

TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP)

Scope of Accreditation

Legal Name of Accredited Laboratory: Bureau Veritas Canada (2019) Inc.

Location Name or Operating as (if applicable): Bureau Veritas (Calgary)

Contact Name: Rhonda Reid

Address: 2021-41st Avenue, N.E.
Calgary, Alberta
T2E 6P2

Telephone: 403 735-2271

Fax: 403 291-9468

Website: www.bvna.com

Email: Calgary-QA-Staff-AB@bureauveritas.com

SCC File Number:	151043
Accreditation Standard(s):	ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
Fields of Testing:	Biological Chemical/Physical
Program Specialty Area:	Agriculture Inputs, Food, Animal Health and Plant Protection (AFAP) Environmental Testing (ET)
Initial Accreditation:	2016-08-30
Most Recent Accreditation:	2024-07-04
Accreditation Valid to:	2028-08-30

SCC Group Accreditation:

This laboratory is a part of a Group Accreditation with the following facilities in accordance with SCC’s policy on Group Accreditation documented in the Accreditation Services Accreditation Program Overview.

15229 - Bureau Veritas - 6744 - 50 Street NW, Edmonton, AB, T6B 3M9

151039 - Bureau Veritas - Unit D, 675 Berry St., Winnipeg, MB, R3H 1A7

Testing is performed at the following locations:

Air testing: #1 2080-39th Avenue N.E. Calgary, AB. T2E 6P7

Inorganic, organic chemistry and water microbiology: 4000-19 Street N.E. Calgary, AB T2E 6P8 and #3-4 2080-39th Avenue N.E. Calgary, AB. T2E 6P7, and 2021 – 41 Avenue NE, Calgary, AB T2E 6P2

Food testing: #112, 3442-118 Ave S.E. Calgary, AB T2Z 3X1.

ANIMAL AND PLANTS (AGRICULTURE)

Agricultural products (except food and chemicals):

Foods and Edible Products (Human and Animal Consumption):

Microbiology

AOAC PTM 102003	BAX® System Real-Time Assay for <i>E. coli</i> O157:H7 Exact
Assurance GDS® MPX Top 7 STEC Assay	BioControl Assurance GDS® MPX Top 7 STEC
MFHPB-10	Isolation of <i>Escherichia coli</i> O157:H7/NM from foods and environmental surface samples (except for section 6, verotoxin confirmation)
MFHPB-18	Determination of Aerobic Colony Counts in Foods
MFHPB-20	Isolation and Identification of <i>Salmonella</i> from Food and Environmental Samples
MFHPB-22	Enumeration of Yeast and Moulds in Foods
MFHPB-30	Isolation of <i>Listeria monocytogenes</i> and <i>Listeria</i> spp. from foods and environmental samples
MFHPB-33	Enumeration of Total Aerobic Bacteria in Food Products and Food Ingredients Using 3M™ Petrifilm™ Aerobic Count Plates
MFHPB-34	Enumeration of <i>Escherichia coli</i> and Coliforms in Food Products and Food Ingredients Using 3M™ Petrifilm™ <i>E. coli</i> Count Plates
MFLP-09	Enumeration of <i>Enterobacteriaceae</i> species in Food and Environmental Samples Using 3M™ Petrifilm™ <i>Enterobacteriaceae</i> Count Plates
MFLP-16	Detection of <i>Escherichia coli</i> O157:H7 in foods - Assurance GDS® for <i>E. coli</i> O157:H7 Tq Gene Detection System
MFLP-21	Enumeration of <i>Staphylococcus aureus</i> in Foods and Environmental Samples Using 3M™ Petrifilm™ <i>Staph.</i> Express Count (STX) Plates

MFLP-28	The Qualicon Bax® System Method for the Detection of <i>Listeria monocytogenes</i> in a Variety of Food.
MFLP-29	The BAX® System Method for the detection of Salmonella in foods and environmental surface samples.
MFLP-30	Detection of <i>Escherichia coli</i> O157:H7 in Select Foods using the BAX® System <i>E. coli</i> O157:H7 MP.
MFLP-36	Detection of <i>Salmonella</i> in Foods and Environmental Surface Samples- Assurance GDS® for <i>Salmonella</i> Tq Genetic Detection System
MFLP-54	Detection of <i>Listeria monocytogenes</i> from selected foods using iQ-Check™ <i>Listeria monocytogenes</i> Real-Time PCR Test Kit
MFLP-74	Enumeration of <i>Listeria monocytogenes</i> in foods
MFLP-79	Detection of <i>Listeria</i> spp. in Environmental Surface Samples using the BAX®System Real-Time PCR Assay for <i>Listeria</i> genus
MLG4	Isolation and Identification of <i>Salmonella</i> from Meat, Poultry, Pasteurized Egg and Siluriformes (fish) Products and Carcass and environmental sponges
MLG41	Isolation and Identification of <i>Campylobacter jejuni/coli/lari</i> from Poultry Rinse, Sponge and Raw Product Samples

ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND SAFETY

Environmental:

Soil/Solid/Waste

AB SOP-00047	Free Liquid (Paint Filter Test) (Modified EPA 9095 B) Volumetric Free Liquid in Waste Samples
--------------	---

Water

AB SOP-00011	Silica (Reactive) by Discrete Autoanalyzer - Molybdate/ANSA Reduction Method (Modified EPA 370.1) Colorimetric Reactive Silica
AB SOP-00016	Chemical Oxygen Demand (Total and Dissolved) (Modified SM 5220 D) Colorimetric COD

AB SOP-00017	Biochemical Oxygen Demand (Modified SM 5210 B) D.O. Meter BOD (5 day) CBOD (5 day)
AB SOP-00023	Nitrite and Nitrate by Ion Chromatography (Modified SM 4110 B) Ion Chromatography Nitrate Nitrite
AB SOP-00024	Total Phosphorus by Konelab - Ascorbic Acid Reduction Method (Modified from SM 4500-P, A, B, F) Colorimetric Inorganic phosphorus Total Phosphorus
AB SOP-00026	Sulfate by Ion Chromatography (Modified SM 4110B] Ion Chromatography Sulfate
AB SOP-00032	The Determination of Residual Chlorine in Waters (Modified SM 4500 CL G) Colorimetric Free Chlorine Total Chlorine
AB SOP-00041	Ferrous and Ferric Iron in Water-Colorimetric Determination (Modified SM 3500-Fe A, B) Colorimetric Ferrous Iron
AB SOP-00058	Dissolved Oxygen- Modified Winkler Method (Modified SM 4500-O C) Titrimetric Dissolved Oxygen
AB SOP-00060	Naphthenic Acids in water by FTIR (Modified EPA 3510C R3/FTIR) IR Naphthenic Acids
AB SOP-00061	Total Suspended Solids, Total Fixed Solids, Total Volatile Solids (Modified SM 2540 D, E) Gravimetric Total Suspended Solids Total Suspended Solids Fixed Total Suspended Solids Volatile

AB SOP-00065	Total Dissolved Solids (TDS) [Modified SM 2540 C] Gravimetric Total Dissolved Solids
AB SOP-00070	Extraction and Analysis of Naphthenic Acids in Water (DCM Extraction) [Modified from Syncrude 1995 m] IR DCM Extraction Naphthenic Acids
AB SOP-00084	Mercury in Waters, Leachates and Liquids by Bromination and Cold Vapour [Modified BC MOE LABORATORY MANUAL SECTION C and EPA 245.7] Mercury
AB SOP-00087	Organic Carbon by Technicon - Persulfate UV Oxidation (Modified Methods Manual for Chemical Analysis of Water and Wastes, Method Code 119) Colorimetric Organic Carbon
AB SOP-00092	Oil and Grease Water Analysis by Gravimetric Hexane Extraction Method (Modified SM 5520 B, Gravimetric) Total Oil and Grease Total Petroleum Hydrocarbons (TPH)
CAL SOP-00040	Bromate, Chlorate, and Chlorite by IC – Conductivity detection (Modified SM 4110 D) Ion Chromatography Bromate Chlorate Chlorite
CAL SOP-00049	Color by Discrete Autoanalyzer (Modified SM 2120C) Spectrophotometric Apparent colour True Color
CAL SOP-00055	Glycolic and Lactic Acid by reversed-phase chromatography (Modified from Dionex ICE-AS6 DOC NO 34961) Ion Chromatography Glycolic Acid Lactic Acid
CAL SOP-00057	Iodide, Thiocyanate, and Thiosulfate by Ion Chromatography (Modified DIONEX, DOC NO 034035) Ion Chromatography Iodide Thiocyanate Thiosulfate

CAL SOP-00063	Organic Acids by reversed-phase chromatography (conductivity detection) (Modified DIONEX ICE-AS1 DOC NO 031181) Ion Chromatography Acetic Acid Butyric Acid Formic Acid Propionic Acid
CAL SOP-00065	Oxalic Acid by Ion Chromatography - Conductivity Detection (Modified from SM 4110B) Ion Chromatography Oxalic Acid
CAL SOP-00071	Sulfite by Ion Chromatography – conductivity detection (Modified SM 4110 B) Ion Chromatography - Conductivity Detector Sulfite
CAL SOP-00076	Total and Dissolved Inorganic Carbon by Automated Colourimetry (Modified AE 2411) Inorganic Carbon
CAL SOP-00081	Turbidity – Nephelometric Method (Modified SM 2130 B) Nephelometric Turbidity
CAL SOP-00099	Extraction and analysis of Resin and Fatty Acids in water by GCMS (Modified AE 129.0 and EPA 8270E) GC/MS 12,14-Dichlorodehydroabiatic Acid 12-Chlorodehydroabiatic Acid 14-Chlorodehydroabiatic Acid 9,10-Dichlorostearic Acid (C18) Abiatic Acid Decanoic Acid C10 Dehydroabiatic Acid Docosanoic Acid C22 Dodecanoic Acid C12 Eicosanoic Acid C20 Hexadecanoic Acid C16 Isopimaric Acid Linoleic Acid C18:2 Linoleic Acid C18:3 Neoabiatic Acid Octadecanoic Acid C18 Oleic Acid C18:1 Palmitoleic Acid Palustric Acid Pimaric Acid Sandaracopimaric Acid Tetradecanoic Acid (C14) Undecanoic Acid (C11) Total of Resin Acids Total of Fatty Acids
CAL SOP-00266	Determination of Free Cyanide (Modified EPA 9016) Colorimetric- Distillation Free cyanide

CAL SOP-00273	Determination of Chlorophyll and Pheophytin (Modified SM 10150 A, B) Chlorophyll A Chlorophyll B Chlorophyll C Pheophytin
---------------	--

Emissions (Air)

EMS SOP-00110	Anions-Water (Modified Methods Manual for Chemical Analysis of Atmospheric Pollutants method 52121) Ion Chromatography - Conductivity Detector Chloride Fluoride Nitrate Sulfate
EMS SOP-00112	Fixed Gases - Air (Modified Method 3, Alberta Stack Sampling Code, 1995, Publication Number: REF.89 and EPA 3C) GC/TCD CO CO ₂ N ₂ O ₂
EMS SOP-00114	Hydrocarbons – Air (Modified AENV18) GC/FID Total Hydrocarbons as Methane
EMS SOP-00115	Total Particulates - Air Filter (Modified method 5, Determination of Particulate Emissions from Stationary Sources, Alberta Stack Sampling Code, 1995, Publication Number: REF.89) Gravimetric Particulates
*EMS SOP-00116	Total/Trace Reduced Sulfur - Air (Modified from AENV.TRS.P&P-1 and AENV.TRS.SGP-1) GC/PID Carbon disulfide Carbonyl sulfide Dimethyl disulfide Dimethyl sulfide Hydrogen sulphide Methyl mercaptan

Soil/Solid

*AB SOP-00002	Moisture Content in Soil (Modified CCME Petroleum Hydrocarbons in Soil - Tier 1 Method Section 13) Gravimetric % Moisture
*AB SOP-00003	Analysis of PAH in Water, Soil, Oil and Leachates by GC/MS (Modified EPA 8270E and EPA 3540C) - Soils and water 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Acridine Anthracene Benzo (a) anthracene Benzo (a) pyrene Benzo (b, j) fluoranthene Benzo (g,h,i) perylene Benzo (k) fluoranthene Benzo(c)phenanthrene Benzo(e)pyrene Chrysene Dibenzo (a,h) anthracene Fluoranthene Fluorene Indeno (1,2,3 - cd) pyrene Naphthalene Perylene Phenanthrene Pyrene Quinoline
AB SOP-00004	Determination of Electrical Conductivity on Water and Soluble Soil Extract (Modified SM 2510B) - Soils and waters Conductivity Meter Conductivity
AB SOP-00005	Alkalinity Acidity Conductivity Fluoride and pH by PC-Titrate (Modified SM 2510 B, SM 4500 H+B, SM 2320 B, SM 4500-F C, SM 2310 B) - Soil & Waters PC Titrate Conductivity (25 °C) Alkalinity Fluoride pH Acidity
AB SOP-00006	pH on Water and Soluble Soil Extracts (Modified from SM 4500-H+ B) – Soils and Waters pH Meter pH
AB SOP-00007	Ammonia-Nitrogen by Automated Phenate colorimetric method (Modified SM4500-NH3 A&G) – Soils and Waters Colorimetric Ammonia

	Ammonia – Extraction
AB SOP-00008	TKN by Konelab (Modified EPA 351.1, EPA 351.2) – Soils and Waters Colorimetric Total Kjeldahl Nitrogen
AB SOP-00019	Calcium Carbonate Equivalence by pH (Modified SSMA 20.2) pH Meter Calcium Carbonate Equivalence (CCE)
AB SOP-00020	Chloride and Sulfate Analysis by Discrete Autoanalyzer (Modified SM 4500 Cl E & SM 4500 SO4 E) – Soils and Waters Chloride Sulfate
AB SOP-00022	Particle Size Distribution by Sieve Analysis (Modified ASTM D6913) Gravimetric/SIEVE Grain size Particle size by sieve (Special)
AB SOP-00025	Ortho-phosphate (Dissolved) by Automated Ascorbic Acid Reduction Method (Modified SM 4500-P, A and F) - Soils and Waters Colorimetric Auto Color Ortho-phosphate
AB SOP-00030	PSA by Hydrometer - Texture (Sand, Silt, Clay and gravel) Analysis (Modified SSMA 55.3) Hydrometer % clay % sand % gravel % Silt
AB SOP-00033	Preparation of Saturation and Water-Soil Ratio Samples [Modified from SSMA Method 15.2] Gravimetric % Saturation
*AB SOP-00039	Extraction and Analysis of BTEX/F1 and select Volatiles by HS/GC/MS/FID Water, Soil and Oil (BTEX: Modified EPA 8260D, GC/MS – HEADSPACE) (F1/PHC: Modified CCME Petroleum Hydrocarbons - Tier 1 Method and EPA5021A) – Soils and Waters (BTEX TCLP: EPA 1311) GC/MS - HEADSPACE 1,2,4-Trimethyl Benzene C5-C10 F1: C6-C10 m/p-xylene Benzene Ethylbenzene Hexane Methyl tert-butyl ether (MTBE)

	<p>o-xylene Toluene 1,2-dichloroethane (soils only) Naphthalene (soils only)</p>	<p>Styrene</p>																																								
*AB SOP-00040	<p>Analysis of Extractable Hydrocarbons in Water and Soils by GC/FID (Modified Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier 1 Method) Modified EPA 1617)- Sheen</p> <table> <tr> <td>C6-C50 Hydrocarbons</td> <td>F2 (C10-C16 Hydrocarbons)</td> </tr> <tr> <td>F3 (C16-C34 Hydrocarbons)</td> <td>F3A (C16-C22 Hydrocarbons)</td> </tr> <tr> <td>F3B (C22-C34 Hydrocarbons)</td> <td>F4 (C34-C50 Hydrocarbons)</td> </tr> <tr> <td>Reached Baseline at C50</td> <td>F4G-SG (Heavy Hydrocarbons-Grav)</td> </tr> <tr> <td>Total Extractables C10 to C30</td> <td>Total Extractables C11 to C22</td> </tr> <tr> <td>Total Extractables C23 to C60</td> <td>F4 HTG (>C34 – High Temp GC)</td> </tr> <tr> <td>Total Petroleum Hydrocarbon</td> <td>Visible Sheen</td> </tr> </table>		C6-C50 Hydrocarbons	F2 (C10-C16 Hydrocarbons)	F3 (C16-C34 Hydrocarbons)	F3A (C16-C22 Hydrocarbons)	F3B (C22-C34 Hydrocarbons)	F4 (C34-C50 Hydrocarbons)	Reached Baseline at C50	F4G-SG (Heavy Hydrocarbons-Grav)	Total Extractables C10 to C30	Total Extractables C11 to C22	Total Extractables C23 to C60	F4 HTG (>C34 – High Temp GC)	Total Petroleum Hydrocarbon	Visible Sheen																										
C6-C50 Hydrocarbons	F2 (C10-C16 Hydrocarbons)																																									
F3 (C16-C34 Hydrocarbons)	F3A (C16-C22 Hydrocarbons)																																									
F3B (C22-C34 Hydrocarbons)	F4 (C34-C50 Hydrocarbons)																																									
Reached Baseline at C50	F4G-SG (Heavy Hydrocarbons-Grav)																																									
Total Extractables C10 to C30	Total Extractables C11 to C22																																									
Total Extractables C23 to C60	F4 HTG (>C34 – High Temp GC)																																									
Total Petroleum Hydrocarbon	Visible Sheen																																									
AB SOP-00042	<p>Metals on Liquids and Solids by ICPOES (Modified EPA 6010 D) - Soils and Waters ICP/OES</p> <table> <tr> <td>Aluminum</td> <td>Barium</td> <td>Boron</td> <td>Calcium</td> </tr> <tr> <td>Chromium</td> <td>Iron</td> <td>Lithium</td> <td>Magnesium</td> </tr> <tr> <td>Manganese</td> <td>Phosphorus</td> <td>Potassium</td> <td>Silicon</td> </tr> <tr> <td>Sodium</td> <td>Strontium</td> <td>Sulfur</td> <td></td> </tr> </table>		Aluminum	Barium	Boron	Calcium	Chromium	Iron	Lithium	Magnesium	Manganese	Phosphorus	Potassium	Silicon	Sodium	Strontium	Sulfur																									
Aluminum	Barium	Boron	Calcium																																							
Chromium	Iron	Lithium	Magnesium																																							
Manganese	Phosphorus	Potassium	Silicon																																							
Sodium	Strontium	Sulfur																																								
*AB SOP-00043	<p>Metals Analysis on Soils and Waters Using ICPMS (Modified EPA 6020 B) - Soils and Waters [TCLP: EPA 1311] ICP/MS</p> <table> <tr> <td>Aluminum</td> <td>Antimony</td> <td>Arsenic</td> <td>Barium (Soils and Leachates)</td> </tr> <tr> <td>Beryllium</td> <td>Bismuth</td> <td>Boron</td> <td>Cadmium</td> </tr> <tr> <td>Calcium</td> <td>Chromium</td> <td>Cobalt</td> <td>Copper</td> </tr> <tr> <td>Iron</td> <td>Lead</td> <td>Lithium</td> <td>Magnesium</td> </tr> <tr> <td>Manganese</td> <td>Mercury</td> <td>Molybdenum</td> <td>Nickel</td> </tr> <tr> <td></td> <td>Potassium</td> <td>Selenium</td> <td>Silicon</td> </tr> <tr> <td>Silver</td> <td>Sodium</td> <td>Strontium</td> <td>Sulphur</td> </tr> <tr> <td>Tellurium</td> <td>Thallium</td> <td>Tin</td> <td>Titanium</td> </tr> <tr> <td>Tungsten</td> <td>Uranium</td> <td>Vanadium</td> <td>Zinc</td> </tr> <tr> <td>Zirconium</td> <td></td> <td></td> <td></td> </tr> </table>		Aluminum	Antimony	Arsenic	Barium (Soils and Leachates)	Beryllium	Bismuth	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel		Potassium	Selenium	Silicon	Silver	Sodium	Strontium	Sulphur	Tellurium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium			
Aluminum	Antimony	Arsenic	Barium (Soils and Leachates)																																							
Beryllium	Bismuth	Boron	Cadmium																																							
Calcium	Chromium	Cobalt	Copper																																							
Iron	Lead	Lithium	Magnesium																																							
Manganese	Mercury	Molybdenum	Nickel																																							
	Potassium	Selenium	Silicon																																							
Silver	Sodium	Strontium	Sulphur																																							
Tellurium	Thallium	Tin	Titanium																																							
Tungsten	Uranium	Vanadium	Zinc																																							
Zirconium																																										
AB SOP-00049	<p>Particle Size Distribution by Hydrometer (Modified ASTM D7928) Hydrometer Particle Size Distribution</p>																																									

AB SOP-00050	<p>Dry Bulk Density and Wet Bulk Density 9Modified McKeague and MSSMA Section 2.21) Gravimetric Bulk Density</p>																																												
AB SOP-00052	<p>Bromide by Ion Chromatography - UV Detection (Modified from SM 4110 B) – Soils and Waters Ion Chromatography/UV Detector Bromide</p>																																												
AB SOP-00056	<p>Preparation and Analysis VOC -Water and Soil by HS/GC/MS (Modified from EPA8260D and EPA5021A) (VOC TCLP: EPA 1311) - Soils and Waters GC/MS (Headspace)</p> <table border="0" data-bbox="602 716 1360 1549"> <tr> <td>1,1,1,2-Tetrachloroethane</td> <td>1,1,1-Trichloroethane</td> </tr> <tr> <td>1,1,2,2-Tetrachloroethane</td> <td>1,1,2-Trichloroethane</td> </tr> <tr> <td>1,1-Dichloroethane</td> <td>1,1-dichloroethylene</td> </tr> <tr> <td>1,2 dibromoethane</td> <td>1,2,3-Trichlorobenzene</td> </tr> <tr> <td>1,2,4-Trichlorobenzene</td> <td>1,2,4-Trimethylbenzene</td> </tr> <tr> <td>1,2-dichlorobenzene</td> <td>1,2-dichloroethane</td> </tr> <tr> <td>1,2-Dichloropropane</td> <td>1,3,5 Trichlorobenzene</td> </tr> <tr> <td>1,3,5-Trimethylbenzene</td> <td>1,3-Dichlorobenzene</td> </tr> <tr> <td>1,4-dichlorobenzene</td> <td>Benzene</td> </tr> <tr> <td>Bromodichloromethane</td> <td>Bromoform</td> </tr> <tr> <td>Bromomethane</td> <td>Carbon Tetrachloride</td> </tr> <tr> <td>Chlorobenzene</td> <td>Dibromochloromethane</td> </tr> <tr> <td>Chloroethane</td> <td>Chloroform</td> </tr> <tr> <td>Chloromethane</td> <td>cis-1,2-Dichloroethylene</td> </tr> <tr> <td>cis-1,3-Dichloropropene</td> <td>Dichloromethane</td> </tr> <tr> <td>Ethylbenzene</td> <td>m/p-xylene</td> </tr> <tr> <td>Methyl methacrylate</td> <td>Methyl t-butyl ether</td> </tr> <tr> <td>o-xylene</td> <td>Styrene</td> </tr> <tr> <td>Tetrachloroethylene</td> <td>Toluene</td> </tr> <tr> <td>trans-1,2-Dichloroethylene</td> <td>trans-1,3-Dichloropropene</td> </tr> <tr> <td>Trichloroethylene</td> <td>Trichlorofluoromethane</td> </tr> <tr> <td>Vinyl Chloride</td> <td></td> </tr> </table>	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-dichloroethylene	1,2 dibromoethane	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-Dichloropropane	1,3,5 Trichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-dichlorobenzene	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Dibromochloromethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethylene	cis-1,3-Dichloropropene	Dichloromethane	Ethylbenzene	m/p-xylene	Methyl methacrylate	Methyl t-butyl ether	o-xylene	Styrene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	trans-1,3-Dichloropropene	Trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	
1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane																																												
1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane																																												
1,1-Dichloroethane	1,1-dichloroethylene																																												
1,2 dibromoethane	1,2,3-Trichlorobenzene																																												
1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene																																												
1,2-dichlorobenzene	1,2-dichloroethane																																												
1,2-Dichloropropane	1,3,5 Trichlorobenzene																																												
1,3,5-Trimethylbenzene	1,3-Dichlorobenzene																																												
1,4-dichlorobenzene	Benzene																																												
Bromodichloromethane	Bromoform																																												
Bromomethane	Carbon Tetrachloride																																												
Chlorobenzene	Dibromochloromethane																																												
Chloroethane	Chloroform																																												
Chloromethane	cis-1,2-Dichloroethylene																																												
cis-1,3-Dichloropropene	Dichloromethane																																												
Ethylbenzene	m/p-xylene																																												
Methyl methacrylate	Methyl t-butyl ether																																												
o-xylene	Styrene																																												
Tetrachloroethylene	Toluene																																												
trans-1,2-Dichloroethylene	trans-1,3-Dichloropropene																																												
Trichloroethylene	Trichlorofluoromethane																																												
Vinyl Chloride																																													
AB SOP-00062	<p>Flashpoint by Small Scale Closed Cup Tester (SetaFlash) (Modified ASTM D3828) Seta Flash Closed Cup Flashpoint</p>																																												
AB SOP-00063	<p>Hexavalent Chromium by Discrete Autoanalyzer (Modified SM 3500-Cr B and EPA 3060) – Soil and Water Colorimetric</p>																																												

	Hexavalent Chromium
AB SOP-00067	Elemental Sulfur (Modified Canadian Journal of Soil Science, 65, Pages 811-813, 1985) Colour-Extraction Elemental Sulphur
AB SOP-00080	Sulphide, Low level Sulfide (Modified SM 4500-S2D, A, F) – Soil and Water Colorimetric Sulphide
AB SOP-00088	Phenol Phenolics-Automated 4--Aminoantipyrine Colorimetry (Modified SSMA Chapter 40 & EPA 9066) – Soil and Water Colorimetric – Distillation Extraction Total Phenolics excluding para substituted phenols where the substitution is alkyl, aryl, nitro, benzoyl, nitroso, or aldehyde group
AB SOP-00091	NO ₂ and TON by Gallery Plus (Modified SM 4500-NO3-H and 4500-NO2) – Soil and Water Nitrite Total Oxidized Nitrogen (TON)
AB SOP-00093	Total Nitrogen by Discrete Autoanalyzer (Modified SM 4500-N C) – Soil and Water Colorimetric Total Nitrogen (water) Total Nitrogen (Dissolved, water) Total Nitrogen (Soluble, soil) Total Nitrogen (Available, soil)
CAL SOP-00032	Spontaneous combustion (Self Heating) (Modified Recommendations on the Transport of Dangerous Goods: Manual of Tests and Criteria. Sixth Revised edition. United Nations.2015 sections 33.3.1.3 and 33.3.1.6) Combustion Spontaneous Combustion
CAL SOP-00054	Ethanolamines and DIPA by reversed-phase chromatography (amperometry) (Modified IC US6-0193-062014) – Soil and Water Diethanolamine (DEA) Methyldiethanolamine (MDEA) Monoethanolamine (MEA) Diisopropanolamine (DIPA)
CAL SOP-00093	Preparation and Analysis of Glycols and Sulfolane in Water, Soil and oil by GC-FID (Modified from EPA 8015D) – Soils Waters and Oil GC/FID – Extraction Diethylene Glycol Propylene Glycol Ethylene Glycol Sulfolane

	Tetraethylene Glycol	Triethylene Glycol
CAL SOP-00094	Herbicides (Modified EPA 8151A and EPA 8270E) – Soils and Waters GC/MS – Extraction 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) 2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) 2,4-Dichlorophenoxyacetic acid (2,4-D) 2,4-Dichlorophenoxybutyric acid (2,4-DB) 3,5-Dichlorobenzoic Acid Bentazon Chloramben Dichlorprop Dinoseb (DNBP) MCPP Picloram	Bromoxynil Dicamba Diclofop-methyl MCPA Pentachlorophenol
CAL SOP-00096	Extraction and Analysis of OG and TPH in Water and Soil by FTIR (Modified SM 5520 C m) – Soils and Waters IR – Extraction Oil and Grease Total Petroleum Hydrocarbons	
CAL SOP-00104	Preparation and Analysis of Extended VOC in Water and Soils by HS/GC/MS (Modified EPA 8260D, EPA 5021A & VOC TCLP: EPA 1311) – Soils and Waters GC/MS – HS/Extraction 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane 2,2-dichloropropane 2-chlorotoluene 2-nitropropane 4-methyl-2-pentanone (MIBK) Acetonitrile Acrylonitrile Bromochloromethane Cyclohexane Dibromomethane Dicyclopentadiene Ethyl ether Hexachlorobutadiene Iodomethane Naphthalene Nitrobenzene p-Isopropyltoluene	

	tert-Butylbenzene
CAL SOP-00149	<p>Polychlorinated Biphenyls (PCB) (Modified EPA 8082A) – Soils, Waters and Oil</p> <p>GC/ECD – Extraction</p> <p>Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242</p> <p>Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262</p> <p>Aroclor 1268 Total PCB</p>
CAL SOP-00164	<p>Semi Volatile Phenols (Modified EPA 8270E) – Soils and Waters</p> <p>GC/MS – Extraction</p> <p>2,3,4,5-tetrachlorophenol 2,3,4,6-tetrachlorophenol</p> <p>2,3,4-trichlorophenol 2,3,5,6-tetrachlorophenol</p> <p>2,3,5-trichlorophenol 2,3,6-trichlorophenol</p> <p>2,3-dichlorophenol 2,4,5-trichlorophenol</p> <p>2,4,6-trichlorophenol 2,4-dichlorophenol</p> <p>2,4-dimethylphenol 2,4-dinitrophenol</p> <p>2,5-dichlorophenol 2,6- dimethylphenol</p> <p>2,6-dichlorophenol 2-chlorophenol</p> <p>2-methylphenol 2-nitrophenol</p> <p>3&4-chlorophenol 3&4-methylphenol</p> <p>3,4,5-trichlorophenol 3,4-dichlorophenol</p> <p>3,4-dimethylphenol 3,5-dichlorophenol</p> <p>4,6-dinitro-2-methylphenol 4-chloro-3-methylphenol</p> <p>4-nitrophenol Pentachlorophenol</p> <p>Phenol</p>
CAL SOP-00184	<p>Aliphatic and Aromatic fractionation and analysis for >C10-C50 PHC (Modified from Atl RBCA m) – Soils and Waters</p> <p>GC/FID</p> <p>>C10-C12 Aliphatic >C10-C12 Aromatic</p> <p>>C12-C16 Aliphatic >C12-C16 Aromatic</p> <p>>C16-C21 Aliphatic >C16-C21 Aromatic</p> <p>>C21-C34 Aliphatic >C21-C34 Aromatic</p> <p>>C34 Aliphatic (Up to C50) >C34 Aromatic (Up to C50)</p>
CAL SOP-00239	<p>BC Extractable Petroleum Hydrocarbons in Water and Soil by GC/FID (Modified BCMOE EPH S 12/16) – Soils and Waters</p> <p>GC/FID</p> <p>EPH: C10-C19</p> <p>EPH: C19-C32</p> <p>TEH: C10-C30 (Water Only)</p>
*CAL SOP-00240	<p>Fractionation for C6-C10 and BC method VPH by Headspace GC/FID/MS (Modified volatile HC in soils by GC/FID and EPA method 5021A, BC MELP VH; Atl. RBCA) – Soils and Waters</p>

	<p>GC/FID C6-C8 >C8-C10 C6-o-xylene Aromatic >C8-C10 o-xylene-C10</p>																																												
CAL SOP-00243/CAL SOP-00263	<p>Carbon, Organic Carbon, Nitrogen and Sulphur in Solids by LECO TruMac Elemental Analysis of Soil by Elementar Vario Cube EL (Modified LECO Corporation Form No. 203-821-498, 203-821-165 and Vario EI Cube No AN-A-030609, Total Organic Carbon (TOC/FOC) in soil/sediment by combustion (PBM)) IR Combustion Carbon Nitrogen Organic Carbon Sulphur</p>																																												
CAL SOP-00250	<p>Preparation and analysis of Alkylated PAH in soils and water (Modified SM 8270 E and ESTD-OR-20) – Soils and Waters GC/MS – Extraction</p> <table border="0"> <tr> <td>1-Methylnaphthalene</td> <td>2-Methylnaphthalene</td> </tr> <tr> <td>Acenaphthene</td> <td>Acenaphthylene</td> </tr> <tr> <td>Acridine</td> <td>Anthracene</td> </tr> <tr> <td>Benzo (a) anthracene</td> <td>Benzo (a) pyrene</td> </tr> <tr> <td>Benzo (g,h,i) perylene</td> <td>Benzo (k) fluoranthene</td> </tr> <tr> <td>Benzo (b&j) fluoranthene</td> <td>Benzo(c)phenanthrene</td> </tr> <tr> <td>Benzo(e)pyrene</td> <td>Biphenyl</td> </tr> <tr> <td>C1-Acenaphthene</td> <td></td> </tr> <tr> <td>C1-Benzo(bjk)fluoranthene / Benzo[a]pyrene</td> <td></td> </tr> <tr> <td>C1-Biphenyl</td> <td>C1-Benzo(a) anthracene/ Chrysene</td> </tr> <tr> <td>C1-Dibenzothiophene</td> <td>C2-Fluorene</td> </tr> <tr> <td>C2-Naphthalene</td> <td>C2-Phenanthrene/ anthracene</td> </tr> <tr> <td>C2- Fluoranthene / Pyrene</td> <td>C3-Benzo(a)anthracene / Chrysene</td> </tr> <tr> <td>C3-Dibenzothiophene</td> <td>C3-Fluorene</td> </tr> <tr> <td>C3-Naphthalene</td> <td>C3-Phenanthrene/ anthracene</td> </tr> <tr> <td>C3- Fluoranthene / Pyrene</td> <td>C4- Benzo(a)anthracene / Chrysene</td> </tr> <tr> <td>C4-Dibenzothiophene</td> <td>C4-Naphthalene</td> </tr> <tr> <td>C4-Phenanthrene/ anthracene</td> <td>Chrysene</td> </tr> <tr> <td>Dibenzo (a,h) anthracene</td> <td>Dibenzothiophene</td> </tr> <tr> <td>Fluoranthene</td> <td>Fluorene</td> </tr> <tr> <td>Indeno (1,2,3 - cd) pyrene</td> <td>Indeno (1,2,3-cd) fluoranthene</td> </tr> <tr> <td>Naphthalene</td> <td>Perylene</td> </tr> </table>	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Acridine	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Benzo (b&j) fluoranthene	Benzo(c)phenanthrene	Benzo(e)pyrene	Biphenyl	C1-Acenaphthene		C1-Benzo(bjk)fluoranthene / Benzo[a]pyrene		C1-Biphenyl	C1-Benzo(a) anthracene/ Chrysene	C1-Dibenzothiophene	C2-Fluorene	C2-Naphthalene	C2-Phenanthrene/ anthracene	C2- Fluoranthene / Pyrene	C3-Benzo(a)anthracene / Chrysene	C3-Dibenzothiophene	C3-Fluorene	C3-Naphthalene	C3-Phenanthrene/ anthracene	C3- Fluoranthene / Pyrene	C4- Benzo(a)anthracene / Chrysene	C4-Dibenzothiophene	C4-Naphthalene	C4-Phenanthrene/ anthracene	Chrysene	Dibenzo (a,h) anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno (1,2,3 - cd) pyrene	Indeno (1,2,3-cd) fluoranthene	Naphthalene	Perylene
1-Methylnaphthalene	2-Methylnaphthalene																																												
Acenaphthene	Acenaphthylene																																												
Acridine	Anthracene																																												
Benzo (a) anthracene	Benzo (a) pyrene																																												
Benzo (g,h,i) perylene	Benzo (k) fluoranthene																																												
Benzo (b&j) fluoranthene	Benzo(c)phenanthrene																																												
Benzo(e)pyrene	Biphenyl																																												
C1-Acenaphthene																																													
C1-Benzo(bjk)fluoranthene / Benzo[a]pyrene																																													
C1-Biphenyl	C1-Benzo(a) anthracene/ Chrysene																																												
C1-Dibenzothiophene	C2-Fluorene																																												
C2-Naphthalene	C2-Phenanthrene/ anthracene																																												
C2- Fluoranthene / Pyrene	C3-Benzo(a)anthracene / Chrysene																																												
C3-Dibenzothiophene	C3-Fluorene																																												
C3-Naphthalene	C3-Phenanthrene/ anthracene																																												
C3- Fluoranthene / Pyrene	C4- Benzo(a)anthracene / Chrysene																																												
C4-Dibenzothiophene	C4-Naphthalene																																												
C4-Phenanthrene/ anthracene	Chrysene																																												
Dibenzo (a,h) anthracene	Dibenzothiophene																																												
Fluoranthene	Fluorene																																												
Indeno (1,2,3 - cd) pyrene	Indeno (1,2,3-cd) fluoranthene																																												
Naphthalene	Perylene																																												

	Phenanthrene Quinoline	Pyrene Retene
CAL SOP-00251	Extraction and analysis of low level Sulfolane in water and soil by GCMS (Modified EPA 8270E) GC/MSD – Extraction Sulfolane	
CAL SOP-00264	Preparation and Analysis of Alcohol/Solvents (Water, soil, oil) by GCFID (Modified EPA 8015D) – Soils and Waters GC/FID – Extraction 2-Methylphenol 4- Methylphenol Ethanol Isopropanol n-butanol	
		3- Methylphenol Acetone (2-propanone) Isobutanol * Methanol Pyridine
CAL SOP-00265	ICPMS Analysis for Low Level Metals (Modified EPA SW846 6020B) – Soils and Waters ICP/MS Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Cesium Chromium Cobalt Copper Iron Lanthanum Lead Lithium Magnesium Manganese Mercury Molybdenum Nickel Phosphorus Potassium Rubidium Selenium Silicon Silver Sodium Strontium Sulphur Tellurium Thallium Thorium Tin Titanium Tungsten Uranium Vanadium Yttrium Zinc Zirconium	
CAL SOP-00270	Determination of cyanide by automated colourimetry (Modified SM 4500-CN-,O) – Soil and Water Colorimetric- Distillation Cyanide SAD Cyanide WAD	
CAL SOP-00275	Extraction and Analysis of Hydroxyphenols in Water and Soil by GCMS (Modified BC MOE Laboratory Manual and EPA SW 846 8270) – Water and Soil 2-Hydroxyphenol (Catechol) 3-Hydroxyphenol (Resorcinol) 4-Hydroxyphenol (Hydroquinone)	
CAL SOP-00278	Extraction and Analysis of Pesticides in Soil and Water by GC/MS (Modified EPA SW-846 method 8270E, Method 3510C and Method 3540C)	

– Soil and Water	
Acephate (Soils only)	2,4'-Ddt+4,4'-Ddd
4,4'-Dde	4,4'-Ddt
4,4'-Methoxychlor	A-Bhc
A-Chlordane	Alachlor
Aldrin	Aspon
Atrazine	Azinphos Ethyl
Azinphos Methyl (Guthion)	B-Bhc
Benfluralin	Bromacil
Bromophos	Bromophos-Ethyl
Butylate	Captan
Carbophenothion	Chlorbenside
Chlorfenson(Ovex)	Chlorfenvinphos (E)
Chlorfenvinphos(E/Z)	Chlormephos
Chlorothalonil (Daconil)	Chlorpropham
Chlorpyrifos	Chlorpyriphos-Methyl
Chlorthiophos	Cyanazine (Bladex)
Cyanophos	Dacthal
D-Bhc	Demeton
Demeton-O	Desethyl-Atrazine
Desmetryn	Diallate [Z]
Diallate(E/Z)	Diazinon
Dichlobenil	Dichlofenthion
Dichlofluanid	Dichloran
Dichlorvox + Naled	Diclofop-Methyl
Dicofol	Dicrotophos
Dieldrin	Dimethoate
Dioxathion	Diphenylamine
Disulfoton (Di-Syston)	Endosulfan I
Endosulfan II	Endosulfan Sulfate
Endrin	Endrin Aldehyde
Endrin Ketone	Epn
Eptam	Ethalfuralin
Ethion	Fenitrothion
Fensulfothion	Fenthion
Folpet	Fonofos
G-Chlordane	Heptachlor
Heptachlor Epoxide	Hexachlorobenzene
Hexazinone	Iodofenphos
Iprodione	Isofenphos
Lindane (Bhc), Gamma	Malaoxon
Malathion	Metalaxyl
Methamidophos (Soils only)	Methidation
Metolachlor	Metribuzin (Sencor)
Mevinphos (Phosdrin)	Mirex
Nitrofen	O,P'-Ddd
O,P'-Dde	Omethoate
Parathion	Parathion Methyl
Pentachloronitrobenzene	Permethrin
Phorate (Thimet)	Phosalone
Phosmet	Phosphamidon (E)
Phosphamidon (Z)	Pirimicarb

	Pirimiphos-Ethyl Procymidone Profluralin Pronamide Propiconazole Quinalophos Simazine Sulfotepp Terbufos Terbutryne Tolyfluanid Triallate Vinclozolin	Pirimiphos-Methyl Profenophos Prometryn Propazine Pyrazophos Ronnel Stirophos Tecnazene Terbutylazine Tetradifon Triadimefon Trifluralin
--	---	---

Water (Microbiology)

AB SOP-00085	Determination of Iron Related and Sulfate Reducing Bacteria using BART™(Modified Dbi Env Tech Verification of the Irb Bart Tester for the Detection and Evaluation of Iron Bacteria in Water and Dbi Enviro Tech Verification of the Srb Bart Tester for the Detection and Verification of Sulphate Reducing Bacteria in Water) Iron Related Bacteria (IRB) Sulfate Reducing Bacteria (SRB)
AB SOP-00089	Total and Fecal Coliforms and E. Coli by defined substrate technique (Modified SM 9223 A, B) Most Probable Number (Colilert) <i>Escherichia coli</i> (<i>E. coli</i>) Total Coliforms Fecal (Thermotolerant) Coliforms
CAL SOP-00012	Heterotrophic Plate Count (Modified SM 9215 A, B and E) Heterotrophic Plate Count (HPC)

Number of Scope Listings: 105

Notes:

MFHPB: Microbiological Foods Health Protection Branch, Health Canada

MFLP: Microbiological Food Laboratory Procedure, Health Canada

MLG: Food Safety and Inspection Services Microbiology Laboratory Guidebook, U.S. Department of Agriculture

SM: Standard Methods for Examination of Water and Wastewater, American Public Health Association (APHA)

EPA: Environment Protection Agency

TCLP: toxicity characteristic leaching procedure



AB SOP: Internal test method (Alberta)

CAL SOP: Internal test method (Calgary)

CCME: Canadian Council of Ministers of the Environment

* These test methods can be performed on-site as per RG-Lab.

This document forms part of the Certificate of Accreditation issued by the Standards Council of Canada (SCC). The original version is available in the Directory of Accredited Laboratories on the SCC website at www.scc-ccn.ca.

Elias Rafoul
Vice-President, Accreditation Services
Publication on: 2024-07-19