Trichloroethane
Carbon tetrachloride	1,1-Dichloropropene	Trichloroethene
Chlorobenzene	cis-1,3-Dichloropropylene	Trichlorofluoromethane
Chlorodibromomethane	trans-1,3-Dichloropropylene	1,2,3-Trichlorobenzene
Chloroethane	Dichloropropylene	1,2,4-Trimethylbenzene
2-Chloroethyl vinyl ether	Ethylbenzene	1,3,5-Trimethylbenzene
Chloroform	Hexachlorobutadiene	Vinyl acetate
Chloromethane	Hexachloroethane	Vinyl chloride
2-Chlorotoluene	2-Hexanone	m&p-Xylene
4-Chlorotoluene	Isopropylbenzene	o-Xylene
1,2-Dibromo-3-chloropropane (DBCP)	p-Isopropyltoluene	Xylenes, total
	Methyl tert-butyl ether (MTBE)	



Total Petroleum Hydrocarbons

Total Petroleum Hydrocarbons (TPH) in Soil #1

CRM Cat. #570	PT Cat. #632	Q	QR Cat. #572QR
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One screw-top bottle with 50 g of soil to be analyzed for TPH. Use with EPA IR or Gravimetric Methods 8440, 9071B.

Non-polar extractable material (TPH) (Gravimetric)	300–3000 mg/kg
Non-polar extractable material (TPH) (IR)	300–3000 mg/kg

Total Petroleum Hydrocarbons (TPH) in Soil #2

CRM Cat. #571	PT Cat. #632	Q	QR Cat. #572QR
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One screw-top bottle with 50 g of soil to be analyzed for TPH in the presence of interfering fatty acids. Use with EPA IR or Gravimetric Methods 8440, 9071B.

Non-polar extractable material (TPH) (Gravimetric)	300–3000 mg/kg
Non-polar extractable material (TPH) (IR)	300–3000 mg/kg

TCLP

TCLP Volatiles

CRM Cat. #730	PT —	—	QR Cat. #730QR
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One 2 mL flame-sealed ampule containing a subset of the analytes listed below, each at a concentration of 0.05–2.0 mg/L.

Benzene	Chloroform	Tetrachloroethylene
2-Butanone (MEK)	1,4-Dichlorobenzene	Trichloroethylene
Carbon tetrachloride	1,2-Dichloroethane	Vinyl chloride
Chlorobenzene	1,1-Dichloroethylene	

TCLP Semivolatiles

CRM Cat. #737	PT —	—	QR Cat. #737QR
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One 2 mL flame-sealed ampule containing a subset of the analytes listed below, each at a concentration of 0.1–2.0 mg/L after dilution. All unspiked analytes are certified at <0.5 mg/L.

1,4-Dichlorobenzene	Hexachloroethane	Pentachlorophenol
2,4-Dinitrotoluene	2-Methylphenol	Pyridine
Hexachlorobenzene	3 & 4-Methylphenol	2,4,5-Trichlorophenol
Hexachlorobutadiene	Nitrobenzene	2,4,6-Trichlorophenol

TCLP Organochlorine Pesticides

CRM Cat. #732	PT —	—	QR Cat. #732QR
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One 2 mL flame-sealed ampule containing a subset of the analytes listed below, each at a concentration of 0.01–0.2 mg/L after dilution. All unspiked analytes are certified at <0.1 mg/L.

Endrin	Heptachlor epoxide	Methoxychlor
Heptachlor	gamma-BHC (Lindane)	

Semivolatiles

Nitroaromatics & Nitramines in Soil

CRM Cat. #920	PT Cat. #871	Q	QR Cat. #920QR
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Two flame-sealed ampules each containing 30 g of soil are ready to analyze. Use for EPA Methods 8330, 8091, or other applicable methods. Includes a subset of the analytes listed below at 1500–15,000 µg/kg.

4-Amino-2,6-dinitrotoluene	HMX Nitrobenzene	RDX Tetryl	
2-Amino-4,6-dinitrotoluene	2-Nitrotoluene	1,3,5-Trinitrobenzene	
1,3-Dinitrobenzene	3-Nitrotoluene	2,4,6-Trinitrotoluene	
2,4-Dinitrotoluene	4-Nitrotoluene		
2,6-Dinitrotoluene			

PFAS in Soil

CRM Cat. #603	PT Cat. #465	Q	QR Cat. #603QR
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One flame-sealed ampule containing 10 g of soil. The standard is certified for all analytes listed below. Each lot will be spiked with a minimum of 24 analytes. Design is suitable for methods analyzing these components with LC-MS/MS techniques.

Perfluorobutanoic acid, PFBA.....	5-50 µg/kg
Perfluoropentanoic acid, PFPeA.....	5-50 µg/kg
Perfluorohexanoic acid, PFHxA.....	5-50 µg/kg
Perfluoroheptanoic acid, PFHpA.....	5-50 µg/kg
Perfluorooctanoic acid, PFOA.....	5-50 µg/kg
Perfluorononanoic acid, PFNA.....	5-50 µg/kg
Perfluorodecanoic acid, PFDA.....	5-50 µg/kg
Perfluoroundecanoic acid, PFUdA.....	5-50 µg/kg
Perfluorododecanoic acid, PFDoA.....	5-50 µg/kg
Perfluorotridecanoic acid, PFTrDA.....	5-50 µg/kg
Perfluorotetradecanoic acid, PFTeDA.....	5-50 µg/kg
Perfluorobutanesulfonic acid, PFBS.....	5-50 µg/kg
Perfluoropentanesulfonic acid, PFPeS.....	5-50 µg/kg
Perfluorohexanesulfonic acid, PFHxS.....	5-50 µg/kg
Perfluoroheptanesulfonic acid, PFHpS.....	5-50 µg/kg
Perfluorooctanesulfonic acid, PFOS.....	5-50 µg/kg
Perfluorononanesulfonic acid, PFNS.....	5-50 µg/kg
Perfluorodecanesulfonic acid, PFDS.....	5-50 µg/kg
Perfluorododecanesulfonic acid, PFDoS.....	5-50 µg/kg
4:2 fluorotelomersulfonic acid, 4:2 FTS.....	5-50 µg/kg
6:2 fluorotelomersulfonic acid, 6:2 FTS.....	5-50 µg/kg
8:2 fluorotelomersulfonic acid, 8:2 FTS.....	5-50 µg/kg
Perfluorooctanesulfonamide, PFOSA.....	5-50 µg/kg
N-ethyl perfluorooctanesulfonamidoacetic acid, NEtFOSAA.....	5-50 µg/kg
N-methyl perfluorooctanesulfonamidoacetic acid, NMeFOSAA.....	5-50 µg/kg
N-ethyl perfluorooctanesulfonamide, NEtFOSA.....	5-50 µg/kg
N-methyl perfluorooctanesulfonamide, NMeFOSA.....	5-50 µg/kg
N-ethyl perfluorooctanesulfonamidoethanol, NEtFOSE.....	5-50 µg/kg
N-methyl perfluorooctanesulfonamidoethanol, NMeFOSE.....	5-50 µg/kg
3-Perfluoropropyl propanoic acid, 3:3 FTCA.....	5-50 µg/kg
2H,2H,3H,3H-Perfluorooctanoic acid, 5:3 FTCA.....	5-50 µg/kg
3-Perfluoroheptyl propanoic acid, 7:3 FTCA.....	5-50 µg/kg
Hexafluoropropylene oxide dimer acid, HFPO-DA.....	5-50 µg/kg
4,8-dioxa-3H-perfluorononanoic acid, ADONA.....	5-50 µg/kg
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid, 9Cl-PF3ONS.....	5-50 µg/kg
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF3OUdS.....	5-50 µg/kg
Perfluoro-4-methoxybutanoic acid, PFMBA.....	5-50 µg/kg
Perfluoro-3-methoxypropanoic acid, PFMPA.....	5-50 µg/kg
Perfluoro(2-ethoxyethane) sulfonic acid, PFEESA.....	5-50 µg/kg
Nonafluoro-3,6-dioxaheptanoic acid, NFDHA.....	5-50 µg/kg

Low-Level PAHs in Soil

CRM Cat. #722	PT Cat. #625	Q	QR Cat. #722QR
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Two flame-sealed ampules each containing 30 g are ready to analyze. Use for EPA HPLC Method 8310, 8270 SIM, or other applicable method. Includes a subset of the analytes listed below at 50–1000 µg/kg.

Acenaphthene	Benzo(g,h,i)perylene	Fluorene
Acenaphthylene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene
Anthracene	Chrysene	Naphthalene
Benzo(a)anthracene	Dibenz(a,h)anthracene	Phenanthrene
Benzo(b)fluoranthene	Fluoranthene	Pyrene
Benzo(k)fluoranthene		

Diesel Range Organics (DRO) in Soil

CRM Cat. #765	PT Cat. #631	Q	QR Cat. #765QR
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One flame-sealed ampule with 20 g of soil spiked with #2 Diesel Fuel in the range 300–3000 mg/kg. Use with modified EPA Method 8015, or other applicable GC/FID methods.

Diethylene glycol	Propylene glycol	Triethylene glycol
Ethylene glycol	Tetraethylene glycol	

Glycols in Soil

CRM Cat. #928	PT Cat. #463	Q	QR Cat. #928QR
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Two flame-sealed ampules each containing 30 g of soil are ready-to-use. Use with EPA Methods 8015B, 8430, 1671, or other applicable method. Includes all the analytes listed below at 75–200 mg/kg.

Semivolatiles (continued)

Base/Neutrals & Acids in Soil

CRM Cat. #727	PT Cat. #467	Q	QR Cat. #727QR
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Two flame-sealed ampules each containing 30 g of soil are ready-to-use. Use with EPA Method 8270, or other applicable method. Includes a subset of the analytes listed below at 500–15,000 µg/kg.

Acenaphthene	2-Chlorophenol	2-Methyl-4,6-dinitrophenol
Acenaphthylene	4-Chlorophenyl phenyl ether	2-Methylnaphthalene
Acetophenone		2-Methylphenol
2-Amino-1-methylbenzene (o-Toluidine)	Chrysene	4-Methylphenol
Aniline	Dibenz(a,h)anthracene	Naphthalene
Anthracene	Dibenzofuran	2-Nitroaniline
Atrazine	Di-n-butyl phthalate	3-Nitroaniline
Benzaldehyde	1,2-Dichlorobenzene	4-Nitroaniline
Benzidine	1,3-Dichlorobenzene	Nitrobenzene
Benzoic acid	1,4-Dichlorobenzene	2-Nitrophenol
Benzo(a)anthracene	3,3'-Dichlorobenzidine	4-Nitrophenol
Benzo(b)fluoranthene	2,4-Dichlorophenol	N-Nitrosodiethylamine
Benzo(k)fluoranthene	2,6-Dichlorophenol	N-Nitrosodimethylamine
Benzo(g,h,i)perylene	Diethyl phthalate	N-Nitrosodiphenylamine
Benzo(a)pyrene	2,4-Dimethylphenol	N-Nitroso-di-n-propylamine
Benzyl alcohol	Dimethyl phthalate	2,2'-Oxybis(1-Chloropropane)
Biphenyl	2,4-Dinitrophenol	Pentachlorobenzene
4-Bromophenyl phenyl ether	2,6-Dinitrotoluene	Pentachlorophenol
Butyl benzyl phthalate	Di-n-octyl phthalate	Phenanthrene
Caprolactam	bis(2-Ethylhexyl)phthalate	Phenol
Carbazole	Fluoranthene	Pyrene
4-Chloroaniline	Fluorene	Pyridine
bis(2-Chloroethyl)ether	Hexachlorobenzene	1,2,4,5-Tetrachlorobenzene
bis(2-Chloroethoxy)methane	Hexachlorobutadiene	2,3,4,6-Tetrachlorophenol
4-Chloro-3-methylphenol	Hexachlorocyclopentadiene	1,2,4-Trichlorobenzene
1-Chloronaphthalene	Hexachloroethane	2,4,5-Trichlorophenol
2-Chloronaphthalene	Indeno(1,2,3-cd)pyrene	2,4,6-Trichlorophenol
	Isophorone	

Herbicides

Chlorinated Acid Herbicides in Soil

CRM Cat. #723	PT Cat. #626	Q	QR Cat. #723QR
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Two flame-sealed ampules, each containing 30 g of soil are ready-to-use. Use with EPA Method 8151, or other applicable methods. Includes a subset of the analytes listed below at 100–1000 µg/kg (MCPA & MCPP 1000–10,000 µg/kg).

Acifluorfen	Dalapon	MCPP
Bentazon	Dicamba	4-Nitrophenol
Chloramben	3,5-Dichlorobenzoic acid	Pentachlorophenol
2,4-D	Dichlorprop	Picloram
2,4-DB	Dinoseb	2,4,5-T
Dacthal diacid (DCPA)	MCPA	2,4,5-TP (Silvex)

This standard is not compliant with the NELAC concentration for 4-Nitrophenol. If a NELAC compliant sample is required for this analyte, use Base/Neutrals and Acids in Soil.

PCBs

PCBs in Oil

CRM Cat. #563	PT Cat. #817	Q	QR Cat. #563QR
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One 10 mL flame-sealed ampule is ready to analyze. Contains a different Aroclor, randomly selected from the list below at 10–50 mg/kg.

Aroclor 1016	Aroclor 1242	Aroclor 1254
Aroclor 1221	Aroclor 1248	Aroclor 1260
Aroclor 1232		

PCBs in Oil Standards

PCBs in oil standards are sold individually in ready-to-use flame-sealed ampules with 5 g of oil. Use with EPA Methods 8082, EPA-600/4-81-045, Sept. 1982, or other applicable methods. LOW LEVEL standards contain an aroclor in the range 10–50 ppm. HIGH LEVEL standards contain an aroclor in the range 51–500 ppm.

CRM Cat. #	Concentration	Aroclor	Range
820	Low	1242	10–50 ppm
821	High	1242	51–500 ppm
826	Low	1248	10–50 ppm
827	High	1248	51–500 ppm
822	Low	1254	10–50 ppm
823	High	1254	51–500 ppm
824	Low	1260	10–50 ppm
825	High	1260	51–500 ppm

PCB Congeners in Soil

NEW!

CRM Cat. #5988	PT Cat. #2994	Q	QR Cat. #5988QR
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One flame-sealed ampule containing 10 g of soil. The standard is certified for 18 analytes spiked at 2–20 µg/kg. The sample is designed for GC/MS methods for analyzing soil, specifically EPA Method 1668 and EPA Method 1628.

2,4,4'-Trichlorobiphenyl (28)	3,3',4,4',5-Pentachlorobiphenyl (105)
2,2',5,5'-Tetrachlorobiphenyl (52)	2,2',3,4,4',5'-Hexachlorobiphenyl (138)
3,3',4,4'-Tetrachlorobiphenyl (101)	2,2',4,4',5,5'-Hexachlorobiphenyl (126)
3,4,4',5-Tetrachlorobiphenyl (81)	2,3,3',4,4',5-Hexachlorobiphenyl (167)
2,2',4,5,5'-Pentachlorobiphenyl (77)	2,3,3',4,4',5'-Hexachlorobiphenyl (156)
2,3,3',4,4'-Pentachlorobiphenyl (123)	2,3',4,4',5'-Hexachlorobiphenyl (157)
2,3,4,4',5-Pentachlorobiphenyl (118)	3,3',4,4',5,5'-Hexachlorobiphenyl (180)
2,3',4,4',5-Pentachlorobiphenyl (114)	2,2',3,4,4',5,5'-Heptachlorobiphenyl (169)
2,3,4,4',5'-Pentachlorobiphenyl (153)	2,3,3',4,4',5,5'-Heptachlorobiphenyl (189)



Learn more about Soil products

PCBs (continued)

PCBs in Soil

CRM Cat. #726	PT Cat. #624	Q	QR Cat. #726QR
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One screw-top bottle containing 50 grams of standard is ready to analyze. Use with EPA Method 8082, or other applicable methods. Each standard includes a different aroclor randomly selected from the list below at 1-50 mg/kg.

Aroclor 1016	Aroclor 1242	Aroclor 1254
Aroclor 1221	Aroclor 1248	Aroclor 1260
Aroclor 1232		

PCBs in Soil Standards

PCBs in soil standards are sold individually in screw-top bottles containing 50 g of soil. Use with EPA Methods 8082, 4020, or other applicable methods. LOW LEVEL standards contain an aroclor in the range 0.5-50 ppm. HIGH LEVEL standards contain an aroclor in the range 51-500 ppm.

CRM Cat. #	Concentration	Aroclor	Range
490	Low	1242	0.5-50 ppm
491	High	1242	51-500 ppm
496	Low	1248	0.5-50 ppm
497	High	1248	51-500 ppm
492	Low	1254	0.5-50 ppm
493	High	1254	51-500 ppm
494	Low	1260	0.5-50 ppm
495	High	1260	51-500 ppm

Pesticides

Organochlorine Pesticides in Soil

CRM Cat. #728	PT Cat. #468	Q	QR Cat. #728QR
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Two flame-sealed ampules each containing 30 g of soil are ready-to-use. Use with EPA Method 8081, or other applicable methods. Includes a subset of the analytes listed below at 50-500 µg/kg.

Aldrin	4,4'-DDD	Endrin
alpha-BHC	4,4'-DDE	Endrin aldehyde
beta-BHC	4,4'-DDT	Endrin ketone
delta-BHC	Dieldrin	Heptachlor
gamma-BHC (Lindane)	Endosulfan I	Heptachlor epoxide
alpha-Chlordane	Endosulfan II	Methoxychlor
trans-Chlordane	Endosulfan sulfate	

Chlordane in Soil

CRM Cat. #725	PT Cat. #628	Q	QR Cat. #725QR
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One screw-top bottle containing 50 g of soil is ready to analyze. Use with EPA Method 8081, or other applicable methods. The standard contains technical chlordane at 100-1000 µg/kg.

Toxaphene in Soil

CRM Cat. #724	PT Cat. #627	Q	QR Cat. #724QR
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One screw-top bottle containing 50 g of soil is ready to analyze. Use with EPA Method 8081, or other applicable methods. The standard contains toxaphene at 200-2000 µg/kg.

Carbamate Pesticides in Soil

CRM Cat. #926	PT Cat. #879	B	QR Cat. #926QR
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Two flame-sealed ampules, each containing 30 g of soil are ready to analyze. Use with EPA Methods 8318, 8321, or other applicable methods. Each standard contains a subset of the analytes listed below at 250-2500 µg/kg.

Aldicarb	Dioxacarb	Oxamyl
Aldicarb sulfone	Diuron	Promecarb
Aldicarb sulfoxide	3-Hydroxycarbofuran	Propham
Carbaryl	Methiocarb	Propoxur
Carbofuran	Methomyl	

Organophosphorus Pesticides (OPP) in Soil

CRM Cat. #925	PT Cat. #878	Q	QR Cat. #925QR
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Two flame-sealed ampules, each containing 30 g of soil are ready to analyze. Use with EPA Method 8141, or other applicable methods. Each standard contains a subset of the analytes listed below at 100-1000 µg/kg.

Azinphos-methyl (Guthion)	Dichlorvos (DDVP) Disulfoton	Phorate Ronnel
Chlorpyrifos	Ethyl parathion (Parathion)	Stirophos (Tetrachlorovinphos)
Demeton	Malathion	Terbufos
Demeton O & S	Methyl parathion	
Diazinon		

Blank Soil

Metals & Cyanide Blank Sand

CRM Cat. #058	PT —	—	QR —
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One 40 g sand sample in a screw-cap bottle. The concentrations of all EPA/NELAC including the priority pollutant metal and cyanide analytes are below the CLP Required Detection Limits (CRDLs) except iron, which is <250 mg/kg.

Metals & Cyanide Blank Soil

CRM Cat. #057	PT —	—	QR —
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One 40 g soil sample in a screw-cap bottle. The concentrations of all of the following analytes are below the CLP CRDLs: antimony, arsenic, beryllium, cadmium, cobalt, mercury, nickel, selenium, silver, sodium, thallium, and cyanide. The concentrations of the following analytes are below 10x the CLP CRDLs: barium, chromium, copper, lead, magnesium, potassium, and vanadium. The concentrations of manganese and zinc are <750 mg/kg. The concentration range for aluminum, calcium, and iron is 3000–25,000 mg/kg.



PFAS Secondary Source Standard

Standard is suitable for various applications, including Internal Calibration Verification (ICV), Laboratory Control Sample (LCS), Matrix Spike (MS), and Limit of Quantitation (LOQ) studies.

NEW!

Wastewater/Solids

CRM
Cat. #PFAS10001

One 2 mL flame-sealed ampule with 1.5 mL of PFAS standard containing 44 analytes at 25–625 ng/mL. The standard is suitable for matrices to include, but not limited to, wastewater and solids and compatible with methods EPA 1633 and 1633A, EPA 8327, ASTM D8421-21, ASTM D7979, and other comparable methods.

Perfluorobutanoic acid, PFBA.....	100 ng/mL
Perfluoropentanoic acid, PFPeA.....	50 ng/mL
Perfluorohexanoic acid, PFHxA.....	25 ng/mL
Perfluoroheptanoic acid, PFHpA.....	25 ng/mL
Perfluorooctanoic acid, PFOA.....	25 ng/mL
Perfluorononanoic acid, PFNA.....	25 ng/mL
Perfluorodecanoic acid, PFDA.....	25 ng/mL
Perfluoroundecanoic acid, PFUdA.....	25 ng/mL
Perfluorododecanoic acid, PFDoA.....	25 ng/mL
Perfluorotridecanoic acid, PFTrDA.....	25 ng/mL
Perfluorotetradecanoic acid, PFTeDA.....	25 ng/mL
Perfluorobutanesulfonic acid, PFBS.....	25 ng/mL
Perfluoropentanesulfonic acid, PFPeS.....	25 ng/mL
Perfluorohexanesulfonic acid, PFHxS.....	25 ng/mL
Perfluoroheptanesulfonic acid, PFHpS.....	25 ng/mL
Perfluorooctanesulfonic acid, PFOS.....	25 ng/mL
Perfluorononanesulfonic acid, PFNS.....	25 ng/mL
Perfluorodecanesulfonic acid, PFDS.....	25 ng/mL
Perfluorododecanesulfonic acid, PFDoS.....	25 ng/mL
4:2 fluorotelomersulfonic acid, 4:2FTS.....	100 ng/mL
6:2 fluorotelomersulfonic acid, 6:2FTS.....	100 ng/mL
8:2 fluorotelomersulfonic acid, 8:2FTS.....	100 ng/mL
Perfluorooctanesulfonamide, PFOSA.....	25 ng/mL
N-ethyl perfluorooctanesulfonamidoacetic acid, NtFOSAA.....	25 ng/mL
N-methyl perfluorooctanesulfonamidoacetic acid, NMeFOSAA.....	25 ng/mL
N-ethyl perfluorooctanesulfonamide, NtFOSA.....	25 ng/mL
N-methyl perfluorooctanesulfonamide, NMeFOSA.....	25 ng/mL
N-ethyl perfluorooctanesulfonamidoethanol, NtFOSE.....	250 ng/mL
N-methyl perfluorooctanesulfonamidoethanol, NMeFOSE.....	250 ng/mL
3-Perfluoropropyl propanoic acid, 3:3FTCA.....	125 ng/mL
2H,2H,3H,3H-Perfluorooctanoic acid, 5:3FTCA.....	625 ng/mL
3-Perfluoroheptyl propanoic acid, 7:3FTCA.....	625 ng/mL
Hexafluoropropylene oxide dimer acid, HFPO-DA.....	100 ng/mL
4,8-dioxa-3H-perfluorononanoic acid, ADONA.....	100 ng/mL
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid, 9Cl-PF3ONS.....	100 ng/mL
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF3OUdS.....	100 ng/mL
Perfluoro-4-methoxybutanoic acid, PFMBA.....	50 ng/mL
Perfluoro-3-methoxypropanoic acid, PFMPA.....	50 ng/mL
Perfluoro(2-ethoxyethane) sulfonic acid, PFEESA.....	50 ng/mL
Nonafluoro-3,6-dioxaheptanoic acid, NFDHA.....	50 ng/mL
Pentafluoropropanoic acid, PFPrA.....	100 ng/mL
2H-perfluoro-2-octenoic acid, FHUEA.....	100 ng/mL
2H-perfluoro-2-decenoic acid, FOUEA.....	100 ng/mL
Bis(trifluoromethane)sulfonamide.....	100 ng/mL



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