

Environmental

Proficiency Testing and Reference Materials

2015-2016

GLOBAL CATALOG





We are pleased to present the 2015/2016 ERA Environmental Product Catalog.

With over 50 years of market leadership, Waters is committed to the development, production, and manufacture of the highest quality consumable products to solve our customers' most difficult challenges and enable continued success.

We are driven by our core mission: to develop enabling technologies that are the industry standard for performance, reproducibility, and quality. At ERA, we are dedicated to setting the industry standard for helping laboratories prove and improve data defensibility by delivering the highest quality Proficiency Testing experience.

With our comprehensive list of globally recognized accreditations, including ISO 9001, ISO/IEC Guide 34, ISO/IEC 17043, and ISO/IEC 17025 you can be assured that we have independent oversight of our internal processes. You will receive the best products available — allowing you to meet or exceed your laboratories' quality objectives time-and-time again. To learn more about how we can help you achieve your objectives for quality, variety, and reliability, visit www.eraqc.com.

Michael J. Yelle

Vice President, Consumables Business Unit

Waters Corporation

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Milford, MA, U.S.A.

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INDE		
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For More Than 35 Years, the Industry Standard

Dependable Quality and Experience You Can Trust

We understand how important Proficiency Testing (PT) is to your accreditation. Your accreditation is your license to do business.

We also understand that quality goes beyond simply being accredited.

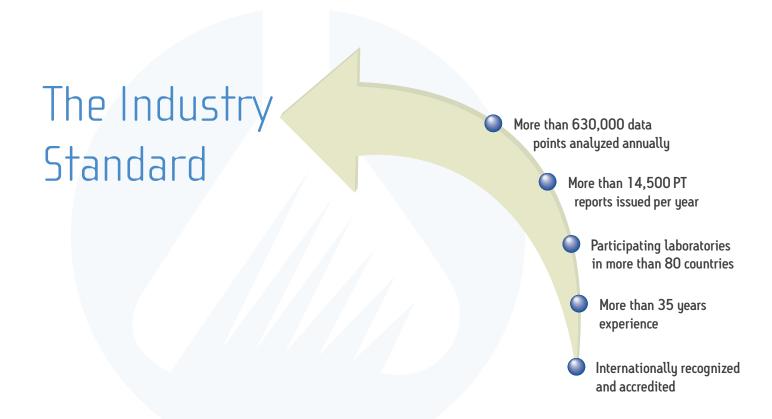
Your customers' trust in the defensibility of the data you provide is fundamental to the success of your laboratory. That's why we are focused on providing you with purposefully designed, enabling tools and services to help you:

- Continuously improve the reliability of data you deliver to your customers
- Cost-effectively meet your accreditation goals

That's why more laboratories trust ERA as their partner in data defensibility, and why ERA has been the Industry Standard for over 35 years.

Your Partner in Data Defensibility

- Expert quidance for every step of the PT process
- Help in understanding and navigating the myriad of regulatory requirements
- Greater confidence in your results
- Single source for your PT and Certified Reference Materials



QuiK Response PT

Critical evaluations are just that — critical. ERA's QuiK Response™ PTs are on demand PTs that return your final results in just two business days of entering your data. With QuiK Response, gone are the days of waiting for the PT closing date and then waiting weeks for final results.

No wondering. No worries. Just results. Fast.

If you need to quickly demonstrate corrective action or confirm a new method, and you cannot wait for a regularly scheduled PT scheme, then speak with your ERA Customer Service Representative or an authorized sales partner about QuiK Response PTs.







REFERENCE MATERIAL PRODUCER CERTIFICATE NO. 1539.03

ISO/IEC 17043:2010



PROFICIENCY TESTING PROVIDER CERTIFICATE NO. 1539.01

ISO/IEC 17025:2005



CHEMICAL TESTING LABORATORY CERTIFICATE NO. 1539.02



ISO 9001:2008 CERTIFICATE NO. 10551

2015 PROFICIENCY TESTING SCHEME SCHEDULE



www.eraqc.com

Water	Water Supply			
	Scheme #	Opens	Closes	
Q	WS 222	Jan 5	Feb 19	
	WS 223	Feb 9	Mar 26	
	WS 224	Mar 2	Apr 16	
Q	WS 225	Apr 6	May 21	
	WS 226	May 4	Jun 18	
	WS 227	Jun 8	Jul 23	
Q	WS 228	Jul 7	Aug 21	
	WS 229	Aug 3	Sep 17	
	WS 230	Sep 8	Oct 23	
Q	WS 231	Oct 5	Nov 19	
	WS 232	Nov 6	Dec 21	
	WS 233	Dec 7	Jan 21, 2016	

Water	Pollution (Includi	ng UST in Water)	
	Scheme #	Opens	Closes
Q	WP 240	Jan 12	Feb 26
	WP 241	Feb 16	Apr 2
	WP 242	Mar 9	Apr 23
Q	WP 243	Apr 13	May 28
	WP 244	May 11	Jun 25
	WP 245	Jun 15	Jul 30
Q	WP 246	Jul 13	Aug 27
	WP 247	Aug 10	Sep 24
	WP 248	Sep 14	Oct 29
Q	WP 249	Oct 16	Nov 30
	WP 250	Nov 13	Dec 28
	WP 251	Dec 14	Jan 28, 2016

Soil (Including UST in Soil)			
	Scheme #	Opens	Closes
Q	SOIL 89	Jan 19	Mar 5
Q	SOIL 90	Apr 20	Jun 4
Q	SOIL 91	Jul 20	Sep 3
Q	SOIL 92	Oct 19	Dec 3

Radiochemistry			
	Scheme #	Opens	Closes
Q	RAD 100	Jan 5	Feb 19
Q	RAD 101	Apr 6	May 21
Q	RAD 102	Jul 6	Aug 20
Q	RAD 103	Oct 5	Nov 19

MRAD		
Scheme #	Opens	Closes
MRAD 22	Mar 16	May 15
MRAD 23	Sep 21	Nov 20

2 schemes per year – open for 60 days

Air & Emissions				
	Scheme #	Opens	Closes	
Q	AE 31	Jan 26	Mar 12	
Q	AE 32	Apr 27	Jun 11	
Q	AE 33	Jul 27	Sep 10	
Q	AE 34	Oct 26	Dec 10	

QuiK Response PT

Need PT results fast? ERA's QuiK Response PTs are available on demand, 52 weeks a year. Plus, with QuiK Response, you receive final results in just two business days. Contact your ERA Customer Service Representative or an authorized ERA sales partner to place your QuiK Response order.



2016 PROFICIENCY TESTING SCHEME SCHEDULE



Water Supply			
	Scheme #	Opens	Closes
Q	WS 234	Jan 11	Feb 25
	WS 235	Feb 8	Mar 24
	WS 236	Mar 1	Apr 15
Q	WS 237	Apr 4	May 19
	WS 238	May 9	Jun 23
	WS 239	Jun 6	Jul 21
Q	WS 240	Jul 11	Aug 25
	WS 241	Aug 8	Sep 22
	WS 242	Sep 6	Oct 21
Q	WS 243	Oct 7	Nov 21
	WS 244	Nov 1	Dec 16
	WS 245	Dec 5	Jan 19, 2017

Water	Pollution (Includ	ling UST in Water)	
	Scheme #	Opens	Closes
Q	WP 252	Jan 18	Mar 3
	WP 253	Feb 15	Mar 31
	WP 254	Mar 7	Apr 21
Q	WP 255	Apr 11	May 26
	WP 256	May 16	Jun 30
	WP 257	Jun 13	Jul 28
Q	WP 258	Jul 18	Sep 1
	WP 259	Aug 15	Sep 29
	WP 260	Sep 12	Oct 27
Q	WP 261	Oct 14	Nov 28
	WP 262	Nov 7	Dec 22
	WP 263	Dec 12	Jan 26, 2017

Soil (Including UST in Soil)				
	Scheme #	Opens	Closes	
Q	SOIL 93	Jan 25	Mar 10	
Q	SOIL 94	Apr 18	Jun 2	
Q	SOIL 95	Jul 23	Sep 8	
Q	SOIL 96	Oct 17	Dec 1	

Radiochemistry			
	Scheme #	Opens	Closes
Q	RAD 104	Jan 11	Feb 25
Q	RAD 105	Apr 4	May 19
Q	RAD 106	Jul 11	Aug 25
Q	RAD 107	Oct 7	Nov 21

MRAD		
Scheme #	Opens	Closes
MRAD 24	Mar 14	May 13
MRAD 25	Sep 19	Nov 18

2 schemes per year – open for 60 days

Air & Emissions				
	Scheme #	Opens	Closes	
Q	AE 35	Jan 29	Mar 14	
Q	AE 36	Apr 25	Jun 9	
Q	AE 37	Jul 29	Sep 12	
Q	AE 38	Oct 24	Dec 8	

QuiK Response PT

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What is a Certified Reference Material?

A Certified Reference Material (CRM) is a standard with known concentrations or assigned values of specified analytes. The standard has a known uncertainty, homogeneity, and stability and assigned values of the analytes are traceable to an independent reference. A CRM is accompanied by an authenticated certificate of analysis.

Uses for Certified Reference Materials

- Development of a new analytical method
- Root cause analysis
- Analyst training and demonstration of capability
- Independent calibration verification

What is a Proficiency Test?

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.

Uses for Proficiency Testing

- Independent validation of your laboratory's measurement processes
- Compliance to accreditation requirements
- Expand scope of accreditation to include a new method
- Inter-laboratory performance comparison

What is a QuiK Response?

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.

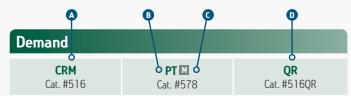
QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants — chemical analytical labs.



Uses for QuiK Response

- Demonstrate corrective action after a failed proficiency test
- Expand scope of accreditation to include a new method
- Document and validate the effectiveness of corrective actions

Ordering Your Standards



One 15 mL screw-cap vial yields up to 2 liters after dilution.



CRM

Certified Reference Material – a sample with known concentrations of one or more analytes.

B PT

Proficiency Test – a sample with unknown concentrations of one or more analytes.

- Frequency of scheduled scheme

 M = monthly or Q = quarterly
- QR

QuiK Response – a sample with unknown concentrations of one or more analytes. QR PTs are available anytime, 52 weeks a year.

Confidence

As your partner in data defensibility, our experts are here to help your lab succeed by providing you with the tools you need to improve your quality.

MEET THE EXPERTS WEBINAR SERIES

Monthly webcast by our senior scientists designed to help you:

- Ensure your successful Proficiency Testing (PT) performance
- Solve routine analysis challenges
- Improve root cause analysis and corrective action

Register via our bi-monthly e-newsletter. To sign up or view previous newsletters, visit www.eraqc.com/newsevents/newsletterarchive.

Or, contact your ERA Customer Service Representative for more information.

Previous webcasts include:

- CRMs and How They Relate to ISO 17025 Accreditation Outcomes
- Improving Root Cause and Corrective Action
- Analysis Tips for Radiochemistry
- DMR-QA Preparedness, Analysis Tips for TSS
- DMR-QA Preparedness, Analysis Tips for pH
- DMR-QA Preparedness, Analysis Tips for BOD
- SSAS Changes: Your Questions Answered
- Keys to Improved PT Results on Your Waste Water Microbiology Samples
- Creating a Robust and Sustainable Quality Assurance Program
- Take Control with Control Charting

- "The webinar was full of good information.
 I've really appreciated ERA making these
 webinars available. I particularly found
 this one and the recent one on Root Cause
 analysis to be helpful. Thanks to ERA for
 having them accessible after the original
 presentations."
 - > Quality Manager, Wyoming
- "I thought the class was excellent and, for us, timely. It showed us that we are on the right track, but have some work to do."
 - > Chemistry Supervisor, Wyoming
- "I found the seminar to be very helpful, and gathered some good tips."
 - > Assistant Laboratory Director, New York
- "Thank you so much, the webinar was very informative. I will certainly attend another webinar when offered."
- > QA Manager, Texas



WATER POLLUTION

Matrices with high concentrations of analytes for testing water pollution or waste water. Standards are based on requirements of the United States Environmental Protection Agency Clean Water Act and may be used to satisfy PT requirements worldwide.



2015 Water Pollution PT Scheme Schedule				
	Scheme #	Opens	Closes	
Q	WP 240	Jan 12	Feb 26	
	WP 241	Feb 16	Apr 2	
	WP 242	Mar 9	Apr 23	
Q	WP 243	Apr 13	May 28	
	WP 244	May 11	Jun 25	
	WP 245	Jun 15	Jul 30	
Q	WP 246	Jul 13	Aug 27	
	WP 247	Aug 10	Sep 24	
	WP 248	Sep 14	Oct 29	
Q	WP 249	Oct 16	Nov 30	
	WP 250	Nov 13	Dec 28	
	WP 251	Dec 14	Jan 28, 2016	
Schedule subject to change – see ERA's website at www.eraqc.com				

2016 Water Pollution PT Scheme Schedule				
	Scheme #	Opens	Closes	
Q	WP 252	Jan 18	Mar 3	
	WP 253	Feb 15	Mar 31	
	WP 254	Mar 7	Apr 21	
Q	WP 255	Apr 11	May 26	
	WP 256	May 16	Jun 30	
	WP 257	Jun 13	Jul 28	
Q	WP 258	Jul 18	Sep 1	
	WP 259	Aug 15	Sep 29	
	WP 260	Sep 12	Oct 27	
Q	WP 261	Oct 14	Nov 28	
	WP 262	Nov 7	Dec 22	
	WP 263	Dec 12	Jan 26, 2017	
Sche	dule subject to chang	ge – see ERA's webs	ite at www.eraqc.com	

Description	CRM	PT	QR	Page
Acidity	915	885 Q	915QR	16
Acids	712	834 M	712QR	18
Boron	919	886 Q	919QR	16
Base/Neutrals	711	833 M	711QR	18
Bromide	769	887 Q	769QR	16
BTEX & MTBE	760	643 Q	760QR	17
Carbamate Pesticides	908	899 Q	908QR	19
Chlordane	716	837 M	716QR	19
Chlorinated Acid Herbicides	718	829 M	718QR	17
Color	070	882 Q	070QR	15
Complex Nutrients	525	579 M	525QR	12
Cyanide & Phenol	502	588 M	502QR	15
Demand	516	578 M	516QR	13
Diesel Range Organics (DRO) in Water	764	641 Q	764QR	18
EDB/DBCP/TCP	692	562 Q	692QR	18
Gasoline Range Organics (GRO)	762	640 Q	762QR	17
Glycols in Water	401	271 0	401QR	18
Hardness	507	580 M	507QR	12
HEM/SGT-HEM	519	489 Q	519QR	13
Hexavalent Chromium	984	898 M	984QR	14
Lithium	4992	4990 💌	4992QR	14
Low-Level Mercury	931	896 Q	931QR	14
Low-Level Nitroaromatics & Nitramines	677	932 0	677QR	18
Low-Level PAHs	715	836 Q	715QR	18
Low-Level Total Residual Chlorine (TRC)	917	881 M	917QR	16
Mercury	514	574 M	514QR	14
Minerals	506	581 M	506QR	12
Nitrite	770	888 M	770QR	12
Nitrogen Pesticides	674	487 Q	674QR	19

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All ERA WP PTs open monthly (M) or quarterly (Q) unless otherwise noted.

WP Lithium PTs open in February and August. WP Sulfite PTs open in January and July.

Quarterly months are January, April, July, and October.

Description	CRM	P	T	QR	Page
Oil & Grease		see page	13 f	or options	
Organochlorine Pesticides	713	831	М	713QR	19
Organophosphorous Pesticides	665	934	Q	665QR	19
PAHs-GC/GCMS	4882	4880	Q	4882QR	18
PCBs in Oil	729S	835\$	М	729SQR	17
PCBs in Water	734S	832\$	М	734SQR	17
pH	977	577	М	977QR	12
QC Plus	S	ee pages 2	1-22	2 for options	
Ready-to-Use CRMS		see page	20 f	or options	
Settleable Solids	911	883	М	911QR	12
Silica	775	890	Q	775QR	15
Simple Nutrients	505	584	М	505QR	12
Solids	499	241	М	499QR	12
Solids Concentrate	4032	4030	М	4032QR	12
Surfactants-MBAS	776	892	Q	776QR	15
Sulfide	071	891	М	071QR	15
Sulfite	534	244	*	534QR	15
Tin & Titanium	517	573	М	517QR	14
Total Organic Halides (TOX)	670	895	Q	670QR	15
Total Phenolics (4-AAP)	515	589	М	515QR	15
Total Residual Chlorine (TRC)	501	587	М	501QR	16
Toxaphene	717	838	М	717QR	19
TPH in Water	600/601	642	Q	602QR	13
Trace Metals	500	586	М	500QR	14
Turbidity	777	893	М	777QR	15
Uranium	4402	4400	Q	4402QR	14
Volatile Aromatics	4452	4450	Q	4452QR	17
Volatiles	710	830	М	710QR	17

QuiK Response PT

Need PT results fast? Available 52 weeks a year, QuiK Response PTs are on demand PTs that return final results within minutes of submitting your data online. In the US, please call ERA customer service at 800-372-0122 or 303-431-8454 to order. Outside of the US, please contact your authorized ERA sales partner to order.



MINERALS/SOLIDS

Minerals

CRM	PT M	QR
Cat. #506	Cat. #581	Cat. #506QR

One 500 mL whole-volume bottle is ready to analyze.

Total alkalinity as CaCO ₃	25-400 mg/L
Chloride	35-275 mg/L
Fluoride	0.4-4 mg/L
Potassium	4-40 mg/L
Sodium	10-100 mg/L
Specific conductance at 25 °C	200-1200 µmhos/cm
Sulfate	5-125 mg/L
Total dissolved solids at 180 °C	140-800 mg/L
Total solids at 105 °C	140-800 mg/L

Hardness

CRM	PT™	QR
Cat. #507	Cat. #580	Cat. #507QR

One 500 mL whole-volume bottle is ready to analyze.

Calcium	10-100 mg/L
Calcium hardness as CaCO ₃	25-250 mg/L
Total hardness as CaCO ₃	40-415 mg/L
Magnesium	4-40 mg/L
Total suspended solids (TSS)	20-100 mg/L

рΗ

CRM	PT™	QR
Cat. #977	Cat. #577	Cat. #977QR

One 250 mL whole-volume bottle is ready to analyze.

pН.	5-10 units

Settleable Solids

CRM	PT M	QR
Cat. #911	Cat. #883	Cat. #9110R

One 60 mL poly bottle with a solid yields 1 liter after dilution. Use with EPA method 160.5, Standard Methods 2540F, or other applicable method.

Settleable	solids	 	 5-50 mL/L
Settleaple	solias	 	 ๖-๖Ს ml/l

Volatile Solids

CRM	PT™	QR
Cat. #913	Cat. #884	Cat. #913QR

One $12\,\text{mL}$ screw-cap vial with a solid yields 1 liter after dilution. Use with EPA method 160.4, Standard Methods 2540E, or other applicable method.

Total volatile solids	100-500 mg/L
-----------------------	--------------

Solids Concentrate

CRM	PT™	QR
Cat. #4032	Cat. #4030	Cat. #4032QR

One 24 mL screw-cap vial with a powder yields 1 liter of solution.

Total solids at 105 °C	140-800	mg/L
Total dissolved solids at 180 °C	140-800	mg/L
Total suspended solids (TSS)	20-100	mg/L

Solids

CRM	PT M	QR
Cat. #499	Cat. #241	Cat. #499QR

One 500 mL whole-volume bottle is ready to analyze.

Total solids at 105 °C	140-800 mg/l	Ĺ
Total dissolved solids at 180 °C	140-800 mg/l	L
Total suspended solids (TSS)	20-100 mg/l	L

NUTRIENTS

Simple Nutrients

CRM	PT™	QR
Cat. #505	Cat. #584	Cat. #505QR

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Ammonia as N	1-20 mg/L
Nitrate as N	2-25 mg/L
Nitrate plus nitrite as N	
ortho-Phosphate as P	

Complex Nutrients

CRM	PT™	QR
Cat. #525	Cat. #579	Cat. #5250R
Cal. #323	Cal. #319	Cal. #323QN

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Total Kjeldahl Nitrogen as N	3-35 mg/L
Total phosphorus as P	0.5-10 ma/L

Nitrite

CRM	PT M	QR
Cat. #770	Cat. #888	Cat. #770QR

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Nitrite as N



OIL & GREASE/TOTAL PETROLEUM HYDROCARBONS

When ordering Oil & Grease or Total Petroleum Hydrocarbons (TPH) PTs, please specify if you need a sample compatible with SPE.

Oil & Grease

CRM Cat. #504

One 250 mL whole-volume bottle is ready to analyze.

HEM/SGT-HEM

CRM	PTQ	QR
Cat. #519	Cat. #489	Cat. #519QR

One 5 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA method 1664, or other applicable method to measure hexane extractable material (HEM) and silica gel treated-HEM. Contains both hexadecane and stearic acid. Note: If a NELAC compliant PT is required, use Cat. #582 or Cat. #4120.

Hexane extractable material	5-100 mg/L
Silica gel treated-HEM	5-100 mg/L

Oil & Grease Concentrate

CRM	PT M	QR
Cat. #4122	Cat. #4120	Cat. #4122QR

One 24 mL screw-cap vial yields up to 2 liters after dilution. Use with EPA method 1664, or other applicable method. Gravimetric analysis only.

Total Petroleum Hydrocarbons (TPH) in Water

CRM	PT Q	QR
Cat. #600	Cat. #642	Cat. #602QR

One liter whole-volume bottle is ready to analyze for TPH without interfering fatty acids. Use with EPA methods 418.1, 1664, 5520, or other applicable method.

1 Liter Oil & Grease

CRM	PT M	QR
Cat. #518	Cat. #582	Cat. #518QR

One liter whole-volume glass bottle with a 33-430 thread is ready to analyze. For gravimetric and IR analyses.

Total Petroleum Hydrocarbons (TPH) in Water

CRM	PTQ	QR
Cat. #601	Cat. #642	Cat. #602QR

One liter whole-volume bottle is ready to analyze for TPH in the presence of interfering fatty acids. Use with EPA methods 418.1, 1664, 5520, or other applicable method.

1 Liter Boston Round Oil & Grease

CRM	PT™	QR
Cat #818	Cat #582	Cat #8180R

One liter whole-volume glass bottle with a $33-400\,$ thread is ready to analyze. For gravimetric and IR analyses.

DEMAND

Demand

CRM	PT™	QR
Cat. #516	Cat. #578	Cat. #516QR

One 15 mL screw-cap vial yields up to 2 liters after dilution.

5-day BOD	18-230 mg/L
Carbonaceous BOD	18-230 mg/L
COD	30-250 mg/L
TOC	6-100 mg/L



METALS

Trace Metals

CRM	PT M	QR
Cat. #500	Cat. #586	Cat. #500QR

One $15\,\mathrm{mL}$ screw-cap vial yields up to 1 liter after dilution. Use with AA, ICP-OES or ICP-MS and selected colorimetric methods.

Aluminum	200-4,000 μg/L
Antimony	90-900 μg/L
Arsenic	90-900 μg/L
Barium	100-2,500 μg/L
Beryllium	50-500 μg/L
Boron	800-2,000 μg/L
Cadmium	100-1,000 μg/L
Chromium	100-1,000 μg/L
Cobalt	100-1,000 μg/L
Copper	100-1,000 μg/L
Iron	200-4,000 μg/L
Lead	100-1,500 μg/L
Manganese	200-2,000 μg/L
Molybdenum	60-600 μg/L
Nickel	200-2,000 μg/L
Selenium	
Silver	100-1,000 μg/L
Strontium	
Thallium	80-800 μg/L
Vanadium	
Zinc	300-2,000 μg/L



CRM	PT™	QR
Cat. #514	Cat. #574	Cat. #514QR

Low-Level Mercury

CRM	PT Q	QR
Cat. #931	Cat. #896	Cat. #9310R

One 5 mL flame-sealed ampule yields up to 4 liters after dilution. Use with EPA 1631, or other sensitive mercury analysis methods.

ERA Low-Level Mercury is also available during February and March WP PT schemes.

Hexavalent Chromium

CRM	PT™	QR
Cat. #984	Cat. #898	Cat. #984QR

One $15\ \text{mL}$ screw-cap vial yields up to $2\ \text{liters}$ after dilution. Use with IC or colorimetric methods.



Tin and Titanium

CRM Cat. #517	PT ™ Cat. #573	QR Cat. #5170R
Cat. 115 1 1	Cat. #313	cat. II 5 1 1 QIV

One 15 mL screw-cap vial yields up to 1 liter after dilution. Use with AA, ICP-OES or ICP-MS methods.

Tin	200-2,000 µg/L
Titanium	60-300 ug/l

Uranium

CRM Cat. #4402	PT Q Cat. #4400	QR Cat. #44020R
Cdl. #44UZ	Cat. #4400	Cal. #4402QN

One 15 mL screw-cap vial yields up to 1 liter after dilution.

Lithium

CRM	PT *	OR	
CIVIT	—	•	
Cat. #4992	Cat. #4990	Cat. #4992QR	

One 15 mL screw-cap vial yields up to 2 liters after dilution. Designed for the Ohio VAP program.

ERA WP Lithium PTs open in February and August.



PHYSICAL PROPERTY

Color

CRM	PT Q	QR
Cat. #070	Cat. #882	Cat. #070QR

One 125 mL whole-volume bottle is ready to analyze. Use with EPA methods 110.1, 110.2, and 110.3, Standard Methods 2120B, 2120C, 2120E, or other applicable method.

Color..... .. 10-75 PC units

Turbidity

CRM	PT M	QR
Cat. #777	Cat. #893	Cat. #777QR

One 15 mL screw-cap vial yields up to 1 liter after dilution. Use with nephelometric methods.

Turbidity.....

MISCELLANEOUS CHEMISTRY

Cyanide & Phenol

CRM	PT M	QR
Cat. #502	Cat. #588	Cat. #502QR

One 15 mL screw-cap vial yields up to 2 liters after dilution. The CRM is also certified for Phenol at 0.05-5 mg/L. For a Total Phenolics PT, order Cat #589.

Total Cyanide	0.1-1 mg/L
Amenable Cuanide	0.1-1 ma/l

Total Organic Halides (TOX)

CRM	PT Q	QR
Cat. #670	Cat. #895	Cat. #670QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Analyze for total organic halides with adsorption pyrolysis titrimetric methods.

..... 300-1,500 μg/L

Total Phenolics (4-AAP)

CRM	PT M	QR
Cat. #515	Cat. #589	Cat. #515QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Analyze for total phenolic compounds by 4-AAP methods.

Total Phenolics by 4-AAP.....

Silica

CRM	PT Q	QR
Cat. #775	Cat. #890	Cat. #775QR

One 60 mL poly bottle yields up to 1 liter after dilution. Analyze for silica as SiO₂ with colorimetric or ICP methods.

Silica as SiO₂

Sulfide

CRM	PT™	QR
Cat. #071	Cat. #891	Cat. #071QR

One 10 mL flame-sealed ampule yields up to 1 liter after dilution. Preserved sample is guaranteed stable. Analyze for sulfide by titrimetric or colorimetric methods or ISE.

Sulfite

CRM	PT ■	QR
Cat. #534	Cat. #244	Cat. #534QR

One 10 mL concentrate yields up to 2 liters after dilution.

Sulfite.......10-250 mg/L

ERA WP Sulfite PTs open in January and July.

Surfactants-MBAS

CRM	PT Q	OR
Cat. #776	Cat. #892	Cat. #7760R

One 15 mL screw-cap vial yields up to 2 liters after dilution. Analyze for Surfactants-MBAS with EPA method 425.1, or other applicable method.

MISCELLANEOUS CHEMISTRY

Acidity

CRM	PTQ	QR
Cat. #915	Cat. #885	Cat. #915QR

One 250 mL whole-volume bottle is ready to analyze. Designed for use with titrimetric methods to a pH endpoint of $8.3\ S.U.$

Total Residual Chlorine (TRC)

CRM	PT M	QR
Cat. #501	Cat. #587	Cat. #501QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with titrimetric or colorimetric methods.

Boron

CRM Cat. #919	PT Q Cat. #886	QR Cat. #919QR	
-------------------------	-----------------------	--------------------------	--

One unpreserved 60 mL poly bottle yields in excess of 2 liters after dilution. Designed for colorimetric methods.

Low-Level Total Residual Chlorine (TRC)

CRM	PT M	QR
Cat. #917	Cat. #881	Cat. #917QR

Designed for testing at low $\mu g/L$ levels. One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with sensitive titrimetric or colorimetric methods.

Bromide

CRM	PTQ	QR
Cat. #769	Cat. #887	Cat. #769QR

One $15\ \text{mL}$ screw-cap vial yields up to $2\ \text{liters}$ after dilution. Use with ion chromatography or colorimetric methods.

Bromide......1-10 mg/L



Studies

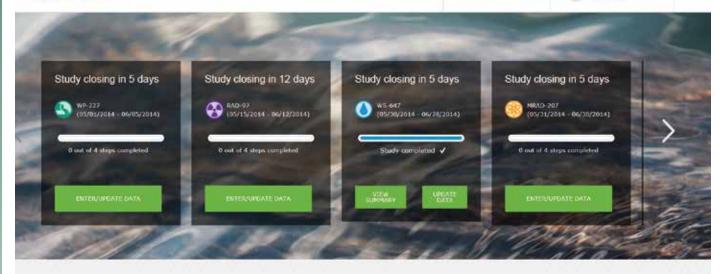
Reports

Statistics

Resources

Swarch for studies 🔍





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eDATA 2.0: The Next Evolution of PT Informatics





65 days

lays



WP-221(08/08/2014 - 09/19/201

72 days

VOLATILES

Volatiles

CRM	PT™	QR
Cat. #710	Cat. #830	Cat. #710QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 601, 602, 8021, 624, 8260, or other applicable method. Contains a subset of the analytes listed below at 5-300 $\mu g/L$.

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

Gasoline Range Organics (GRO) in Water

CRM	PT Q	QR
Cat. #762	Cat. #640	Cat. #762QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with both purge & trap and modified EPA 8015 GC/FID methods or other applicable methods to test for GRO at 400-4,000 $\mu g/L$. Also use to test for BTEX in gasoline.

HERBICIDES

Chlorinated Acid Herbicides

CRM	PT™	QR
Cat. #718	Cat. #829	Cat. #718QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 615, 8151, or other applicable methods. Contains a subset of the analytes or other applicable methods listed below at $2-10 \mu g/L$ (except MCPA and MCPP at 10-100 μg/L).

Note: 4-nitrophenol and pentachlorophenol are not within the EPA/NELAC range. Use the Acids standard (page 18) for these compounds in the EPA/NELAC range.

Acifluorfen	Dalapon	MCPP
Bentazone	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)

Volatile Aromatics

CRM	PTQ	QR
Cat. #4452	Cat. #4450	Cat. #44520R

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 602, 8021, or other applicable method. Each standard contains all listed analytes at 5-300 µg/L after dilution.

Benzene	Ethylbenzene	1,3,5-Trimethylbenzene
Chlorobenzene	Naphthalene	m&p Xylene
1,2-Dichlorobenzene	Toluene	o-Xylene
1,3-Dichlorobenzene	1,2,4-Trichlorobenzene	Xylenes, total
1,4-Dichlorobenzene	1,2,4-Trimethylbenzene	

pcbs

PCBs in Water

CRM	PT™	QR
Cat. #734S	Cat. #832S	Cat. #734SQR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 608, 8082, or other applicable method. Contains a different Aroclor, randomly selected from the list below at $2-10 \mu g/L$.

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

PCBs in Oil

CRM Cat. #729S	PT M Cat. #835S	QR Cat. #729SOR
Cal. #1233	Cat. #0555	Cat. #1 233QIV

One 10 mL flame-sealed ampule is ready to analyze. Use with EPA method 8082, or other applicable method. Contains a different Aroclor, randomly selected from the list below at 12-50 mg/kg.

Aroclor 1016	Aroclor 1254	Aroclor 1260
Aroclor 1242		

BTEX & MTBE in Water

CRM	PT Q	OR
*****		•
Cat. #760	Cat. #643	Cat. #760QR
cat. II I oo	Cut. 110-13	cat. II I ooqit

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 602, 8021, or other applicable method. Includes all BTEX compounds and MTBE at 5-300 $\mu g/L$ after dilution.

SEMIVOLATILES

Base/Neutrals

CRM	PT M	QR
Cat. #711	Cat. #833	Cat. #7110R

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 625, 8270, or other applicable method. Contains a subset of the analytes listed below at $10-225 \mu g/L$ (except Benzidine at $200-1,000 \mu g/L$).

Acenaphthene	2-Chloronaphthalene	Hexachlorocyclopentadiene
Acenaphthylene	4-Chlorophenyl phenyl ether	Hexachloroethane
2-Amino-1-methylbenzene	Chrysene	Indeno(1,2,3-cd)pyrene
(o-Toluidine)	Dibenz(a,h)anthracene	Isophorone
Aniline	Dibenzofuran	2-Methylnaphthalene
Anthracene	1,2-Dichlorobenzene	Naphthalene
Benzidine	1,3-Dichlorobenzene	2-Nitroaniline
Benzo(a)anthracene	1,4-Dichlorobenzene	3-Nitroaniline
Benzo(b)fluoranthene	3,3'-Dichlorobenzidine	4-Nitroaniline
Benzo(k)fluoranthene	Diethyl phthalate	Nitrobenzene
Benzo(g,h,i)perylene	Dimethyl phthalate	N-Nitrosodiethylamine
Benzo(a)pyrene	Di-n-butyl phthalate	N-Nitrosodimethylamine
Benzyl alcohol	2,4-Dinitrotoluene	N-Nitroso-di-n-propylamine
4-Bromophenyl phenyl ether	2,6-Dinitrotoluene	N-Nitrosodiphenylamine
Butyl benzyl phthalate	Di-n-octyl phthalate	Pentachlorobenzene
Carbazole	bis(2-Ethylhexyl)phthalate	Phenanthrene
4-Chloroaniline	Fluoranthene	Pyrene
bis(2-Chloroethoxy)methane	Fluorene	Pyridine
bis(2-Chloroethyl)ether	Hexachlorobenzene	1,2,4,5-Tetrachlorobenzene
bis(2-Chloroisopropyl)ether	Hexachlorobutadiene	1,2,4-Trichlorobenzene
1-Chloronaphthalene		

Acids

CRM	PT M	OR
Cat. #712	Cat. #834	Cat. #712QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 604, 625, 8041, 8270, or other applicable method. Contains a subset of the analytes listed below at 30-200 µg/L.

Benzoic Acid	2,4-Dinitrophenol	Pentachlorophenol
4-Chloro-3-methylphenol	2-Methyl-4,6-dinitrophenol	Phenol
2-Chlorophenol	2-Methylphenol	2,3,4,6-Tetrachlorophenol
2,4-Dichlorophenol	3 & 4-Methlyphenol	2,4,5-Trichlorophenol
2,6-Dichlorophenol	2-Nitrophenol	2,4,6-Trichlorophenol
2,4-Dimethylphenol	4-Nitrophenol	

Diesel Range Organics (DRO) in Water

CRM	PT Q	QR
Cat. #764	Cat. #641	Cat. #764QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with modified EPA 8015 GC/FID methods, or other applicable method. Includes #2 Diesel at $800-6,000 \mu g/L$.

EDB/DBCP/TCP

CRM	PT™	QR
Cat. #692	Cat. #562	Cat. #692QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA method 8011, or other applicable method. Each lot contains all analytes at $15-150 \mu g/L$.

1,2-Dibromo-3-chloropropane (DBCP)	15-150 μg/L
1,2-Dibromoethane (EDB)	10-120 μg/L
1.2.3-Trichloropropane (TCP)	15-150 ug/L

Glycols in Water

	_	
RM	PT Q	QR
Cat. #401	Cat. #271	Cat. #401QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 8015B, 8430, 1671, or other applicable method.

Diethylene glycol	Propylene glycol	Triethylene glycol
Ethulene alucol	Tetraethulene glucol	

Low-Level Nitroaromatics & Nitramines

CRM	PT Q	QR
Cat. #677	Cat. #932	Cat. #677QR

One 2 mL flame-sealed ampule yields up to 2 liters of sample after dilution. Use with EPA methods 8330, 8091, or other applicable method for explosive and explosive residue analytes. Contains at least 80% of the analytes, randomly selected from the list below at $1-20 \mu g/L$.

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

Low-Level PAHs

CRM	PTQ	QR
Cat. #715	Cat. #836	Cat. #715QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA $\,$ HPLC methods 610, 8310, or other applicable method, and GC/MS method 8270 SIM. Contains a subset of the analytes listed below at $0.5-20 \mu g/L$.

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		

PAHs - GC/GCMS

CRM	PTQ	QR
Cat. #4882	Cat. #4880	Cat. #4882QR

One 2mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 625, 8100, 8270, or other applicable method. Each standard contains a subset of the analytes listed below at 10-200 µg/L.

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



pesticibes

Organochlorine Pesticides

CRM	PT M	QR
Cat. #713	Cat. #831	Cat. #7130R

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 608, 8081, or other applicable method. Contains a subset of the analytes listed below at $1\text{-}20~\mu\text{g/L}$.

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 (beta)
alpha-Chlordane	Endosulfan II	Methoxychlor

Endosulfan sulfate

Nitrogen Pesticides

CRM	PTQ	QR
Cat. #674	Cat. #487	Cat. #674QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 619, 633, 8141, 8270, or other applicable method. Contains a subset of the analytes listed below at 2-20 μ g/L.

Alachlor	Deethyl atrazine	Prometon
Ametryn	Deisopropyl atrazine	Prometryn
Anilazine	Diaminoatrazine	Pronamide
Atraton	EPTC (Eptam)	Propachlor
Atrazine	Hexazinone	Propazine
Bromacil	Metolachlor	Simazine
Butachlor	Metribuzin	Terbacil
Butylate	Napropamide	Trifluralin
Cyanazine		

As your partner in defensible data, we are dedicated to ensuring your successful PT performance by helping you solve analytical challenges and improve root cause analysis and corrective action.

Chlordane

gamma-Chlordane

CRM	PT M	QR
Cat. #716	Cat. #837	Cat. #716QR

One 2 mL flame-sealed ampule yields up to 2 liters of sample after dilution. Use with EPA methods 608, 8081, or other applicable method. Contains technical chlordane at $3-25~\mu g/L$.

CRM PT № QR Cat. #717 Cat. #838 Cat. #717QR

One 2 mL flame-sealed ampule yields up to 2 liters of sample after dilution. Use with EPA methods 608, 8081, or other applicable method. Contains toxaphene at $20\text{-}100~\mu\text{g/L}$.

Carbamate Pesticides

CRM	PT Q	QR
Cat. #908	Cat. #899	Cat. #908QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA method 632, or other applicable method. Contains a subset of the analytes listed below at 5-200 $\mu g/L$.

Aldicarb	Carbaryl	Methiocarb
Aldicarb sulfone	Carbofuran	Methomyl
Aldicarb sulfoxide	Diuron	Oxamyl
Baygon	3-Hydroxycarbofuran	Propham

Organophosphorus Pesticides (OPP)

CRM	PTQ	QR
Cat. #665	Cat. #934	Cat. #665QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 614, 622, 8141, or other applicable method. Contains a subset of the analytes listed below at 2-20 μ g/L.

Terbufos

Azinphos-methyl (Guthion)	Dioxathion	Malathion
Carbophenothion	Disulfoton	Methyl parathion
Chlorpyrifos	Ethion	Phorate
Demeton 0 & S	Ethoprop	Phosmet
Diazinon	Ethyl Parathion (Parathion)	Ronnel
Dichlorvos (DDVP)	Famphur	Stirophos (tetrachlorovinphos)

Fonofos

Dimethoate

READY-TO-USE CRMS

The following whole-volume standards are ready-to-use as provided and require no dilution before analysis.*

Minerals

CRM

Cat. #506

One 500 mL whole-volume bottle is ready to analyze.

Total alkalinity as CaCO ₃	25-400 mg/L
Chloride	
Fluoride	
Potassium	
Sodium	10-100 mg/L
Specific conductance at 25 °C	
Sulfate	5-125 mg/L
Total dissolved solids at 180 °C	140-800 mg/L
Total solids at 105 °C	140-800 mg/L

Hardness

CRM

Cat. #507

One 500 mL whole-volume bottle is ready to analyze.

Calcium	10-100 mg/L
Calcium hardness as CaCO ₃	25-250 mg/L
Total hardness as CaCO ₃	40-415 mg/L
Magnesium	4-40 mg/L
Total suspended solids (TSS)	20-100 mg/L

pН

CRM

Cat. #977

One 250 mL whole-volume bottle is ready to analyze. Use with electrometric methods.

Oil & Grease

CRM

Cat. #504

One 250 mL whole-volume bottle is ready to analyze. Use with EPA hexane extraction method 1664, or other applicable method. Certified values are provided for IR and gravimetric methods. For additional Oil & Grease CRMs see page 13.

Solids

CRM

Cat. #499

One 500 mL whole-volume bottle is ready to analyze.

Total solids at 105 °C	140-800 mg/L
Total dissolved solids at 180 °C	140-800 mg/L
Total suspended solids (TSS)	20-100 mg/L
pH	5-10 units

Trace Metals*

CRM

Cat. #740

One 500 mL whole-volume bottle is ready to analyze. Use with AA, ICP-OES or ICP-MS methods.

Aluminum	200-4,000 μg/L
Antimony	90-900 μg/L
Arsenic	90-900 μg/L
Barium	100-2,500 μg/L
Beryllium	50-500 μg/L
Boron	
Cadmium	
Chromium	100-1,000 μg/L
Cobalt	100-1,000 μg/L
Copper	100-1,000 μg/L
Iron	200-4,000 μg/L
Lead	
Manganese	200-2,000 μg/L
Molybdenum	60-600 μg/L
Nickel	200-2,000 μg/L
Selenium	, 13
Silver	100-1,000 μg/L
Strontium	50-500 μg/L
Thallium	80-800 μg/L
Vanadium	50-2,000 μg/L
Zinc	300-2,000 μg/L

Demand*

CRM

Cat. #743

One $500\ \text{mL}$ whole-volume bottle is ready to analyze.

5-day BOD	18-230 mg/L
Carbonaceous BOD	18-230 mg/L
COD.	30-250 mg/L
TOC	6-100 mg/L

Simple Nutrients*

CRM

Cat. #739

One 500 mL whole-volume bottle is ready to analyze.

Ammonia as N	1-20 mg/L
Nitrate as N	2-25 mg/L
Nitrate plus nitrite as N	2.5-25 mg/L
ortho-Phoenhate as P	0.5-5.5 mg/l

Complex Nutrients*

CRM

Cat. #741

One 500 mL whole-volume bottle is ready to analyze.

Total Kjeldahl Nitrogen as N	3-35 mg/L
Total phosphorus as P	0.5-10 mg/l

oc plus

ERA's QC Plus program includes environmental analytes at concentrations that reflect realistic levels of pollutants in industrial settings.

Each sample level is designed for wastewater and industrial analysis. These Reference Materials (RM) are an asset to any quality assurance program because they enable you to test your internal systems to ensure that your equipment, methods, and analysts are producing quality data.

QC Plus - Demand

RM

Cat. #4013

One 24 mL screw-cap vial yields up to 1 liter after dilution.

5-day BOD	100-300 mg/L
Carbonaceous BOD	87.0-256 mg/L
COD	150-500 mg/L
TOC	50.0-200 mg/L

QC Plus - Hexavalent Chromium

RM

Cat. #4183

One 15 mL screw-cap vial yields up to 2 liters after dilution.

QC Plus - Minerals

RM

Cat. #4053

Two 30 mL screw-cap vials to be diluted together to yield up to 2 liters of sample.

Alkalinity as CaCO ₃	10.0-300 mg/L
Calcium	5.00-150 mg/L
Calcium Hardness as CaCO ₃	12.5-375 mg/L
Chloride	10.0-700 mg/L
Conductivity100)-4000 µmhos/cm
Magnesium	1.00-50.0 mg/L
Potassium	1.00-300~mg/L
Sodium.	10.0-300~mg/L
Sulfate	10.0-300 mg/L
Total dissolved solids at 180 °C	20.0-2400 mg/L
Total Hardness as CaCO ₃	15.0-600~mg/L

QC Plus - Nutrients

RM

Cat. #4023

Two 15 mL screw-cap vials yield up to 2 liters each after dilution.

Ammonia Nitrogen as N	0.250-10.0 mg/L
Nitrate Nitrogen as N	0.250-10.0 mg/L
ortho-Phosphate as P	0.0500-10.0 mg/L
Total Kjeldahl Nitrogen	0.250-10.0 mg/L
Total phosphorus as P	0.100-10.0 mg/L

QC Plus - Oil & Grease

RM

Cat. #4123

One 24 mL screw-cap vial yields up to 2 liters after dilution.

QC Plus - pH

RM

Cat. #4063

One 250 mL whole-volume bottle is ready to analyze.

QC Plus - Fluoride

RM

Cat. #4423

One 15 mL screw-cap vial yields up to 2 liters after dilution.



oc plus

QC Plus - Solids

CRM

Cat. #4033

One 24 mL screw-cap vial with a powder yields 1 liter after dilution.

Total dissolved solids at 180 °C	500-2000 mg/L
Total solids at 105 °C	600-2500 mg/L
Total suspended solids (TSS)	100-500 mg/L

QC Plus - Total Cyanide

CRM

Cat. #4093

One 15 mL screw-cap vial yields up to 2 liters after dilution.

QC Plus - Total Phenolics

CRM

Cat. #4083

QC Plus - Total Residual Chlorine

CRM

Cat. #4103

QC Plus - Trace Metals

CRM

Cat. #4073

Two 15 mL screw-cap vials to be diluted together to yield up to 2 liters of sample. .50.0-200 μg/L .10.0-300 μg/L .10.0-250 μg/L .50.0-500 μg/L .5.00-100 μg/L .50.0-250 μg/L .5.00-100 μg/L .25.0-500 μg/L ..15.0-500 µg/L ..25.0-500 µg/L .50.0-500 ug/L ..50.0-500 μg/L 0.500-5.00 μg/L .20.0-500 μg/L .50.0-500 μg/L ...10.0-100 µg/L10.0-100 µg/L .50.0-500 μg/L 200-1000 μg/L ..10.0-100 µg/L .50.0-250 μg/L .25.0-250 μg/L







The Industry Standard.

Your Partner In Defensible Data

We understand that the art of our superior service is just as important as the science of our superior standards. Our goal is to help you successfully complete your accreditation requirements and ensure the reliability of the data you report to your customers.

- Customer Service and Technical experts with over 200 combined years of experience in the environmental testing field
- Available 6:00 am to 6:00 pm MT
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When failures occur, your accreditation and the defensibility of the results you report to your clients depends on effectively determining root cause and implementing appropriate corrective actions. Our technical experts have many years of environmental analytical experience and are here to help you solve your analytical challenges.

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"I cannot think of anything more that would make lab life easier when it comes to ERA testing items. Online ordering is simple, online results posting is easy and customer support outstanding."

- Lead Operator, Virginia



WATER SUPPLY

Matrices with low concentrations of analytes for testing water supply, drinking water, or ground water. Standards are based on requirements of the United States Environmental Protection Agency Safe Drinking Water Act and may be used to satisfy PT requirements worldwide.



2015 Water Supply PT Scheme Schedule			
	Scheme #	Opens	Closes
Q	WS 222	Jan 5	Feb 19
	WS 223	Feb 9	Mar 26
	WS 224	Mar 2	Apr 16
Q	WS 225	Apr 6	May 21
	WS 226	May 4	Jun 18
	WS 227	Jun 8	Jul 23
Q	WS 228	Jul 7	Aug 21
	WS 229	Aug 3	Sep 17
	WS 230	Sep 8	Oct 23
Q	WS 231	Oct 5	Nov 19
	WS 232	Nov 6	Dec 21
	WS 233	Dec 7	Jan 21, 2016
Sc	hedule subject to chan	ge – see ERA's websit	e at www.eraqc.com

2016 Water Supply PT Scheme Schedule				
	Scheme #	Opens	Closes	
Q	WS 234	Jan 11	Feb 25	
	WS 235	Feb 8	Mar 24	
	WS 236	Mar 1	Apr 15	
Q	WS 237	Apr 4	May 19	
	WS 238	May 9	Jun 23	
	WS 239	Jun 6	Jul 21	
Q	WS 240	Jul 11	Aug 25	
	WS 241	Aug 8	Sep 22	
	WS 242	Sep 6	Oct 21	
Q	WS 243	Oct 7	Nov 21	
	WS 244	Nov 1	Dec 16	
	WS 245	Dec 5	Jan 19, 2017	
Schedule subject to change – see ERA's website at www.eraqc.com				

Description	CRM	PT	QR	Page
Carbamates/ Carbamoxyloxime Pesticides	707	846 M	707QR	30
Chloral Hydrate	676	853 🔹	676QR	29
Chlordane	705	845 M	705QR	30
Chlorinated Acid Herbicides	704	851 M	704QR	31
Color	661	859 Q	661QR	28
Corrosivity	980	900 Q	980QR	28
Cyanide	983	556 М	983QR	28
Dioxin	663	857 Q	663QR	31
EDB/DBCP/TCP	706	847 M	706QR	30
Gasoline Additives	909	905 Q	909QR	29
Hardness	693	555 M	693QR	26
Haloacetic Acids (HAA)	684	852 M	684QR	29
Halomethanes (THMs)	702	842 M	702QR	29
Hexavalent Chromium	658	854 Q	658QR	26
Inorganics	698	591 M	698QR	26
Inorganic Disinfection #1	5272	5270 М	5272QR	27
Inorganic Disinfection #2	5262	5260 M	5262QR	27
Mercury	666	551 M	666QR	26
Metals	697	590 ₪	697QR	26

Description	CRM	PT	QR	Page
Nitrite	695	594 M	695QR	27
Organic Carbon	669	557 М	669QR	28
o-Phosphate Nutrients	667	558 M	667QR	27
PCBs as Decachlorobiphenyl	708	839 Q	708QR	31
Perchlorate	910	903 Q	910QR	28
Pesticides	709	850 M	709QR	30
рH	779	552 <u>M</u>	779QR	26
Regulated Volatiles	703	840 M	703QR	29
Residual Chlorine	696	593 М	696QR	28
Semivolatiles #1	690	848 M	690QR	31
Semivolatiles #2 Herbicides	691	849 M	691QR	31
Silica	785	902 Q	785QR	28
Solids Concentrate	5152	5150 M	5152QR	26
Surfactants-MBAS	784	901 Q	784QR	28
Toxaphene	700	844 M	700QR	30
Turbidity	699	592 ™	699QR	28
Unregulated Volatiles	683	841 M	683QR	29
Uranium	930	858 Q	930QR	26
UV 254 Absorbance	662	904 Q	662QR	28
Vanadium	660	856 Q	660QR	26

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All ERA WS PTs open monthly (M) or quarterly (Q) unless otherwise noted. ERA Chloral Hydrate PTs open in January and July.

Quarterly months are January, April, July, and October.



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MINERALS/SOLIDS

Hardness

CRM	PT™	QR
Cat. #693	Cat. #555	Cat. #693QR

One 250 mL whole-volume bottle is ready to analyze.

Calcium	30-90 mg/L
Calcium hardness as CaCO ₃	75-225 mg/L
Total hardness as CaCO ₃	83-307 mg/L
Magnesium	2-20 mg/L
Sodium	

Inorganics

CRM	PT M	QR
Cat. #698	Cat. #591	Cat. #698QR

One 500 mL whole-volume bottle is ready to analyze. The CRM is also certified for Sodium. For a Sodium PT, order Hardness, Cat. #555.

Alkalinity as CaCO ₃	25-200 mg/L
Chloride	
Fluoride	1-8 mg/L
Nitrate as N	3-10 mg/L
Nitrate plus nitrite as N	3-10 mg/L
Potassium	10-40 mg/L
Specific conductance at 25 °C	130-1,300 µmhos/cm
Sulfate	25-250 mg/L
Total dissolved solids (TDS) at 180 °C	100-1,000 mg/L

На

CRM	PT M	QR
Cat. #779	Cat. #552	Cat. #779QR

One 250 mL whole-volume bottle is ready to analyze.

nΗ	5-10 units

Solids Concentrate

CRM	PT M	QR
Cat. #5152	Cat. #5150	Cat. #51520R

One 24 mL screw-cap vial with a powder yields 1 liter after dilution.

Total filterable residue (TDS) at 180 °C	100-1,000 mg/L
Total solids (TS) at 105 °C	123-1,100 mg/L
Total suspended solids (TSS)	23-100 mg/L



TRACE METALS

Metals

CRM	PT M	QR
Cat. #697	Cat. #590	Cat. #697QR

One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with ICP-OES, ICP-MS and AA methods.

Aluminum	130-1,000 μg/L
Antimony	6-50 μg/L
Arsenic	5-50 μg/L
Barium	500-3,000 μg/L
Beryllium	2-20 μg/L
Boron	800-2,000 μg/L
Cadmium	2-50 μg/L
Chromium	10-200 μg/L
Copper	50-2,000 μg/L
Iron	100-1,800 μg/L
Lead	5-100 μg/L
Manganese	40-900 μg/L
Molybdenum	15-130 μg/L
Nickel	
Selenium	10-100 μg/L
Silver	20-300 μg/L
Thallium	2-10 μg/L
Vanadium	, 13
Zinc	200-2,000 μg/L

Mercury

_		
CRM	PT M	QR
Cat. #666	Cat. #551	Cat. #666QR

One $15\ \text{mL}$ screw-cap vial yields up to $1\ \text{liter}$ after dilution. Use with CVAA, ICP-MS or CVAFS methods.

Hexavalent Chromium

CRM	PT Q	OR
*****		•
Cat. #658	Cat. #854	Cat. #658QR

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Hexavalent chromium.......5-50 μ g/L

Uranium

CRM	PT Q	OR
Cat. #930	Cat. #858	Cat. #9300R

One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with ICP-MS methods.

 $Uranium3-104 \, \mu g/L$

Vanadium

CRM	PT Q	QR
Cat. #660	Cat. #856	Cat. #6600R

One $15\ \text{mL}$ screw-cap vial yields up to $2\ \text{liters}$ after dilution. Designed to meet California ELAP requirements.



DISINFECTION BY-PRODUCTS

Inorganic Disinfection #1

 CRM
 PT ■
 QR

 Cat. #5272
 Cat. #5270
 Cat. #5272QR

One 24 mL screw-cap vial yields up to 4 liters after dilution.

NUTRIENTS

Nitrite QR Cat. #695 Cat. #594 Cat. #6950R

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Inorganic Disinfection #2

CRM	PT™	QR
Cat. #5262	Cat. #5260	Cat. #5262QR

One 24 mL screw-cap vial yields up to 4 liters after dilution.

Bromate	7-	-50 _l	ug/L	
Bromide	50-3	300	ug/L	

o-Phosphate Nutrients

CRM	PT M	OR
Cat. #667	Cat. #558	Cat #6670R

One 15 mL screw-cap vial yields up to 2 liters after dilution.





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All ERA WS PTs open monthly (\blacksquare) or quarterly (\blacksquare) unless otherwise noted.

MISCELLANEOUS INORGANIC

Residual Chlorine

 CRM
 PT M
 QR

 Cat. #696
 Cat. #593
 Cat. #696QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution.

 Total Residual Chlorine
 0.5-3 mg/L

 Free Residual Chlorine
 0.5-3 mg/L

Color

CRM PT 0 QRCat. #661 Cat. #859 Cat. #661QR

One 125 mL whole-volume bottle is ready to analyze.

PHYSICAL PROPERTY

Cyanide

 CRM
 PT ■
 QR

 Cat. #983
 Cat. #556
 Cat. #983QR

One $15\ \text{mL}$ screw-cap vial yields up to $2\ \text{liters}$ after dilution. Source material is free cyanide.

Corrosivity

 CRM
 PT 0
 QR

 Cat. #980
 Cat. #900
 Cat. #980QR

One 500 mL whole-volume bottle is ready to analyze for corrosivity, calcium carbonate saturation and Langelier saturation index.

Corrosivitu.....-4 to +4 SI units

Organic Carbon

 CRM
 PT ■
 QR

 Cat. #669
 Cat. #557
 Cat. #669QR

One 15 mL screw-cap vial yields up to 1 liter after dilution.

 Total Organic Carbon
 1.3-13 mg/L

 Dissolved Organic Carbon
 1.3-13 mg/L

Turbidity

 CRM
 PT
 QR

 Cat. #699
 Cat. #592
 Cat. #699QR

One 15 mL screw-cap vial yields up to 1 liter after dilution. Use with nephelometric methods.

Perchlorate

 CRM
 PT Q
 QR

 Cat. #910
 Cat. #903
 Cat. #910QR

One 15 mL screw-cap vial yields up to 2 liters after dilution.

UV 254 Absorbance

CRM PT QR Cat. #662 Cat. #904 Cat. #662QR

One 15 mL screw-cap vial yields up to 1 liter after dilution.

Silica

One 60 mL poly bottle yields 1 liter after dilution.

Surfactants-MBAS

CRM PT 0 QRCat. #784 Cat. #901 Cat. #7840R

One 15 mL screw-cap vial yields up to 2 liters after dilution.



DISINFECTION BY-PRODUCTS

Chloral Hydrate

CRM	PT *	QR
Cat. #676	Cat. #853	Cat. #676QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA method 551, or other applicable method. Includes chloral hydrate at 4-30 μ g/L.

ERA WS Chloral Hydrate PTs open in January and July.

Haloacetic Acids (HAA)

CRM	PT M	QR
Cat. #684	Cat. #852	Cat. #6840R

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA method 552, or other applicable method. Includes all the analytes below at 5-50 μ g/L.

Bromochloroacetic Acid Dichloroacetic Acid Monochloroacetic Acid
Dibromoacetic Acid Monobromoacetic Acid Trichloroacetic Acid

VOLATILE ORGANICS

Gasoline Additives

CRM	PTQ	QR
Cat. #909	Cat. #905	Cat. #909QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA method 524.2, or other applicable method for gasoline additives/oxygenates. Contains all of the analytes below at 5-50 μ g/L.

tert-Amyl methyl ether (TAME) Ethyl tert-butyl ether (ETBE) Trichlorofluoromethane tert-Butyl Alcohol Methyl tert-butyl ether (MTBE) (Freon® 11)

Di-isopropylether (DIPE) Trichlorotrifluoroethane (Freon 113)

Halomethanes (THMs)

CRM	PT™	QR
Cat. #702	Cat. #842	Cat. #702QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 502.2, 524.2, 551, or other applicable method. Contains all of the analytes below at 5-50 $\mu q/L$.

Bromodichloromethane Chlorodibromomethane Chloroform

Regulated Volatiles

CRM	PT M	QR
Cat. #703	Cat. #840	Cat. #703QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 502.2, 524.2, or other applicable method. Contains all of the analytes below at 2-50 μ g/L.

Benzene cis-1,2-Dichloroethylene Toluene Carbon tetrachloride trans-1,2-Dichloroethylene 1,2,4-Trichlorobenzene Chlorobenzene 1,2-Dichloropropane 1,1,1-Trichloroethane 1.2-Dichlorobenzene Ethylbenzene 1,1,2-Trichloroethane 1,4-Dichlorobenzene Methylene chloride Trichloroethylene 1,2-Dichloroethane Vinyl chloride Sturene 1,1-Dichloroethylene Tetrachloroethylene Xylenes, total

Unregulated Volatiles

CRM	PT M	QR
Cat. #683	Cat. #841	Cat. #683QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 502.2, 524.2, or other applicable method. Contains at least 60% of the analytes randomly selected from the list below at 2-50 μ g/L.

Bromobenzene 1,3-Dichlorobenzene 4-Isopropyltoluene Bromochloromethane Dichlorodifluoromethane Methyl tert-butyl ether (MTBE) Bromomethane 1,1-Dichloroethane Naphthalene n-Butylbenzene 1,3-Dichloropropane n-Propylbenzene sec-Butylbenzene 1,1,1,2-Tetrachloroethane 2,2-Dichloropropane tert-Butylbenzene 1,1-Dichloropropene 1,1,2,2-Tetrachloroethane Chloroethane cis-1,3-Dichloropropene 1,2,3-Trichlorobenzene Chloromethane trans-1,3 Dichloropropene 1,2,3-Trichloropropane 2-Chlorotoluene Fluorotrichloromethane 1,2,4-Trimethylbenzene 4-Chlorotoluene Hexachlorobutadiene 1,3,5-Trimethylbenzene Dibromomethane Isopropylbenzene

PESTICIDES

Pesticides

 CRM
 PT M
 QR

 Cat. #709
 Cat. #850
 Cat. #709QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 505, 507, 508, 525, or other applicable method for organochlorine, nitrogen, and organophosphorus pesticides. Each standard contains at least 14 analytes randomly selected from the list below at 0.2-20 μ g/L.

Alachlor	Heptachlor	Metribuzin
Aldrin	Heptachlor epoxide (beta)	Molinate (Ordram)
Atrazine	Hexachlorobenzene	Prometon
Bromacil	Hexachlorocyclopentadiene	Propachlor
Butachlor	Lindane (gamma-BHC)	Simazine
Diazinon	Methoxychlor	Thiobencarb
Dieldrin	Metolachlor	Trifluralin
Endrin		

Chlordane

 CRM
 PT
 QR

 Cat. #705
 Cat. #845
 Cat. #705QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 505, 508, 525, or other applicable method. Each standard contains technical chlordane at 2-20 μ g/L.

Toxaphene

CRM Cat. #700

PT M Cat. #844

QR Cat. #700QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 505, 508, 525, or other applicable method. Each standard contains toxaphene at 2-20 $\mu g/L$.

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Carbamate/Carbamoxyloxime Pesticides

 CRM
 PT M
 QR

 Cat. #707
 Cat. #846
 Cat. #707QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 531.1, 531.2, 632, or other applicable method. Each standard contains at least 8 of the analytes below at $15-150 \, \mu g/L$.

Aldicarb Carbaryl Methiocarb
Aldicarb sulfone Carbofuran Methomyl
Aldicarb sulfoxide 3-Hydroxycarbofuran Oxamyl

EDB/DBCP/TCP

 CRM
 PT ☑
 QR

 Cat. #706
 Cat. #847
 Cat. #706QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 504, 551, or other applicable method. Each lot contains all analytes below at 0.05-2 μ g/L.

1,2-Dibromo-3-Chloropropane (DBCP) Ethylene dibromide (EDB) 1,2,3-Trichloropropane (1,2,3-TCP)

SEMIVOLATILE ORGANICS

Dioxin

CRM	PT Q	QR
Cat. #663	Cat. #857	Cat. #663QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 613, 1613, 8280, 8290, or other applicable method. Each standard contains 2,3,7,8-TCDD at 20-100 pg/L.

PCBs as Decachlorobiphenyl

CRM	PTQ	QR
Cat. #708	Cat. #839	Cat. #708QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA quantitative method 508A. This standard can also be used for Aroclor identification and quantification using EPA methods 505, 508, 508.1, or other applicable method. Includes an Aroclor randomly selected from the list below at 0.5-5 $\mu g/L$ as decachlorobiphenul.

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

Aroclor 1232

Semivolatiles #1

CRM	PT M	QR
Cat. #690	Cat. #848	Cat. #690QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 506, 525, 550, or other applicable method for PAHs, phthalates and adipates. Each standard contains Benzo(a)pyrene, Bis(2-ethylhexyl)) adipate, and Bis(2-ethylhexyl)) phthalate plus at least 13 additional analytes, selected from the list below, at 0.2-50 μ g/L.

Acenaphthene	Butyl benzyl phthalate	bis(2-Ethylhexyl)phthalate
Acenaphthylene	Chyrsene	Fluoranthene
Anthracene	Dibenz(a,h)anthracene	Fluorene
Benzo(a)anthracene	Di-n-butyl phthalate	Indeno(1,2,3-cd)pyrene
Benzo(b)fluoranthene	Diethyl phthalate	Naphthalene
Benzo(k)fluoranthene	Dimethyl phthalate	Phenanthrene
Benzo(g,h,i)perylene	Di-n-octyl phthalate	Pyrene
Benzo(a)pyrene	bis(2-Ethylhexyl)adipate	

Naphthalene is not within the EPA/NELAC range. Use the Unregulated Volatiles standard (page 29) for this compound in the EPA/NELAC range.

HERBICIDES

Chlorinated Acid Herbicides

CRM	PT M	QR
Cat. #704	Cat. #851	Cat. #704QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 515.1, 515.2, 515.3, 515.4, 555, or other applicable method. All lots include at least 10 analytes from the list below at 1-120 μ g/L.

 Acifluorfen
 Dalapon
 4-Nitrophenol

 Bentazone
 Dicamba
 Pentachlorophenol

 Chloramben
 3,5-Dichlorobenzoic acid
 Picloram

 2,4-D
 Dichlorprop
 2,4,5-T

 2,4-DB
 Dinoseb
 2,4,5-TP (Silvex)

Dacthal diacid (DCPA)

Semivolatiles #2 Herbicides

CRM	PT M	QR
Cat. #691	Cat. #849	Cat. #691QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 547, 548, 549, or other applicable method. Each standard contains all the analytes below at $8-800\,\mu\text{g/L}$.

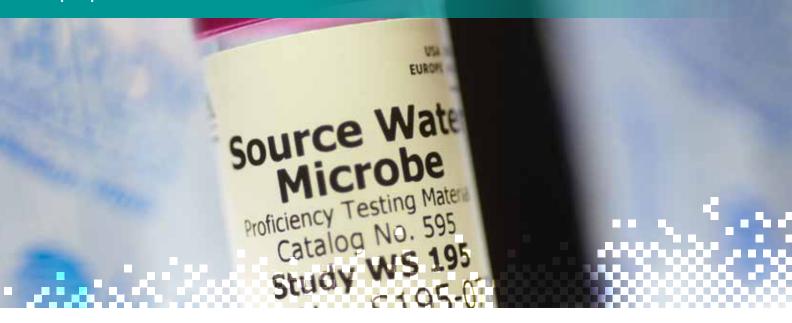
Diquat Glyphosate Paraquat Endothall

End



MICROBIOLOGY

Matrices with low and high concentrations of analytes for testing bacteria in drinking water and waste water. Samples are delivered as lyophilized pellets in a glass vial with phosphate buffer dilution water.



2015 Water Pollution PT Scheme Schedule				
	Scheme #	Opens	Closes	
Q	WP 240	Jan 12	Feb 26	
	WP 241	Feb 16	Apr 2	
	WP 242	Mar 9	Apr 23	
Q	WP 243	Apr 13	May 28	
	WP 244	May 11	Jun 25	
	WP 245	Jun 15	Jul 30	
Q	WP 246	Jul 13	Aug 27	
	WP 247	Aug 10	Sep 24	
	WP 248	Sep 14	Oct 29	
Q	WP 249	Oct 16	Nov 30	
	WP 250	Nov 13	Dec 28	
	WP 251	Dec 14	Jan 28, 2016	
Schedule subject to change — see ERA's website at www.eraqc.com				

2016 Water Pollution PT Scheme Schedule				
	Scheme #	Opens	Closes	
Q	WP 252	Jan 18	Mar 3	
	WP 253	Feb 15	Mar 31	
	WP 254	Mar 7	Apr 21	
Q	WP 255	Apr 11	May 26	
	WP 256	May 16	Jun 30	
	WP 257	Jun 13	Jul 28	
Q	WP 258	Jul 18	Sep 1	
	WP 259	Aug 15	Sep 29	
	WP 260	Sep 12	Oct 27	
Q	WP 261	Oct 14	Nov 28	
	WP 262	Nov 7	Dec 22	
	WP 263	Dec 12	Jan 26, 2017	
Schedule subject to change — see ERA's website at www.eraqc.com				

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All ERA Microbiology PTs open monthly (\mathbb{M}) or quarterly (\mathbb{Q}). Quarterly months are January, April, July, and October.

Description	CRM	PT	QR	Page
Enterococci	081	880 Q	787QR	33
Massachusetts Ground Water Enterococci	081	077 💌	_	33
Wastewater Coliform Microbe	083	576 M	786QR	33

WP MICROBIOLOGY

Wastewater Coliform Microbe

CRM	PT M	QR
Cat. #083	Cat. #576	Cat. #786QR

Each PT sample is one lyophilized quantitative standard for use with all Clean Water Act quantitative methods, including MF and MPN.

CRM also includes one blank sample. Each standard can be used for Total Coliform, Fecal Coliform and E. coli which are present in the range 20-2.400 CFU/100 mL or MPN/100 mL.

Enterococci

CRM	PT Q	QR
Cat. #081	Cat. #880	Cat. #787QR

Each PT sample is one lyophilized standard, which can be analyzed for Enterococci and/or Fecal Streptococci, MF or MPN in the range 20-1,000 CFU/100 mL or MPN/100 mL.

CRM also includes one blank sample. Use with EPA methods 1106.1 and 1600, ASTM methods D5259-92, D6503-99 and Standard Methods 9230B and 9230C and Enterolert Quantitray.

STATE-SPECIFIC MICROBIOLOGY

Massachusetts Ground Water Enterococci

CRM	PT ■
Cat. #081	Cat. #077

Each PT sample set is composed of 10 lyophilized samples to be analyzed for presence or absence of Enterococci. This sample is specifically designed for the State of Massachusetts certification for compliance with the federal Ground Water Rule. Each CRM sample set is composed of 2 lyophilized samples - one quantitative positive and one blank.

Massachusetts Ground Water Enterococci PT is available any time.

QuiK Response PT

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WS MICROBIOLOGY

2015 Water Supply PT Scheme Schedule			
	Scheme #	Opens	Closes
Q	WS 222	Jan 5	Feb 19
	WS 223	Feb 9	Mar 26
	WS 224	Mar 2	Apr 16
Q	WS 225	Apr 6	May 21
	WS 226	May 4	Jun 18
	WS 227	Jun 8	Jul 23
Q	WS 228	Jul 6	Aug 20
	WS 229	Aug 3	Sep 17
	WS 230	Sep 8	Oct 23
Q	WS 231	Oct 5	Nov 19
	WS 232	Nov 6	Dec 21
	WS 233	Dec 7	Jan 21, 2016
Schedule subject to change — see ERA's website at www.eraqc.com			

2016 Water Supply PT Scheme Schedule			
	Scheme #	Opens	Closes
Q	WS 234	Jan 11	Feb 25
	WS 235	Feb 8	Mar 24
	WS 236	Mar 1	Apr 15
Q	WS 237	Apr 4	May 19
	WS 238	May 9	Jun 23
	WS 239	Jun 6	Jul 21
Q	WS 240	Jul 11	Aug 25
	WS 241	Aug 8	Sep 22
	WS 242	Sep 6	Oct 21
Q	WS 243	Oct 7	Nov 21
	WS 244	Nov 1	Dec 16
	WS 245	Dec 5	Jan 19, 2017
Sc	hedule subject to chan	ge – see ERA's websit	e at www.eraqc.com

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All ERA Microbiology PTs open monthly (\mathbf{M}) or quarterly (\mathbf{Q}). Quarterly months are January, April, July, and October.



Description	CRM	PT	QR	Page
Heterotrophic Plate Count	084	079 M	084QR	35
Potable Water Coliform Microbe	694	080 M	085QR	35
Source Water Microbe	078	595 Q	078QR	35

Heterotrophic Plate Count			
CRM Cat. #084	PT M Cat. #079	QR Cat. #084QR	

Each sample is one lyophilized standard containing a Heterotrophic bacteria present in the range 5-500 CFU/mL or MPN/mL. Use with the Standard Methods 9215B-Pour Plate Method, and Most Probable Number (MPN) Method (simplate).

Potable Water Coliform Microbe CRM PT ▼ QR Cat. #694 Cat. #080 Cat. #085QR

Each sample set consists of lyophilized standards for the presence or absence analysis of Total Coliform, Fecal Coliform, E. coli. The standards are applicable to all SDWA promulgated methods-MF, MPN, presence/absence and ONPG-MUG. The Potable Water Coliform Microbe PT standard is available in all 12 monthly WS studies.



Each sample is one lyophilized quantitative standard containing E. coli in the range 20-200 CFU/100 mL or MPN/100 mL. Use with all SDWA quantitative methods. Each standard can be used for total coliform, fecal coliform, and E. coli.



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2015 Soil PT Scheme Schedule			
	Scheme #	Opens	Closes
Q	SOIL 89	Jan 19	Mar 5
Q	SOIL 90	Apr 20	Jun 4
Q	SOIL 91	Jul 20	Sep 3
Q	SOIL 92	Oct 19	Dec 3

Schedule subject to change – see ERA's website at www.eraqc.com

2016 Soil PT Scheme Schedule			
	Scheme #	Opens	Closes
Q	SOIL 93	Jan 25	Mar 10
Q	SOIL 94	Apr 18	Jun 2
Q	SOIL 95	Jul 25	Sep 8
Q	SOIL 96	Oct 17	Dec 1

Schedule subject to change – see ERA's website at www.eraqc.com

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CRM – Certified Reference Material

PT – Proficiency Testing **QR** – QuiK Response

All ERA Soil PTs open quarterly () unless otherwise noted.

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METALS

Metals in Soil

CRM	PT Q	QR
Cat. #540	Cat. #620	Cat. #540QR

One $40\,\mathrm{g}$ soil sample in a screw-cap bottle for all ICP and AA, RCRA and Superfund methods including EPA digestion methods $3050\,\mathrm{hot}$ plate and $3051\,\mathrm{microwave}$, or other applicable methods. Includes all metals shown below.

Aluminum	, , ,
Antimony	
Arsenic	40-400 mg/kg
Barium	100-1,000 mg/kg
Beryllium	40-400 mg/kg
Boron	80-800 mg/kg
Cadmium	40-400 mg/kg
Calcium	1,500-25,000 mg/kg
Chromium	40-400 mg/kg
Cobalt	40-400 mg/kg
Copper	40-400 mg/kg
Iron	1,000-50,000 mg/kg
Lead	40-400 mg/kg
Magnesium	1,200-25,000 mg/kg
Manganese	100-2,000 mg/kg
Mercury	1-35 mg/kg
Molybdenum	30-300 mg/kg
Nickel	40-500 mg/kg
Potassium	1,400-25,000 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	75-250 mg/kg
Titanium	10-2,000 mg/kg
Uranium	1.0-250 mg/kg
Vanadium	40-400 mg/kg
Zinc	100-1,000 mg/kg

Hexavalent Chromium in Soil

CRM	PT Q	QR
Cat. #921	Cat. #876	Cat. #921QR

One $40\ g$ standard in a screw-cap bottle for use with all promulgated hexavalent chromium methods.

Hexavalent chromium.......40-300 mg/kg

TCLP Metals in Soil

CRM	PT Q	QR
Cat. #544	Cat. #629	Cat. #544QR

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.

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

Metals in Sewage Sludge

CRM	PT Q	QR
Cat. #160	Cat. #619	Cat. #160QR

One $40~{\rm g}$ sludge standard in a screw-cap bottle to be analyzed for the metals listed below.

disted below.	
Aluminum	1,000-50,000 mg/kg
Antimony	80-300 mg/kg
Arsenic	50-400 mg/kg
Barium	250-2,000 mg/kg
Beryllium	30-200 mg/kg
Cadmium	40-300 mg/kg
Calcium	5,000-70,000 mg/kg
Chromium	40-300 mg/kg
Cobalt	5-50 mg/kg
Copper	40-1,000 mg/kg
Iron	1,000-50,000 mg/kg
Lead	50-250 mg/kg
Magnesium	1,200-25,000 mg/kg
Manganese	100-2,000 mg/kg
Mercury	1-50 mg/kg
Molybdenum	5-250 mg/kg
Nickel	40-250 mg/kg
Potassium	1,400-25,000 mg/kg
Selenium	50-250 mg/kg
Silver	50-250 mg/kg
Sodium	150-15,000 mg/kg
Strontium	200-2,000 mg/kg
Thallium	50-250 mg/kg
Vanadium	5-250 mg/kg
Zinc	70-1,500 mg/kg





PHYSICAL PARAMETERS

Corrosivity/pH in Soil

CRM	PT Q	QR
Cat. #914	Cat. #875	Cat. #914QR

One 100 g soil standard in a screw-cap bottle. Use to measure corrosivity.

Corrosivity/pH2-12 S.U.

Ignitability/Flash Point

CRM	PT Q	QR
Cat. #979	Cat. #874	Cat. #979QR

OIL & GREASE

Oil & Grease in Soil

CRM	PTQ	QR
Cat. #549	Cat. #867	Cat. #549QR

One screw-cap bottle containing 50~g of soil ready to analyze. Use with gravimetric method 9071B or infrared spectrometric analysis.

INORGANICS

Anions in Soil

CRM	PTQ	QR
Cat. #543	Cat. #873	Cat. #543QR

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	
Fluoride	25-500 mg/kg
Nitrate as N	25-500 mg/kg
Phosphate as P	25-500 mg/kg
Sulfate	25-2,000 mg/kg

Cyanide in Soil

CRM	PT Q	OR
01.11		41,
Cat. #541	Cat. #621	Cat. #5410R
Cal. #341	Cal. #UZ I	Cat. #34 IQI

Nutrients in Soil

CRM	PTQ	QR
Cat. #542	Cat. #869	Cat. #542QR

One $40\,\mathrm{g}$ soil standard in a screw-cap bottle. Use to analyze for all the nutrients listed below.

Ammonia as N	300-3,000 mg/kg
Total Kjeldahl Nitrogen as N	400-4,000 mg/kg
Total Organic Carbon (TOC)	1,000-20,000 mg/kg
Total phosphorus as P	300-3 000 mg/kg

Nutrients in Sludge

CRM

Cat. #545

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	PT Q	QR
Cat. #721	Cat. #623	Cat. #721QR

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 $20-200 \mu g/kg$ ($40-400 \mu g/kg$ for total xylenes, 80-1000 for selected ketones, and 200-1,000 μ g/kg for acetonitrile).

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

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.

Gasoline Range Organics (GRO) in Soil

CRM	PT Q	QR
Cat. #763	Cat. #630	Cat. #763QR

One flame-sealed ampule with 20 g of soil spiked with unleaded regular gasoline in the range 100-2,000 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.

BTEX & MTBE in Soil

CRM Cat. #761	PT Q Cat. #633	QR Cat. #7610R
00.11.1.0.1	541 H 555	34 5 . Q

One 2 mL flame-sealed ampule requires spiking onto the ten grams of provided certified clean soil. Includes the anlaytes below at 20-200 μg/kg (40-400 μg/kg for Total Xylenes). Use with EPA method 8021, or other applicable methods.

Methyl tert-butyl ether (MTBE) Xylenes, total Benzene

Ethylbenzene

Ready-to-Use VOAs in Soil

CRM	PT Q	QR
Cat. #924	Cat. #870	Cat. #924QR

One 20 mL flame-sealed ampule containing 10 g of soil and 10 mL of methanol is ready to analyze. Use with methods 8021, 8260, or other applicable methods. Includes a subset of the analytes listed below at $1,000-20,000 \mu g/kg$.

cludes a subset of the allatyt	es disted below at 1,000-20
Acetone	1,2-Dibromoethane (EDB)
Acetonitrile	Dibromomethane
Acrolein	1,2-Dichlorobenzene
Benzene	1,3-Dichlorobenzene
Bromobenzene	1,4-Dichlorobenzene
Bromochloromethane	Dichlorodifluoromethane
Bromodichloromethane	1,1-Dichloroethane
Bromoform	1,2-Dichloroethane
Bromomethane	1,1-Dichloroethene
2-Butanone (MEK)	cis-1,2-Dichloroethylene
n-Butylbenzene	trans-1,2-Dichloroethylene
sec-Butylbenzene	1,2-Dichloropropane
tert-Butylbenzene	1,3-Dichloropropane
Carbon disulfide	2,2-Dichloropropane
Carbon tetrachloride	1,1-Dichloropropene
Chlorobenzene	cis-1,3-Dichloropropylene
Chlorodibromomethane	trans-1,3-Dichloropropylene
Chloroethane	Ethylbenzene
2-Chloroethyl vinyl ether	Hexachlorobutadiene
Chloroform	Hexachloroethane
Chloromethane	2-Hexanone
2-chlorotoluene	Isopropylbenzene
4-chlorotoluene	p-Isopropyltoluene
1,2-Dibromo-3-chloropropane	Methyl tert-butyl ether (MTBE)
(DBCP)	4-Methyl-2-pentanone (MIBK)

Naphthalene Nitrobenzene n-Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1.1.2-Trichloroethane Trichloroethene Trichlorofluoromethane 1,2,3-Trichlorobenzene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinul chloride m&p-Xylene o-Xylene

Xylenes, total

Methylene chloride





TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons (TPH) in Soil

CRM	PTQ	QR
Cat. #570	Cat. #632	Cat. #572QR

One screw-top bottle with 50 g of soil to be analyzed for TPH. Use with EPA IR or gravimetric methods 8440, 9071B, or other applicable methods.

_		
	Non-polar Extractable Material (TPH) (Gravimetric)	300-3,000 mg/kg
	Non-polar Extractable Material (TPH) (IR)	300-3,000 mg/kg

Total Petroleum Hydrocarbons (TPH) in Soil

CRM	PTQ	QR
Cat. #571	Cat. #632	Cat. #572QR

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 $8440,\,9071B$, or other applicable methods.

Non-polar Extractable Material (TPH) (Gravimetric)	300-3,000 mg/kg
Non-polar Extractable Material (TPH) (IR)	300-3,000 mg/kg

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TCLP

TCLP Volatiles

CRM	QR
Cat. #730	Cat. #730QR

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
Chlorobonzono	1 1-Dichloroothulono	

TCLP Semivolatiles

CRM	QR
Cat. #737	Cat. #7370R

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	QR
Cat. #732	Cat. #732QF

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 <0.01~mg/L.

Endrin Heptachlor epoxide Methoxychlor Heptachlor gamma-BHC (Lindane)





SEMIVOLATILES

Nitroaromatics & Nitramines in Soil

CRM	PTQ	QR
Cat. #920	Cat. #871	Cat. #920QR

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 1,500-15,000 μ g/kg.

4-Amino-2,6-dinitrotoluene	HMX	RDX
2-Amino-4,6-dinitrotoluene	Nitrobenzene	Tetryl

 1,3-Dinitrobenzene
 2-Nitrotoluene
 1,3,5-Trinitrobenzene

 2,4-Dinitrotoluene
 3-Nitrotoluene
 2,4,6-Trinitrotoluene

2,6-Dinitrotoluene 4-Nitrotoluene

Low-Level PAHs in Soil

CRM	PT Q	QR
Cat. #722	Cat. #625	Cat. #722QR

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 $50-1,000\,\mu\text{g/kg}$.

9	. 100	
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	PT Q	QR
Cat #765	Cat #631	Cat #7650R

One flame-sealed ampule with 20 g of soil spiked with #2 Diesel fuel in the range 300-3,000 mg/kg. Use with modified EPA 8015, or other applicable GC/FID methods.

HERBICIDES

Chlorinated Acid Herbicides in Soil

CRM	PTQ	QR
Cat. #723	Cat. #626	Cat. #723QR

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 $100-1,000 \mu g/kg$ (MCPA & MCPP $1,000-10,000 \mu g/kg$).

-		
Acifluorfen	Dalapon	MCPP
Bentazone	Dicamba	4-Nitrophenol
Chloramben	3,5-Dichlorobenzoic acid	Pentachloropheno
2,4-D	Dichlorprop	Picloram
2,4-DB	Dinoseb	2,4,5-T
Dacthal diacid (DCPA)	MCPA	2 / 5-TP (Silvey)

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

Glycols in Soil

RM	PT Q	QR
Cat. #928	Cat. #463	Cat. #928QR

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.

Diethylene glycol Propylene glycol Triethylene glycol
Ethylene glycol Tetraethylene glycol

Base/Neutrals & Acids in Soil

CRM	PT Q	QR
Cat. #727	Cat. #467	Cat. #727QR

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 $1,000-15,000 \,\mu\text{g/kg}$.

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

pcbs

PCBs in Soil

CRM	PT Q	QR
Cat. #726	Cat. #624	Cat. #726QR

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



PESTICIDES

Organochlorine Pesticides in Soil

CRM	PT Q	QR
Cat. #728	Cat. #468	Cat. #728QR

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 $\mu g/kg$.

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
gamma-Chlordane	Endosulfan sulfate	

Chlordane in Soil

CRM	PT Q	QR
Cat. #725	Cat. #628	Cat. #725QR

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 $200\text{-}1,000~\mu\text{g/kg}$.

Toxaphene in Soil

CRM Cat. #724	PT Q Cat. #627	QR Cat. #724QR

One screw-top bottle containing 50 g of soil is ready to analyze. Use with method 8081, or other applicable methods. The standard contains toxaphene at 200-2,000 $\mu g/kg$.

Carbamate Pesticides in Soil

CRM	PT Q	QR	
Cat. #926	Cat. #879	Cat. #926QR	

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 $250-2,500 \,\mu\text{g/kg}$.

Aldicarb	Dioxacarb	Oxamyl
Aldicarb sulfone	Diuron	Promecarb
Aldicarb sulfoxide	3-Hydroxycarbofuran	Propham
Carbaryl	Methiocarb	Propoxur
Carhofuran	Methomul	

Organophosphorus Pesticides (OPP) in Soil

CRM	PT Q	QR	
Cat. #925	Cat. #878	Cat. #925QR	

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 $100-1,000\,\mu g/kg$.

Azinphos-methyl (Guthion)	Disulfoton	Phorate
Chlorpyrifos	Ethyl parathion (Parathion)	Ronnel
Demeton O & S	Malathion	Stirophos (tetrachlorovinphos)

Diazinon Methyl parathion Terbufos Dichlorvos (DDVP)

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SOIL

PCBs in Soil

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.

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

WATER

PCBs in Water

PCBs in water standards are sold individually in 2 mL flame-sealed ampules that yield 1 liter after dilution. Use with EPA methods 608, 8082, or other applicable methods. Each standard contains an Aroclor at 1-15 $\mu g/L$ after dilution.

Cat. #	Aroclor	Range
860	1016	1-15 μg/L
861	1221	1-15 μg/L
862	1232	1-15 μg/L
863	1242	1-15 μg/L
864	1248	1-15 μg/L
865	1254	1-15 μg/L
866	1260	1-15 μg/L

OIL

PCBs in Oil

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.

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







Metals & Cyanide Blank Sand

CRM

Cat. #058

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

One 40 g soil sample in a screw-cap bottle. The concentrations of all of the following analytes are below the CLP CRDL's: antimony, arsenic, beryllium, cadmium, cobalt, mercury, nickel, selenium, silver, sodium, thallium and cyanide. The concentrations of the following analytes are below 10X the CLP CRDL's: 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 3,000-25,000 mg/kg.





UNDERGROUND STORAGE TANK

ERA's Underground Storage Tank (UST) products in water and soil matrices are purposefully designed to meet accreditation requirements for Petroleum Hydrocarbons analysis in various jurisdictions.



2015 UST in Water PT Scheme Schedule Scheme # **Opens** Closes Q WP 240 Jan 12 Feb 26 Q WP 243 Apr 13 May 28 Q WP 246 Jul 13 Aug 27 Q WP 249 Oct 16 Nov 30

Schedule subject to change – see ERA's website at www.eragc.com

2016 UST in Water PT Scheme Schedule

	Scheme #	Opens	Closes
Q	WP 252	Jan 18	Mar 3
Q	WP 255	Apr 11	May 26
Q	WP 258	Jul 18	Sep 1
Q	WP 261	Oct 14	Nov 28

Schedule subject to change – see ERA's website at www.eragc.com

CRM – Certified Reference Material

PT - Proficiency Testing

QR – QuiK Response

All ERA UST PTs open quarterly (Q) unless otherwise noted.

ERA Alaska PTs are available at any time.

Description	CRM	PT		QR	Page
Alaska BTEX in Water	646*	474	*	_	49
Alaska DRO in Water	647*	475	*	_	49
Alaska GRO in Water	645*	473	*	_	49
BTEX & MTBE in Water	760	643	Q	760QR	54
Diesel Range Organics in Water	764	641	Q	764QR	54
Gasoline Range Organics in Water	762	640	Q	762QR	54
Massachusetts EPH in Water	567	482	Q	567QR	51
Massachusetts VPH in Water	566	481	Q	566QR	51
Texas High-Level Fuels in Water	795	477	Q	795QR	50
Texas Low-Level Fuels in Water	794	476	Q	794QR	50
Total Petroleum Hydrocarbons (TPH) in Water	600/601	642	Q	602QR	54
Washington HEM/SGT-HEM	519	489	Q	519QR	50
Wisconsin DRO	772	648	Q	772QR	50
Wisconsin GRO/PVOC	773	649	Q	773QR	50

2015 Soil PT Scheme Schedule					
	Scheme #	Opens	Closes		
Q	SOIL 89	Jan 19	Mar 5		
Q	SOIL 90	Apr 20	Jun 4		
Q	SOIL 91	Jul 20	Sep 3		
Q	SOIL 92	Oct 19	Dec 3		
Sc	hedule subject to char	nge – see FRA's website a	at www.eragc.com		

2016 Soil PT Scheme Schedule					
Scheme # Opens Closes					
Q	SOIL 93	Jan 25	Mar 10		
Q	SOIL 94	Apr 18	Jun 2		
Q	SOIL 95	Jul 25	Sep 8		
Q	SOIL 96	Oct 17	Dec 1		
S	chedule subject to char	nge – see ERA's website a	at www.eragc.com		

CRM – Certified Reference Material

PT - Proficiency Testing

QR – QuiK Response

All ERA UST PTs open quarterly () unless otherwise noted. ERA Alaska PTs are available at any time. ERA New Jersey EPH in Soil PT studies open in April and October.

Description	CRM	PT		QR	Page
Alaska BTEX in Soil	636*	470	*	_	49
Alaska DRO in Soil	637*	471	*	_	49
Alaska GRO in Soil	635*	469	*	_	49
Alaska RRO in Soil	638*	472	*	_	49
Arizona TPH in Soil	798	488	Q	798QR	49
BTEX & MTBE in Soil	761	633	Q	761QR	48
Diesel Range Organics in Soil	765	631	Q	765QR	48
Gasoline Range Organics in Soil	763	630	Q	763QR	48
Massachusetts EPH in Soil	569	484	Q	569QR	51
Massachusetts VPH in Soil	568	483	Q	568QR	51
New Jersey EPH in Soil	564	464	*	564QR	51
Texas High-Level Fuels in Soil	797	479	Q	797QR	50
Texas Low-Level Fuels in Soil	796	478	Q	796QR	50
Total Petroleum Hydrocarbons (TPH) in Soil	570/571	632	Q	572QR	48

^{*}Reference Material [RM]

QuiK Response PT

Need PT results fast? Available 52 weeks a year, QuiK Response PTs are on demand PTs that return final results within minutes of submitting your data online. In the US, please call ERA customer service at 800-372-0122 or 303-431-8454 to order. Outside of the US, please contact your authorized ERA sales partner to order.



US [T] 800.372.0122 (or) 303.431.8454 [E] info@eraqc.com UK [T] +44 (0) 161 946 2777 [E] saleseu@eraqc.com

UST IN SOIL

BTEX & MTBE in Soil

CRM	PT Q	QR
Cat. #761	Cat. #633	Cat. #761QR

One 2 mL flame-sealed ampule requires spiking onto the ten grams of provided certified clean soil. Includes all the BTEX compounds and MTBE at $20-200~\mu g/kg$ (40-400 $\mu g/kg$ for Total Xylenes). Use with EPA method 8021, or other applicable methods.

Gasoline Range Organics (GRO) in Soil

|--|

One flame-sealed ampule with 20 g of soil spiked with unleaded regular gasoline in the range 100-2,000 mg/kg. Use with purge and trap and modified EPA 8015, or other applicable GC/FID methods. Also use to test for BTEX in gasoline.

Diesel Range Organics (DRO) in Soil

CRM	PT Q	QR
Cat. #765	Cat. #631	Cat. #765QR

One flame-sealed ampule with 20 g of soil spiked with #2 Diesel fuel in the range 300-3,000 mg/kg. Use with modified EPA 8015, or other applicable GC/FID methods.

Total Petroleum Hydrocarbons (TPH) in Soil

CRM	PTQ	QR
Cat. #570	Cat. #632	Cat. #572QR

One screw-top bottle with 50 g of soil to be analyzed for total petroleum hydrocarbons (TPH). Use with EPA IR, gravimetric methods 8440 and 9071B, or other applicable methods.

Non-polar Extractable Material (TPH) (Gr	avimetric)300-3,000 mg/kg
Non-polar Extractable Material (TPH) (IR))300-3.000 ma/ka

Total Petroleum Hydrocarbons (TPH) in Soil

CRM	PT Q	QR
Cat. #571	Cat. #632	Cat. #572QR

One screw-top bottle contains 50 g of soil with TPH in the presence of interfering fatty acids. Use with EPA methods 8440, 9071B, or other applicable methods.

Non-polar Extracta	able Material (TPI	H) (Gravin	netric)	300-3,000	mg/kg
Non-polar Extracta	able Material (TPI	H) (IR)		300-3,000	mg/kg

UST IN WATER

BTEX & MTBE in Water

CRM	PT Q	QR
Cat. #760	Cat. #643	Cat. #760QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA methods 602, 8021, or other applicable methods. Includes all BTEX compounds and MTBE at 5-300 μ g/L after dilution.

Gasoline Range Organics (GRO) in Water

CRM	PTQ	QR
Cat. #762	Cat. #640	Cat. #762QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with both purge and trap, and modified EPA 8015, or other applicable GC/FID methods to test for GRO at $400-4,000~\mu g/L$. Also use to test for BTEX in gasoline.

Diesel Range Organics (DRO) in Water

CRM Cat. #764	PT Q Cat. #641	QR Cat. #7640R
Cal. #104	Cat. #041	Cat. #1 04QIV

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with modified EPA 8015, or other applicable GC/FID methods. Includes #2 Diesel at $800\text{-}6,000~\mu\text{g/L}$.

Total Petroleum Hydrocarbons (TPH) in Water

CRM	PT Q	QR
Cat. #600	Cat. #642	Cat. #602QR

One liter whole-volume bottle is ready to analyze for total petroleum hydrocarbons (TPH) without interferring fatty acids. Use with EPA methods 418.1, 1664, 5520, or other applicable methods.

Total Petroleum Hydrocarbons (TPH) in Water

CRM	PT Q	QR
Cat. #601	Cat. #642	Cat. #602QR

One liter whole-volume bottle is ready to analyze for TPH in water in the presence of interfering fatty acids. Use with EPA methods 418.1, 1664, 5520, 8440, or other applicable methods.



ALASKA UST IN WATER

Alaska GRO in Water

RM PT **■**Cat. #645 Cat. #473

One 2 mL flame-sealed ampule. Use with method AK101 for unleaded regular gasoline at 100-500 μ g/L after dilution.

Alaska DRO in Water

RM	PT *
Cat. #647	Cat. #475

One 2 mL flame-sealed ampule. Use with method AK102 for No. 2 Diesel at $800\text{-}2,300~\mu g/L$ after dilution.

Alaska BTEX in Water

RM	PT *
Cat. #646	Cat. #474

One 2 mL flame-sealed ampule. Use with method AK101 for all BTEX analytes at $5-30~\mu g/L$ after dilution.

ERA Alaska UST PTs are available at any time.

ALASKA UST IN SOIL

Alaska GRO in Soil

RM	PT *
Cat. #635	Cat. #469

One 20 mL flame-sealed ampule with 10 g of soil and 10 mL of methanol with unleaded regular gasoline at 30-1,500 mg/kg. Use with method AK101.

Alaska DRO in Soil

RM	PT *
Cat. #637	Cat. #471

One flame-sealed ampule with 20 g of soil spiked with No. 2 Diesel fuel at 30-1,500 mg/kg. Use with method AK102.

Alaska RRO in Soil

RM	PT *
Cat. #638	Cat. #472

One flame-sealed ampule with 20~g of soil with Residual Range Organic fuels at 150-2,000~mg/kg. Use with method AK103.

Alaska BTEX in Soil

RM	PT *
Cat. #636	Cat. #470

One 2 mL flame-sealed ampule along with clean soil matrix for spiking. Use with method AK101 for all BTEX analytes at 5-100 mg/kg after spiking.

ARIZONA UST IN SOIL

Arizona TPH in Soil

CRM	PT Q	QR
Cat. #798	Cat. #488	Cat. #7980R

One ready-to-use flame-sealed ampule with 30 g of soil with Oil Range Organics and No. 2 Diesel fuel. Use with method 8015AZ for TPH in the range 300-400 mg/kg. Also includes two carbon ranges.





TEXAS TPH IN WATER

All Texas TPH PT standards are designed for use with TNRCC 1005 method. The standards meet the requirements of all states that accredit for these methods including Texas, Louisiana, and Oklahoma.

Texas Low-Level Fuels (TPH) in Water

CRM	PT Q	QR
Cat. #794	Cat. #476	Cat. #794QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Contains unleaded regular gasoline and No. 2 Diesel Fuel resulting in TPH in the range 5-10 mg/L.

Texas High-Level Fuels (TPH) in Water

CRM	PT Q	QR
Cat. #795	Cat. #477	Cat. #795QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Contains unleaded regular gasoline and No. 2 Diesel Fuel resulting in TPH in the range 20-100~mg/L.

TEXAS TPH IN SOIL

Texas Low-Level Fuels (TPH) in Soil

CRM	PT Q	OR
Cat. #796	Cat. #478	Cat. #796QR

One ready-to-use flame-sealed ampule with 20 g of soil with unleaded gasoline and No. 2 Diesel Fuel for TPH in the range 50-100 mg/kg.

Texas High-Level Fuels (TPH) in Soil

CRM	PTQ	QR
Cat. #797	Cat. #479	Cat. #797QR

One ready-to-use flame-sealed ampule with 20~g of soil with unleaded gasoline and No. 2 Diesel Fuel for TPH in the range 1,000-20,000~mg/kg.

WISCONSIN GRO/PVOC/DRO METHOD UST

All Wisconsin UST PT standards are designed for use with Wisconsin GRO/PVOC or DRO methods. The standards meet the requirements of all states that accredit for these methods including Wisconsin and Minnesota.

Wisconsin Gasoline Range Organics (GRO/PVOC) in Water

CRM	PT Q	QR
Cat. #773	Cat. #649	Cat. #773QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Includes ten gasoline range synthetic organic compounds as defined by Wisconsin. Use with Wisconsin GRO/PVOC method.

Wisconsin Diesel Range Organics (DRO) in Water

CRM	PT Q	QR
Cat. #772	Cat. #648	Cat. #772QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Includes ten Diesel range synthetic organic compounds in the range 200-600 μ g/L. Use with the Wisconsin DRO method.

WASHINGTON HEM/SGT-HEM METHOD UST

The Washington UST PT standard is designed for use with EPA Method 1664 for HEM/SGT-HEM.

Washington HEM/SGT-HEM

CRM	PT Q	OR
		•
Cat. #519	Cat. #489	Cat. #519QR

One 5 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA method 1664 to measure HEM/SGT-HEM at 5-100 mg/L.



NEW JERSEY EPH

The New Jersey EPH in Soil standard is designed for use with the NJ Extractable Petroleum Hydrocarbons method.

New Jersey EPH in Soil

CRM	PT *	QR
Cat. #564	Cat. #464	Cat. #564QR

One flame-sealed ampule with 20 g soil containing EPH in the range of 300-3000 mg/kg.

The NJ EPH in Soil PT studies open in April and October.



MASSACHUSETTS HYDROCARBONS IN WATER

All Massachusetts USTPT standards are designed for use with Massachusetts Volatile Petroleum Hydrocarbon or Extractable Petroleum Hydrocarbon methods. The standards meet the requirements of all states that accredit for these methods including Massachusetts, North Carolina, and Washington when reporting the Massachusetts carbon ranges.

Massachusetts VPH in Water

CRM	PT Q	QR
Cat. #566	Cat. #481	Cat. #566QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Contains volatile petroleum hydrocarbon fuels (VPH) in the range 400-4,000 $\mu g/L$. Use with the Massachusetts Volatile Petroleum Hydrocarbon method for multiple carbon ranges, BTEX compounds and MTBE.

Massachusetts EPH in Water

CRM	PT Q	QR
Cat. #567	Cat. #482	Cat. #567QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Contains extractable petroleum hydrocarbon fuels (EPH) in the range 800-6,000 $\mu g/L$. Use with the Massachusetts Extractable Petroleum Hydrocarbon method for multiple carbon ranges and PAH compounds.

MASSACHUSETTS HYDROCARBONS IN SOIL

Massachusetts VPH in Soil

CRM Cat. #568	PT Q Cat. #483	QR Cat. #5680R
Cat. π300	Cat. #403	Cat. #300QIT

One flame-sealed ampule with 20 g soil with VPH fuels. Contains volatile petroleum hydrocarbon fuels (VPH) in the range 100-2,000 mg/kg. Use with the Massachusetts Volatile Petroleum Hydrocarbon method for multiple carbon ranges, BTEX compounds and MTBE.

Massachusetts EPH in Soil

CRM	PTQ	QR
Cat. #569	Cat. #484	Cat. #569QR

One flame-sealed ampule with 20 g soil with EPH fuels. Contains extractable petroleum hydrocarbon fuels (EPH) in the range 300-3,000 mg/kg. Use with the Massachusetts Extractable Petroleum Hydrocarbon method for multiple carbon ranges and PAH compounds.



AIR & EMISSIONS Matrices consisting of organic, inorganic, and particulate matter for testing emissions and ambient air. Standards are designed to meet regulations of the United States Environmental Protection Clean Air Act and may be used to satisfy PT requirements worldwide.

2015 Air & Emissions PT Scheme Schedule				
	Scheme #	Opens	Closes	
Q	AE 31	Jan 26	Mar 12	
Q	AE 32	Apr 27	Jun 11	
Q	AE 33	Jul 27	Sep 10	
Q	AE 34	Oct 26	Dec 10	
Schedule subject to change — see ERA's website at www.eraqc.com				

2016 Air & Emissions P1 Scheme Schedule			
	Scheme #	Opens	Closes
Q	AE 35	Jan 29	Mar 14
Q	AE 36	Apr 25	Jun 9
Q	AE 37	Jul 29	Sep 12
Q	AE 38	Oct 24	Dec 8
Schedule subject to change – see ERA's website at www.eraqc.com			

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Description	CRM	PT	QR	Page
Aldehydes and Ketones on Sorbent	1114	1014 Q	1114QR	55
Ammonia in Impinger Solution	1145	1045 Q	1145QR	57
Chromium on Filter Paper	1131	1031 0	1131QR	56
Fluoride in Impinger Solution	1141	1041 Q	1141QR	57
Hexavalent Chromium in Impinger Solution	1132	1032 0	1132QR	56
Hydrogen Halides and Halogens in Impinger Solution	1140	1040 Q	1140QR	57
Lead in Impinger Solution	1130	1030 Q	1130QR	56
Lead on Filter Paper	1129	1029 0	1129QR	56
Mercury in Impinger Solution	1128	1028 0	1128QR	56
Mercury on Filter Paper	1127	1027 Q	1127QR	56
Metals in Impinger Solution	1126	1026 Q	1126QR	56
Metals on Filter Paper	1125	1025 Q	1125QR	56

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

• All ERA Air & Emissions PTs open quarterly.

Description	CRM	PT	QR	Page
Nitrogen Oxide in Impinger Solution	1142	1042 0	1142QR	57
Organochlorine Pesticides on Polyurethane Foam	1111	1011 0	1111QR	55
PAHs on Polyurethane Foam	1113	1013 Q	1113QR	55
Particulate Matter in Impinger Solution	1151	1051 Q	1151QR	57
Particulate Matter on Filter Paper	1150	1050 Q	1150QR	57
PCBs on Polyurethane Foam	1112	1012 0	1112QR	55
Semivolatiles on Polyurethane Foam	1110	1010 Q	1110QR	55
Sulfur Dioxide in Impinger Solution	1143	1043 Q	1143QR	57
Sulfuric Acid and Sulfur Dioxide in Impinger Solution	1144	1044 Q	1144QR	57
Volatiles in Gas Cylinder	1100	1000 Q	1100QR	54
Volatiles on Sorbent	1101*	1001 Q	1101QR	54

^{*}Reference Material [RM]



QuiK Response PT

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VOLATILES

Volatiles in Gas Cylinder*

CRM	PT Q	QR
Cat. #1100	Cat. #1000	Cat. #1100QR

One pressurized gas cylinder containing 25 liter of gas at 500 psig (34 bar) for use with EPA methods TO-14, TO-15, or other applicable methods. Contains at least 10 analytes, randomly selected from the list below, at 2-30 ppbv (4-60 ppbv for Total Xylenes).

Benzene	1,1-Dichloroethane
Bromodichloromethane	1,2-Dichloroethane
Bromoform	1,1-Dichloroethylene
Bromomethane	cis-1,2-Dichloroethylene
2-Butanone (MEK)	1,2-Dichloropropane
Methyl tert-butyl ether (MTBE)	cis-1,3-Dichloropropylene
Carbon tetrachloride	trans-1,3-Dichloropropylene
Chlorobenzene	1,2-Dichlorotetrafluoroethane
Chlorodibromomethane	(Freon 114)
Chloroethane	Ethylbenzene
Chloroform	p-Ethyltoluene
Chloromethane	n-Heptane
Cyclohexane	Hexachlorobutadiene
1,2-Dibromoethane (EDB)	n-Hexane
1,2-Dichlorobenzene	2-Hexanone
1,4-Dichlorobenzene	4-Methyl-2-pentanone (MIBK)
Dichlorodifluoromethane	Propylene
(Freon 12)	1,1,1,2-Tetrachloroethane
	1,1,2,2-Tetrachloroethane

Tetrachloroethylene Toluene

1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane

Trichlorofluoromethane (Freon 11) Trichlorotrifluoromethane

(Freon 113)

1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl bromide

Vinyl chloride Xylenes, total

*Volatiles in Gas Cylinder ships as dangerous goods.

Volatiles on Sorbent

RM	PT Q	QR
Cat. #1101	Cat. #1001	Cat. #1101QR

One 2 mL flame-sealed ampule for spiking client-specific sorbent. Use with EPA methods TO-17, 0030, 0031, or other applicable methods. Contains at least 24 analytes, randomly selected from the list below, at 50–2,000 ng/sample (200–3.000 ng/sample for Total Xulenes) after preparation.

200–3,000 ng/sample for	lotal Xylenes) after prepa
Acetone	1,2-Dibromoethane (EDB)
Acetonitrile	Dibromomethane
Acrolein	1,2-Dichlorobenzene
Acrylonitrile	1,3-Dichlorobenzene
Benzene	1,4-Dichlorobenzene
Bromodichloromethane	Dichlorodifluoromethane
Bromoform	(Freon 12)
Bromomethane	1,1-Dichloroethane
2-Butanone (MEK)	1,2-Dichloroethane
Carbon disulfide	1,1-Dichloroethene
Carbon tetrachloride	cis-1,2-Dichloroethene
Chlorobenzene	trans-1,2-Dichloroethene
Chlorodibromomethane	1,2-Dichloropropane
Chloroethane	cis-1,3-Dichloropropene
2-Chloroethyl vinyl ether	trans-1,3-Dichloropropene
Chloroform	Ethylbenzene
Chloromethane	Hexachlorobutadiene
1,2-Dibromo-3-chloropropane	2-Hexanone
(DBCP)	Methylene chloride

4-Methyl-2-pentanone (MIBK) Methyl tert-butyl ether

(MTBE) Naphthalene Styrene

1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene

Toluene

1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethlyene Trichlorofluoromethane 1,2,3-Trichloropropane Vinyl acetate Vinyl chloride Xylenes, total

Particulate Matter in Impinger Solution Study AE 15 Lot No. E015-1151



SEMIVOLATILES

Semivolatiles on Polyurethane Foam

CRM	PT Q	QR
Cat. #1110	Cat. #1010	Cat. #11100R

Two 2 mL flame-sealed ampules plus one polyurethane foam. Use with EPA method 0010, or other applicable methods. Contains at least 42 analytes, randomly selected from the list below, at 10-225 μ g/sample (200-1,000 μ g/sample for Benzidine) after preparation.

crizianio, arter proparation	•	
Acenaphthene	1,2-Dichlorobenzene	N-Nitrosodiphenylamine
Acenaphthylene	1,3-Dichlorobenzene	N-Nitroso-di-n-propylamine
Aniline	1,4-Dichlorobenzene	Pentachlorobenzene
Anthracene	3,3'-Dichlorobenzidine	Phenanthrene
Benzidine	Diethyl phthalate	Pyrene
Benzo(a)anthracene	Dimethyl phthalate	Pyridine
Benzo(b)fluoranthene	2,4-Dinitrotoluene	o-Toluidine
Benzo(k)fluoranthene	2,6-Dinitrotoluene	1,2,4,5-Tetrachlorobenzene
Benzo(g,h,i)perylene	Di-n-octyl phthalate	1,2,4-Trichlorobenzene
Benzo(a)pyrene	Fluoranthene	Benzoic Acid
Benzyl alcohol	Fluorene	4-Chloro-3-methylphenol
4-Bromophenyl phenyl ether	Hexachlorobenzene	2-Chlorophenol
Butyl benzyl phthalate	Hexachlorobutadiene	2,4-Dichlorophenol
Carbazole	Hexachlorocyclopentadiene	2,6-Dichlorophenol
4-Chloroaniline	Hexachloroethane	2,4-Dimethylphenol
Bis(2-chloroethoxy)methane	Indeno(1,2,3-cd)pyrene	2,4-Dinitrophenol
Bis(2-chloroethyl)ether	Isophorone	2-Methyl-4,6-dinitrophenol
Bis(2-chloroisopropyl)ether	2-Methylnaphthalene	2-Methylphenol (o-Cresol)
Bis(2-ethylhexyl)phthalate	Naphthalene	4-Methylphenol (p-Cresol)
1-Chloronaphthalene	2-Nitroaniline	2-Nitrophenol
2-Chloronaphthalene	3-Nitroaniline	4-Nitrophenol
4-Chlorophenyl phenyl ether	4-Nitroaniline	Pentachlorophenol
Chrysene	Nitrobenzene	Phenol
Dibenz(a,h)anthracene	N-Nitrosodiethylamine	2,3,4,6-Tetrachlorophenol
Dibenzofuran	N-Nitrosodimethylamine	2,4,5-Trichlorophenol

Organochlorine Pesticides on Polyurethane Foam

(NDMA)

Di-n-butyl phthalate

CRM	PT Q	QR
Cat. #1111	Cat. #1011	Cat. #1111QR

One 2 mL flame-sealed ampule plus one polyurethane foam. Use with EPA methods TO-04A, TO-10A, or other applicable methods. Contains at least 16 analytes, randomly selected from the list below, at 0.5-20 μ g/sample after preparation.

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 (beta)
alpha-Chlordane	Endosulfan II	Methoxychlor
gamma-Chlordane	Endosulfan sulfate	

PCBs on Polyurethane Foam

CRM	PT Q	QR
Cat. #1112	Cat. #1012	Cat. #1112QR

One 2 mL flame-sealed ampule plus one polyurethane foam. Use with EPA methods TO-04A, TO-10A, or other applicable methods. Contains one Aroclor, randomly selected from the list below, at $1-15~\mu g/s$ ample after preparation.

Aroclor 1016	Aroclor 1242	Aroclor 126
Aroclor 1221	Aroclor 1248	
Aroclor 1232	Aroclor 1254	

PAHs on Polyurethane Foam

CRM	PT Q	QR
Cat. #1113	Cat. #1013	Cat. #1113QR

One 2 mL flame-sealed ampule plus one polyurethane foam. Use with EPA method TO-13A, or other applicable methods. Contains at least 13 analytes, randomly selected from the list below, at $10-200~\mu g/s$ ample after preparation.

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		

Aldehydes & Ketones on Sorbent

CRM	PT Q	QR
Cat. #1114	Cat. #1014	Cat. #1114QR

One 2 mL flame-sealed ampule to be spiked onto sorbent. Use with EPA method TO-11A, or other applicable methods. Contains at least 4 analytes, randomly selected from the list below, at 0.5-10 μ g/sample after preparation.

Acetaldehyde	Crotonaldehyde	Propionaldehyde (propanal)
Acetone	2,5-Dimethylbenzaldehyde	o-Tolualdehyde
Benzaldehyde	Formaldehyde	m-Tolualdehyde
2-Butanone (MEK)	Hexaldehyde (hexanal)	p-Tolualdehyde
Buturaldehude (butanal)	Isovaleraldehude	Valeraldehude (pentanal)



2,4,6-Trichlorophenol

METALS

Metals on Filter Paper

CRM	PT Q	QR
Cat. #1125	Cat. #1025	Cat. #1125QR

One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm tissue quartz filter ready for use with EPA method 29 or other applicable methods.

approducto morno doi	
Antimony	25-250 μg/filter
Arsenic	20-250 μg/filter
Barium	
Beryllium	10-250 μg/filter
Cadmium	
Chromium	15-250 μg/filter
Cobalt	10-250 μg/filter
Copper	10-250 μg/filter
Lead	
Manganese	10-250 μg/filter
Nickel	20-250 μg/filter
Phosphorus	10-250 μg/filter
Selenium	20-250 µg/filter
Silver	30-250 µg/filter
Thallium	30-250 µg/filter
Zinc	20-250 µg/filter

Metals in Impinger Solution

CRM	PTQ	QR
Cat. #1126	Cat. #1026	Cat. #1126QR

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA method 29, or other applicable methods.

• •	
Antimony	0.25-20 μg/mL
Arsenic	0.2-20 μg/mL
Barium	0.15-25 μg/mL
Beryllium	0.05-20 μg/mL
Cadmium	0.1-20 μg/mL
Chromium	0.2-20 μg/mL
Cobalt	0.1-25 μg/mL
Copper	
Lead	0.2-20 μg/mL
Manganese	0.1-20 μg/mL
Nickel	0.15-30 μg/mL
Phosphorus	0.15-25 μg/mL
Selenium	0.15-25 μg/mL
Silver	0.5-20 μg/mL
Thallium	0.15-25 μg/mL
Zinc	0.15-25 μg/mL

Mercury on Filter Paper

CRM	PTQ	QR
Cat. #1127	Cat. #1027	Cat. #1127QR

One 2 mL flame-sealed ampule containing approximately 2 mL of standard concentrate and a 50 mm polystyrene petri dish containing a single 47 mm glass fiber filter. Sample is ready for use with EPA method 29, or other applicable methods.

Mercury	1-75 µg/filter
---------	----------------

Mercury in Impinger Solution

CRM	PT Q	QR
Cat. #1128	Cat. #1028	Cat. #1128QR

One impinger solution sample packaged in a 15~mL screw-top vial containing approximately 14~mL of standard concentrate for use with EPA methods 29, 101a, or other applicable methods.

Lead on Filter Paper

CRM	PTQ	QR
Cat. #1129	Cat. #1029	Cat. #1129QR

One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm tissue quartz filter spiked with lead ready-for-use with EPA method 12 or other applicable methods.

Lead in Impinger Solution

CRM	PTQ	QR
Cat. #1130	Cat. #1030	Cat. #1130QR

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA method 12, or other applicable methods.

Chromium on Filter Paper

CRM	PT Q	QR
Cat. #1131	Cat. #1031	Cat. #1131QR

One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm fiber film filter for use with CARB method 425, or other applicable methods.

Hexavalent Chromium in Impinger Solution

CRM	PT Q	QR
Cat. #1132	Cat. #1032	Cat. #1132QR

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA method 0061/7199, or other applicable methods.

Hexavalent chromium.......45-880 µg/L



INORGANICS

Hydrogen Halides & Halogens in Impinger Solution

CRM	PT Q	QR
Cat. #1140	Cat. #1040	Cat. #1140QR

Two impinger solution samples packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA methods 26, 26a, or other applicable methods.

Total halides	15-1500 mg/L
Total halogens	10-200 mg/L
Hydrogen chloride	5-500 mg/L
Hydrogen fluoride	5-500 mg/L
Hydrogen bromide	5-500 mg/L
Bromine	5-100 mg/L
Chlorine	5-100 mg/L

Fluoride in Impinger Solution

CRM	PT Q	QR
Cat. #1141	Cat. #1041	Cat. #1141QR

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA methods 13a, 13b, 14, or other applicable methods.

Nitrogen Oxide in Impinger Solution

CRM	PT Q	QR
Cat. #1142	Cat. #1042	Cat. #11420R

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA method 7, or other applicable methods.

Sulfur Dioxide in Impinger Solution

CRM	PT Q	QR	
Cat. #1143	Cat. #1043	Cat. #1143QR	

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA method 6, or other applicable methods.

Sulfur dioxide 50-2000 mg/dscm

Sulfuric Acid & Sulfur Dioxide in Impinger Solution

CRM	PT Q	QR
Cat. #1144	Cat. #1044	Cat. #1144QR

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA method 8, or other applicable methods.

Sulfuric acid.....

Ammonia in Impinger Solution

CRM	PT Q	QR
Cat. #1145	Cat. #1045	Cat. #1145QR

One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA CTM 027, or other applicable methods.

Ammonium

Particulate Matter on Filter Paper

CRM	PT Q	QR
Cat. #1150	Cat. #1050	Cat. #1150QR

One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm tissue quartz filter ready for use with EPA methods 5, 5A, 5B, 5D, 5F, or other applicable methods.

Particulate matter.....

Particulate Matter in Impinger Solution

US [T] 800.372.0122 (or) 303.431.8454 [E] info@eragc.com UK [T] +44 (0) 161 946 2777 [E] saleseu@eragc.com

CRM	PT Q	QR
Cat. #1151	Cat. #1051	Cat. #1151QR

One impinger solution sample packaged in a 250 mL polyethylene bottle containing approximately 250 mL of standard ready for use with EPA methods 5, 5A, 5B,

RADIOCHEMISTRY

Matrices in soil, vegetation, air filters, and water for monitoring of radiochemicals.



2015 Radiochemistry PT Scheme Schedule

	Scheme #	Opens	Closes
Q	RAD 100	Jan 5	Feb 19
Q	RAD 101	Apr 6	May 21
Q	RAD 102	Jul 6	Aug 20
Q	RAD 103	Oct 5	Nov 19

Schedule subject to change – see ERA's website at www.eragc.com

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

• All ERA Radiochem PTs open quarterly.

■ All ERA MRAD PTs open in March and September.

2016 Radiochemistry PT Scheme Schedule

	Scheme #	Opens	Closes
Q	RAD 104	Jan 11	Feb 25
Q	RAD 105	Apr 4	May 19
Q	RAD 106	Jul 11	Aug 25
Q	RAD 107	Oct 7	Nov 21

Schedule subject to change – see ERA's website at www.eraqc.com

Description	CRM	PT	QR	Page
Gamma Emitters	758	808 0	758QR	60
Gross Alpha/Beta	759	809 Q	759QR	60
lodine-131	750	810 Q	750QR	60
Naturals	751	811 Q	751QR	60
Strontium-89/90	757	807 Q	757QR	60
Tritium	752	812 Q	752QR	60

2015 MRAD PT Scheme Schedule			
	Scheme #	Opens	Closes
*	MRAD 22	Mar 16	May 15
*	MRAD 23	Sep 21	Nov 20

2 studies per year – open for 60 days Schedule subject to change – see ERA's website at www.eragc.com

2016 M	2016 MRAD PT Scheme Schedule		
	Scheme #	Opens	Closes
*	MRAD 24	Mar 14	May 13
*	MRAD 25	Sep 19	Nov 18

2 studies per year – open for 60 days Schedule subject to change – see ERA's website at www.eraqc.com

CRM – Certified Reference Material

PT - Proficiency Testing

QR – QuiK Response

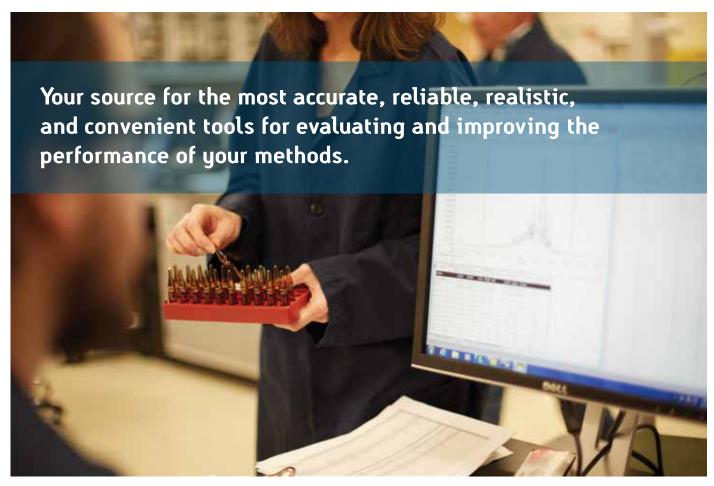
All ERA WS Radchem PTs open guarterly.

■ All ERA MRAD PTs open in March and September.

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Water Gross Alpha/Beta	615	805 🛎	615QR	63
Water Radionuclides	617	804 🔹	617QR	63
Water Tritium	616	806 🔹	616QR	63

QuiK Response PT

Need PT results fast? Available 52 weeks a year, QuiK Response PTs are on demand PTs that return final results within minutes of submitting your data online. In the US, please call ERA customer service at 800-372-0122 or 303-431-8454 to order. Outside of the US, please contact your authorized ERA sales partner to order.



WS RADCHEM

All Radchem standards are provided as convenient, easy-to-prepare concentrates except for Tritium, which is provided as a whole-volume sample.

Gamma Emitters

CRM	PT Q	QR
Cat. #758	Cat. #808	Cat. #758QR

One 12 mL screw-top vial yields up to 2 liters after dilution.

Barium-133	10-100 pCi/L
Cesium-134	
Cesium-137	
Cobalt-60	10-120 pCi/L
Zinc-65	30-360 pCi/L

Gross Alpha/Beta

CRM	PT Q	QR
Cat. #759	Cat. #809	Cat. #759QR

One 12 mL screw-top vial yields up to 1 liter after dilution.

Gross Alpha as Thorium-230	 7-75 pCi/L
Gross Beta as Cesium-137	 8-75 pCi/L

Naturals

CRM	PTQ	QR
Cat. #751	Cat. #811	Cat. #751QR

One 12 mL screw-top vial yields up to 8 liters after dilution.

Radium-226	1-20 pCi/L
Radium-228	2-20 pCi/L
Uranium (Nat)	2-70 pCi/L
Uranium (Nat) mass	3-104 μg/L

Tritium

CRM	PT Q	QR
Cat. #752	Cat. #812	Cat. #752QR

One 250 mL whole-volume bottle is ready to analyze as received. Includes Tritium at 1,000-24,000 pCi/L.

lodine-131

CRM Cat. #750	PT Q Cat. #810	QR Cat. #750QR

One 12 mL screw-top vial yields up to 2 liters after dilution. Contains Iodine-131 within the range 3-30 pCi/L. Due to short half-life, CRMs, PTs and QRs are available only during January, April, July, and October.

Strontium-89/90

CRM Cat. #757	PT Q Cat. #807	QR Cat. #757QR

One 12 mL screw-top vial yields up to 2 liters after dilution.

Strontium-89	70 pCi/L
Strontium-903-	







RADCHEM LAB CONTROL & MATRIX SPIKING (LCS/MS)

ERA's radiochemistry LCS/MS standards are prepared according to your specifications at activity levels that enable you to directly fortify your batch laboratory control and matrix spike QC samples. These single-use spiking standards are verified, conveniently packaged in 2-20 mL glass vials, and very economical.

The direct benefits:

- **Easy-to-use** ERA LCS/MS spiking standards are ready-to-use no dilutions are required.
- Reliable and consistent eliminate the possibility of errors from the contamination or repeated multiple dilutions of your primary stock standards.
- Independently verified ERA LCS/MS standards are analytically verified and traced to NIST SRMs where available.
- Save money You no longer need to pay for microcuries of activity when you only need picocuries.
 You also eliminate the cost of activity loss for short-lived isotopes.
- Reduce analytical cost You no longer need to spend valuable instrument time re-verifying standard stability.
 Order what you expect to use on a quarterly or annual basis we'll do the verification.

The process is easy:

- 1. Select from any of the following carrier-free, single radionuclide standards.
- 2. Choose an activity up to the maximum listed in the table below.
- 3. Choose a convenient volume: 2 to 20 mL glass vials available.
- 4. For labs that analyze samples with more elevated activities, call for standard availability and pricing.
- 5. We will prepare the standards to your specifications and ship within 72 hours.

Single Radionuclide Spiking Standards

Cat. #	Radionuclide	Maximum Activity/Vial
AM241	Americium-241	40 pCi
BA133	Barium-133	400 pCi
CS134	Cesium-134	200 pCi
CS137	Cesium-137	400 pCi
CO60	Cobalt-60	200 pCi
GAB	Gross Alpha/Beta	30/40 pCi
GA	Gross Alpha (Th-230)	30 pCi
GB	Gross Beta (Cs-137)	40 pCi
PU238	Plutonium-238	40 pCi
PU239	Plutonium-239	40 pCi
RA226	Radium-226	20 pCi
RA228	Radium-228	Call
SR89	Strontium-89	200 pCi
SR90	Strontium-90	40 pCi
H3	Tritium	2000 pCi
UNAT	Uranium, Natural	40 pCi
ZN65	Zinc-65	600 pCi



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MRAD SOLIDS

Soil Radionuclides

CRM	PT *	QR
Cat. #608	Cat. #802	Cat. #608QR

One $500\ cc\ standard\ includes\ the\ alpha,\ beta\ and\ gamma\ emitting\ radionuclides\ listed\ below.$

Actinium-228	500-5,000 pCi/kg
Americium-241	50-2,000 pCi/kg
Bismuth-212	500-5,000 pCi/kg
Bismuth-214	500-5,000 pCi/kg
Cesium-134	1,000-10,000 pCi/kg
Cesium-137	1,000-10,000 pCi/kg
Cobalt-60	1,000-10,000 pCi/kg
Lead-212	500-5,000 pCi/kg
Lead-214	500-5,000 pCi/kg
Manganese-54	1,000-10,000 pCi/kg
Plutonium-238	50-2,000 pCi/kg
Plutonium-239	50-2,000 pCi/kg
Potassium-40	5,000-50,000 pCi/kg
Strontium-90	500-10,000 pCi/kg
Thorium-234	500-5,000 pCi/kg
Uranium-234	500-5,000 pCi/kg
Uranium-238	500-5,000 pCi/kg
Uranium (Nat)	1,000-10,000 pCi/kg
Uranium (Nat) mass	1,500-15,000 μg/kg
Zinc-65	1,000-10,000 pCi/kg

Vegetation Radionuclides

CRM	PT *	QR
Cat. #609	Cat. #803	Cat. #609QR

One $500\ cc\ standard\ includes\ the\ alpha,\ beta\ and\ gamma\ emitting\ radionuclides\ listed\ below.$

Americium-241	50-5,000 pCi/kg
Cesium-134	300-3,000 pCi/kg
Cesium-137	300-3,000 pCi/kg
Cobalt-60	300-3,000 pCi/kg
Curium-244	50-5,000 pCi/kg
Manganese-54	300-3,000 pCi/kg
Plutonium-238	50-5,000 pCi/kg
Plutonium-239	50-5,000 pCi/kg
Potassium-40	5,000-50,000 pCi/kg
Strontium-90	
Uranium-234	50-5,000 pCi/kg
Uranium-238	
Uranium (Nat)	100-10,000 pCi/kg
Uranium (Nat) mass	
Zinc-65	300-3,000 pCi/kg

MRAD AIR FILTER

Air Filter Radionuclides

CRM	PT *	OR
Cat. #606	Cat. #800	Cat. #6060R
Cat. π000	Cal. #000	Cat. #000QIT

One $47~\mathrm{mm}$ diameter glass fiber filter contains the alpha, beta and gamma emitting radionuclides listed below.

Americium-241	· ·
Cesium-134	50-1,500 pCi/filter
Cesium-137	50-1,500 pCi/filter
Cobalt-60	
Iron-55	50-1,500 pCi/filter
Manganese-54	50-1,500 pCi/filter
Plutonium-238	2-80 pCi/filter
Plutonium-239	2-80 pCi/filter
Strontium-90	5-200 pCi/filter
Uranium-234	2-80 pCi/filter
Uranium-238	
Uranium (Nat)	4-160 pCi/filter
Uranium (Nat) mass	6-240 μg/filter
Zinc-65	50-1,500 pCi/filter

Air Filter Gross Alpha/Beta

CRM	PT *	OR
Cat. #607	Cat. #801	Cat. #607QR

One acrylic treated $47\ mm$ diameter glass fiber filter contains the radionuclides listed below.

Gross Alpha as Thorium-230	. 5-100 pCi/filter
Gross Rota as Cosium_137	5-100 nCi/filter



MRAD WATER

Water Radionuclides

CRM	PT *	QR
Cat. #617	Cat. #804	Cat. #617QR

One 12 mL screw-top vial yields up to 2 liters after dilution. Includes the alpha, beta and gamma emitting radionuclides listed below.

3	
Americium-241	10-200 pCi/L
Cesium-134	100-3,000 pCi/L
Cesium-137	
Cobalt-60	100-3,000 pCi/L
Iron-55	100-3,000 pCi/L
Manganese-54	100-3,000 pCi/L
Plutonium-238	
Plutonium-239	10-200 pCi/L
Strontium-90	
Uranium-234	10-200 pCi/L
Uranium-238	
Uranium (Nat)	
Uranium (Nat) mass	30-600 μg/L
Zinc-65	

Water Gross Alpha/Beta

CRM	PT *	QR
Cat. #615	Cat. #805	Cat. #615QR

One 12 mL screw-top vial yields up to 2 liters after dilution. Includes the radionuclides below.

Gross Alpha as Thorium-230	10-200 pCi/L
Gross Beta as Cesium-137	10-200 pCi/L

Water Tritium

CRM Cat. #616	PT * Cat. #806	QR Cat. #616QR

One 125 mL whole volume bottle ready to analyze as received.

.3,000-30,000 pCi/L





LOW-LEVEL CRMs

New in 2015!

Synthetic drinking and wastewater matrices with low concentrations of analytes for testing water supply, drinking water, ground water, water pollution, or wastewater.

Save time diluting your standards or spending numerous hours producing them yourself with our new low-level CRMs.

Our new line of low-level CRMs are optimal for:

- Method development and validation
- System checks
- Evaluating limits of quantitation
- Minimum detection limit studies
- Detection verification
- Many other uses

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CRM – Certified Reference Material

INORGANICS

Chlorine

CRM

Cat. #1358

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample.

Total chlorine	75-500 µg/l
Free chlorine	75-500 µg/l

Color

CRM

Cat. #1353

One 125 mL whole-volume bottle sample is ready to be analyzed.

Color......5-25 pc units

Common Inorganics

CRM

Cat. #1249

One liter poly bottle whole-volume sample is ready to be analyzed.

Alkalinity	20-120 mg/L
Calcium	2-50 mg/L
Chloride	25-500 mg/L
Conductivity	
Fluoride	0.25-5 mg/L
Magnesium	1-25 mg/L
pH	5-10 units
Potassium	2-50 mg/L
Sodium	5-100 mg/L
Sulfate	2-50 mg/L
Total dissolved solids	
Total hardness	9-250 mg/L

Common Inorganics in Hard Water

CRM

Cat. #1346

One liter poly bottle whole-volume sample is ready to be analyzed.

Alkalinity	25-200 mg/l
Calcium	10-100 mg/L
Chloride	20-250 mg/L
Conductivity	130-1400 µmhos/cm
Fluoride	0.2-2 mg/L
Magnesium	2-10 mg/L
pH	5-10 units
Potassium	2-25 mg/L
Sodium	20-250 mg/L
Sulfate	20-250 mg/L
Total dissolved solids	100-1,000 mg/L
Total hardness	30-300 mg/L

Common Inorganics in Soft Water

CRM

Cat. #1347

A 1 liter poly bottle whole-volume sample is ready to be analyzed.

Alkalinity	25-200 mg/L
Calcium	2-20 mg/L
Chloride	
Conductivity	25-300 µmhos/cm
Fluoride	0.2-2 mg/L
Magnesium	0.5-5 mg/L
pH	5-10 units
Potassium	1-10 mg/L
Sodium	5-50 mg/L
Sulfate	5-50 mg/L
Total dissolved solids	3
Total hardness	5-75 mg/L

Cyanide

CRM

Cat. #1345

One 15 mL screw-cap vial yields up to 2 liters of sample.

Free cyanide5	5-100 μg/L
Total cyanide	5-100 μg/L

Demand

CRM

Cat. #1354

One 15 mL screw-cap vial yields up to 2 liters of sample.

5-day BOD	-25 mg/L
COD	-25 mg/L
DOC	-10 mg/L
TOC	-10 mg/L

Demand

CRM

Cat. #1242

One 15 mL screw-cap vial spiking concentrate makes up to 2 liters of sample.

5-day BOD	5-75 mg/L
COD	10-150 mg/L
DOC	2-40 mg/L
TOC	2-40 mg/L



INORGANICS

High Solids

CRM

Cat. #1355

Inorganic Disinfection By-products

CRM

Cat. #1343

Two 24 mL screw-cap vials yield up to 2 liters of sample each.

Bromate	1-12 μg/L
Bromide	5-100 μg/L
Chlorate	5-100 μg/L
Chlorite	5-100 μg/L

Solids Concentrate

CRM

Cat. #1243

One 24 mL screw-cap vial concentrate makes 1 liter of sample.

Total dissolved solids	10-250 mg/L
Total suspended solids (TSS)	5-50 mg/L

Total Phenolics (4-AAP)

CRM

Cat. #1250

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample.

METALS

Hexavalent Chromium

CRM

Cat. #1248

One $15\ \text{mL}$ screw-cap vial spiking concentrate and one $24\ \text{mL}$ screw-cap vial matrix concentrate makes up to $2\ \text{liters}$ of sample.

Mercury

CRM

Cat. #1341

One $15\ \text{mL}$ screw-cap vial spiking concentrate and one $24\ \text{mL}$ screw-cap vial matrix concentrate makes up to $2\ \text{liters}$ of sample.

Metals

CRM

Cat. #1340

Two $15\ \text{mL}$ screw-cap vial spiking concentrates and one $24\ \text{mL}$ screw-cap vial matrix concentrate makes up to $2\ \text{liters}$ of sample.

Aluminum	25-500 μg/L
Antimony	1-20 μg/L
Arsenic	1-25μg/L
Barium	
Beryllium	1-20 μg/L
Boron	100-2,000 μg/L
Cadmium	
Chromium	5-100 μg/L
Cobalt	
Copper	200-5,000 μg/L
Iron	25-500 μg/L
Lead	
Lithium	50-1,000 μg/L
Manganese	5-100 μg/L
Molybdenum	5-100 μg/L
Nickel	
Selenium	1-12 μg/L
Silver	10-200 μg/L
Strontium	50-1,000 μg/L
Thallium	
Tin	100-2,000 μg/L
Vanadium	2-50 μg/L
Zinc	100-2,000 μg/L





METALS

Metals

CRM

Cat. #1244

One 15 mL screw-cap vial spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample.

Aluminum	200-4,000 μg/L
AluminumAntimony	95-900 μg/L
Arsenic	70-900 μg/L
Barium	100-2,500 μg/L
Berullium	8-900 ua/L
Boron	800-2,000 μg/L
Cadmium	8-750 μg/L
Chromium, total	17-1,000 μg/L
Cobalt	28-1,000 μg/L
Copper	40-900 μg/L
Iron	200-4,000 μg/L
Lead	70-3,000 μg/L
Manganese	70-4,000 μg/L
Molybdenum	60-600 μg/L
Nickel	80-3,000 μg/L
Selenium	90-2,000 μg/L
Silver	26-600 μg/L
Strontium	30-300 μg/L
Thallium	60-900 μg/L
Vanadium	55-2,000 μg/L
Zinc	

NUTRIENTS

Complex Nutrients in Hard Water

CRM

Cat. #1241

One 15 mL screw-cap vial spiking concentrate makes up to 2 liters of sample.

Total kjeldahl nitrogen	1-15 mg/L
Total nitrogen	1-20 mg/L
Total phosphorus	0.5-5 mg/L

Complex Nutrients in Soft Water

CRM

Cat. #1351

One 15 mL screw-cap vial spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample.

Total kjeldahl nitrogen	0.5-5 mg/L
Total phosphorus.	0.5-5 mg/L

Simple Nutrients

CRM

Cat. #1240

Two 15 mL screw-cap vials makes up to 2 liters of sample.

Ammonia (N)	1-20 mg/L
Nitrate (NO ₃)	0.5-10 mg/L
Nitrite (NO ₂)	0.5-5 mg/L
Total oxidised nitrogen	1-15 mg/L
Soluble reactive phosphorus (P)	0.5-5 mg/L

Simple Nutrients in Hard Water

CRM

Cat. #1348

Two 15 mL screw-cap vial spiking concentrates and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample.

Ammonium (NH ₄)	0.1-1 mg/L
Nitrate (NO ₃)	3-60 mg/L
Nitrite (NO ₂)	0.1-1 mg/L
Soluble reactive phosphorus (P)	0.5-5 mg/L
Total oxidised nitrogen (TON)	3-60 mg/l

Simple Nutrients in Soft Water

CRM

Cat. #1349

Two 15 mL screw-cap vial spiking concentrates and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample.

Ammonium (NH ₄)	0.1-1 mg/L
Nitrate (NO ₃)	3-60 mg/L
Nitrite (NO ₂)	0.1-1 mg/L
Soluble reactive phosphorus (P)	0.5-5 mg/L
Total oxidised nitrogen (TON)	3-60 mg/L



ORGANICS

Herbicides

CRM

Cat. #1376

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 10-150 ng/L.

2,4-DB loxynil
Bromoxynil Monuron
Dicamba Propyzamide
Dichlorprop Trichlopyr

Organochlorine Pesticides

CRM

Cat. #1374

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 10-150 ng/L (aldrin, dieldrin, heptachlor, and heptachlor epoxide at 2-40 ng/L).

 2,4-DDT
 Endosulfan I

 4,4'-DDD
 Endosulfan II

 4,4'-DDE
 Endrin

 4,4'-DDT
 Gamma BHC (Lindane)

 Aldrin
 Heptachlor

 Alpha BHC
 Heptachlor epoxide

 Beta BHC
 Hexachlorobenzene

 Delta BHC
 Pentachlorobenzene

 Dieldrin
 Trifluralin

Organochlorine Pesticides

CRM

Cat. #1253

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at $100-2,000 \, \text{ng/L}$.

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 (beta)

alpha-Chlordane Endosulfan II Methoxychlor
gamma-Chlordane Endosulfan sulfate Pentachlorobenzene

Organophosphorus Pesticides

CRM

Cat. #1256

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 100-1,500 ng/L.

Mevinphos

Parathion-ethyl

Parathion-methyl

Azinphos-ethyl Diazinon
Azinphos-methyl Dichlorvos
Chlorfenvinphos Fenitrothion
Chlorpyrifos Fenthion
Cupermethrin Malathion

PAHs

CRM

Cat. #1254

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 10-250 ng/L.

 Acenaphthene
 Benzo(g,h,i)perylene
 Indeno(1,2,3-cd)pyrene

 Acenaphthylene
 Benzo(a)pyrene
 Naphthalene

 Anthracene
 Chrysene
 Phenanthrene

 Benzo(a)anthracene
 Dibenz(a,h)anthracene
 Pyrene

 Benzo(b)fluoranthene
 Fluoranthene

Fluorene

PCB Congeners

Benzo(k)fluoranthene

CRM

Cat. #1373

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at $5-100 \, \text{ng/L}$.

PCB 28 PCB 138
PCB 52 PCB 153
PCB 101 PCB 180
PCB 118

PCB Congeners

CRM

Cat. #1255

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at $100-1,500 \, \text{ng/L}$.

PCB 28 PCB 118 PCB 180
PCB 52 PCB 138
PCB 101 PCB 153

Semivolatiles

Di-n-butyl phthalate

CRM

Cat. #1372

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 2-50 ng/L (benzo(a)pyrene at 1-12 ng/L).

Acenaphthene Diethyl phthalate
Acenaphthylene Dimethyl phthalate
Anthracene Di-n-octyl phthalate
Benzo(a)anthracene bis(2-Ethylhexyl)adipate
Benzo(b)fluoranthene bis(2-Ethylhexyl)phthalate
Benzo(b)fluoranthene Fluoranthene

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



ORGANICS

Triazines, Urons and Acid Herbicides

CRM

Cat. #1375

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 10-150 ng/L.

2,4-D Isoproturon AMPA Linuron Atrazine MCPA Bentazone MCPB Chlortoluron Mecoprop Diuron Propazine Glyphosate Simazine

Trihalomethanes

CRM

Cat. #1371

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at $10-100 \mu g/L$.

Bromodichloromethane Chlorodibromomethane Bromoform Chloroform

Triazines, Urons and Acid Herbicides

CRM

Cat. #1257

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at 100-1,200 ng/L.

2,4-D Diuron MCPB AMPA Glyphosate Mecoprop Atrazine Isoproturon Propazine Bentazone Linuron Simazine Chlortoluron MCPA



ORGANICS

Volatiles

CRM

Cat. #1370

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at $0.1\mbox{-}\dot{5}0~\mu g/L.$

Benzene Carbon tetrachloride Chlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichloropropane Ethylbenzene Methylene chloride Sturene

Tetrachloroethene Toluene

1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Vinyl chloride o-Xylene m-Xylene p-Xylene m+p-Xylene Xylenes, total

Volatiles

CRM

Cat. #1251

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate makes up to 2 liters of sample to be analyzed for the compounds listed below at $1-300 \mu g/L$.

Acetone 1,2-Dibromoethane (EDB) Acetonitrile Dibromomethane Acrolein 1,2-Dichlorobenzene Acrylonitrile 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Bromodichloromethane Dichlorodifluoromethane Bromoform 1,1-Dichloroethane 1.2-Dichloroethane Bromomethane 2-Butanone (MEK) 1,1-Dichloroethene Carbon disulfide cis-1.2-Dichloroethene Carbon tetrachloride trans-1,2-Dichloroethene Chlorobenzene 1,2-Dichloropropane Chlorodibromomethane cis-1,3-Dichloropropene Chloroethane trans-1,3-Dichloropropene 2-Chloroethyl vinyl ether Ethylbenzene Chloroform Hexachlorobutadiene 2-Hexanone Chloromethane 1,2-Dibromo-3-chloropropane Methylene Chloride (DBCP)

4-Methyl-2-pentanone (MIBK) Methyl tert-butyl ether (MTBE) Naphthalene

1,1,1,2-Tetrachloroethane 1.1.2.2-Tetrachloroethane Tetrachloroethene Toluene 1,2,4-Trichlorobenzene

Styrene

Trichloroethene Trichlorofluoromethane (Freon 11) 1,2,3-Trichloropropane Vinyl acetate Vinyl chloride Xylenes, total

1.1.1-Trichloroethane

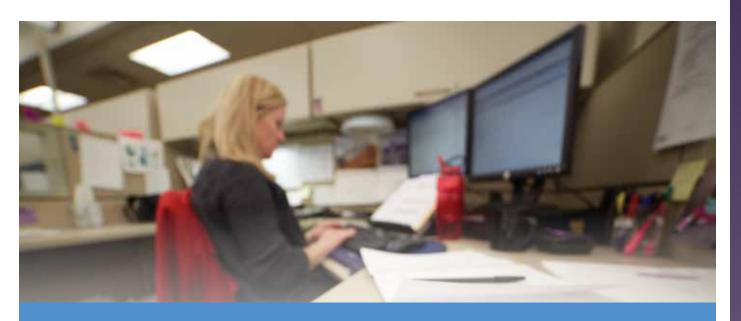
1,1,2-Trichloroethane

HOW CAN ERA'S FASTER PT RESULTS MAKE YOUR JOB EASIER?

"It makes it a lot easier to correct problems faster, in order to get back on track of providing good data."

- Lab Manager, Nevada





Maximize Efficiency, Minimize Errors

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Simple to set up and easy-to-use, automatic data upload from your LIMS to ERA's eDATA System:

- Eliminates the possibility of transcription errors
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- Allows you to spend more time reviewing the quality of the analytical data





EXPERIENCE. SPEED. RELIABILITY.

Did you know that ERA chemists have prepared more than 20,000 unique custom standards?

ERA's custom projects cover a range of analytes, concentrations, and matrices. Whether it is one standard or one hundred, our chemists regularly prepare standards for a range of needs and situations including managed methodology studies, project or site-specific matrices, project or sample-specific limits, and ultra-trace to percent level concentrations.

Examples of custom standards prepared by ERA custom chemists:

- 10,000 mg/kg total organic carbon in soil
- Organic mercury in fish tissue
- Pesticides in freeze-dried spinach
- XRF metals in soil
- Speciated metal standards
- Organometallic standards

Certification of Custom Standards

ERA offers three options for certification of custom standards:

- Gravimetric/volumetric
- Analytical
- ISO Guide 34 certified reference materials*

*Option is based on ERA's ISO Guide 34 scope of accreditation

FROM SIMPLE TO COMPLEX AND EVERYTHING IN BETWEEN

ERA can supply you with a custom standard containing any analyte from the following programs:

- Clean Water Act (CWA)
- Safe Drinking Water Act (SDWA)
- Resource Conservation and Recovery Act (RCRA)
- Superfund Contract Laboratory Program (CLP)
- Standards Council of Canada (SCC)
- Canadian Association for Laboratory Accreditation (CALA)
- Ontario Ministry of the Environment (MOE)
 Safe Drinking Water Act (SDWA)

CUSTOM STANDARDS

Performance Evaluation With Double-Blind Project

Gain a level of confidence with tangible evidence that your laboratory is meeting all quality objectives through a double-blind performance evaluation.

The key to evaluating the real performance of your laboratory is in finding the proper blend of realistic sample designs and accurate, stable analyte concentrations.

Here is how a performance evaluation program works:

- 1. Specify the matrices, analytes, and concentrations. If a stock standard is not available, we can design and prepare custom PE standards.
- 2. Send us your empty sample bottles, labels, chain-of-custody forms, and sample coolers.
- 3. We prepare, dilute (if necessary) and preserve the standards, fill your sample bottles, and return the samples to you via overnight delivery service. You'll receive ERA's certified values and performance acceptance limits (PALs) under separate sealed cover.
- 4. Integrate the standards into your sampling event or introduce them into your lab's routine sample load.
- 5. Your lab analyzes the blind PE standards along with routine samples.
- 6. Compare your lab's results to ERA's certified values and performance acceptance limits.

ERA can help you design a double-blind project that matches your project-specific needs. Speak with an ERA representative today to begin the process of understanding the real performance of your laboratory.



CUSTOM STANDARD QUOTATION REQUEST FORM



Contact Name:			Date:	
ERA Customer #:	Phone:		Fax:	
Company Name:		Email:		
Bill to:		Ship to:		
(shipping address is the same as billing	og addrord	Date Needed:		
Additional/Special Requirements (bate needed.		
- Tuarrionar Special Requirements	packaging, sinpping, etc.).			
	Analytes	CAS#	Concentrations	Units
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Sample Description (for label):				
Matrix/Solvent:				
Preservative:				
Mass/Volume per Container:			Number of Cont	tainers:
Intended Use (calibration, QC, etc.):		Humber of Com	
Prep/Analytical Method:	<i>.</i>			
Select: Ready-to-Use	Concentrate Dilution Ins	tructions:		
-	etrically certified based on the man			
Analytical verification may be av	ailable for your custom standard, de	pending upon the standard formula	ation. Contact ERA to discuss p	ricing and availab

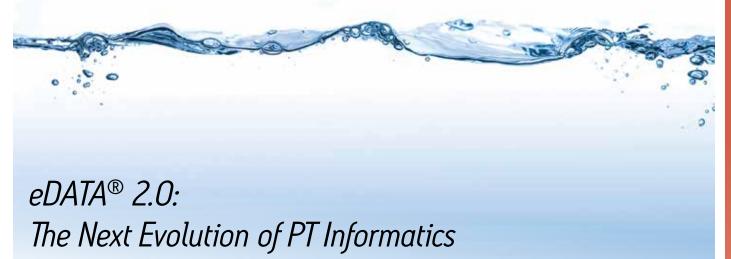
- An ERA representative will contact you within one business day to discuss your request.
- ERA provides blind standards to help you evaluate your laboratory's performance; call and speak with an ERA representative to learn more.

Email this form to info@eraqc.com or fax to 303-421-0159.

For immediate assistance with a Customs quote, call ERA at 800-372-0122 or 303-431-8454 and speak with an ERA Customer Service Representative.

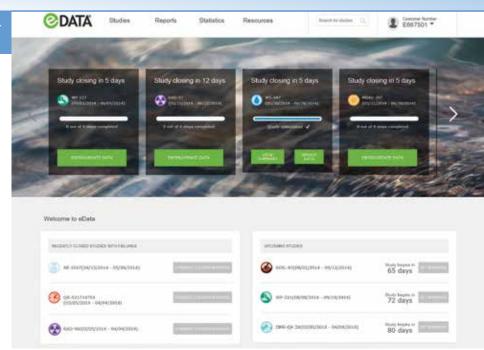


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1000 Mg/L STANDARDS

Standards can be used for primary calibration or to prepare second source calibration check standards. They are traceable to NIST Standard Reference Materials, where available, and are guaranteed stable for one year. The certification documentation includes manufacturing uncertainties, traceability summaries and densities to aid in performing quantitative dilutions. The documentation for metal standards includes impurities.

INORGANICS - 1000 MG/L

Chemical Oxygen Demand (COD)

500 mL BottleCat. #974 **125 mL Bottle**Cat. #042

One 1,000 mg/L standard preserved with H₂SO₄ in an amber glass bottle.

Total Kjeldahl Nitrogen (TKN)

500 mL BottleCat. #996

Cat. #043

One 1,000 mg/L standard preserved with HCl in a poly bottle.

MBAS/LAS Surfactants

Cat. #975

One 15 mL screw-cap vial with LAS at 1,000 mg/L preserved with H_2SO_4 .

Total Organic Carbon (TOC)

Cat. #978

One 500 mL amber glass bottles with TOC at 1,000 mg/L preserved with H₂SO₄.

Total Organic Halides (TOX)

Cat. #976

One 2 mL flame-sealed ampule with TOX at 1,000 mg/L in methanol.

Phenol

Cat. #982

One 500 mL amber glass bottle with Phenol at 1,000 mg/L preserved with H_2SO_4 .

Sulfide

Cat. #999

One 10 mL flame-sealed ampule containing 1,000 mg/L sulfide preserved with NaOH and zinc acetate.

IONS - 1000 MG/L

Parameter	Matrix	500 mL Bottle	125 mL Bottle
Acetate	H ₂ 0	_	Cat. #78202
Ammonia as NH ₃	H ₂ O	Cat. #986	Cat. #044
Ammonia as N	H ₂ O	Cat. #985	Cat. #045
Bromate	H ₂ O	_	Cat. #065
Bromide	H ₂ O	Cat. #987	Cat. #046
Chlorate	H ₂ O	_	Cat. #066
Chloride	H ₂ O	Cat. #988	Cat. #047
Chlorite	H ₂ O	_	Cat. #067
Complex Cyanide	NaOH	Cat. #998	Cat. #049
Cyanide (free)	NaOH	Cat. #997	Cat. #048
Fluoride	H ₂ O	Cat. #989	Cat. #050
lodide	H ₂ O	_	Cat. #78212
Nitrate as NO ₃	H ₂ O	Cat. #992	Cat. #051
Nitrate as N	H ₂ O	Cat. #991	Cat. #052
Nitrite as N	H ₂ O	Cat. #990	Cat. #053
Perchlorate	H ₂ O	_	Cat. #068
Phosphate as PO ₄	H ₂ O	Cat. #994	Cat. #060
Phosphate as P	H ₂ O	Cat. #993	Cat. #061
Sulfate	H ₂ O	Cat. #995	Cat. #062

CATIONS BY ION CHROMATOGRAPHY — 100 MG/L

Parameter	Matrix	125 mL Bottle
Ammonium as NH ₄	H ₂ 0	Cat. #78102
Ammonium as N	H ₂ 0	Cat. #78104

CATIONS BY ION CHROMATOGRAPHY — 1000 MG/L

Parameter	Matrix	125 mL Bottle
Calcium	H ₂ O	Cat. #K10
Magnesium	H ₂ O	Cat. #K11

METALS - 1000 Mg/L

Parameter	Matrix		125 mL Bottle
Aluminum*	HNO ₃	DG	Cat. #011
Arsenic*	HNO ₃	DG	Cat. #013
Beryllium*	HNO ₃	DG	Cat. #015
Bismuth*	HNO ₃	DG	Cat. #K01
Calcium*	HNO ₃	DG	Cat. #018
Chromium*	HNO ₃	DG	Cat. #020
Chromium VI	H ₂ O	_	Cat. #019
Cobalt*	HNO ₃	DG	Cat. #021
Copper*	HNO ₃	DG	Cat. #022
Iron*	HNO ₃	DG	Cat. #023
Lead*	HNO ₃	DG	Cat. #024
Lithium*	HNO ₃	DG	Cat. #KO4
Magnesium*	HNO ₃	DG	Cat. #025
Manganese*	HNO ₃	DG	Cat. #026
Mercury*	HNO ₃	DG	Cat. #027
Molybdenum*	HNO ₃	DG	Cat. #028
Nickel*	HNO ₃	DG	Cat. #029
Phosphorus*	HNO ₃	DG	Cat. #063
Potassium*	HNO ₃	DG	Cat. #030
Selenium*	HNO ₃	DG	Cat. #031
Silica	H ₂ O	_	Cat. #064
Silicon*	HNO ₃	DG	Cat. #032
Silver*	HNO ₃	DG	Cat. #033
Sodium*	HNO ₃	DG	Cat. #034
Strontium*	HNO ₃	DG	Cat. #035
Thallium*	HNO ₃	DG	Cat. #036
Tin*	HCl	DG	Cat. #037
Titanium*	HCl	DG	Cat. #038
Vanadium*	HNO ₃	DG	Cat. #039
Yttrium*	HNO ₃	DG	Cat. #K08
Zinc*	HNO ₃	DG	Cat. #040

^{*} Other metals, concentrations, and volumes are also available. Call ERA customer service for more information.

DG – Dangerous Good, requires special shipping.

ICP-MS METALS

These standards come with a Certificate of Traceability and Uncertainty. Use for initial as well as continuing calibration and tuning verification. Provided as convenient concentrates with densities allowing you to easily perform gravimetric dilutions.

ICP-MS Trace Metals

CRM Cat. #TMS001*

One 125 mL screw-cap poly bottle preserved with HNO₃ and tartaric acid.*

Aluminum10.0 mg/L
Antimony10.0 mg/L
Arsenic 10.0 mg/L
Barium10.0 mg/L
Beryllium10.0 mg/L
Cadmium10.0 mg/L
Chromium10.0 mg/L
Cobalt 10.0 mg/L
Copper10.0 mg/L
Iron10.0 mg/L
Lead10.0 mg/L

Manganese	10.0 mg
Molybdenum	10.0 mg
Nickel	10.0 mg
Selenium	10.0 mg
Silver	10.0 mg
Thallium	10.0 mg
Thorium	10.0 mg
Uranium	10.0 mg
Vanadium	10.0 mg
Zinc	10.0 mg

^{*}Dangerous Good, requires special shipping.

ICP-MS Major Cations

CRM Cat. #TMS002*

One 125 mL screw-cap poly bottle preserved with HNO₃.*

Calcium	50.0 mg/L	Potassium	50.0 mg/L
Magnesium	50.0 mg/L	Sodium	50.0 mg/L

^{*}Dangerous Good, requires special shipping.

ANIONS

Ion Chromatography

CRM Cat. #981

One 15 mL screw-cap vial yields up to 200 mL after dilution. Designed to calibrate or verify IC calibrations.

Call for anion standards at lower levels.

Bromide	0.2-20 mg/L	Nitrate as I
Chloride	0.2-20 mg/L	Phosphate
Fluoride	0.1-10 mg/L	Sulfate

Nitrate as N	0.2-20	mg/L
Phosphate as P	0.5-30	mg/L
Sulfate	0.5-30	mg/L



AA/ICP METALS

All metals standards come with a Certificate of Traceability. The ICP Trace Metals standard also includes uncertainties. Use as initial as well as continuing calibration verification.

Flame AA Trace Metals

CRM

Cat. #508

One 24 mL screw-cap vial, preserved with HNO3, yields up to 500 mL after dilution. Designed for flame AA. Includes aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, strontium, thallium, vanadium, and zinc. Provided with a certificate of NIST traceability.*

Flame AA Cations

CRM

Cat. #530

One 15 mL screw-cap vial, unpreserved, yields up to 250 mL after dilution. Use with ICP, IC, and AA methods.

Calcium	10-200 mg/L
Magnesium	10-200 mg/L
Potassium	5-100 mg/L
Sodium	10-250 mg/L

ICP Trace Metals

CRM

Cat. #524*

One 500 mL whole-volume standard, preserved with HN	O ₃ and HCl, is ready-to-use*
Aluminum	10.0 mg/L
Antimony	1.0 mg/L
Arsenic	1.0 mg/L
Barium	1.0 mg/L
Beryllium	1.0 mg/L
Bismuth	1.0 mg/L
Boron	1.0 mg/L
Cadmium	1.0 mg/L
Calcium	10.0 mg/L
Chromium	1.0 mg/L
Cobalt	1.0 mg/L
Copper	1.0 mg/L
Iron	10.0 mg/L
Lanthanum	1.0 mg/L
Lead	10.0 mg/L
Magnesium	10.0 mg/L
Manganese	1.0 mg/L
Molybdenum	1.0 mg/L
Nickel	1.0 mg/L
Phosphorus	1.0 mg/L
Potassium	10.0 mg/L
Selenium	10.0 mg/L
Sodium	10.0 mg/L
Strontium	1.0 mg/L
Tin	1.0 mg/L
Vanadium	1.0 mg/L
7inc	1 0 mg/l

^{*}Dangerous Good, requires special shipping.

PH BUFFERS

ERA Cal pH Buffers are directly traceable to NIST SRMs, mercury free, guaranteed stable for at least one year after your receipt, and are supplied with a full certificate of analysis. Choose single bottles or convenient 6-bottle cases.

Value	Volume	Single Bottle	Case of 6 Bottles
pH 4.00	1 pint	Cat. #127	Cat. #128
pH 7.00	1 pint	Cat. #131	Cat. #132
pH 10.00	1 pint	Cat. #135	Cat. #136
Case of 2 ea.	Pints		Cat. #141

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REAGENTS

Reagents for environmental and industrial analysis.



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lodine	81
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Description	Page
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Sodium Thiosulfate	83
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REAGENTS

ERA manufactures industrial reagents with tolerances of +/- 0.5%, and will hold the certified value lot to lot within 0.5%. Our reagents are shipped with a certificate of analysis and are homogeneous at a 95% confidence interval.

EDTA	
0.01 M, 1 Gallon	Cat. #183160
0.02 M, 1 Gallon	Cat. #183212
0.1 M, 1 Liter	Cat. #183118
0.1 M, 1 Gallon	Cat. #183120
0.1 M, 5 Gallon	Cat. #187525

lodine	
0.0473 N, 1 Gallon	Cat. #183134
0.0473 N, 4 x 1 Gallon Case	Cat. #182001
0.1 N, 1 Liter	Cat. #183136
0.1 N, 1 Gallon	Cat. #183138

HCl		
0.01 N, 1 Liter	DG	Cat. #183026
0.01 N, 1 Gallon	DG	Cat. #183028
0.01 N, 5 Gallon	DG	Cat. #187503
0.1 N, 1 Liter	DG	Cat. #183030
In IPA, 0.1 N, 1 Liter	DG	Cat. #184001
0.1 N, 2.5 Liter	DG	Cat. #183010
0.1 N, 1 Gallon	DG	Cat. #183032
0.1 N, 5 Gallon	DG	Cat. #187506
0.25 N, 1 Liter	DG	Cat. #183034
0.25 N, 1 Gallon	DG	Cat. #183036
0.25 N, 5 Gallon	DG	Cat. #187507
0.5 N, 1 Liter	DG	Cat. #183038
0.5 N, 1 Gallon	DG	Cat. #183040
0.5 N, 5 Gallon	DG	Cat. #187508
0.645 N, 5 Gallon	DG	Cat. #183016
1.0 N, 1 Liter	DG	Cat. #183042
1.0 N, 1 Gallon	DG	Cat. #183044
1.0 N, 5 Gallon	DG	Cat. #187510

DG – Dangerous Good, requires special shipping.



рН	
pH 2 Buffer, No Color (1 Pint)	Cat. #183004
pH 2 Buffer, No Color (1 Liter)	Cat. #183184
pH 2 Buffer, No Color (1 Gallon)	Cat. #187027
pH 2 Buffer, No Color (5 Gallon)	Cat. #183186
pH 4 Buffer, No Color (1 Pint)	Cat. #183005
pH 4 Buffer, No Color (1 Liter)	Cat. #183180
pH 4 Buffer, No Color (1 Gallon)	Cat. #183181
pH 4 Buffer, No Color (5 Gallon)	Cat. #183182
pH 6 Concentrated Buffer, No Color (2.5 Liter)	Cat. #183012
pH 7 Buffer, No Color (1 Pint)	Cat. #183006
pH 7 Buffer, No Color (1 Liter)	Cat. #183187
pH 7 Concentrated Buffer, No Color (2.5 Liter)	Cat. #183013
pH 7 Buffer, No Color (1 Gallon)	Cat. #183188
pH 7 Buffer, No Color (5 Gallon)	Cat. #183189
pH 10 Buffer, No Color (1 Pint)	Cat. #183007
pH 10 Buffer, No Color (1 Liter)	Cat. #183190
pH 10 Buffer, No Color (1 Gallon)	Cat. #183191
pH 10 Buffer, No Color (5 Gallon)	Cat. #183192
pH 4 Buffer, Red (1 Gallon)	Cat. #187026
pH 4 Buffer, Red (5 Gallon)	Cat. #183217
pH 7 Buffer, Yellow (1 Gallon)	Cat. #187028
pH 7 Buffer, Yellow (5 Gallon)	Cat. #183218
pH 10 Buffer, Blue (1 Gallon)	Cat. #187029
pH 10 Buffer, Blue (5 Gallon)	Cat. #183219

Potassium Hydroxide				
0.01 N, 1 Liter	DG	Cat. #183090		
0.01 N, 1 Gallon	DG	Cat. #183092		
0.01 N, 5 Gallon	DG	Cat. #187521		
0.1 N, 1 Liter	DG	Cat. #183094		
In IPA, 0.1 N, 1 Gallon	DG	Cat. #183211		
0.1 N, 1 Gallon	DG	Cat. #183096		
0.1 N, 5 Gallon	DG	Cat. #187522		
0.25 N, 1 Liter	DG	Cat. #183098		
0.25 N, 1 Gallon	DG	Cat. #183100		
0.25 N, 5 Gallon	DG	Cat. #187523		
0.5 N, 1 Liter	DG	Cat. #183102		
0.5 N, 1 Gallon	DG	Cat. #183104		
0.5 N, 5 Gallon	DG	Cat. #187524		

DG – Dangerous Good, requires special shipping.

Silver Nitrate		
0.1 N, 1 Liter	DG	Cat. #183110
0.1 N, 1 Gallon	DG	Cat. #183112
0.25 N, 1 Liter	DG	Cat. #183114
0.25 N, 1 Gallon	DG	Cat. #183116

DG – Dangerous Good, requires special shipping.





Sodium Hydroxide				
0.01 N, 1 Liter	DG	Cat. #183070		
0.01 N, 1 Gallon	DG	Cat. #183072		
0.01 N, 5 Gallon	DG	Cat. #187516		
0.1 N, 1 Liter	DG	Cat. #183074		
0.1 N, 1 Gallon	DG	Cat. #183076		
0.1 N, 5 Gallon	DG	Cat. #187517		
0.25 N, 1 Liter	DG	Cat. #183078		
0.25 N, 1 Gallon	DG	Cat. #183080		
0.25 N, 5 Gallon	DG	Cat. #187518		
0.5 N, 1 Gallon	DG	Cat. #183082		
0.5 N, 5 Gallon	DG	Cat. #187519		
1.0 N, 1 Liter	DG	Cat. #183086		
1.0 N, 1 Gallon	DG	Cat. #183088		
1.0 N, 5 Gallon	DG	Cat. #183156		

DG – Dangerous Good, requires special shipping.

Sodium Thiosulfate	
0.0394 N, 1 Gallon	Cat. #182002
0.0394 N, 5 Gallon	Cat. #182003
0.1 N, 1 Liter	Cat. #183126
0.1 N, 1 Gallon	Cat. #183128
0.25 N, 1 Liter	Cat. #183130
0.25 N, 1 Gallon	Cat. #183132

Sulfuric Acid		
0.01 N, 1 Liter	DG	Cat. #183048
0.01 N, 1 Gallon	DG	Cat. #183049
0.02 N, 1 Liter	DG	Cat. #183050
0.02 N, 1 Gallon	DG	Cat. #183052
0.02 N, 5 Gallon	DG	Cat. #187511
0.05 N, 1 Liter	DG	Cat. #183003
0.1 N, 1 Liter	DG	Cat. #183054
0.1 N, 1 Gallon	DG	Cat. #183056
0.1 N, 5 Gallon	DG	Cat. #187512
0.2 N, 1 Liter	DG	Cat. #183058
0.2 N, 1 Gallon	DG	Cat. #183060
0.2 N, 5 Gallon	DG	Cat. #187514
0.5 N, 1 Liter	DG	Cat. #183062
0.5 N, 1 Gallon	DG	Cat. #183064
1.0 N, 1 Liter	DG	Cat. #183066
1.0 N, 1 Gallon	DG	Cat. #183068
1.0 N, 5 Gallon	DG	Cat. #187515

DG – Dangerous Good, requires special shipping.

Miscellaneous		
KOH 5 M, KCN 1 M, 5 Gallon	-	Cat. #183213
Manganese Standard, 40 g/L, 1 Liter	DG	Cat. #183008
Manganese Standard, 55 g/L, 1 Liter	DG	Cat. #183009
TISAB, Fluoride Buffer, 1 Gallon	-	Cat. #183162
Barium Perchlorate, 0.1 N, 1 Liter	_	Cat. #183017
Potassium Dichromate, 0.1 N, 1 Liter	DG	Cat. #183221
Potassium Permanganate, 0.1 N, 2.5 liter	DG	Cat. #183001
Ferrous Ammonium Sulfate, 0.25 N, 1 Gallon	DG	Cat. #183011
Phenolphthalein, 0.5%, 1 Pint	DG	Cat. #183168
Sodium Carbonate, 1.0 N, 1 Liter	_	Cat. #183172
Sodium Carbonate, 25 g/L, 10 Liter	_	Cat. #183002

DG — Dangerous Good, requires special shipping.

Α	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Acetate		77								
Acidity									16	
Acids							42		18	
Aldehydes & Ketones	55									
Aluminum		78								
Americium-241					61					
Ammonia	57	77								
Ammonium		77								
Anions		78					39			
Aromatics									17	
Arsenic		78								

В		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Barium					61					
Base/Neutrals							42		18	
Beryllium		78								
Biochemical Oxygen Demand (BOD)	See Demand									
Bismuth		78								
Boron									16	
Boston Round Oil & Grease									13	
Bromate		77								
Bromide		77							16	
BTEX & MTBE							40	48	17	

C		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Calcium		77, 78								
Carbamate							43		19	30
Cations		77, 78, 79								
Cesium					61					
Chemical Oxygen Demand (COD)		77*								
Chloral Hydrate										29
Chlorate		77								
Chlordane							43		19	30
Chloride		77								
Chlorinated Acid							42		17	31
Chlorine			65					22	16	28
Chlorite		77								
Chromium	56	78								
Cobalt		78								
Cobalt-60					61					
Color			65						15	28
Complex Cyanide		77								
Complex Nutrients			67						12, 20	
Copper		78								
Corrosivity							39			28
Cyanide		77	65				39, 45		15, 22	28

*See Demand

D	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Demand		65						13, 20	
Diesel Range Organics (DRO)						42	48, 50	18	

E	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
EDB/DBCP/TCP									18	30
Massachusetts EPH								51		
New Jersey EPH								51		
Enterococci				33						

F	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
Fluoride	57	77							21	

G	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Gamma Emitters					60					
Gasoline Additives										29
Gasoline Range Organics (GRO)							40	48	17	
Glycols							42		18	
Gross Alpha/Beta					60, 61, 62, 63					

Н	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Haloacetic Acids (HAA)										29
Halomethanes (THMs)										29
Hardness									12, 20	26
HCl						81				
HEM/SGT-HEM									13	
Herbicides			68				42		17	31
Heterotrophic Plate Count				35						
Hexavalent Chromium	56		66				38		14, 21	26
Hydrogen Halides & Halogens	57									

I		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
ICP-MS Trace Metals/ Major Cations		78								
Ignitability/Flash Point							39			
Inorganic Disinfection										27
Inorganic Disinfection By-products			66							
Inorganics	57	77	65-66				39			26
lodide		77								
lodine						81				
lodine-131					60					
Ion Chromatography		77, 78								
Iron		78								

L	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Lead	56	78								
Lithium		78							14	

М	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
Magnesium		77, 78								
Manganese		78				83				
Massachusetts Ground Water Enterococci				33						
Mercury	56	78	66						14	26
Metals	56	78-79	66-67				38, 45		14, 20	26
Minerals									20, 21	26
Molybdenum		78								

N	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Naturals					60					
Nickel		78								
Nitrate		77								
Nitrite		77							12	27
Nitroaromatics & Nitramines							42		18	
Nitrogen Oxide	57									
Nitrogen Pesticides									19	
Nutrients			67				39		12, 20, 21	27



0	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Oil & Grease							39		13, 20,	
									21	
o-Phosphate Nutrients										27
Organic Carbon										28
Organochlorine Pesticides	55		68				43		19	
Organophosphorus Pesticides (OPP)			68				43		19	
P	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
PAHs	55		68				42		18	
Particulate Matter	57		00				72		10	
PCBs	55		68				42, 44		17	31
Perchlorate		77				83	Ĺ			28
Pesticides	55		68				41, 43		19	30
pH		79				82	39		12, 20, 21	26
Phenol		77							15	
Phosphate		77								
Phosphorus		78								
Plutonium					61					
Potable Water Coliform Microbe				35		00.01				
Potassium		78				82-83				
^	45	6.1	LI CDM	MD	D.C.I	DCT	C 13	LICT	1.15	1.10
Q	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
QC-Plus									21-22	
R	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Radium					61					
Radionuclides					61 62-63					
Radionuclides Ready-to-Use VOAs in Soil							40			
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles							40		10.00	29
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine							40	40	16, 22	29 28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range							40	49	16, 22	
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine							40	49	16, 22	
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO)	AE	Cal	LLCRM	MB		RGT	40 Soil			
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO)	AE	Cal 78	LLCRM	MB	62-63	RGT		49 UST	16, 22 WP	28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO)		Cal 78		MB	62-63	RGT	Soil		WP	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO)	AE 55		LLCRM 68	МВ	62-63	RGT				28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles				MB	62-63	RGT	Soil		WP	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus)		78		МВ	62-63	RGT	Soil		WP 18 12	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow				МВ	62-63	RGT	Soil		WP	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica		78		МВ	62-63	RGT	Soil		WP 18 12	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon		78 78 78		МВ	62-63	RGT 82	Soil		WP 18 12	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon		78 78 78		МВ	62-63		Soil		WP 18 12	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Siltica Silticon Silver Silver Nitrate		78 78 78	68	МВ	62-63		Soil		WP 18 12 15	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Siltica Silticon Silver Silver Nitrate Simple Nutrients		78 78 78 78	68	МВ	62-63	82	Soil		WP 18 12 15	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon Silver Silver Nitrate Simple Nutrients Sodium		78 78 78 78	68	МВ	62-63	82	Soil		WP 18 12 15	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon Silver Silver Nitrate Simple Nutrients Sodium Sodium Hydroxide		78 78 78 78	68	МВ	62-63	82 83 83	Soil		WP 18 12 15	28 WS
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon Silver Silver Nitrate Simple Nutrients Sodium Sodium Hydroxide Sodium Thiosulfate		78 78 78 78	68	MB 35	62-63	82 83 83	Soil		WP 18 12 15 15 12,20	28 WS 31 28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon Silver Silver Nitrate Simple Nutrients Sodium Sodium Hydroxide Sodium Thiosulfate Solids/Solids Concentrate Source Water Microbe		78 78 78 78	68		62-63	82 83 83	Soil		WP 18 12 15 15 12,20	28 WS 31 28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) S Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon Silver Silver Nitrate Simple Nutrients Sodium Sodium Hydroxide Sodium Thiosulfate Solids/Solids Concentrate		78 78 78 78	68		62-63	82 83 83	Soil		WP 18 12 15 15 12,20	28 WS 31 28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Silica Silicon Silver Silver Nitrate Simple Nutrients Sodium Sodium Hydroxide Sodium Thiosulfate Solids/Solids Concentrate Source Water Microbe Strontium		78 78 78 78 78	68		62-63	82 83 83	Soil		WP 18 12 15 15 12,20	28 WS 31 28
Radionuclides Ready-to-Use VOAs in Soil Regulated Volatiles Residual Chlorine Residual Range Organic fuels (RRO) Selenium Semivolatiles Settleable Solids Sheepshead Minnow (Cyprinodon variegatus) Siltica Silticon Silver Silver Nitrate Simple Nutrients Sodium Sodium Hydroxide Sodium Thiosulfate Solids/Solids Concentrate Source Water Microbe Strontium Sulfate		78 78 78 78 78 78	68		62-63	82 83 83	Soil		WP 18 18 12 15 15 12,20	28 WS 31 28

57 57

Sulfur Dioxide
Sulfuric Acid
Surfactants-MBAS

T	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
TCLP							41			
Thallium		78								
Tin		78								
Tin & Titanium									14	
Titanium		78							14	
Total Cyanide									22	
Total Kjeldahl Nitrogen (TKN)		77								
Total Organic Carbon (TOC)		77*								
Total Organic Halides (TOX)		77							15	
Total Petroleum Hydrocarbons (TPH)							41	48	13	
Total Phenolics			66						15, 22	
Total Residual Chlorine									16, 22	
Toxaphene							43		19	30
Trace Metals		78-79							14, 20 22	26
Triazines, Urons, and Acid Herbicides	82	87								
Trihalomethanes	82									
Tritium					60, 61, 63					
Turbidity									15	28

*See Demand

U	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Unregulated Volatiles										29
Uranium					61				14	26
UV 248 Absorbance										28

٧		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Vanadium		78								26
Volatiles	54		70				40		17	29
VPH								51		

W	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
Washington HEM/SGT-HEM								50		

Y AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Yttrium	78								

Z	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Zinc	78			61					

AE Air & Emissions RGT Reagents

Cal Calibration Soil Soil

LLCRM Low-Level CRMs UST Underground Storage Tank

MB Microbiology WP Water Pollution

RChem Radiochemistry WS Water Supply

Α	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
Acenaphthene	55		68				42		18	31
Acenaphthylene	55		68				42		18	31
Acetaldehyde	55									-
Acetate		77								
Acetone	54-55		70				40		17	
Acetonitrile	54		70				40		17	
Acidity as CaCO ₃									16	
Acifluorfen							42		17	31
Acrolein	54		70				40		17	
Acrylonitrile	54		70						17	
Actinium					62					
Alachlor									19	30
Aldicarb							43		19	30
Aldicarb sulfone							43		19	30
Aldicarb sulfoxide							43		19	30
Aldrin	55		68				43		19	30
Alkalinity			65						12, 20, 21	26
Aluminum		78-79	66-67				38, 45		14, 20, 22	26
Americium-241					62-63					
Ametryn									19	
2-Amino-1-methylbenzene (o-Toluidine)							42		18	
4-Amino-2,6-dinitrotoluene							42		18	
2-Amino-4,6-dinitrotoluene							42		18	
Ammonia as N		77	67				39		12, 20	
Ammonia as NH ₃		77								
Ammonium	57									
Ammonium as N		77								
Ammonium as NH ₄ tert-Amyl methyl ether (TAME)		77	67							29
Anilazine									19	
Aniline	55						42		18	
Anthracene	55		68				42		18	31
Antimony	56	78-79	66-67				38, 45		14, 20,	26
Aroclor	55						42, 44		17	31
Arsenic	56	78-79	66-67				38, 45		14, 20,	26
Atraton							44		19	
Atrazine			69						19	30
Azinphos			68				43		19	

В	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Barium	56	78, 79	66, 67		60		38, 45		14, 20, 22	26
Barium Perchlorate						83				
Baygon									19	30
Bentazone			69				42		17	31
Benzaldehyde	55									
Benzene	54		69				40		17	29
Benzidine	55						42		18	
Benzo(a)anthracene	55		68				42		18	31
Benzo(a)pyrene	55		68				42		18	31
Benzo(b)fluoranthene	55		68				42		18	31
Benzo(g,h,i)perylene	55		68				42		18	31
Benzo(k)fluoranthene	55		68				42		18	31
Benzoic acid	55						42		18	31
Benzyl alcohol	55						42		18	
Beryllium	56	78, 79	66, 67				38, 45		14, 20, 22	26
alpha-BHC	55		68				43		19	
beta-BHC	55		68				43		19	
delta-BHC	55		68				43		19	
gamma-BHC (Lindane)	55		68				41, 43		19	30
Biochemical oxygen demand (BOD)			65						13, 20, 21	
Bismuth		78, 79			62					
Boron		79	66, 67				38		14, 16, 20	26
Bromacil									19	30
Bromate		77	66							27
Bromide	54, 57	77	66				39		16	27, 30
Bromine	57									
Bromobenzene							40		17	29
Bromochloroacetic acid										29
Bromochloromethane							40		17	29

B (continued)	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Bromodichloromethane	54		69				40		17	29
Bromoform	54		69				40		17	29
Bromomethane	54		71				40		17	29
4-Bromophenyl phenyl ether	55						42		18	
Bromoxynil			68							
BTEX							40	48, 49	17	
BTEX & MTBE							40	48	17	
Butachlor									19	30
2-Butanone (MEK)	54, 55						40-41		17	
tert-Butyl Alcohol										29
Butylate									19	
Butylbenzene							40		17	29
Butyl benzyl phthalate	55						42		18	31
Butyraldehyde (butanal)	55									
bis(2-chloroisopropyl)ether	55						42		18	

С	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Cadmium	56	78, 79	66, 67				38, 45		14, 20,	26
Calcium		77, 79	65				38, 45		22 12, 21,	26, 28
Calcium hardness as CaCO ₃							·		20	26
catcium naruness as caco3									21	20
Carbaryl							43		19	30
Carbazole	55						42		18	
Carbofuran							43		19	30
Carbon disulfide	54		69				40		17	
Carbon tetrachloride	54		69				40-41		17	29
Carbophenothion									19	
Ceriodaphnia dubia										
Chemical oxygen demand (COD)		77	65						13, 20, 21	
Chloral Hydrate										29
Chloramben							42		17	31
Chlorate		77	66							27
Chlordane	55		68				42, 43		19	30
Chlorfenvinphos			68							
Chloride		77, 78	65				39		12, 20, 21	26
Chlorine	57		65							
Chlorite		77	66							27
4-Chloro-3-methylphenol	55						42		18	
4-Chloroaniline	55						42		18	
Chlorobenzene	54		69				40, 41		17	29
Chlorodibromomethane	54		69				40		17	29
Chloroethane	54		69				40		17	29
bis(2-Chloroethoxy)methane	55						42		18	
2-Chloroethyl vinyl ether	54		69				40		17	
bis(2-chloroethyl)ether	55						42		18	
Chloroform	54		70				40, 41		17	29
Chloromethane	54		69				40		17	29
1-Chloronaphthalene	55						42		18	
2-Chloronaphthalene	55						42		18	
2-Chlorophenol	55						42		18	
4-Chlorophenyl phenyl ether	55						42		18	
Chlorotoluene							40, 42		17	29
Chlorpyrifos			68				43		19	
Chlortoluron			69							
Chromium	56	78, 79	66				38, 45		14, 20, 22	26
Chrysene	55		68				42		18	31
Cobalt	56	78, 79	66, 67		60, 62		38, 45		14, 20, 22	
Coliforms										
Color			65						15	28
Specific conductance at 25 °C			00						12, 20	26
Conductivity			65						21	
Copper	56	78, 79	66, 67				38, 45		14, 20, 22	26
Corrosivity									LL	28
Corrosivity/pH							39			
Crotonaldehyde	55									
Curium					62					
Cyanazine									19	
Cyanide		77	65				39, 45		15, 22	28
Cyclohexane	54									
Cypermethrin			68							



D	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
2,4-D			69				42		17	31
Dacthal diacid (DCPA)			09				42		17	31
Dalapon							42		17	31
Daphnia magna							42		- ''	31
Daphnia pulex										
2,4-DB			68				42		17	31
4,4'-DDD	55		68				43		19	
4,4'-DDE	55		68				43		19	
2,4-DDT			68							
4,4'-DDT	55		68				43		19	
Decachlorobiphenyl									10	31
Demeton O & S							43		19 19	
Diaminoatrazine Diazinon			68				43		19	30
Dibenz(a,h)anthracene	55		68				42		18	31
Dibenzofuran	55		00				42		18	31
1,2-Dibromo-3-chloropropane	54		70				40		17-18	30
(DBCP)										
Dibromoacetic Acid										29
1,2-Dibromoethane (EDB)	54		70				40		17-18	
Dibromomethane	54		70				40		17	29
Dicamba			68				42		17	31
Dichloroacetic Acid	E 4 55		70				10 12		17.10	29
1,2-Dichlorobenzene 1,3-Dichlorobenzene	54, 55 54, 55		70				40, 42		17-18 17-18	29 29
1,4-Dichlorobenzene	54, 55		70				40, 42		17-18	29
3,3'-Dichlorobenzidine	55		10				40, 42		18	29
3,5-Dichlorobenzoic Acid	33						42		17	31
Dichlorodifluoromethane	54		70				40		17	29
1,1-Dichloroethane	54		70				40		17	29
1,1-Dichloroethene	54		70				40		17	
1,2-Dichloroethane	54		70				40, 41		17	29
cis-1,2-Dichloroethene	54		70						17	
trans-1,2-Dichloroethene	54		70						17	
1,1-Dichloroethylene	54		70				40, 41			29
cis-1,2-Dichloroethylene	54		70				40			29
trans-1,2-Dichloroethylene			70				40		10	29
2,4-Dichlorophenol	55						42		18	
2,6-Dichlorophenol	55 54		70				42		18 17	29
1,2-Dichloropropane 1,3-Dichloropropane	J4		10				40		17	29
2,2-Dichloropropane							40		17	29
1,1-Dichloropropene							40		17	29
cis-1,3-Dichloropropene	54		70						17	29
trans-1,3-Dichloropropene	54		70						17	29
cis-1,3-Dichloropropylene	54						40			
trans-1,3-Dichloropropylene	54						40			
1,2-Dichlorotetrafluoroethane	54									
Dichlorprop			68				42		17	31
Dichlorvos (DDVP)			68				43		19	
1,1-Dichloroethylene	54		70				40, 41		10	29
Dieldrin Diesel range organics	55		68				43	16 10	19 18	30
(DRO)							42	46, 48, 50	10	
Diethylene glycol							42		18	
Diethyl phthalate	55		68				42		18	31
Di-isopropylether (DIPE)										29
Dimethoate									19	
Dimethyl phthalate	55		68				42		18	31
2,5-Dimethylbenzaldehyde	55									
2,4-Dimethylphenol	55						42		18	
Di-n-butyl phthalate	55		68				42		18	31
1,3-Dinitrobenzene							42		18	
2,4-Dinitrophenol	55						42		18	
2,4-Dinitrotoluene	55 55						41, 42		18 18	
2,6-Dinitrotoluene	55 55		68				42		18	31
Di-n-octyl phthalate Dinoseb	23		Uď				42		18	31
Dioxacarb							43		11	JI
Dioxathion							-13		19	
Dioxin										31
Diquat										31
Dissolved organic carbon (DOC)			65							31
Disulfoton							43		19	
Diuron							43		19	

E	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
E. coli				33, 35						
Endosulfan	55		68				43		19	
Endosulfan sulfate	55		68				43		19	
Endothall										31
Endrin	55		68				41,43		19	30
Endrin aldehyde	55		68				43		19	
Endrin ketone	55		68				43		19	
EPTC (Eptam)									19	
Ethion									19	
Ethoprop									19	
Ethyl tert-butyl ether (ETBE)										29
Ethylbenzene	54		70				40		17	29
Ethylene dibromide (EDB)										30
Ethylene glycol							42		18	
bis(2-Ethylhexyl)adipate			68							31
bis(2-Ethylhexyl)phthalate	55		68				42		18	31
p-Ethyltoluene	54									

F	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Famphur									19	
Fathead minnow (Pimephales promelas)										
Fenitrothion			68							
Fenthion			68							
Ferrous Ammonium Sulfate						83				
Fluoranthene	55		68				42		18	31
Fluorene	55		68				42		18	31
Fluoride	57	77, 78	65				39		12, 20, 21	26
Fluoride Buffer						83				
Fluorotrichloromethane										29
Fonofos									19	
Formaldehyde	55									
Free Residual Chlorine										28

G	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Gasoline range organics (GRO)							40	48, 50	17	
Glyphosate			69							31
Gross Alpha					58, 59, 60, 61, 62, 63					
Gross Alpha/Beta					58, 59, 60, 61, 62, 63					
Gross Beta					60, 61, 62, 63					

Н	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Halides	57								15	
Halogens	57									
HEM								50	13	
Heptachlor	55		68				41,43		19	30
Heptachlor epoxide	55		68				41,43		19	30
n-Heptane	54									
Heterotrophic				35						
Hexachlorobenzene	55		68				41,42		18	30
Hexachlorobutadiene	54, 55		70				40, 42		17, 18	29
Hexachlorocyclopentadiene	55						42		18	30
Hexachloroethane	55						40, 42		17, 18	
Hexaldehyde (hexanal)	55									
n-Hexane	54						39			
n-Hexane extractable material							39			
2-Hexanone	54		70				40		17	
Hexavalent chromium	53, 56		64, 66				38		14, 21	26
Hexazinone									19	
HMX							42		18	
Hydrogen bromide	57									
Hydrogen chloride	57									
Hydrogen fluoride	57									
3-Hydroxycarbofuran							43		19	30

AE	Air & Emissions	RGT	Reagents
Cal	Calibration	Soil	Soil
LLCRM	Low-Level CRMs	UST	Underground Storage Tank
MB	Microbiology	WP	Water Pollution
RChem	Radiochemistry	WS	Water Supply

1	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Ignitability/Flashpoint							39			
Indeno(1,2,3-cd)pyrene	55		68				42		18	31
Inland silverside (Menidia beryllina)										
lodide		77								
loxynil			68							
Iron		78, 79	66, 67		62, 63		38		14, 20, 22	26
Isophorone	55						42		18	
Isopropylbenzene							40		17	29
Isopropyltoluene							40		17	29
Isovaleraldehyde	55									

L	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Lanthanum		79								
Lead	56	78, 79	66, 67		62		38, 45		14, 20, 22	26
Lithium		78	66						14	

M		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Magnesium		77, 78, 79	65				38, 45		12, 20, 21	26
Malathion			68				43		19	
Manganese	56	78, 79	66, 67		62-63	83	38, 45		14, 20, 22	26
MBAS-Surfactants		77							15	28
MCPA			69				42		17	
MCPB			69							
MCPP							42		17	
Mercury	56	78	66				38, 45		14, 22	26
Metals & Cyanide Blank Sand							45			
Metals & Cyanide Blank Soil							45			
Methiocarb							43		19	30
Methomyl							43		19	30
Methoxychlor	55		68				41, 43		19	30
Methyl ethyl ketone (MEK)	54, 55		70				40, 41		17	
Methyl tert-butyl ether (MTBE)	54		70				40		17	29
4-Methyl-2-pentanone (MIBK)	54		70				40		17	
2-Methyl-4,6-dinitrophenol	55						42		18	
Methylene chloride	54		70				40		17	29
2-Methylnaphthalene	55						42		18	
2-Methylphenol							41, 42		18	
3 & 4-Methylphenol							41, 42			
2-Methylphenol (o-Cresol)	55									
4-Methylphenol (p-Cresol)	55									
Metolachlor									19	30
Metribuzin									19	30
Mevinphos			68							
Molinate (Ordram)										30
Molybdenum		78, 79	66, 67				38		14, 20, 22	26
Monochloroacetic Acid										29
Monuron			68							

N	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Naphthalene	54, 55		68, 70				40, 42		17, 18	29, 31
Napropamide									19	
Nickel	56	78, 79	66, 67				38		14, 20, 22	26
Nitrate as N		77, 78					39		12, 20, 21	26
Nitrate as NO ₃		77	67							
Nitrate plus nitrite as N									12, 20	26
Nitrite as N		77							12	27
Nitrite as NO ₂		77	67							
2-Nitroaniline	55						42		18	
3-Nitroaniline	55						42		18	
4-Nitroaniline	55						42		18	
Nitrobenzene	55						40, 41, 42		17, 18	
2-Nitrophenol	55						42		18	
4-Nitrophenol	55						42		18	
N-Nitrosodiethylamine	55						42		18	

N (continued)	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
N-Nitrosodimethylamine (NDMA)	55						42		18	
N-Nitroso-di-n-propylamine	55						42		18	
N-Nitrosodiphenylamine	55						42		18	
2-Nitrotoluene							42		18	
3-Nitrotoluene							42		18	
4-Nitrotoluene							42		18	

0	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
Oil & Grease							39		13, 20, 21	
ortho-Phosphate as P									12,20, 21	27
Organophosphorus Pesticides			68				43		19	30
Oxamyl							43		19	30
Oxides of nitrogen	57									

Oxides of filtrogen	JI									
P	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Paraquat										31
Parathion			68				43		19	
Particulate matter	57									
PCB 28			68							
PCB 46			68							
PCB 85			68							
PCB 118			68							
PCB 132			68							
PCB 147			68							
PCB 180			68							
PCBs in Oil							44		17	
PCBs in Soil							42,44			
PCBs in Water							44		17	
Pentachlorobenzene	55		68				42		18	
Pentachlorophenol	55						42, 43		17, 18	31
Petroleum Hydrocarbons Fuels							41	48, 51	13	
Perchlorate		77						,		28
рН		79	65			82	39		12, 16,	26
P						02	"		20, 21	
Phenanthrene	55		68				42		18	31
Phenol	55	77					42		15, 18	
Phenolphthalein						83				
Phorate							43		19	
Phosmet									19	
ortho-Phosphate as P									12,20, 21	27
Phosphate as P		77, 78					39		2.	
Phosphate as PO ₄		77								
Phosphorus	56	78, 79	67							
Picloram		.,					42		17	31
Plutonium					61-63					
Potassium		78, 79	65		62		38		12, 20, 21	26
Potassium Cyanide (KCN)						83			21	
Potassium Dichromate						83				
Potassium Hydroxide (KOH)						82				
Potassium Permanganate						83				
Promecarb							43			
Prometon									19	30
Prometryn									19	
Pronamide									19	
Propachlor									19	30
Propazine									19	
Propham							43		19	
Propionaldehyde (propanal)	55									
Propoxur							43			
n-Propylbenzene							40		17	29
Propylene	54									
Propylene glycol							42		18	
Propyzamide			68							
Pyrene	55		68				42		18	31
Pyridine	55						41,42		18	



R	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Radium					60, 61					
RDX							42		18	
Residual Range Organic (RRO)								49		
Ronnel							43		19	

S	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
sec-Butylbenzene							40		17	29
Selenium	56	78, 79	66, 67				38, 45		14, 20, 22	26
Settleable solids									17	
SGT-HEM								50	13	
Sheepshead minnow (Cyprinodon variegarus)										
Silica		78							13, 15	28
Silicon		78								
Silver	56	78, 79	66, 67				38, 45		14, 20, 22	26
Silver Nitrate						82				
Simazine			69						19	30
Sodium		78, 79	65				38, 45		12, 20, 21	26
Sodium Carbonate						83				
Sodium Hydroxide						83				
Sodium Thiosulfate						83				
Stirophos (tetrachlorovinphos)							43		19	
Strontium		78, 79	66, 67		60-63		38		14, 20, 22	
Styrene	54		70				40		17	29
Sulfate		77-78	65				39		12, 20, 21	26
Sulfur dioxide	57									
Sulfuric acid	57									

T	AE	Cal	LLCRM	МВ	RChem	RGT	Soil	UST	WP	WS
Terbacil									19	
Terbufos							43		19	
1,2,4,5-Tetrachlorobenzene	55						42		18	
1,1,1,2-Tetrachloroethane	54		70				40		17	31
1,1,2,2-Tetrachloroethane	54		70				40		17	31
Tetrachloroethene	54		70				40		17	
Tetrachloroethylene	54						41			31
2,3,4,6-Tetrachlorophenol	55						42		18	
Tetraethylene glycol							42		18	
Tetryl							42		18	
Thallium	56	78, 79	66, 67				38		14, 20, 22	26
Thiobencarb										30
Thorium		78			60, 62, 63					
Tin		78, 79	66				38		14, 22	
Titanium		78					38		14, 22	
TISAB						83				
Tolualdehyde	55									
Toluene	54		70				40		17	29
o-Toluidine	55						42		18	
Total dissolved solids			65, 66						12, 20, 21, 22	26
Total hardness			65						12, 20	26
Total Kjeldahl Nitrogen		77	67				39		12, 20, 21	
Total Nitrogen			67							
Total Organic Carbon (TOC)		77	65				39		13, 20, 21	28
Total Organic Halides (TOX)		77							15	
Total Oxidized Nitrogen (TON)			67							
Total Phenolics (4-AAP)			66						15, 22	
Total Phosphorus			67				39		12, 20, 21	
Total solids at 89°C									12, 20, 22	26
Total suspended solids (TSS)			66						12, 20 22	26
Total volatile solids									12	

T (continued)	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Toxaphene							43		19	30
2,4,5-TP (Silvex)							42		17	31
TPH							41	48-50	13	
Trichlopyr			68							
Trichloroacetic Acid										29
1,2,3-Trichlorobenzene							40		17	29
1,2,4-Trichlorobenzene	54, 55		70				40, 42		17, 18	29
1,1,1-Trichloroethane	54		70				40		17	29
1,1,2-Trichloroethane	54		70				40		17	29
Trichloroethene			70				40		17	
Trichloroethlyene	54									
Trichlorofluoromethane	54		70				40		17	29
2,4,5-Trichlorophenol	55						41,42		18	
2,4,6-Trichlorophenol	55						41,42		18	
1,2,3-Trichloropropane	54		70				40		17, 18	29, 30
Trichlorotrifluoromethane	54									
Triethylene glycol							42		18	
Trifluralin			68						19	30
1,2,4-Trimethylbenzene	54						40		17	29
1,3,5-Trimethylbenzene	54						40		17	29
1,3,5-Trinitrobenzene							42		18	
2,4,6-Trinitrotoluene							42		18	
Tritium					60, 61, 63					
Turbidity									15	28

U	AE	Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Uranium		78			60, 61, 62, 63		38		14, 19	26
UV 248 Absorbance										28

٧		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Valeraldehyde (pentanal)	55									
Vanadium		78, 79	66, 67				38, 45		14, 20, 22	26
Vinyl acetate	54		70				40		17	
Vinyl bromide	54									
Vinyl chloride	54		70				40, 41		17	29

X		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Xylenes, total	54		70				40	48	17	31
Ayteries, total	J4		10				40	40	- 11	JI

		LECITI	110	1101	Juic		""
Yttrium	78						
_							

Z		Cal	LLCRM	MB	RChem	RGT	Soil	UST	WP	WS
Zinc	56	78, 79	66, 67		60, 61, 62, 63		38, 45		14, 20, 22	26





A –	4-AAP A2LA AE	4 - Aminoantipyrene American Association for Laboratory Accreditation Air & emissions	N	NELAC NELAP NIST NPDES NQA NTU	National Environmental Laboratory Accreditation Conference National Environmental Laboratory Accreditation Program National Institute of Standards and Technology (U.S.) National Pollutant Discharge Elimination System National Quality Assurance Nephelometric turbidity unit
В	BCH BOD BTEX	Benzene hexachloride Biochemical oxygen demand Benzene, toluene, ethylbenzene, and xylenes	0-	Q	
С	CALA CFU CLP COD CofA CRDL CRM CVAFS CVAA CWA	Canadian Association for Laboratory Accreditation Colony-forming unit Contract laboratory program Chemical oxygen demand Certificate of analysis Contract required detection limit Certified reference material Cold vapor atomic fluorescence spectroscopy Cold vapor atomic absorption Clean Water Act	0 P	OES PAH PC units PCB pci/kg PE pg PT PUF	Optical emission spectrometry Polycyclic aromatic hydrocarbons Platinum-cobalt Polychlorinated biphenyls Picocuries per kilogram Performance evaluation Picogram Proficiency test(ing) Polyurethane foam Quality control
D-	F			QR	QuiK Response
D	DBCP DI	Dibromochloropropane Deionized	R-	T	
E	EDB EDD ELAP EPA	Ethylene dibromide also known as 1,2-Dibromoethane Electronic data deliverable Environmental Laboratory Accreditation Program Environmental Protection Agency	R	RCRA RDX RM RTU	Resource Conservation and Recovery Act Research department explosive (an explosive nitroamine) Reference material Ready-to-use
F	EPTIS ERA FAQ FID FoPT	European Proficiency Testing Information System Environmental Resource Associates Frequently asked question Flame ionization detector Field of Proficiency Testing	S	SCC SDWA SGT HEM SI unit SPE SU	Standards Council of Canada Safe Drinking Water Act Silica gel treated hexane extractable materials International System of units Solid-phase extraction Standard units
G – G Н	GC HCH HEM HMX HPC HPLC	Gas chromatography Hexachlorocyclohexane Hexane extractable material Nitroamine high explosive Heterotrophic plate count High performance liquid chromatography Ion chromatography	Ţ	TCDD TCLP TCP TKN TNI TOC TOX TPH TSS	Tetrachlorodibenzo-p-dioxin Toxicity characteristic leaching procedure Trichloropropane Total Kjeldahl (kel'dahl) Nitrogen The NELAC Institute Total organic carbon Total organic halides Total petroleum hydrocarbons Total suspended solids
	ICP IR ISE ISO	Inductively coupled plasma Infrared Ion selective electrode International Organization for Standardization	U-	UCMR UKAS umhos UPLC	Unregulated contaminant monitoring rule United Kingdom Accreditation Service Micromhos (measure of electrical conductivity of a solution) Ultra performance liquid chromatography
L- L	LAS LIMS	Linear alkylbenzene sulphonates Laboratory information management system	٧	VOA VOC	Volatile organic analysis Volatile organic compounds
М	MBAS MCPA MCPP MEK MF mg mg/dscm MIBK MOE MPN MRAD MTBE	Methylene blue active substances 2-methyl-4-chlorophenoxyacetic acid Mecoprop (chlorophenoxy herbicide) Methyl ethyl ketone Membrane filtration Milligrams Milligrams per dry standard cubic meter Methyl isobutyl ketone Ministry of the Environment (Ontario) Most probable number Multi-media radiochemistry Methyl tert-butyl ether	Z	WP WS WWTP Z-score	Water supply Wastewater treatment plant Statistical measurement of a score's relationship to the mean in a group of scores



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ERA 16341 Table Mountain Pkwy Golden, CO 80403

Hours

6:00 am - 6:00 pm (Mountain Time) Mon-Thurs 6:00 am - 5:00 pm (Mountain Time) Friday

Credit Cards

ERA accepts MasterCard, VISA, American Express, and Discover.









INTERNATIONAL

For international orders, please contact your authorized ERA Sales Partner. For a complete list of ERA Sales Partners, visit us online at www.eraqc.com

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Terms (U.S.)

Terms are net 30 days. Freight charges are prepaid and added to the invoice. A \$10 charge is added to each invoice per shipment to cover regulated materials packaging and handling.

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For quick and reliable delivery, all orders are shipped via two-day delivery service unless otherwise requested.

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No. 4604

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ERA

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