



SCOPE OF ACCREDITATION TO ISO 17034:2016

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073
Barry Arnold Phone: 540 585 3030

REFERENCE MATERIALS PRODUCER

Valid To: July 31, 2020

Certificate Number: 0883.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this Reference Material Producer for the production of certified reference materials of the following categories:

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard	Aluminum (Al) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Antimony (Sb) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Arsenic (As) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Arsenic ⁺³ (As ⁺³) 1000 µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-26	ICP-OES ICP-MS

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	Arsenic ⁺⁵ (As ⁺⁵) 1000µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Barium (Ba) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-22	ICP-OES ICP-MS Gravimetric Sulfate
	¹³⁵ Barium(¹³⁵ Ba) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Beryllium (Be) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Bismuth (Bi) 10, 100, 1000, and 10000 µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.02 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Boron (B) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	¹⁰ Boron(¹⁰ B) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	¹¹ Boron(¹¹ B) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Cadmium (Cd) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.025 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	¹⁰⁶ Cadmium(¹⁰⁶ Cd) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.025 µg/L – 10000 µg/mL Relative uncertainty±1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Calcium (Ca) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 120000 µg/mL Relative uncertainty 0.004 to 0.01	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Carbon (C) 1000 µg/mL stock CRM and Custom and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1%	EPA Method 300.0 – Modified	IC
	Cerium (Ce) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Cesium (Cs) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.8 – Modified WI-QC-22 EPA Method 300.0	ICP-MS Gravimetric Sulfate IC

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	Chromium ⁺³ (Cr ⁺³) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Hexavalent Chromium (Cr+6) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1%	EPA Method 200.7 – Modified; EPA Method 200.0 – Modified EPA Method 300.0 – Modified In house Method WI-OC-37	ICP-OES ICP-MS IC Redox titrimetric
	⁵⁰ Chromium(⁵⁰ Cr) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Cobalt (Co) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Copper (Cu) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	⁶⁵ Copper(⁶⁵ Cu) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Dysprosium (Dy) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	Erbium (Er) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Europium (Eu) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Gadolinium (Gd) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Gallium (Ga) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Germanium (Ge) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Gold (Au) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Hafnium (Hf) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.02 µg/L – 750,000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	Holmium (Ho) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Iodide (I ⁻) 1000µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-29 WI-QC-48	ICP-OES ICP-MS Volhard titrimetric Fajans titration
	Indium (In) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Iridium (Ir) 1000 and 10000 µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Iron (Fe) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	⁵⁴ Iron(⁵⁴ Fe) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	⁵⁷ Iron(⁵⁷ Fe) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	Lanthanum (La) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Lead (Pb) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.025 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	²⁰⁴ Pb 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.025 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	²⁰⁶ Pb 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.025 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	²⁰⁷ Pb 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.025 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Lithium (Li) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-22	ICP-OES ICP-MS Gravimetric Sulfate
	⁶ Li 10, 100 and 1000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-22	ICP-OES ICP-MS Gravimetric Sulfate



Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Lutetium (Lu) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.02 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Magnesium (Mg) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	²⁵ Magnesium(²⁵ Mg) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Manganese (Mn) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Mercury (Hg) 1, 5, 10, 100, 1000, and 10000 µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Molybdenum (Mo) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Neodymium (Nd) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Nickel (Ni) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	⁶¹ Nickel(⁶¹ Ni) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Niobium (Nb) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Palladium (Pd) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Phosphorus (P) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-28	ICP-OES ICP-MS Acid/Base titrimetric
	Platinum (Pt) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Potassium (K) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-22	ICP-OES ICP-MS Gravimetric Sulfate

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Praseodymium (Pr) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Rhenium (Re) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Rhodium (Rh) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Rubidium (Rb) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-22	IC ICP-MS Gravimetric Sulfate
	Ruthenium (Ru) 1000 and 10000 µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Samarium (Sm) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Scandium (Sc) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Selenium ⁺⁴ (Se ⁺⁴) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Selenium ⁺⁶ (Se ⁺⁶) 1000µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	⁷⁸ Selenium(⁷⁸ Se) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	⁸² Selenium(⁸² Se) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Silicon (Si) 10, 100, 1000, and 10000 µg /mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Silver (Ag) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.025 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-29	ICP-OES ICP-MS Volhard titrimetric
	¹⁰⁹ Silver(¹⁰⁹ Ag) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.025 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (cont)	Sodium (Na) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-22	ICP-OES ICP-MS Gravimetric Sulfate
	Strontium (Sr) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	⁸⁶ Strontium(⁸⁶ Sr) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.05 µg/L – 100 µg/mL Relative uncertainty 0.004 to 0.01	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Sulfur (S) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-28 WI- QC-46	ICP-OES ICP-MS Acid/Base titrimetric
	Tantalum (Ta) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.025 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Tellurium (Te) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Terbium (Tb) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Thallium (Tl) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	²⁰³ Thallium(²⁰³ Tl) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.05 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	²⁰⁵ Thallium(²⁰⁵ Tl) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.05 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Thorium (Th) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 1 µg/L – 20000 µg/mL Relative uncertainty 0.004 to 0.01	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Thulium (Tm) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Tin (Sn) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	¹²² Tin(¹²² Sn) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Titanium (Ti) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Tungsten (W) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.05 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Uranium(U) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.02 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Vanadium (V) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Ytterbium (Yb) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	Yttrium (Y) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A2.6 Trace Metals Standard (<i>cont</i>)	Zinc (Zn) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified WI-QC-21	ICP-OES ICP-MS EDTA titrimetric
	⁶⁷ Zinc(⁶⁷ Zn) 10µg /mL stock CRM Customs and Stock Blends Containing this element – Range 0.1 µg/L – 10000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
	Zirconium (Zr) 10, 100, 1000, and 10000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 200.7 – Modified; EPA Method 200.8 – Modified	ICP-OES ICP-MS
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants	3-methoxypropylamine 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Acetate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Adipate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Ammonium 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified WI-QC-29 WI-QC-48	IC Volhard titrimetric Fajans titration

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants (<i>cont</i>)	Ammonium as Nitrogen 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified WI-QC-29 WI-QC-48	IC Volhard titrimetric Fajans titration
	Benzoate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Bromate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified WI-QC-29	IC Volhard titrimetric
	Bromide 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified WI-QC-29 WI-QC-48	IC Volhard titrimetric Fajans titration
	Butyrate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Carbonate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	WI-QC-33	Acidimetric titration / potentiometric detection
	Chlorate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified EPA Method 200.7	IC ICP-OES
	Chloride 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified WI-QC-29 WI-QC-48	IC Volhard titrimetric Fajans titration

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants (<i>cont</i>)	Chlorite 1000 and 10000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified WI-QC-32	IC Iodometric titrimetric
	Chromate 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 330.4 – Modified EPA Method 200.7	Redox titrimetric ICP-OES
	Citrate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Dichloroacetate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	DiEthanolamine 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	DiMethylamine 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Fluoride 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants (<i>cont</i>)	Formate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Glutarate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Glycolate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Lactate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Malate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Maleate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Malonate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Methanesulfonate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	MonoEthanolamine 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants (<i>cont</i>)	MonoMethylamine 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Nitrate 1000 and 10000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Nitrate as Nitrogen 1000 and 10000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Nitrilotriacetate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Nitrite 100, 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Nitrite as Nitrogen 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Oxalate 1000 and 10000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants (<i>cont</i>)	Perchlorate 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified EPA Method 200.7	IC ICP-OES
	Phosphate 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Phosphate as Phosphorous 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 750000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Phthalate 1000 µg /mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Propionate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Succinate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Sulfate 1000 and 10000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 950000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	Tartrate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.2 Ion Chromatography & Ion Selective Electrode Calibrants (<i>cont</i>)	Thiocyanate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	WI-QC-29 WI-QC-48	Volhard titrimetric Fajans titration
	Thiosulfate 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	Standard Methods 4500-Cl B – Modified	Iodometric titrimetric
	TriEthanolamine 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	TriEthylamine 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	TriMethylamine 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
	TetraMethylammonium 1000 µg/mL stock CRM and Customs and Stock Blends Containing this chemical – Range 0.1 µg/L – 100000 µg/mL Relative uncertainty ± 1 %	EPA Method 300.0 – Modified	IC
Category A5.3 Waters	Filterable, Non-Filterable, and Total Solids Total Solids Range (140 – 800) mg/L Non-filterable Solids (20 – 100) mg/L Dissolved Solids (140 – 800) mg/L Best Relative uncertainty ± 1%	Standard Methods 2540C, 2540D, 2540B respectively	Gravimetric
	Oil & Grease, Total Recoverable Range (20 – 200) mg/L Relative uncertainty ± 1%	Standard Methods 5520B	Gravimetric
	Custom Oil & Grease, Total Recoverable (solvent matrices only) Range (8 – 200) mg/L Relative uncertainty ± 1%	Standard Method 5520B	Gravimetric

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A5.3 Waters (<i>cont</i>)	Cation Standard Ca ⁺² Range (3.5 – 110) mg/L K ⁺¹ Range (4 – 40) mg/L Mg ⁺² Range (2 – 40) mg/L Na ⁺¹ Range (6 – 100) mg/L Relative uncertainty ± 1 %	EPA Method 200.7 – Modified	ICP-OES
	Cation Standard Ca ⁺² Range (3.5 – 200) mg/L K ⁺¹ Range (1 – 100) mg/L Mg ⁺² Range (1 – 200) mg/L Na ⁺¹ Range (6 – 250) mg/L Relative uncertainty ± 1 %	EPA Method 200.7 – Modified	ICP-OES
	Chromium ⁺⁶ Standard Cr ⁺⁶ Range (45 – 900) µg/L Relative uncertainty ± 1%	Standard Methods 3500-Cr B – Modified	Spectrophotometer
	Custom Chromium ⁺⁶ Standard Cr ⁺⁶ Range (10 – 1000) µg/L Relative uncertainty ± 1%	EPA Method 200.7 – Modified; EPA Method 300.0 – Modified; Standard Methods 3500 – Cr B – Modified	ICP-OES IC Spectrophotometer
	Cyanide 1000 µg/mL stock CRM Containing this chemical – Range (0.1 – 1000) µg/mL Relative uncertainty ± 2 %	Standard Methods 4500-CN ⁻ D – Modified; WI-QC Appendix A CN	Argentometric titration
	Custom Cyanide Standard Containing this chemical – Range (0.1 – 1000) µg/mL Relative uncertainty ± 2 %	Standard Methods 4500-CN- D – Modified; WI-QC Appendix A CN	Argentometric titration
	Hg Standard Hg Range (2 – 30) µg /L Relative uncertainty ± 1%	EPA Method 200.7 – Modified	ICP-OES
	Custom Hg Standard Hg Range (0.5 – 30) µg /L Relative uncertainty ± 1%	EPA Method 200.7 – Modified	ICP-OES

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A5.3 Waters (cont)	Metals Standard Ag Range (26 – 1000) µg/L Al Range (200 – 4000) µg/L As Range (70 – 900) µg/L Ba Range (100 – 2500) µg/L Be Range (8 – 900) µg/L Ca Range (3.5 – 100) mg/L Cd Range (8 – 1000) µg/L Cr Range (17 – 1000) µg/L Cu Range (40 – 1000) µg/L Fe Range (200 – 4000) µg/L Mn Range (70 – 4000) µg/L Ni Range (80 – 3000) µg/L Pb Range (70 – 3000) µg/L Sb Range (90 – 900) µg/L Se Range (90 – 2000) µg/L Tl Range (60 – 900) µg/L Zn Range (100 – 2000) µg/L Relative uncertainty ± 1 %	EPA Method 200.7 – Modified	ICP-OES
	Custom Metals Standard Ag Range (4 – 1000) µg/L Al Range (40 – 4000) µg/L As Range (4 – 900) µg/L Ba Range (40 – 2500) µg/L Be Range (4 – 900) µg/L Ca Range (3.5 – 100) mg/L Cd Range (4 – 1000) µg/L Cr Range (17 – 2000) µg/L Cu Range (40 – 1000) µg/L Fe Range (40 – 4000) µg/L Mn Range (40 – 3000) µg/L Ni Range (2 – 3000) µg/L Pb Range (4 – 900) µg/L Sb Range (4 – 2000) µg/L Se Range (4 – 2000) µg/L Tl Range (4 – 900) µg/L Zn Range (100 – 2000) µg/L Relative uncertainty ± 1 %	EPA Method 200.7 – Modified	ICP-OES
	Nitrite Standard Nitrite as Nitrogen Range (0.4 – 4) mg/L Relative uncertainty ± 1%	EPA Method 300.0 – Modified	IC
	Custom Nitrite Standard Nitrite as Nitrogen Range (0.1 – 4) mg/L Relative uncertainty ± 1%	EPA Method 300.0 – Modified	IC

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A5.3 Waters (cont)	Simple Nutrients Standard Phosphate as Phosphorous Range (0.5 – 5.5) mg/L Nitrate as Nitrogen Range (0.25 – 40) mg/L Ammonium as Nitrogen Range (0.65 – 20) mg/L Relative uncertainty $\pm 1\%$	EPA Method 300.0 – Modified	IC
	Custom Simple Nutrients Standard Phosphate as Phosphorous Range (0.05 – 10) mg/L Nitrate as Nitrogen Range (0.25 – 40) mg/L Ammonium as Nitrogen (0.25 – 20) mg/L Relative uncertainty $\pm 1\%$	EPA Method 300.0 – Modified	IC
	pH Standard pH Range (5 – 10) units Relative uncertainty $\pm 1\%$	Standard Methods 4500H ⁺	Potentiometry
	Simulated Rainwater Standard Ca ⁺² Range (3.5 – 110) mg/L Cl ⁻ Range (35 – 275) mg/L F ⁻ Range (0.3 – 4) mg/L K ⁺ Range (4 – 40) mg/L Mg ⁺² Range (2 – 40) mg/L pH Range (5 – 10) units Conductivity Range (200 – 1200) μ mhos Na ⁺ Range (6 – 100) mg/L NH ₄ ⁺ Range (0.79 – 24) mg/L NO ₃ ⁻ Range (1.1 – 177) mg/L SO ₄ ⁻² Range (5 – 125) mg/L Relative uncertainty $\pm 1\%$	EPA Method 200.7- Modified EPA Method 300.0 – Modified Standard Methods 4500H ⁺ Standard Methods 2510B	ICP-OES IC Potentiometry Electrochemical

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A5.3 Waters (cont)	Trace Metals Standard Ag Range (26 – 1000) µg/L Al Range (200 – 4000) µg/L As Range (70 – 900) µg/L B Range (800 – 2000) µg/L Ba Range (100 – 2500) µg/L Be Range (8 – 900) µg/L Cd Range (8 – 1000) µg/L Co Range (28 – 1000) µg/L Cr Range (17 – 1000) µg/L Cu Range (140 – 1000) µg/L Fe Range (200 – 4000) µg/L Mn Range (70 – 4000) µg/L Mo Range (60 – 600) µg/L Ni Range (80 – 3000) µg/L Pb Range (70 – 3000) µg/L Sb Range (90 – 900) µg/L Se Range (90 – 2000) µg/L Sr Range (30 – 500) µg/L Tl Range (60 – 900) µg/L V Range (50 – 2000) µg/L Zn Range (100 – 2000) µg/L Relative uncertainty ± 1%	EPA Method 200.7 – Modified	ICP-OES
	Custom Trace Metals Standard Ag Range (4 – 1000) µg/L Al Range (40 – 4000) µg/L As Range (4 – 900) µg/L B Range (40 – 2500) µg/L Ba Range (4 – 1000) µg/L Be Range (4 – 900) µg/L Cd Range (4 – 1000) µg/L Co Range (17 – 2000) µg/L Cr Range (40 – 1000) µg/L Cu Range (40 – 1000) µg/L Fe Range (40 – 4000) µg/L Mn Range (40 – 4000) µg/L Ni Range (40 – 3000) µg/L Pb Range (2 – 3000) µg/L Sb Range (4 – 900) µg/L Se Range (4 – 2000) µg/L Tl Range (4 – 900) µg/L Zn Range (100 – 2000) µg/L Relative uncertainty ± 1%	EPA Method 200.7 – Modified	ICP-OES

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A5.3 Waters (<i>cont</i>)	Water Hardness Standard Ca Range (8.7 – 275) mg/L Mg Range (2.9 – 92) mg/L Hardness as CaCO ₃ Range (17 – 440) mg/L Relative uncertainty 1 %	EPA Method 200.7 – Modified	ICP-OES
	Minerals Standard Cl ⁻ Range (35 – 275) mg/L F ⁻ Range (0.3 – 4) mg/L K ⁺ Range (4 – 40) mg/L Nitrate as Nitrogen Range (0.25 – 40) mg/L Conductivity Range (200 – 1200) µmhos Alkalinity Range (10 – 400) mg/L Na ⁺ Range (6 – 100) mg/L SO ₄ ⁻² Range (5 – 125) mg/L Relative uncertainty ± 1%	EPA Method 200.7 – Modified EPA Method 300.0 – Modified Standard Methods 2510B Standard Methods 2320B	ICP-OES IC Electrochemical
	Carbon Total Organic Carbon from KHP 1000 µg/mL stock CRMs Customs and Stock Blends Containing this element – Range (0.1 – 100000) µg/mL Relative uncertainty ± 1 %	WI-QC-45	Acid/Base titrimetric
Category A9.1 pH Standards	pH 0.5 Standard Range (0.48 – 0.52) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 1.68 Standard Range (1.66 – 1.70) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 2 Standard Range (1.95 – 2.05) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 3 Standard Range (2.97 – 3.03) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 4 Standard Range (3.97 – 4.03) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 5 Standard Range (4.95 – 5.05) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 6 Standard Range (5.94 – 6.06) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 6.86 Standard Range (6.79 – 6.93) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.1 pH Standards (<i>cont</i>)	pH 7 Standard Range (6.97 – 7.03) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 8 Standard Range (7.92 – 8.08) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 9 Standard Range (8.91 – 9.09) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 9.18 Standard Range (9.09 – 9.27) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 10 Standard Range (9.97 – 10.03) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 11 Standard Range (10.89 – 11.11) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 12 Standard Range (11.75 – 12.25) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	pH 12.47 Standard Range (12.35 – 12.59) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
	Custom pH Standards Range (0.2 – 14) Relative uncertainty ± 0.05 pH units	Standard Methods 4500H ⁺	Potentiometry
Category A9.3 Conductivity Standards	2 $\mu\text{mhos/cm}$ Conductivity Standard Range (1.5 – 2.5) $\mu\text{mhos/cm}$ Relative uncertainty $\pm 10\%$	Standard Methods 2510B	Electrochemical
	5 $\mu\text{mhos/cm}$ Conductivity Standard Range (4.5 – 5.5) $\mu\text{mhos/cm}$ Relative uncertainty $\pm 10\%$	Standard Methods 2510B	Electrochemical
	10 $\mu\text{mhos/cm}$ Conductivity Standard Range (9 – 11) $\mu\text{mhos/cm}$ Relative uncertainty $\pm 2\%$	Standard Methods 2510B	Electrochemical
	20 $\mu\text{mhos/cm}$ Conductivity Standard Range (18 – 22) $\mu\text{mhos/cm}$ Relative uncertainty $\pm 2\%$	Standard Methods 2510B	Electrochemical
	75 $\mu\text{mhos/cm}$ Conductivity Standard Range (73.5 – 76.5) $\mu\text{mhos/cm}$ Relative uncertainty $\pm 1\%$	Standard Methods 2510B	Electrochemical
	84 $\mu\text{mhos/cm}$ Conductivity Standard Range (82.3 – 85.7) $\mu\text{mhos/cm}$ Relative uncertainty $\pm 1\%$	Standard Methods 2510B	Electrochemical

Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.3 Conductivity Standards <i>(cont)</i>	100 µmhos/cm Conductivity Standard Range (98.0 – 102.2) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	147 µmhos/cm Conductivity Standard Range (144 – 150) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	250 µmhos/cm Conductivity Standard Range (247.5 – 252.5) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	500 µmhos/cm Conductivity Standard Range (495 – 505) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	1000 µmhos/cm Conductivity Standard Range (990.0 – 1010.0) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	1200 µmhos/cm Conductivity Standard Range (1188.0 – 1212.0) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	1413 µmhos/cm Conductivity Standard Range (1399 – 1427) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	1430 µmhos/cm Conductivity Standard Range (1416.0 – 1444.0) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	10,000 µmhos/cm Conductivity Standard Range (9900 – 10,100) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	12856 µmhos/cm Conductivity Standard Range (12727.4 – 12984.6) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	20000 µmhos/cm Conductivity Standard Range (19800 – 20200) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	30000 µmhos/cm Conductivity Standard Range (29700 – 30300) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	40000 µmhos/cm Conductivity Standard Range (39600 – 40400) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	50000 µmhos/cm Conductivity Standard Range (49500 – 50500) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	58650 µmhos/cm Conductivity Standard Range (58063 – 59236) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	70000 µmhos/cm Conductivity Standard Range (69300 – 70700) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical



Category and sub-category of Certified Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category A9.3 Conductivity Standards (<i>cont</i>)	100000 µmhos/cm Conductivity Standard Range (99000 – 101000) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	175000 µmhos/cm Conductivity Standard Range (173250 – 176750) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
	Custom Conductivity Standard Range (1.0 – 250,000) µmhos/cm Relative uncertainty ± 1%	Standard Methods 2510B	Electrochemical
Category Eluent	Carbonate Eluent Stock and Custom Eluents Range (0.0005 – 3) M Relative Uncertainty ± 0.5%	WI-QC-33 WI-QC-28	Potentiometric titration Acidimetric titration
	Bicarbonate Eluent Stock and Custom Eluents Range (0.0005 – 3) M Relative Uncertainty ± 0.5%	WI-QC-33 WI-QC-28	Potentiometric titration Acidimetric titration
	Methanesulfonate Eluent Stock and Custom Eluents Range (0.1 – 5) M Relative Uncertainty ± 0.5%	WI-QC-46	Potentiometric titration
Category Ionization Buffer	Cesium Ionization Buffer Stock and Custom Ionization Buffers Range (100 – 100000) µg/mL Relative Uncertainty ± 1%	WI-QC-19 WI-QC-22	ICP-OES ICP-MS Gravimetric sulfate
	Lithium Ionization Buffer Stock and Custom Ionization Buffers Range (100 – 100000) µg/mL Relative Uncertainty ± 1%	WI-QC-19	ICP-OES
Category Matrix Modifier	Magnesium Matrix Modifier Stock and Custom Matrix Modifiers Range (100 – 100,000) µg/mL Relative Uncertainty ± 1%	WI-QC-19	ICP-OES
	Phosphate Matrix Modifier Stock and Custom Matrix Modifiers Range (100 – 100000) µg/mL Relative Uncertainty ± 1%	WI-QC-19	ICP-OES
	Palladium Matrix Modifier Stock and Custom Matrix Modifiers Range (100 – 100000) µg/mL Relative Uncertainty ± 1%	WI-QC-19	ICP-OES
	Palladium and Magnesium Matrix Modifier Stock and Custom Matrix Modifiers Range (100 – 10000) µg/mL Relative Uncertainty ± 1%	WI-QC-18.1	ICP-OES
Category Releasing Agent	Lanthanum Releasing Agent Stock and Custom Releasing Agents Range (100 – 100000) µg/mL Relative Uncertainty ± 1%	WI-QC-19	ICP-OES

Category and sub-category of Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category Titrants	Titrant 0.1M Hydrochloric Acid Standard Range (0.098 – 0.102) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 1.0M Hydrochloric Acid Standard Range (0.980 – 1.020) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 0.1M Nitric Acid Standard Range (0.098 – 0.102) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 1.0M Nitric Acid Standard Range (0.980 – 1.020) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 0.1M Perchloric Acid Standard Range (0.098 – 0.102) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 0.1M Sodium Hydroxide Standard Range (0.098 – 0.102) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 1.0M Sodium Hydroxide Standard Range (0.980 – 1.020) M Relative Uncertainty $\pm 1\%$	WI-QC-47	Acid/Base
	Titrant 0.05M EDTA Standard Range (0.049 – 0.051) M Relative Uncertainty $\pm 1\%$	WI-QC-47	EDTA Titration
	Titrant 0.5M EDTA Standard Range (0.490 – 0.510) M Relative Uncertainty $\pm 1\%$	WI-QC-47	EDTA Titration

Category and sub-category of Reference Material	Concentration Ranges and Best Relative uncertainty ¹	Test, Analysis, Measurement, Methods	Measurement Technique(s)
Category Titrants (cont)	Titrant 0.1N AGNO ₃ Standard Range (0.098 – 0.102) N Relative Uncertainty $\pm 1\%$	WI-QC-47	Fajans Titration
	Titrant 0.1N NA ₂ S ₂ O ₃ Standard Range (0.098 – 0.102) N Relative Uncertainty $\pm 1\%$	WI-QC-47	Iodometric Titration
	Custom Titrants Range (0.0001 – 50) N Relative Uncertainty $\pm 1\%$	WI-QC-47; WI-QC-21; Standard Methods 4500H+	Acid/Base EDTA titrimetric Potentiometry

¹ An absolute uncertainty estimate may be determined by multiplying the stated Relative uncertainty by the reported certified reference material value on the certificate. The absolute uncertainty estimate will thus be represented in the units of the value provided on the certified reference material certificate.

² This reference material producer is approved to produce Certified Reference Materials (CRM) for all items listed on the scope of accreditation.



Accredited Reference Material Producer

A2LA has accredited

INORGANIC VENTURES, INC.

Christiansburg, VA

This accreditation covers the specific materials listed on the agreed upon Scope of Accreditation.

This producer meets the requirements of ISO 17034:2016 *General Requirements for the Competence of Reference Material Producers*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 17th day of September 2018.

President & CEO
For the Accreditation Council
Certificate Number 883.02
Valid to July 31, 2020



For reference materials to which this accreditation applies, please refer to the reference material producer's Scope of Accreditation.