



## TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP)

### Scope of Accreditation

Accredited Laboratory No. 836

**Legal Name of Accredited Laboratory:** **Bureau Veritas Canada (2019) Inc. (Formerly Maxxam Analytics)**

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<b>SCC File Number:</b>	151043
<b>Accreditation Standard(s):</b>	ISO/IEC 17025:2017
<b>Fields of Testing:</b>	Biological Chemical/Physical
<b>Program Specialty Area:</b>	Agriculture Inputs, Food, Animal Health and Plant Protection (AFAP) Environmental Testing (ET)
<b>Initial Accreditation:</b>	2016-08-30
<b>Most Recent Accreditation:</b>	2020-05-28
<b>Accreditation Valid to:</b>	2024-08-30

#### 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 Canada (2019) Inc. (Formerly Maxxam Analytics) - 6744 - 50 Street NW, Edmonton, AB, T6B 3M9, Accredited Laboratory No. 160

151039 - Bureau Veritas Canada (2019) Inc. (Formerly Maxxam Analytics) - Unit D, 675 Berry St., Winnipeg, MB, R3H 1A7, Accredited Laboratory No. 837



Testing is performed at the following locations:

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

Inorganic chemistry and water microbiology: 4000-19 Street N.E Calgary, AB T2E 6P8

Organic chemistry: 2021 – 41 Avenue NE, Calgary, AB T2E 6P2

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

Mobile Laboratory, for specific tests where identified below.

## **ANIMAL AND PLANTS (AGRICULTURE)**

### **Foods and Edible Products: (Human and Animal Consumption)**

Assurance GDS® MPX Top 6 Assay BioControl Assurance GDS® MPX Top 6 STEC  
STEC Assay

Assurance GDS® MPX Top 7 BioControl Assurance GDS® MPX Top 7 STEC  
STEC Assay

MFHPB-10	Isolation of <i>Escherichia coli</i> O157:H7/NM from foods and environmental surface samples
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 spp.</i> 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 3MT Petrifilm™ <i>Staph. Express</i> 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 <i>Salmonella</i> 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 spp.</i> 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-00045	Specific Gravity [Modified from SM 2710 F, MSSMA 2.25, and Petroleum and Natural Gas Industries- Field Testing of Drilling Fluids] [Also includes Water - Inorganic, Modified from SM 2710F-Gravimetric Specific Gravity
AB SOP-00047	Free Liquid (Paint Filter Test) [Modified from EPA 9095 B] Volumetric Free Liquid in Waste Samples
CAL SOP-00028	Flammability Test of Readily Combustible Solids [Modified from Recommendations on the Transport of Dangerous Goods: Manual of Tests and Criteria, Section 33] Visual Flammability



**(Water)**

AB SOP-00011	Silica (Reactive) by Konelab - Molybdate/ANSA Reduction Method [Modified from EPA 370.1] Colorimetric Reactive Silica
AB SOP-00016	Chemical Oxygen Demand (Total and Dissolved) [Modified from SM 5220 [D]] Colorimetric COD
AB SOP-00017	Biochemical Oxygen Demand [Modified from SM 5210 B] D.O. Meter BOD (5 day) CBOD (5 day)
AB SOP-00018	Sulfate by Konelab - Automated Turbidimetry Method [Modified from SM 4500-SO4 E] Turbidimetric Sulfate
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-00032	The Determination of Residual Chlorine in Waters [Modified from SM 4500 C1G] Colorimetric Free Chlorine Total Chlorine
AB SOP-00041	Ferrous and Ferric Iron in Water-Colorimetric Determination [Modified from SM 3500-Fe A, B] Colorimetric Ferrous Iron
AB SOP-00058	Dissolved Oxygen- Modified Winkler Method [Modified from SM 4500-O C] Titrimetric Dissolved Oxygen
AB SOP-00060	Naphthenic Acids in water by FTIR [Modified from EPA 3510C R3/FTIR] IR Naphthenic Acids



AB SOP-00061	Total Suspended Solids, Total Fixed Solids, Total Volatile Solids [Modified from SM 2540 D, E] Gravimetric Total Suspended Solids Total Suspended Solids Fixed Total Suspended Solids Volatile
AB SOP-00065	Total Dissolved Solids [Modified from 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 from BC MOE LABORATORY MANUAL SECTION C and EPA 245.7] Mercury
AB SOP-00087	Organic Carbon by Technicon - Persulfate UV Oxidation [Modified from 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 from SM 5520 B, Gravimetric] Total Oil and Grease Total Petroleum Hydrocarbons (TPH)
CAL SOP-00040	Bromate, Chlorate, Chlorite by IC – Conductivity detection [Modified from SM 4110 D] Ion Chromatography Bromate Chlorate Chlorite
CAL SOP-00049	Colour by Konelab [Modified from SM 2120C] Spectrophotometric Apparent colour True Color



CAL SOP-00055	Volatile Organic Acids [Modified from Dionex ICE-AS6 DOC NO 34961] Ion Chromatography Glycolic Acid Lactic Acid
CAL SOP-00057	Iodide/Thiocyanate/Thiosulfate [Modified from DIONEX, DOC NO 034035] Ion Chromatography Iodide Thiocyanate Thiosulfate
CAL SOP-00063	Volatile Organic Acids [Modified from DIONEX ICE-AS1 DOC NO 031181] - Waters Ion Chromatography Acetic Acid Butyric Acid Formic Acid Propionic Acid
CAL SOP-00065	Oxalic Acid by Ion Chromatography - Conductivity Detection [Modified from Standard Methods for Examination of Water and Wastewater, Method 4110B] Ion Chromatography Oxalic Acid
CAL SOP-00071	Sulphite by IC [Modified from SM 4110 B] Ion Chromatography - Conductivity Detector Sulfite
CAL SOP-00074	Total Solids [Modified from SM 2540 B, E] Gravimetric Total Solids Total Solids Fixed Total Solids Volatile
CAL SOP-00076	Total Inorganic Carbon and Dissolved Inorganic Carbon – Auto IR analysis [Modified from SM 5310 A, C] Auto Infrared Inorganic Carbon
CAL SOP-00081	Turbidity – Nephelometric Method [Modified from SM 2130 B] Nephelometric Turbidity



CAL SOP-00099	Extraction and analysis of Resin and Fatty Acids in water by GCMS [Modified from AE 129.0 and EPA 8270E] GC/MS 12,14-Dichlorodehydroabietic Acid 12-Chlorodehydroabietic Acid 14-Chlorodehydroabietic Acid 9,10-Dichlorostearic Acid (C18) Abietic Acid Decanoic Acid C10 Dehydroabietic Acid Docosanoic Acid C22 Dodecanoic Acid C12 Eicosanoic Acid C20 Hexadecanoic Acid C16 Isopimaric Acid Linoleic Acid C18:2 Linoleic Acid C18:3 Neoabietic Acid Octadecanoic Acid C18 Oleic Acid C18:1 Palustric Acid Pimaric Acid Sandaracopimaric Acid Tetradecanoic Acid (C14) Undecanoic Acid (C11) Total of Resin Acids Total of Fatty Acids
CAL SOP-00272	Determination of Tannin and Lignin in Water [Modified from SM 23 5550B] Tannin and Lignin (Total)
CAL SOP-00273	Determination of Chlorophyll and Pheophytin [Modified from SM 23 10200 H] Chlorophyll A Chlorophyll B Chlorophyll C Pheophytin
CAL SOP-00274	Determination of Organic Compounds in Water by Absorption at UV 254 [Modified from SM 23 5910]
CAL SOP-00277	UV Absorbance @254nm Determination of Low Level Silica [Modified from ASTM D859-16] Reactive Silica



**(Water and Soil (Toxicology))**

AB SOP-00083                      15 min. Microtox BioAssay using *Vibrio fischeri* [EPS 1/RM/24]  
BIOLUMINESCENCE  
Microtox IC50 (15 min)

**Air**

AIR SOP-00009                      Sorbent traps for the determination of Mercury Emissions  
(Field)  
[Modified from: Method 30B: Determination of total vapor phase  
mercury emissions from Coal-Fired Combustion Sources Using  
Carbon Sorbent Traps. US EPA Code of Regulations]  
Spectrometer - Atomic Absorption Detector

AIR SOP-00110                      Mercury (Hg)  
Anions-Water  
[Modified from Methods Manual for Chemical Analysis of  
Atmospheric Pollutants, method 52121]  
Ion Chromatography - Conductivity Detector  
Chloride  
Fluoride  
Nitrate  
Sulfate

AIR SOP-00111                      Ammonia – Water  
[Modified from Methods Manual for Chemical Analysis of  
Atmospheric Pollutants, method 52626] Ion Chromatography -  
Conductivity Detector

AIR SOP-00112                      Ammonia  
Fixed Gases - Air  
[Modified from Method 3, Alberta Stack Sampling Code, 1995,  
Publication Number: REF.89 and EPA 3C  
GC/TCD  
CO  
CO2  
N2  
O2

AIR SOP-00113                      Formaldehyde – Water  
[Modified from Methods Manual for Chemical Analysis of  
Atmospheric Pollutants, method 12525] Colorimetric  
Formaldehyde

AIR SOP-00114                      Hydrocarbons - Air  
[Modified from AENV18]  
GC/FID





AIR SOP-00115	Total Hydrocarbons as Methane Total Particulates - Air Filter [Modified from method 5, Determination of Particulate Emissions from Stationary Sources, Alberta Stack Sampling Code, 1995, Publication Number: REF.89] Gravimetric Particulates
AIR SOP-00116	Total/Trace Reduced Sulfur - Air (Field) [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
AIR SOP-00122	Chlorine and Chlorine Dioxide – Air (Field) [Modified from Alberta Environment Stack Code, 1995, Publication Number REF 89] Iodometric Determination Chlorine Chlorine Dioxide

**Soil/Solid**

AB SOP-00002	Moisture Content in Soil [Modified from 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 from EPA 8270E, EPA 3540C, EPA 8270E ] - 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 Electrolytic Conductivity by Manual Meter [Modified from SM 2510B - Soils and waters Conductivity Meter (Manual) Conductivity
AB SOP-00005	Alkalinity Conductivity Fluoride and pH by PC-Titrate [Modified from SM 2510 B, SM 4500 H+B, SM 2320 B, SM 4500-F C] - Soil & Waters PC Titrate Conductivity (25 °C) Alkalinity Fluoride pH Acidity
AB SOP-00006	pH by Manual Meter [Modified from SM 4500-H+ B] Soils and waters pH Meter pH
AB SOP-00007	Ammonia-Nitrogen by Konelab - Phenate colorimetric method [Modified from SM4500-NH3 A&G]- Soils and water [Modified from SM4500-NH3 A&G]- Waters Ammonia Ammonia – Extraction Colorimetric
AB SOP-00008	TKN by Konelab [Modified from EPA 351.1, EPA 351.2] - Soil and Waters Colorimetric Total Kjeldahl Nitrogen
AB SOP-00012	Total Organic Carbon and Organic Matter in Soil [Modified from Methods Manual for Soil and Plant Analysis, Pages 27-30] Reflux – Titrimetric Organic Matter – Calculation



AB SOP-00019	Total Organic Carbon Calcium Carbonate Equivalence by pH [Modified from SSMA 20.2] pH Meter
AB SOP-00020	Calcium Carbonate Equivalence (CCE) Chloride by Konelab - Automated Ferric Thiocyanate Method [Modified from SM 4500Cl-E] - Soils and waters Colorimetric Chloride
AB SOP-00022	Particle Size Distribution by Sieve Analysis [Modified from ASTM D6913] Gravimetric/SIEVE Grain size Particle size by sieve (Special)
AB SOP-00023	Nitrite and Nitrate by Ion Chromatography [Modified from SM 4110 B] – Soil and Waters Ion Chromatography Nitrate Nitrite
AB SOP-00025	Ortho-phosphate by Konelab - Ascorbic Acid Reduction Method [Modified from SM 4500-P, A and F] - Waters and soils Colorimetric Auto Color Ortho-phosphate
AB SOP-00026	Chloride, Sulphate and Bromide by Ion Chromatography [Modified from SM 4110B] - Soils and waters Ion Chromatography Chloride Sulfate
AB SOP-00030	PSA by Hydrometer - Texture (Sand, Silt, Clay and gravel) Analysis [Modified from SSMA 55.3] Hydrometer % clay % gravel % sand % 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 from EPA 8260D, GC/MS - HEADSPACE] - Soils and Waters [F1/PHC: Modified from CCME Petroleum Hydrocarbons - Tier 1 Method and EPA5021A] - Soils and Waters [BTEX TCLP: EPA 1311] GC/MS - HEADSPACE 1,2,4-Trimethyl Benzene Benzene C5-C10 Ethylbenzene F1: C6-C10 Hexane m/p-xylene Methyl tert-butyl ether (MTBE) o-xylene Styrene Toluene
AB SOP-00040	Analysis of Extractable Hydrocarbons in Water and Soils by GCFID C6-C50 Hydrocarbons F2(C10-C16 Hydrocarbons) F3(C16-C34 Hydrocarbons) F3A(C16-C22 Hydrocarbons) F3B(C22-C50 Hydrocarbons) F4(C34-C50 Hydrocarbons) Reached Baseline at C50 F4G-SG (Heavy Hydrocarbons-Grav.) Total Extractables C10 to C30 Total Extractables C10 to C22 Total Extractables C23 to C60 F4 HTG(>C34 – High Temp GC) Total Petroleum Hydrocarbon Visible Sheen
AB SOP-00042	Metals on Liquids and Solids by ICPOES [Modified EPA 6010 D-Soils and Waters ICP/OES Aluminum Barium Boron Calcium Chromium Iron Lithium



AB SOP-00043

Magnesium  
Manganese  
Phosphorus  
Potassium  
Silicon  
Sodium  
Strontium  
Sulfur  
Thorium  
Metals Analysis on Soils and Waters Using ICPMS  
[Modified from EPA 6020 B] - Soils and Waters  
[TCLP: EPA 1311]  
ICP/MS  
Aluminum  
Antimony  
Arsenic  
Barium  
Beryllium  
Bismuth  
Boron  
Cadmium  
Calcium  
Chromium  
Cobalt  
Copper  
Iron  
Lead  
Lithium  
Magnesium  
Manganese  
Mercury  
Molybdenum  
Nickel  
Palladium  
Potassium  
Selenium  
Silicon  
Silver  
Sodium  
Strontium  
Sulphur  
Tellurium



	Thallium
	Tin
	Titanium
	Tungsten
	Uranium
	Vanadium
	Zinc
	Zirconium
AB SOP-00049	Particle Size Distribution by Hydrometer [Modified from ASTM D422-63] Hydrometer Particle Size Distribution
AB SOP-00050	Dry Bulk Density and Wet Bulk Density [Modified from McKeague and MSSMA Section 2.21] Gravimetric Bulk Density
AB SOP-00052	Bromide by Ion Chromatography - UV Detection [Modified from SM 4110 B] – Soils and waters Ion Chromatography/UV Detector Bromide
AB SOP-00056	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] 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
	Chlorodibromomethane
	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	Flashpoint by Small Scale Closed Cup Tester (SetaFlash) [Modified from ASTM D3828] Seta Flash Closed Cup Flashpoint
AB SOP-00063	Hexavalent Chromium by Konelab [Modified from SM 3500-Cr B]- Soil and water Colorimetric Hexavalent Chromium
AB SOP-00067	Elemental Sulfur [Modified from Canadian Journal of Soil Science, 65. Pages 811-813, 1985] Colour-Extraction Elemental Sulphur
AB SOP-00071	Electrolytic Conductivity in Water and Soil by Manual Meter - Mobile Lab [Modified from SM 2510 B] – Waters and soil Conductivity Meter Conductivity (25 °C)
AB SOP-00073	Moisture in Solid Samples-Mobile Lab [Modified from CCME PHC-CWS] Gravimetric



AB SOP-00074	% Moisture Determination of pH in Water and Soil by Manual Meter - Mobile Laboratory) [Modified from SM 4500H+ B] – Soils and waters pH Meter pH
AB SOP-00075	Preparation of Saturation Samples - Mobile Lab [Modified from SSMA Method 15.2] Gravimetric % Saturation
AB SOP-00076	BTEX/F1 – Soil and Water (Mobile lab) [BTEX: Modified from EPA 8021B] – GC/PID - Headspace [F1: CCME Hydrocarbons Tier 1, BCMOE Section D, BCMELP] - GC/FID - Headspace Benzene C6-O-Xylene Ethylbenzene F1:C6-C10 m/p-xylene o-xylene O-Xylene-C10 Styrene Toluene Total C6-C10
AB SOP-00077	Extractable Hydrocarbon – Soil and Water (Mobile lab) [Modified from CCME hydrocarbons Analysis tier 1, BCMOE Section D, BCMELP]-Soils and waters GC/FID - Direct Injection EPH (C10-C19) EPH (C19-C32) F2: C10-C16 F3: C16-C34 F4: C34-C50 TEH (C10-C30)
AB SOP-00078	Chloride Analysis by Hach DR2800- Mobile Laboratory [Modified from SM 4500-Cl E] - Soils and waters Colorimetric Chloride
AB SOP-00080	Sulphide, Low level [Modified from SM 4500-S2D, A, F] Soil and water Colorimetric Sulphide





AB SOP-00088	Phenolics Phenolics Automated 4-AAP Colorimetry [Modified from SSMA Chapter 40]-Soil [Modified from EPA 9066]-Water Colorimetric – Distillation Extraction Phenol
AB SOP-00091	NO <sub>2</sub> and TON by Gallery Plus [Modified from SM 4500-NO <sub>3</sub> -H] Nitrite Total Oxidized Nitrogen (TON)
CAL SOP-00032	Spontaneous combustion (Self Heating) [Modified from 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-00052	Diisopropanolamine [Modified from DIONEX PAX500 DOC #034217] - Water and soil IC -Extraction Diisopropanolamine (DIPA)
CAL SOP-00054	Amines [Modified from DIONEX PAX500 DOC #034217] - Water and soil IC – Extraction Diethanolamine (DEA) Methyldiethanolamine (MDEA) Monoethanolamine (MEA)
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 Ethylene Glycol Propylene Glycol Sulfolane Tetraethylene Glycol Triethylene Glycol
CAL SOP-00094	Herbicides [Modified from 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
	Bromoxynil
	Chloramben
	Dicamba
	Dichlorprop
	Diclofop-methyl
	Dinoseb (DNBP)
	MCPA
	MCPP
	Pentachlorophenol
	Picloram
CAL SOP-00096	Extraction and Analysis of OG and TPH in Water and Soil by FTIR [Modified from SM 23 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 from EPA 8260D and EPA 5021A] [VOC TCLP: EPA 1311]- Soils and waters GC/MS – HS/Extraction 1,2,3-trichloropropane 1,1-dichloropropene 1,2-dibromo-3-chloropropane 1,3-dichloropropane 2,2-dichloropropane 2-butanone (MEK) 2-chlorotoluene 2-hexanone 2-nitropropane 4-chlorotoluene 4-methyl-2-pentanone (MIBK) Acetone Acetonitrile Acrolein Acrylonitrile Bromobenzene Bromochloromethane Carbon disulphide Cyclohexane Cyclohexanone Dibromomethane



	Dichlorodifluoromethane
	Dicyclopentadiene
	Ethyl acetate
	Ethyl ether
	Ethyl methacrylate
	Hexachlorobutadiene
	Hexane
	Iodomethane
	Isopropylbenzene
	Naphthalene
	n-Butylbenzene
	Nitrobenzene
	n-Propylbenzene
	p-Isopropyltoluene
	sec-Butylbenzene
	tert-Butylbenzene
CAL SOP-00149	Polychlorinated Biphenyls (PCB) [Modified from EPA 8082A] -Soils, waters and oil GC/ECD - Extraction
	Aroclor 1016
	Aroclor 1221
	Aroclor 1232
	Aroclor 1242
	Aroclor 1248
	Aroclor 1254
	Aroclor 1260
	Aroclor 1262
	Aroclor 1268
	Total PCB
CAL SOP-00164	Semi Volatile Phenols [Modified from 8270E] - Soils and waters GC/MS - Extraction
	2,3,4,5-tetrachlorophenol
	2,3,4,6-tetrachlorophenol
	2,3,4-trichlorophenol
	2,3,5,6-tetrachlorophenol
	2,3,5-trichlorophenol
	2,3,6-trichlorophenol
	2,3-dichlorophenol
	2,4,5-trichlorophenol
	2,4,6-trichlorophenol
	2,4-dichlorophenol



	2,4-dimethylphenol
	2,4-dinitrophenol
	2,5-dichlorophenol
	2,6- dimethylphenol
	2,6-dichlorophenol
	2-chlorophenol
	2-methylphenol
	2-nitrophenol
	3&4-chlorophenol
	3&4-methylphenol
	3,4,5-trichlorophenol
	3,4-dichlorophenol
	3,4-dimethylphenol
	3,5-dichlorophenol
	4,6-dinitro-2-methylphenol
	4-chloro-3-methylphenol
	4-nitrophenol
	Pentachlorophenol
	Phenol
CAL SOP-00184	Aliphatic and Aromatic fractionation and analysis for >C10-C50 PHC [Modified from Atl RBCA m] – Soils and Waters GC/FID >C10-C12 Aliphatic >C10-C12 Aromatic >C12-C16 Aliphatic >C12-C16 Aromatic >C16-C21 Aliphatic >C16-C21 Aromatic >C21-C34 Aliphatic >C21-C34 Aromatic >C34 Aliphatic (Up to C50) >C34 Aromatic (Up to C50)
CAL SOP-00239	BC Extractable Petroleum Hydrocarbons in Water and Soil by GC/FID [Modified from BCMOE EPH S 12/16]- soils and water GC/FID EPH: C10-C19 EPH: C19-C32



CAL SOP-00240	Fractionation for C6-C10 and BC method VPH by Headspace GC/FID/MS [Modified from volatile HC in soils by GC/FID and EPA method 5021A, BC MELP VH; Atl. RBCA] - Soils and waters GC/FID Benzene C6-C8 C6-o-Xylene C8-C10 Aromatic Ethylbenzene m&p-xylene Methyl-tert-butylether o-xylene o-Xylene-C10 Styrene Toluene
CAL SOP-00243/CAL SOP-00263	Carbon, Nitrogen and Sulfur [Modified from LECO Corporation Form No. 203-821-170,203-821-165 and Vario El Cube No AN-A-030609, Total Organic Carbon (TOC/FOC) in soil/sediment by combustion (PBM)] - Soils IR Combustion Carbon Nitrogen Organic Carbon Sulphur
CAL SOP-00250	Preparation and analysis of Alkylated PAH in soils and water [Modified from SM 8270 E and ESTD-OR-20]- Soils and waters GC/MS – Extraction 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  
C1-Fluorene  
C1-Naphthalene  
C1-Phenanthrene / anthracene  
C1- Fluoranthene / pyrene  
C2-Benzo(bjk)fluoranthene / Benzo[a]pyrene  
C2-Biphenyl  
C2-Benzo(a)anthracene / chrysene  
C2-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  
C4- Fluoranthene / Pyrene  
Chrysene  
Dibenzo (a,h) anthracene  
Dibenzothiophene  
Fluoranthene  
Fluorene  
Indeno (1,2,3 - cd) pyrene  
Indeno (1,2,3-cd) fluoranthene  
Naphthalene  
Perylene  
Phenanthrene  
Pyrene  
Quinoline  
Retene



CAL SOP-00251	Extraction and analysis of low level Sulfolane in water and soil by GCMS [Modified from EPA 8270E] GC/MSD - Extraction Sulfolane
CAL SOP-00258	Liquid limit, plastic limit and plasticity index of soil [Modified from ASTM D4318] ATTERBERG LIMITS TEST Liquid limit Plastic limit Plasticity index
CAL SOP-00264	Preparation and Analysis of Alcohol/Solvents (Water, soil, oil) by GCFID [Modified from EPA 8015D] –Soils and waters GC/FID – Extraction 2-Methylphenol 3-Methylphenol 4-Methylphenol Acetone (2-Propanone) Ethanol Isobutanol Isopropanol Methanol (also available in the mobile lab) n-butanol Nitrobenzene n-propanol Pyridine
CAL SOP-00265	ICPMS Analysis for Low Level Metals [Modified from EPA SW846 Method 6020B]-Soils and waters ICPMS 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  
Zinc  
Zirconium  
Free Cyanide  
[Modified from EPA Method 9016]-Water  
Colorimetric- Distillation  
Free cyanide

CAL SOP-00266





CAL SOP-00270	Determination of cyanide by automated colourimetry [Modified from SM 23 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 from BC MOE Laboratory Manual and EPA SW846 8270]- Water and Soil 2-Hydroxyphenol (Catechol) 3-Hydroxyphenol (Resorcinol) 4-Hydroxyphenol (Hydroquinone)

### Water (Microbiology)

AB SOP-00085	Determination of Iron-Related and Sulfate Reducing Bacteria using the BART Method [Modified from 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 BART™ Iron Related Bacteria (IRB) Sulfate Reducing Bacteria (SRB)
AB SOP-00089	Total and Fecal Coliforms by defined substrate technique. [Modified from 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 (HPC) [Modified from SM 9215 A, B] Pour Plate Heterotrophic Plate Count (HPC)

Number of Scope Listings: 126

### **Notes:**

**ISO/IEC 17025:** General Requirements for the Competence of Testing and Calibration Laboratories

**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

**AB SOP:** Internal test method (Alberta)



**Standards Council of Canada**  
**Conseil canadien des normes**

**CAL SOP:** Internal test method (Calgary)

**CCME:** Canadian Council of Ministers of the Environment

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