



SCOPE OF ACCREDITATION TO ISO/IEC 17043:2010

INFORMATION AND QUALITY MANAGEMENT
 EMERGENCIES, OPERATIONAL ANALYTICAL LABORATORIES & RESEARCH SUPPORT
 ENVIRONMENT CANADA
 867 Lakeshore Rd.
 Burlington, ON L7S 1A1
 Jayne Simser (905) 336-6299
 Jayne.Simsers@ec.gc.ca

PROFICIENCY TESTING PROVIDER

Valid To: July 31, 2013

Certificate Number: 2867.01

In recognition of the successful completion of the A2LA evaluation process, this Proficiency Testing Provider has been found to meet the ISO/IEC 17043:2010, "Conformity assessment - General Requirements for Proficiency Testing". Accreditation is granted to this organization to provide proficiency testing samples in the following analyte/matrix combinations:

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
Rain and Soft Waters Acidity to pH 8.3 (mg/L CaCO ₃) Alkalinity, Gran Titn (mg/L CaCO ₃) Aluminum (mg/L Al) Ammonia (mg/L N) Calcium (mg/L Ca) Chloride (mg/L Cl) Colour (Units) Conductivity @ 25°C (µS/cm) Diss Inorganic Carbon (mg/L C) Diss Organic Carbon (mg/L C) Fluoride (mg/L F) Magnesium (mg/L Mg) Nitrate + Nitrite (mg/L N) pH (pH units) Potassium (mg/L K) Silica (mg/L Si) Sodium (mg/L Na) Sulfate (mg/L SO ₄) Total Hardness (mg/L CaCO ₃) Total Kjeldahl N (mg/L N) Total Nitrogen (mg/L N)	6 months	Natural waters

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
Major Ions and Nutrients Ammonia (mg/L N) Boron (mg/L B) Calcium (mg/L Ca) Chloride (mg/L Cl) Colour (Units) Conductivity @ 25°C (µS/cm) Diss Inorganic Carbon (mg/L C) Diss Organic Carbon (mg/L C) Fluoride (mg/L F) Magnesium (mg/L Mg) Nitrate + Nitrite (mg/L N) pH (pH units) Potassium (mg/L K) Silicates (mg/L SiO ₂) Sodium (mg/L Na) Sulfate (mg/L SO ₄) Total Alkalinity (mg/L CaCO ₃) Total Hardness (mg/L CaCO ₃) Total Kjeldahl N (mg/L N) Total Nitrogen (mg/L N)	6 months	Natural waters
Trace Elements in Water Aluminum (µg/L Al) Antimony (µg/L Sb) Arsenic (µg/L As) Barium (µg/L Ba) Beryllium (µg/L Be) Bismuth (µg/L Bi) Boron (µg/L B) Cadmium (µg/L Cd) Chromium (µg/L Cr) Cobalt (µg/L Co) Copper (µg/L Cu) Gallium (µg/L Ga) Iron (µg/L Fe) Lead (µg/L Pb) Lithium (µg/L Li) Manganese (µg/L Mn) Molybdenum (µg/L Mo) Nickel (µg/L Ni) Rubidium (µg/L Rb) Selenium (µg/L Se) Silver (µg/L Ag) Strontium (µg/L Sr) Thallium (µg/L Tl) Tin (µg/L) Titanium (µg/L) Tungsten (µg/L) Uranium (µg/L) Vanadium (µg/L) Zinc (µg/L)	6 months	Natural and fortified waters

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
Total Phosphorus in Water Phosphorus (mg/L)	6 months	Natural and fortified waters
Turbidity in Water Turbidity (NTU/JTU)	6 months	Natural and fortified waters
Mercury in Water Mercury (µg/L Hg)	6 months	Natural and fortified waters
Trace Elements in Sediment Aluminum (% Al) Antimony (µg/g Sb) Arsenic (µg/g As) Barium (µg/g Ba) Beryllium (µg/g Be) Bismuth (µg/g Bi) Boron (µg/g B) Cadmium (µg/g Cd) Calcium (%Ca) Chromium (µg/g Cr) Cobalt (µg/g Co) Copper (µg/g Cu) Gallium (µg/g Ga) Iron (%Fe) Lead (µg/g Pb) Lithium (µg/g Li) Magnesium (%Mg) Manganese (µg/g Mn) Mercury (µg/g Hg) Molybdenum (µg/g Mo) Nickel (µg/g Ni) Potassium (%K) Selenium (µg/g Se) Silica (%Si) Silver (µg/g Ag) Sodium (µg/g Na) Strontium (µg/L Sr) Thallium (µg/L Tl) Tin (µg/g Sn) Titanium (µg/g Ti) Tungsten (µg/g W) Uranium (µg/g U) Vanadium (µg/g V) Zinc (µg/g Zn)	12 months	Natural sediments and soils

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
CUSTOM-1A (Major Ions) Alkalinity (pH 4.5) (mg/L) Chloride (mg/L) Conductivity (25oC) (µs/cm) Calcium (mg/L) Magnesium (mg/L) Fluoride (mg/L) Hardness (as CaCO3) (mg/L) Nitrate (mg/L) Nitrate plus Nitrite (mg/L) Potassium (mg/L) Reactive Silica (mg/L) Sodium (mg/L) Sulfate (mg/L)	Negotiated	Water
CUSTOM-1B (NH3/DOC/PO4/Br/NO2) Ammonia (mg/L) DOC (mg/L) Phosphate (mg/L) Bromide (mg/L) Nitrite (mg/L)	Negotiated	Water
CUSTOM-2A (Full Range Metals) Aluminum (mg/L) Antimony (µg/L) Arsenic (µg/L) Barium (mg/L) Beryllium (mg/L) Boron (mg/L) Cadmium (mg/L) Chromium (mg/L) Cobalt (mg/L) Copper (mg/L) Iron (mg/L) Lead (mg/L) Manganese (mg/L) Molybdenum (mg/L) Nickel (mg/L) Selenium (µg/L) Silver (mg/L) Strontium (mg/L) Thallium (mg/L) Tin (mg/L) Titanium (mg/L) Uranium (mg/L) Vanadium (mg/L) Zinc (mg/L)	Negotiated	Water

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
CUSTOM-2B (High range metals) CUSTOM-2C (Total metals) Aluminum (mg/L) Barium (mg/L) Boron (mg/L) Chromium (mg/L) Cobalt (mg/L) Copper (mg/L) Iron (mg/L) Lead (mg/L) Manganese (mg/L) Molybdenum (mg/L) Nickel (mg/L) Strontium (mg/L) Thallium (mg/L) Titanium (mg/L) Vanadium (mg/L) Zinc (mg/L)	Negotiated	Water
CUSTOM-3 (TKN/TP) Total Kjeldahl Nitrogen (mg/L) Total Phosphorus (mg/L)	Negotiated	Water
CUSTOM-4A (TSS/TDS/VSS) Total Suspended Solids (mg/L) Volatile Suspended Solids (mg/L) Total Dissolved Solids (mg/L)	Negotiated	Water
CUSTOM-4B (BOD) BOD (5 day) (mg/L) CBOD (5 day) (mg/L) CUSTOM-4C (Turbidity) Turbidity NTU	Negotiated Negotiated	Water Water
CUSTOM-4D (COD) COD (mg/L)	Negotiated	Water

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
CUSTOM-6A (OC Pesticides) Alpha-BHC (µg/L) Endosulfan I (µg/L) Endosulfan II (µg/L) Endrin (µg/L) Heptachlor Epoxide (µg/L) Lindane (gamma-BHC) (µg/L) Mirex (µg/L) o,p'-DDT (µg/L) p,p'-DDT (µg/L) p,p'-Methoxychlor (µg/L) Aldrin (µg/L) Dieldrin (µg/L) Heptachlor (µg/L) a-Chlordane (µg/L) g-Chlordane (µg/L)	Negotiated	Water
CUSTOM-6B Total PCB Total PCB (µg/L)	Negotiated	Water
CUSTOM-7 PAH Naphthalene (µg/L) Acenaphthylene (µg/L) Acenaphthene (µg/L) Fluorene (µg/L) Phenanthrene (µg/L) Anthracene (µg/L) Fluoranthene (µg/L) Pyrene (µg/L) Benzo(a)anthracene (µg/L) Chrysene (µg/L) Benzo(b)fluoranthene (µg/L) Benzo(k)fluoranthene (µg/L) Benzo(a)pyrene (µg/L) Perylene (µg/L) Indeno(1,2,3-cd) pyrene (µg/L) Dibenzo(a,h) anthracene (µg/L) Benzo(g,h,i) perylene (µg/L)	Negotiated	Water
CUSTOM-8 Total PCB Total PCB (µg/g)	Negotiated	Oil
CUSTOM-11 (Trout)-Toxicity Trout LC50 (96 h) (ml/L)	Negotiated	Water
CUSTOM-12 (Daphnia)-Toxicity Daphnia LC50 (48 h) (ml/L)	Negotiated	Water
CUSTOM-13 (Microtox)-Toxicity Microtox IC50 (15 min) (ml/L)	Negotiated	Water

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
CUSTOM-14 (Cyanide) (Strong Acid Dissociable) Cyanide (mg/L)	Negotiated	Water
CUSTOM-15 (pH) pH (pH units)	Negotiated	Water
CUSTOM-16 (BTEX/THM/VOC) 1,1,1-Trichloroethane (µg/L) 1,1,2,2-Tetrachloroethane (µg/L) 1,1,2-Trichloroethane (µg/L) 1,1-Dichloroethane (µg/L) 1,1-dichloroethylene (µg/L) 1,2-dichlorobenzene (µg/L) 1,2-dichloroethane (µg/L) 1,2-Dichloropropane (µg/L) 1,3-Dichlorobenzene (µg/L) 1,4-dichlorobenzene (µg/L) Acetone (2-Propanone) (µg/L) Benzene (µg/L) Bromodichloromethane (µg/L) Bromoform (µg/L) Carbon Tetrachloride (µg/L) Chlorobenzene (µg/L) Chlorodibromomethane (µg/L) Chloroform (µg/L) cis-1,2-Dichloroethylene (µg/L) cis-1,3-Dichloropropene (µg/L) Dichloromethane (µg/L) Ethylbenzene (µg/L) Ethylene Dibromide (µg/L) m/p-xylene (µg/L) Methyl Ethyl Ketone (µg/L) Methyl t-butyl ether (MTBE) (µg/L) Methyl isobutyl Ketone (MIBK) (µg/L) o-xylene (µg/L) Styrene (µg/L) Tetrachloroethylene (µg/L) Toluene (µg/L) trans-1,2-Dichloroethylene (µg/L) trans-1,3-Dichloropropene (µg/L) Trichloroethylene (µg/L) Trichlorofluoromethane (µg/L) Vinyl Chloride (µg/L)	Negotiated	Water

Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
CUSTOM-17 (Metals in Soil) (all µg/g) Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Copper Iron Manganese Mercury Nickel Lead Strontium Tin Titanium Uranium Vanadium Zinc	Negotiated	Soil/Sediment
CUSTOM-18 (PAH in Soil) (all µg/g) Acenaphthene Acenaphthylene Anthracene Benzo (a) anthracene Benzo (A) pyrene Benzo (a) fluoranthene Benzo (g,h,i) perylene Benzo (k) fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Fluorene Indeno (1,2,3-cd) pyrene Naphthalene Phenanthrene Pyrene	Negotiated	Soil/Sediment
CUSTOM-19 (Mercury) Mercury (µg/L)	Negotiated	Water
CUSTOM-31A (PHC-BTEX/F1) (all mg/kg) F1: C6-C10 Benzene Ethylbenzene m/p-xylene o-xylene Toluene	Negotiated	Soil



Program Name	Frequency of Program	Detailed Description of Sample/Artifact Types
CUSTOM-31B (PHC-F2,F3,F4) (all mg/kg) F2: C10-C16 F3: C16-C34 F4: C34-C50 F4 Gravimetric	Negotiated	Soil
CUSTOM-32 (Residual Chlorine) Residual Chlorine (mg/L)	Negotiated	Water
CUSTOM-33 (Low Level Phenol) Total Phenolics (mg/L)	Negotiated	Water
CUSTOM-35(PCB's in soil) Total PCBs (µg/g)	Negotiated	Soil/ Sediment
CUSTOM-36 (VOCs in Soil) 1,1,1-Trichloroethane (µg/g) 1,1,2,2-Tetrachloroethane (µg/g) 1,1,2-Trichloroethane (µg/g) 1,1-Dichloroethane (µg/g) 1,1-dichloroethylene (µg/g) 1,2-dichlorobenzene (µg/g) 1,2-dichloroethane (µg/g) 1,2-Dichloropropane (µg/g) 1,3-Dichlorobenzene (µg/g) 1,4-dichlorobenzene (µg/g) Acetone (2-Propanone) (µg/g) Benzene (µg/g) Bromodichloromethane (µg/g) Bromoform (µg/g) Carbon Tetrachloride (µg/g) Chlorobenzene (µg/g) Chlorodibromomethane (µg/g) Chloroform (µg/g) cis-1,2-Dichloroethylene (µg/g) cis-1,3-Dichloropropene (µg/g) Dichloromethane (µg/g) Ethylbenzene (µg/g) Ethylene Dibromide (µg/g) m/p-xylene (µg/g) Methyl Ethyl Ketone (µg/g) Methyl t-butyl ether (MTBE) (µg/g) Methyl isobutyl Ketone (MIBK) (µg/g) o-xylene (µg/g) Styrene (µg/g) Tetrachloroethylene (µg/g) Toluene (µg/g) trans-1,2-Dichloroethylene (µg/g) trans-1,3-Dichloropropene (µg/g) Trichloroethylene (µg/g) Trichlorofluoromethane (µg/g)	Negotiated	Soil/Sediment



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Proficiency Testing Provider

A2LA has accredited

**INFORMATION AND QUALITY MANAGEMENT, EMERGENCIES,
OPERATIONAL ANALYTICAL LABORATORIES
& RESEARCH SUPPORT ENVIRONMENT CANADA**

Burlington, Ontario, CANADA

for technical competence as a

Proficiency Testing Provider

This accreditation covers the specific proficiency testing samples listed on the agreed upon Scope of Accreditation. This provider is accredited in accordance with the recognized International Standard ISO/IEC 17043: 2010 *Conformity assessment-General requirements for proficiency testing*. This provider meets the management system requirements of ISO/IEC 17043:2010, which includes the principles of ISO 9001:2008.



Presented this 4th day of August 4, 2011.



President & CEO
For the Accreditation Council
Certificate Number 2867.01
Valid to July 31, 2013

For the proficiency testing schemes to which this accreditation applies, please refer to the provider's Scope of Accreditation.