TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP)

Scope of Accreditation

Legal Name of Accredited Laboratory:	**Bureau Veritas**
Location Name or Operating as (if applicable):	Burnaby Laboratory
Contact Name:	Stephanie Chang
Address:	4606 Canada Way Burnaby, British Columbia V5G 1K5
Telephone:	604 734 7276
Website:	www.bvna.com
Email:	Burnaby-QualityAssuranc@bureauveritas.com

SCC File Number:	15188
Accreditation Standard(s):	ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
Fields of Testing:	Biological Chemical/Physical Forensic
Program Specialty Area:	Agriculture Inputs, Food, Animal Health and Plant Protection (AFAP) Environmental Testing (ET) Forensic Test Method Development and Non-routine Testing (TMDNRT)
Initial Accreditation:	1993-06-08
Most Recent Accreditation:	2024-05-03
Accreditation Valid to:	2025-06-08

Remarque: La présente portée d'accréditation existe également en français, sous la forme d'un document distinct.
Note: This scope of accreditation is also available in French as a document issued separately.

TEST METHOD DEVELOPMENT AND NON_ROUTINE TESTING

Canada

Note: The laboratory accredited under this PSA has demonstrated that it meets ISO/IEC 17025 requirements for non-routine testing under the following product classification.

Description of activities – chemical analysis:

1. Development and validation of new testing methodology for the screening and determination of chemical compounds in food samples.
2. Development and validation of mass spectral techniques in food samples.

Description of techniques – chemical analysis:

1. GC, GC-MS and GC-MS-MS
2. HPLC, LC-MS and LC-MS-MS

FORENSICS

Description of activities- forensic equine drug testing

1.Screening and confirmatory analysis for drugs and metabolites in equine body fluids, including quantification where required.

2.Testing of known and unknown substances including powders, liquids, dosage forms, feeds, drug administration paraphernalia and other materials for the presence of drugs in horse hair, urine and blood.

Description of techniques - forensic equine drug testing

a. High-performance liquid chromatography (HPLC)
b. Immunoassay
c. Mass spectrometry
d. Sample preparation, extraction and general chemical tests

ANIMAL AND PLANTS (AGRICULTURE)

Foods and Edible Products (Human and Animal Consumption):

Food Methods: Proximate Analysis

BBY4SOP-00104	Determination Histamine in Fish

Fruits and Vegetables, Processed Foods, Animal Tissue, Meat, Fish, Dairy, Honey, Eggs and Egg Products and Animal Derived Foods

BBY4SOP-00048	Determination of Tetracyclines in Tissue and Animal Derived Foods
BBY4SOP-00052	Determination of Phenol in Honey
BBY4SOP-00066	Determination of Pesticides in Animal Derived Foods
BBY4SOP-00118	Determination of Herbicides in Food

BBY7SOP-00011	Analysis of Metals in Meat, Fruit and Vegetables, Processed Foods and Animal Derived Foods by ICP-MS
BBY7SOP-00021	Digestion of Tissue, Vegetation for Analysis of Heavy Metals

Microbiological

AOAC 2014.05	Enumeration of Yeast and Moulds in Food using 3M™ Petrifilm™ Rapid Yeast And Mold Count (RYM) Plate
Assurance GDS® MPX Top 7 STEC Assay	BioControl Assurance GDS® MPX Top 7 STEC
COR1SOP-00019	Enumeration of Coliforms, Faecal Coliforms and *E.coli* in Foods by using the MPN Method(Modified MFHPB-19; option of standard 3-tube and 10-tube MPN Method)
FDA BAM Chapter 5	BAM FDA Isolation and Identification of *Salmonella* in Food and Environment Samples
MFHPB-10	Isolation of *Escherichia coli* O157:H7/NM from foods and environmental surface samples
MFHPB-18	Determination of Aerobic Colony Count in Foods
MFHPB-19	Enumeration of Coliforms, Faecal Coliforms and *E. coli* in Foods by using the MPN Method
MFHPB-20	Isolation and Identification of *Salmonella* from Foods and Environmental Samples
MFHPB-21	Enumeration of *Staphylococcus aureus* in Foods
MFHPB-22	Enumeration of Yeasts and Molds in Foods
MFHPB-23	Enumeration of *Clostridium perfringens* in Foods
MFHPB-24	Detection of Salmonella spp. in Foods by the VIDAS® SLMTM Method
MFHPB-29	VIDAS Detection of *Listeria spp*. in Food, Environmental Samples
MFHPB-30	Isolation of *Listeria monocytogenes* and *Listeria 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 *E. coli* and Coliforms in Food Products and Food Ingredients using 3M™ Petrifilm™ *E. coli Count* Plates
MFHPB-35	Enumeration of Coliforms in Food Products and Food Ingredients using 3M™ Petrifilm™ Coliform Count Plates

MFLP-09	Enumeration of *Enterobacteriaceae* Species in Food and Environmental Samples Using 3M Petrifilm *Enterobacteriaceae* Count Plates
MFLP-16	Detection of *Escherichia coli* O157:H7 in Foods - Assurance GDS® for *E. coli* O157:H7 Gene Detection System
MFLP-21	Enumeration of *Staphylococcus aureus* in Foods and Environmental Samples Using 3M™ Petrifilm™ Staph Express Count (STX) Plates
MFLP-25	Isolation and Identification of *Shigella spp*. From Foods
MFLP-28	The Qualicon BAX ®System Method for the Detection of *Listeria monocytogenes* in a Variety of Food
MFLP-29	The Qualicon BAX® System for the Detection of *Salmonella* in Foods and Environmental Surface Samples
MFLP-30	Detection of *E. coli* O157:H7 in select foods using the BAX® system *E. coli* O157:H7 MP
MFLP-33	Detection of *Listeria monocytogenes* in Foods by the VIDAS LMO 2™ Method
MFLP-37	Part 1: Detection of Halophilic Vibrio Species in Seafood Part 2: Detection of *Vibrio cholerae*
MFLP-38	Detection of *Salmonella spp*. from All Foods and Selected Environmental Surfaces using IQ-Check™ Salmonella Real-time PCR Test Kit
MFLP-39	Detection of *Listeria spp*. from Environmental Surfaces and heat processed RTE Meat and Poultry Using iQ-Check™ *Listeria spp*. Real-Time PCR Test Kit
MFLP-42	Isolation and Enumeration of *Bacillus cereus* Group in Foods
MFLP-46	Isolation of Thermophilic *Campylobacter* from Food
MFLP-49	Detection of Salmonella *spp* in Food Products and environmental surfaces by the VIDAS® UP Salmonella (SPT) Method
MFLP-54	Detection of *Listeria monocytogenes* from selected foods using iQ-Check™ *Listeria monocytogenes* Real-Time PCR Test Kit
MFLP-59	Detection of *Listeria spp.* in food products and environmental surface samples with VIDAS® UP *Listeria* (LPT)

MFLP-74	Enumeration of *Listeria monocytogenes* in Food
MFLP-77	Detection of *Listeria* spp. in food products and environmental samples by the VIDAS® *Listeria* species Xpress (LSX) method
MFLP-79	Detection of *Listeria* spp. in Environmental Surface Samples Using the BAX® System Real-Time PCR Assay for *Listeria* Genus
MLG4	FSIS Procedure for the Isolation and Identification of *Salmonella* from Meat, Poultry, Pasteurized egg and Siluriformes (Fish) products and Carcass and Environmental Sponge samples
MLG41	Isolation, Identification of Campylobacter jejuni/coli/lari from Poultry Rinse and Sponge and Raw Product Samples
COR1SOP-00089	USP: Enterobacterial Count in NHP by MPN Method
COR1SOP-00093	USP: Detection and Enumeration for *Pseudomonas aeruginosa* in NHP
MICCLSOP-00020	Japanese Method - *Coliform Bacilli Test Method for Frozen Foods with Desoxycholate Agar*

Natural Health Products

BBY4SOP-00150	Determination of Pesticides in Natural Health Products
USP40-NF35 S1. Dietary Supplements Chapters: 2021	Microbial Enumeration Tests-Nutritional and Dietary Supplements. Total Aerobic Microbial Count by Plate Method
USP40-NF35 S1. Dietary Supplements Chapters: 2021	Microbial Enumeration Tests-Nutritional and Dietary Supplements Total Combined Molds and Yeast Count by Plate Method
USP40-NF35 S1. Dietary Supplements Chapters: 2022	Microbiological Procedures for absence of specified microorganisms - Nutritional and Dietary Supplements Test for Absence of *Staphylococcus aureus*
USP40-NF35 S1. Dietary Supplements Chapters: 2022	Microbiological Procedures for absence of specified microorganisms - Nutritional and Dietary Supplements Test for Absence of *Salmonella species*
USP40-NF35 S1. Dietary Supplements Chapters: 2022	Microbiological Procedures for absence of specified microorganisms - Nutritional and Dietary Supplements Test for Absence of *Escherichia coli*

Other

BBY4SOP-00032	Determination of Aminoglycocides in Tissue and Animal Derived Foods
BBY4SOP-00033	Determination of Dithiocarbamates (EBDC) in Fruits and Vegetables, Processed Foods and Animal Derived Foods by CS2 Evolution
BBY4SOP-00035	Determination of Chlorinated Phenols in Tissue and Animal Derived Foods
BBY4SOP-00036	Determination of Fluoroquinolones and Quinolones in Tissue and Animal Derived Food
BBY4SOP-00037	Determination of Synthetic Pyrethrins in Animal Tissue and Animal Derived Foods
BBY4SOP-00038	Determination of Carbamates in Tissue and Animal Derived Foods
BBY4SOP-00043	Determination of Ethylenebisdithiocarbamate (EBDC) in Fruits and Vegetables, Processed Foods and Animal Derived Foods
BBY4SOP-00044	Determination of Daminozide (ALAR) in Fruits and Vegetables, Processed Foods and Animal Derived Foods
BBY4SOP-00045	Determination of Ethylenethiourea in Fruits and Vegetables, Processed Foods and Animal Derived Foods
BBY4SOP-00046	Determination of Coccidiostats in Tissue and Animal Derived Foods
BBY4SOP-00047	Determination of Gestagens in Animal Tissue and Dairy
BBY4SOP-00050	Determination of Sulfonamides in Tissue and Animal Derived Foods
BBY4SOP-00051	Determination of Amitraz and Metabolites in Fruits and Vegetables, Processed Foods and Animal Derived Foods
BBY4SOP-00054	Determination of Dipyrone Related Residues in Tissue and Animal Derived Foods
BBY4SOP-00055	Determination of Free and Total Residues of Beta Agonists in Tissue and Animal Derived Foods
BBY4SOP-00056	Determination of Virginiamycin in Tissue and Animal Derived Foods
BBY4SOP-00059	Determination of Ceftiofur-Related Residues in Tissue and Animal Derived Foods

BBY4SOP-00060	Determination of Benzimidazoles in Tissue and Animal Derived Foods
BBY4SOP-00062	Determination of Endectocides in Tissue, Feed and Animal Derived Foods
BBY4SOP-00063	Determination of Phenylbutazone in Tissue and Animal Derived Foods
BBY4SOP-00064	Determination of Protein Bound Metabolites of Nitrofurans in Tissue and Animal Derived Foods
BBY4SOP-00068	Determination of Tranquilizers and Carazolol in Tissue and Animal Derived Foods
BBY4SOP-00069	Determination of Morantel and Pyrantel Drug Related Metabolites in Tissue and Animal Derived Foods
BBY4SOP-00070	Determination of Zeranol and Stilbenes in Tissue and Animal Derived Foods
BBY4SOP-00079	Determination of Volatile Pesticides in Tissue
BBY4SOP-00080	Detection of Thyreostats in Animal Tissue, Eggs and Dairy
BBY4SOP-00082	Determination of Triphenylmethane Dyes in Tissue
BBY4SOP-00083	Determination of Carbadox and Olaquindox-Related Metabolites in Tissue
BBY4SOP-00084	Determination of Amphenicols in Tissue and Animal Derived Foods
BBY4SOP-00085	Determination of Bacitracin A in Tissue and Animal Derived Foods
BBY4SOP-00086	Determination of Nitroimidazoles in Tissue and Animal Derived Foods
BBY4SOP-00087	Determination of Aflatoxin in Dairy
BBY4SOP-00089	Determination of Beta Lactams in Animal Tissue and Animal Derived Foods
BBY4SOP-00091	Determination of Non-Steroidal Anti-Inflammatory Drugs (NSAIDS), Hormones and Corticosteroids in Animal Tissue, Eggs and Dairy
BBY4SOP-00092	Determination of Melamine in Eggs, Dairy and Processed Foods
BBY4SOP-00093	Determination of Bisphenol A in Dairy and Processed Foods
BBY4SOP-00094	Determination of Ochratoxin A in Cereals and Processed Foods
BBY4SOP-00099	Determination of Macrolides in Tissue and Animal Derived Foods
BBY4SOP-00111	Aflatoxins in Food and Animal Feed

BBY4SOP-00123	Determination of Pesticides in Process Foods by GCMSMS and LCMSMS
BBY4SOP-00128	Determination of Pesticides in FV Products and Honey by GC/LC
BBY4SOP-00129	Determination of Pesticides in Tissue by GCMSMS and LCMSMS
BBY4SOP-00130	Determination of Tiamulin in Animal Tissue
BBY4SOP-00131	Determination of 3-monochloropropane-1,2-diol (3-MCPD) in Food and Food Ingredients
BBY4SOP-00132	Multi-Residue Determination of Multi-Class Drugs in Urine
BBY4SOP-00134	Determination of Ethyl Carbamate in Beverages and Processed Food
BBY4SOP-00135	Determination of Diquat and Paraquat in Fruit, Vegetables and Processed Foods
BBY4SOP-00136	Determination of Glyphosate and Metabolites in Fruit, Vegetables and Processed Foods
BBY4SOP-00137	Determination of Alternaria Mycotoxins in Beverages and Honey
BBY4SOP-00138	Multi-Residue Determination of Multi-Class Drugs in Animal Tissue and Animal Derived Foods
BBY4SOP-00139	Multi-Residue Determination of Multi-Class Antibiotics in Honey
BBY4SOP-00142	Determination of Steroids and Stilbenes in Fish
BBY4SOP-00144	Multi-Residue Determination of Multi-Class Drugs in Animal Feed and Pre-Feed
BBY4SOP-00146	Determination of T-2 and HT2 Mycotoxins in Processed Foods
BBY4SOP-00147	Determination of Zearalenone and Related Mycotoxins in Processed Foods
BBY4SOP-00149	Multi-residue determination of Mycotoxins in Processed Foods
BBY4SOP-00152	Determination of Polar Pesticides in Food

ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND SAFETY

Environmental:

Water (Microbiology)

BBY4SOP-00001	Total and Fecal Coliform and *E. coli* in Water by Membrane Filtration
BBY4SOP-00003	Heterotrophic Plate Count in Water
BBY4SOP-00005	*Pseudomonas aeruginosa* Count in Water by Membrane Filtration
BBY4SOP-00006	*Enterrococcus* Count in Water by Membrane Filtration
BBY4SOP-00143	Enumeration of Coliforms and *E. coli* by MF using Chromocult

Biological Tissues

BBY4SOP-00108	Determination of Polycyclic Aromatic Hydrocarbons in Tissue by GC/MS
BBY7SOP-00002	Determination of Metals in Environmental Samples Using CRC ICPMS
BBY7SOP-00012	Determination of Hg in Solids, Tissues and Miscellaneous Solids by CVAFS
BBY7SOP-00030	Methyl Mercury in Biota, Sediment and Soil Samples by GC-Pyrolysis-CVAFS

Air

BBY5SOP-00005	Analysis of Total Suspended Particulates (TSP), PM2.5, and PM10 in Air [modified from BC Environmental Laboratory Manual Section G and EPA 600/R-94/038B] Particulate>2.5 microns (gravimetric)
BBY7SOP-00016	Preparation of Air Filters for Metals Analysis [modified from NIOSH 7303]

BBY7SOP-00002	Determination of Metals in Environmental Samples Using CRC ICPMS [modified from EPA 6020] Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Molybdenum Nickel Phosphorus Potassium Selenium Sodium Strontium Sulphur (Sulfur) Tin Titanium Uranium Vanadium Zinc Zirconium

BBY7SOP-00018	Analysis of Various Sample Types by ICP-OES [EPA 6010] Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Molybdenum Nickel Phosphorus Potassium Selenium Sodium Strontium Sulphur (Sulfur) Tin Titanium Vanadium Zinc Zirconium

BBY8SOP-00027	Determination of Polycyclic Aromatic Hydrocarbons in Air by GC/MS [modified from BC Environmental Laboratory Manual (Preparation) and EPA 8270 (Analysis)] Acenaphthene Acenaphthylene Anthracene Benzo (a) anthracene Benzo(a)pyrene Benzo(b,j)fluoranthene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo (a,h) anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene Naphthalene Perylene Phenanthrene Pyrene

BBY8SOP-00058	VOCs In Air/vapour Using TD Tubes with Analysis by GC/MS [modified from BC Environmental Laboratory Manual Section H] 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,1,1-Trichloroethane 1,1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane (DBCP) 1,2-Dibromoethane (Ethylene dibromide) 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,3-Butadiene 1,3-Dichlorobenzene 1,3-Dichloropropane 1,3,5-Trimethylbenzene 1,4-Dichlorobenzene 2-Butanone (Methyl ethyl ketone, MEK) 2-Chlorophenol 2-Chlorotoluene 2-Hexanone (Methyl butyl ketone, MBK) 2-Propanol (Isopropyl alcohol) 4-Chlorotoluene (p-Chlorotoluene) 4-isopropyltoluene (p-Cymene) 4-Methyl-2-pentanone (MIBK) Acetone Benzene Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon Disulphide Carbon tetrachloride Chlorobenzene Chloroethane (Ethyl Chloride)

	Chloroethene (Vinyl chloride) Chloroform cis-1,2-Dichloroethylene cis-1,3-Dichloropropene Dibromochloromethane Dibromomethane Dichlorodifluoromethane (Freon12) Dichloromethane Ethyl Acetate Ethylbenzene Hexachlorobutadiene Isopropanol Isopropylbenzene (Cumene) m,p-Xylene Methyl tert-butyl ether (MTBE) Methylcyclohexane n-Butylbenzene n-Decane n-Hexane n-Propylbenzene Naphthalene o-Xylene sec-Butylbenzene Styrene tert-Butylbenzene Tetrachloroethylene Toluene trans-1,3-Dichloropropene Trichloroethene Trichlorofluoromethane Trichlorotrifluoroethane Volatile Hydrocarbons (VH): C6-C13

Soil/Solid/Water/Wastewater

BBY6SOP-00010	Nitrite and Nitrite Plus Nitrate by Automated Colourimetric Method [modified from SM 4500-NO3- I] Nitrate + Nitrite Nitrogen Nitrite
BBY6SOP-00017	Determination of Sulfate by Konelab [modified from SM 4500-SO4 2-] Sulphate

BBY8SOP-00010	Determination of BTEX in Soil and Waters by Headspace-GC-MS [modified from EPA 5021 and EPA 5035 and EPA 8260] Benzene Ethylbenzene m,p-Xylene Methyl t-butyl ether o-Xylene Styrene Toluene
BBY8SOP-00011	VH Analysis in Soils and Waters by Headspace GC/FID [modified from BC Environmental Laboratory Manual Section D] VH: C6-C10 VPH: C6-C10 – BTEX
BBY8SOP-00029	Extractable Hydrocarbons (Water, Soils, Product, TPH) [modified from BC Environmental Laboratory Manual Section D] Extractable Petroleum Hydrocarbons (EPH): C10-C19 Extractable Petroleum Hydrocarbons (EPH): C19-C32 Total Extractable Hydrocarbons (TEH): C10-C30
BBY8SOP-00030	Determination of CCME (F2-F4) in Water and Soil [CCME CWS PETROLEUM HYDROCARBONS IN SOIL - TIER 1 METHOD] F2: C10-C16 F3: C16-C34 F4: C34-C50
BBY8SOP-00012	F1 and LH Analysis for Soils and Waters by Headspace GC/FID [CCME CWS PETROLEUM HYDROCARBONS IN SOIL - TIER 1 METHOD] F1: C6-C10 F1-BTEX: C6-C10 – BTEX

BBY8SOP-00054	CP, NCP, HydroxyPhenol in water (MTBE extraction) and soil by GC/MS [modified from BC Environmental Laboratory Manual Section D] 2-Chlorophenol 2-Hydroxyphenol (Catechol) 2-Methyl-4,6-dinitrophenol (4,6-Dinitro-o-cresol, DNOC) 2-Methylphenol (o-Cresol) 2-Nitrophenol 2,3-Dichlorophenol 2,3,4-Trichlorophenol 2,3,4,5-Tetrachlorophenol 2,3,4,6-Tetrachlorophenol 2,3,5-Trichlorophenol 2,3,5,6-Tetrachlorophenol 2,3,6-Trichlorophenol 2,4 + 2,5-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,6-Dichlorophenol 2,6-Dimethylphenol 3 + 4-Chlorophenol 3 + 4-Methylphenol 3-Hydroxyphenol (Resorcinol) 3,4-Dichlorophenol 3,4-Dimethylphenol 3,4,5-Trichlorophenol 3,5-Dichlorophenol 4-Chloro-3-methylphenol 4-Hydroxyphenol (Hydroquinone) 4-Nitrophenol Pentachlorophenol Phenol
BBY8SOP-00060	Determination of Tetraethyllead in Soil and Water by GC/MS [modified from BC Environmental Laboratory Manual Section D and EPA 8000, EPA 8270] Tetraethyl lead

BBY8SOP-00009	Analysis of VOC's in Solids and Waters by Static Headspace GC/MS [modified from EPA 5021 and EPA 8260] 1,1-Dichloroethane 1,1-dichloroethylene 1,1-Dichloropropene 1,1,1-Trichloroethane 1,1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2-Trichloropropane 1,1,2-Trichloro-1,2,2-Triflouroethane (Freon 113) 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane (DBCP) 1,2-Dibromoethane (Ethylene dibromide) 1,2-dichlorobenzene 1,2-dichloroethane 1,2-Dichloropropane 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,3-Trichloropropene 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,3-Butadiene 1,3-Dichlorobenzene 1,3-Dichloropropane 1,3,5-Trichlorobenzene 1,3,5-Trimethylbenzene 1,4-dichlorobenzene 2-Butanone 2-Chlorotoluene 4-Methyl-2Pentanone 4-Chlorotoluene (p-Chlorotoluene) 4-isopropyltoluene (p-Cymene) Acetone Benzene Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chlorodibromomethane

	Chloroethane (Ethyl Chloride) Chloroethene (Vinyl Chloride) Chloroform Chloromethane (Methyl chloride) cis-1,2-Dichloroethylene cis-1,3-Dichloropropene Dibromomethane Dichlorodifluoromethane Dichloromethane Ethylbenzene Ethylene Dibromide Hexachlorobutadiene Hexane Isopropylbenzene (Cumene) m,p-Xylene Methyl t-butyl ether Methylcyclohexane n-Butylbenzene n-Decane n-Propylbenzene Naphthalene o-Xylene Pentachloroethane sec-Butylbenzene Styrene tert-Butylbenzene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene trans-1,3-Dichloropropene Trichloroethylene Trichlorofluoromethane

BBY8SOP-00040	VOC Extra Compounds in Soil and Water by Headspace-GC-MS [BC Environmental Laboratory Manual Section D] 1-Butanol (n-Butanol) 1-Chlorobutane 1,4-Dioxane (p-dioxane) 2-Hexanone (Methyl butyl ketone, MBK) 2-Propanol (Isopropyl alcohol) Acrolein (Propenal) Acrylonitrile Allyl chloride (3-chloropropene) Alpha-Diisobutylene Beta-Diisobutylene Butylated hydroxytoluene (BHT) Carbon disulfide Chloroprene (2-Chloro-1,3-butadiene) Cyclohexanone Cyclohexene Dicyclopentadiene Ethyl acrylate Ethyl ether Hexachloroethane Isobutanol (2-Methyl-1-propanol) Methyl methacrylate Methylacrylonitrile Tetrabromomethane Tetrahydrofuran (THF) Vinyl acetate

Soil/Solid/Waste

BBY7SOP-00004	Digestion of Soil, Sediment and Sludge for Total Recoverable Metals [modified from BC Environmental Laboratory Manual Section C]
BBY7SOP-00012	Determination of Hg in Solids, Tissues and Miscellaneous Solids by CVAFS [modified from EPA 245.7 and BC Environmental Laboratory Manual Section C] Mercury

BBY7SOP-00018	Analysis of Various Sample Types by ICP-OES [modified from EPA 6010 and BC Environmental Laboratory Manual Section B] Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium Manganese Molybdenum Nickel Phosphorus Potassium Selenium Silver Sodium Strontium Tin Titanium Vanadium Zinc Zirconium
BBY7SOP-00030	Methyl Mercury in Biota, Sediment and Soil Samples by GC-Pyrolysis-CVAFS [BC Environmental Laboratory Manual Section C] Methylmercury
BBY8SOP-00003	Gravimetric Heavy Hydrocarbon-CCME F4G in Soils by AME [CCME CWS PETROLEUM HYDROCARBONS IN SOIL - TIER 1 METHOD] F4: Gravimetric

BBY8SOP-00006	Total Oil and Grease in Soils by Sonification Extraction-Dichloromethane [modified from BC Environmental Laboratory Manual Section D] Total Oil and Grease
BBY8SOP-00007	Mineral Oil and Grease in Solid Samples by Sonification Extraction [modified from BC Environmental Laboratory Manual Section D] Mineral Oil and Grease
BBY8SOP-00008	Waste Oil Quantification in Solids, Liquids by Petroleum Ether Extraction [BC Environmental Laboratory Manual Section D] Waste Oil Content
BBY8SOP-00017	Determination of Moisture Content in Solid Samples [modified from BC Environment Laboratory Manual] Percent Moisture

BBY8SOP-00022	Determination of Polycyclic Aromatic Hydrocarbons in Soil by GC/MS [modified from BC Environmental Laboratory Manual Section D] 1-Methylnaphthalene 2-Chloronaphthalene 2-Methylnaphthalene 3-Methylcholanthrene 4-Nitropyrene 7,12-Dimethylbenz(a)anthracene 9,10-Anthraquinone Acenaphthene Acenaphthylene Acridine Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(c)phenanthrene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(j)fluoranthene Benzo(k)fluoranthene Chrysene Dibenzo(a,e)pyrene Dibenzo(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3 - cd)pyrene N-Methylaniline Naphthalene Perylene Phenanthrene Pyrene Quinoline
BBY8SOP-00050	Determination of Tributyltin in Soil and Sediment by GC-MS [modified from RESTEK CORP APPLICATION NOTE# 59550] Tributyltin Dibutyltin

Water/Wastewater/Soil Extract/Soil Leachate

BBY0SOP-00003	Determination of pH in Waters, Leachates and Extracts by pH Meter [modified from SM 4500-H+ B] pH
BBY0SOP-00006	Determination of Conductivity in Waters, Leachates and Extracts by Meter [modified from SM 2510 B] Conductivity (25˚C)
AB SOP-00007	Ammonia-Nitrogen by Automated Phenate Colorimetric method [modified from EPA 350.1] Ammonia
BBY6SOP-00011	Determination of Chloride by Konelab [modified from SM 4500-CL- E and BC Environmental Laboratory Manual Section B] Chloride
BBY6SOP-00013	Ortho-, Total Dissolved, and Total Phosphate by Automated Method [modified from SM 4500-P E] Phosphate Total Dissolved Phosphorus Total Phosphorus
BBY6SOP-00016	Determination of Total and Total Dissolved Nitrogen by Automated Method [modified from SM 4500-N C] Total Dissolved Nitrogen Total Nitrogen
BBY6SOP-00021	Determination of Apparent Colour in Water Samples [modified from SM 2120 B] Apparent Colour
BBY6SOP-00024	Chemical Oxygen Demand (COD) by Closed Reflux, Colorimetric Method [modified from SM 5220 D] COD
BBY6SOP-00025	Determination of pH in Saturated Paste Extract [modified from SM 4500-H+ B] pH
BBY6SOP-00026	pH, Conductivity, Salinity, Alkalinity (Total, Phenolphthalein) in Water [modified from SM 2320 B, SM 2510 B, SM 4500-H+ B] Alkalinity (pH 4.5) Conductivity (25˚C) pH

BBY6SOP-00027	Determination of Turbidity in Water Samples [modified from SM 2130 B] Turbidity
BBY6SOP-00028	Determination of pH in Soil Leachate [modified from BC Environmental Laboratory Manual Section B] pH
BBY6SOP-00029	Specific Conductance in Satpaste and 1:5 DI Leach by Conductivity Cell [modified from SM 2510 B] Conductivity
BBY6SOP-00030	Satpaste Extract Preparation for Saturation Percent, Salinity Analyses [modified from BC Environmental Laboratory Manual Section B] Percent Saturation Saturated Paste
BBY6SOP-00033	Determination of Total Dissolved Solids in Waters and Wastewaters [modified from SM 2540 C] Total Dissolved Solids
BBY6SOP-00034	Determination of Total Suspended Solids in Waters and Wastewaters [modified from SM 2540 D] Total Suspended Solids
BBY6SOP-00035	Determination of Total Solids and Total Solids Fixed in Waters [modified from SM 2540 A] Fixed Solids Total Solids (TS)
BBY6SOP-00037	Determination of Acidity in Waters [modified from SM 2310 B] and Fluoride in Waters, Soil Extracts and Leachates by ISE [modified from BC MOE ENVIRONMENTAL MANAGEMENT ACT HAZARDOUS WASTE REGULATION (EMA/HWR) SCHEDULE 4, PART 2 (Preparation) and SM 4500-F- C (Analysis)] Acidity Fluoride
BBY6SOP-00045	Total and Carbonaceous BOD, DO, and pH Analysis [modified from SM 5210 B] BOD (5 day) CBOD (5 day)
BBY6SOP-00057	Determination of True Colour in Water Samples by Konelab [modified from SM 2120 C] True Colour

BBY7SOP-00001	Determination of Metals in Solids by ICPMS [modified from EPA 6020] Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Manganese Mercury Molybdenum Nickel Selenium Silver Thallium Tin Vanadium Uranium Zinc Zirconium
BBY7SOP-00005	Procedure for the Preparation of Solids and Soil using TCLP [EPA 1311]
BBY7SOP-00009	Procedure for the Preparation of Leachates Using BC MLEP [modified from BC MOE ENVIRONMENTAL MANAGEMENT ACT HAZARDOUS WASTE REGULATION (EMA/HWR) SCHEDULE 4, PART 2]

BBY8SOP-00021	Determination of Polycyclic Aromatic Hydrocarbons in Waters by GC/MS [modified from BC Environmental Laboratory Manual Section D] 1-Methylnaphthalene 2-Chloronaphthalene 2-Methylnaphthalene 3-Methylcholanthrene 4-Nitropyrene 7,12-Dimethylbenz(a)anthracene 9,10-Anthraquinone Acenaphthene Acenaphthylene Acridine Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b,j)fluoranthene Benzo(c)phenanthrene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,e)pyrene Dibenzo(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene N-Methylaniline Naphthalene Perylene Phenanthrene Pyrene Quinoline

BBY7SOP-00018	Analysis of Various Sample Types by ICP-OES [modified from EPA 6010] Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium Manganese Molybdenum Nickel Phosphorus Potassium Selenium Silicon Silver Sodium Strontium Sulphur (Sulfur) Tin Titanium Vanadium Zinc Zirconium

BBY7SOP-00002	Determination of Metals in Environmental Samples Using CRC ICPMS [modified from EPA 6020 and BC Environmental Laboratory Manual Section C] Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Bromine Cadmium Calcium Cesium Chromium Cobalt Copper Gold Iron Lanthanum Lead Lithium Magnesium Manganese Mercury Molybdenum Nickel Palladium Phosphorus Platinum Potassium Rubidium Selenium Silicon Silver Sodium Strontium Sulphur (Sulfur) Tellurium Thallium Thorium Tin

	Titanium Tungsten Uranium Vanadium Zinc Zirconium
BBY7SOP-00003	Digestion of Aqueous Samples for Metals by ICPMS or ICP-OES [modified from EPA 6020 and BC Environmental Laboratory Manual Section C]
BBY7SOP-00022	Determination of Ultra-Low Level Mercury in Water by CVAFS [modified from EPA 1631] Mercury
BBY8SOP-00004	Oil and Grease in Water Samples by Hexane Extraction and Gravimetry [modified from BC Environmental Laboratory Manual Section D] Mineral Oil and Grease Total Oil and Grease
BBY8SOP-00059	Determination of Tributyltin in Water by GC-MS [modified from RESTEK CORP LIT. CAT#59550] Dibutyltin Tributyltin
BBY8SOP-00025	Chlorinated Phenols in Water (DCM extraction) by GC/MS [modified from BC Environmental Laboratory Manual Section D] 2-Chlorophenol 2,3-Dichlorophenol 2,3,4-Trichlorophenol 2,3,4,5-Tetrachlorophenol 2,3,4,6-tetrachlorophenol 2,3,5-Trichlorophenol 2,3,5,6-Tetrachlorophenol 2,3,6-Trichlorophenol 2,4 + 2,5-Dichlorophenol 2,4,5-Trichlorophenol 2,4,6-trichlorophenol 2,6-Dichlorophenol 3 + 4-Chlorophenol 3,4-Dichlorophenol 3,4,5-Trichlorophenol 3,5-Dichlorophenol 4-Chloro-3-Methylphenol Pentachlorophenol

BBY6SOP-00053	Determination of TOC and DOC in Water and Wastewater [modified from SM 5310B] Total Organic Carbon Dissolved Organic Carbon
BBY7SOP-00028	Methyl Mercury in Water by GC-Pyrolysis-CVAFS [modified from EPA 1630] Methylmercury

BBY7SOP-00029	Determination of Metals in Environmental Samples Using ICP-QQQ [modified from EPA 6020 and BC Environmental Laboratory Manual Section C] Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Cesium Chromium Cobalt Copper Gold Iron Lanthanum Lead Lithium Magnesium Manganese Mercury Molybdenum Nickel Palladium Phosphorus Platinum Potassium Ruthenium Rubidium Selenium Silicon Silver Sodium Strontium Sulphur (Sulfur) Tellurium Thallium Thorium Tin

	Titanium Tungsten Uranium Vanadium Yttrium Zinc Zirconium
BBY7SOP-00032	Determination of Mercury in Environmental Samples by CVAFS [modified from BC Environmental Laboratory Manual Section C) Mercury

Seawater

BBY7SOP-00002	Determination of Metals in Environmental Samples Using CRC ICPMS [modified from EPA 6020] Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium Manganese Molybdenum Nickel Phosphorus Potassium Selenium Silicon Silver Sodium Strontium Sulphur (Sulfur) Tellurium Tin Thallium Titanium Uranium Vanadium Zinc Zirconium

Soil/Solid (Toxicology)

BBY2SOP-00010	*Chironomids dilutus* 10-Day Survival and Growth Test [EPS 1/RM/32] *Chironomids* (10d)

BBY2SOP-00011	*Hyalella azteca* 14-Day Survival and Growth Test [EPS 1/RM/33] *Hyalella azteca* (14d)
BBY2SOP-00012	Marine or Estuarine Amphipod 10 Day Survival and Reburial Test [EPS 1/RM/26 and EPS 1/RM/35] Marine Amphipods (10d)
BBY2SOP-00014	Microtox - Acute Solid Phase Analysis [EPS 1/RM/42] Microtox IC50
BBY2SOP-00030	*Neanthes arenaceodentata* Survival and Growth Test *Neanthes* (20d)
BBY2SOP-00032	Bivalve Larval Development Sediment Test [PUGET SOUND ESTUARY PROGRAM 1995 B] Bivalves (48hr)
BBY2SOP-00062	Echinoderm Embryo / Larval Development Test [EPS 1/RM/58] Echinoid Larval Development (48hr)

Water (Toxicology)

BBY2SOP-00001	*Ceriodaphnia dubia* Chronic Survival and Reproduction Test [EPS 1/RM/21] *Ceriodaphnia dubia* (7d)
BBY2SOP-00002	Fathead Minnow 7 Day Survival and Growth Test [EPS 1/RM/22] Fathead Minnow (7d)
BBY2SOP-00004	Rainbow Trout Acute Survival Test (Environment Canada) [EPS 1/RM/13 and EPS 1/RM/9] Single Concentration (96hr) Trout LC50 (96hr)
BBY2SOP-00006	*Pseudokirchneriella Subcapitata* 72H Growth Inhibition Test [EPS 1/RM/25] *Pseudokirchneriella subcapitata* (72hr)
BBY2SOP-00007	*Daphnia magna* 48 Hour Acute Test [EPS 1/RM/11 and EPS 1/RM/14] *Daphnia* LC50 (48hr) *Daphnia* Single Concentration (48hr)
BBY2SOP-00009	Echinoid 20 Minute Fertilization Test [EPS 1/RM/27] Echinoderm Fertilization (20 min)

BBY2SOP-00053	*Lemna minor* 7 Day Growth Inhibition Test [EPS 1/RM/37] *Lemna minor* (7d)
BBY2SOP-00061	Rainbow Trout Acute Survival Test with pH Stabilization [EPS 1/RM/50] Single Concentration (96hr) - pH Stabilization Trout LC50 (96hr) - pH Stabilization
BBY2SOP-00069	Marine Copepod 48 Hour Acute Test [EPS 1/RM/60] Marine Copepod LC50 (48hr) Marine Copepod Single Concentration (48hr)

Number of Scope Listings: 200

Number of TMDNRT Techniques: 2

Number of Forensic Techniques: 4

Notes:

DOCUMENT / ACRONYM

ISO/IEC: International Organization for Standardization/International Electrotechnical Commission
GC: Gas Chromatography
GC-MS or GC/MS: Gas Chromatography-Mass Spectrometry
GC-MS-MS or GCMSMS: Gas Chromatography-High Resolution Mass Spectrometry
HPLC: High Pressure Liquid Chromatography
LC-MS: Liquid Chromatography
LC-MS-MS or LCMSMS: Liquid Chromatography-High Resolution Mass Spectrometry
AFAP: Agriculture Inputs, Food, Animal Health and Plant Protection
ET: Environmental Testing
TMDNRT: Test Method Development and Non-routine Testing
PSA: Program Speciality Area
ICP-MS or ICPMS: Inductively Coupled Mass Spectrometry
RYM: Rapid yeast and mild count
STEC: Shiga toxin-producing escherichia coli
MPN: Most Probable Number
BAM: Bacteriological Analytical Manual
FDA: United States Food and Drug Administration
H7: flagellar antigen
NM: non-motile
E.coli: Escherichia coli
spp.: species, plural form
LMO: listeria monocytogenes
PCR: polymerize chain reaction
SPT: salmonella phage protein
LSX: listeria species express
LPT: listeria phage protein
FSIS: USDA Food Safety and Inspection Services
USDA: United States Department of Agriculture

USP: US Pharmacopeia
NHP: Natural Health Products
EBDC: ethylenebisdithiocarbamates
NSAIDS: Non-Steroidal Anti-Inflammatory Drugs
GC/LC: Gas Chromatography/Liquid Chromatography
FV: fruit and vegetables
CRC: collision reaction cell
CVAFS: cold vapour atomic fluorescence spectroscopy
TSP: total solid particulates
PM2.5: particulate matter, 2.5 microns or less
PM10: particulate matter, 10 microns or less
BC: British-Columbia
EPA: US Environmental Protection Agency
NIOSH: National Institute for Occupational Safety and Health
ICP-OES: Inductively coupled plasma-optical emission spectroscopy
VOCs: Volatile Organic Compounds
TD: Thermal Desorption
SM: Standard Method
BTEX: Benzene, Toluene, Ethylbenzene, Xylenes
GC/FID: Gas Chromatography/Flame Ionization Detection
CCME: Canadian Council of Ministers of the Environment
CWS: Canada Wide Standards
F1: fraction 1
F2: fraction 2
F3: fraction 3
F4: fraction 4
LH: Light Hydrocarbons
CP: Chlorinated phenolic
NCP: Non-chlorinated phenolic
MTBE: Methyl tert-Butyl Ether
COD: Chemical oxygen demand
DI: De-ionized Water
BOD: Biological Oxygen Demand
CBOD: Carbonaceous Biological Oxygen Demand
MOE: Ministry of the Environment
TCLP: Toxicity Characteristic Leaching Procedure
MLEP: Modified Leachate Extraction process
ICP-QQQ: Inductively Coupled Plasma-Triple Quadrupole Mass Spectrometer
EPS: Environmental Protection Service
RM: Reference Method
10d: 10-days
14d: 14-days
IC50: concentration of an inhibitor at which the response is decreased by half
20d: 20-days
RG_FORENSIC: *SCC Requirements and Guidance for the Accreditation for Forensic Testing Laboratories*

All laboratory standard operating procedures are developed in house.

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.ca.

Elias Rafoul
Vice-President, Accreditation Services
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