

# Sample Collection Pocket Guide



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Emergency spill response: 1-855-838-LABS (5227)

### **Important Information**

GENERAL > This pocket guide is to be used for all Canadian environmental testing. <u>Please contact your ALS laboratory directly for Ontario Drinking</u> <u>Water sampling requirements.</u> Coolers and ice packs plus labelled predosed colour-coded sample containers are provided for all analyses conducted by ALS. Pre-dosed colour-coded preservative vials are also available upon request. ALS Project Managers are available to assist and provide guidance as required.

CONTAINER VOLUME AND QUALITY CONTROL REQUIREMENTS > Some containers exist in several sizes to accommodate varying suites of analyses while focusing on minimizing weight (OH&S and sampling benefits). Please refer to the notes section under each sample container. According to CCME Volume 1 Guidance Manual, the recommended minimum frequency for testing laboratory duplicate samples is 1 in 20 samples and 1 in 10 samples for field duplicates.

SAMPLING AND PRESERVATION > Care must be taken not to rinse out or spill preservatives during sampling for OH&S reasons and to avoid cross-contaminating other bottles (e.g. Nitric acid used for metals can contaminate nitrate analysis). Field filtration is strongly recommended for "dissolved" tests and chlorophyll, and may be required by some jurisdictions. Samples should generally be chilled to ≤6°C and transported to the laboratory with enough ice packs to keep sample temperature to ≤10°C, but without freezing. ALS recommends placing samples in ice immediately upon sampling for best practice chilling, with either repacking into another cooler or draining of free water and replacement of ice just prior to dispatch. Chilling overnight in a fridge may also benefit. The post-chilling addition of ice packs is also recommended where samples are shipped by air or long distances and where couriers will not accept loose ice. Samples taken from chlorinated water sources require addition of sodium thiosulfate for microbiological, volatile organics, and semi-volatile organics tests. Please advise ALS accordingly to facilitate supply of appropriate containers.

HEALTH AND SAFETY > Although the quantities of preservative dosed into containers is minimal, it is important to observe safe chemical handling practices while using bottles. Use of appropriate Personal Protection Equipment such as chemical-resistant gloves and safety glasses is recommended. Bottle labels indicate preservative type, hazard pictograms, and signal words based on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Safety Data Sheets are available on the ALS website or can be provided upon request along with Safety information and First Aid instructions. All our preservatives can be shipped Limited Quantity under Transportation of Dangerous Goods (TDG) requirements, or Excepted Quantity under the IATA Dangerous Goods Regulation. None of the preservatives, except for methanol, are considered Dangerous Goods (DG) after mixing with the sample in the designated sample bottle. Search 'SDS' on ALS website alsglobal.com.

HOLDING TIMES > ALS recommended holding times are indicated. Failure to comply with these holding times may impact data validity. Samples and COCs should be submitted (preferably by email from remote locations to assist login) with at least half the analytical holding time remaining unless prior arrangements are made. Short holding times are shaded in yellow to assist.

WATER	WATER	WATER
GENERAL CHEMISTRY	TSS & TDS (Low)	BOD <u>or</u> CBOD
SAMPLE CONTAINER 250 mL hdpe 60 mL hdpe (Anions only)	SAMPLE CONTAINER 500 mL hdpe 145 mL hdpe (Whole Bottle TSS)	SAMPLE CONTAINER 500 mL hdpe
PRESERVATION Nil Chill to ≤10°C TEST PARAMETER(S)	PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C
Acidity, Alkalinity, Anions (CI, Br, SO4, F, NO3, NO2), Colour, Conductivity, ORP, Orthophosphate, pH, Silica, Tannin & Lignin, TIC/DIC, Turbidity, UV Abs/Trans, Routine TDS (10 mg/L LOR), Routine TSS (3 mg/L LOR) <u>or</u> Total VFA (see VOCs for discrete VFAs)	TEST PARAMETER(S) TSS Low (1 mg/L LOR) <u>and</u> TDS Low (3 mg/L LOR) + all General Chemistry tests, <u>or</u> Whole Bottle TSS	TEST PARAMETER(S) BOD <u>or</u> CBOD
NOTES pH and ORP should be tested in the field as per CCME, APHA, BC ENV. HOLDING TIME pH – 15 mins,4 days (ON-MISA); Alkalinity/Acidity/DIC/TIC – 14 days; EC/Br/CI/E/SO4 = 28 days;	NOTES	NOTES Please submit immediately to the lab. 4 days (ON).
EC - 4 days (ON-MISA); TSS/TDS - 7 days; Turbidity - 3 days, 2 days (ON); Orthophosphate/NO <sub>2</sub> / NO <sub>3</sub> - 3 days, 7 days (ON); Total VFA - 7 days; Colour/UV Abs/Trans - 3 days; AB Municipal Waterworks: Colour/NO <sub>2</sub> /NO <sub>3</sub> / Turbidity/UV Abs - 48 hours	HOLDING TIME TSS/TDS - 7 days see General Chemistry for other tests.	HOLDING TIME BOD/CBOD – 48 hours (AB, MB, Pulp and Paper); 3 days (BC); 4 days (ON).
GREEN	GREEN	GREEN

WATER	WATER	WATER
OXYHALIDES	NUTRIENTS	SULFIDE
SAMPLE CONTAINER 60 mL opaque hdpe (EDA)	SAMPLE CONTAINER 100 mL amber glass (H2SO4)	SAMPLE CONTAINER 60 mL hdpe (Zn(OAC)2+NaOH)
PRESERVATION Ethylenediamine Chill to ≤10°C	PRESERVATION Sulfuric acid Chill to ≤10°C	PRESERVATION Zinc acetate + Sodium hydroxide Chill to ≤10°C
TEST PARAMETER(S) Bromate, Chlorate, Chlorite, Perchlorate	TEST PARAMETER(S) Nutrients, Total <u>or</u> Dissolved (COD, NH <sub>3</sub> , TKN/ DKN, TN/DN, TOC/DOC, TP/TDP, Total Phenols) Tick the applicable checkbox on the label.	<b>TEST PARAMETER(S)</b> Sulfide, Total <u>or</u> Dissolved (field-flocculated) Tick the applicable test on the label.
NOTES Perchlorate: Field filtration (0.2 µm) recommended to prevent bacterial degradation. For drinking water systems using chlorine dioxide, sparge samples with inert gas (He, Ar, N <sub>2</sub> ) for ~5-10 mins; add EDA immediately after sparging. <b>HOLDING TIME</b> Bromate, Chlorate, Perchlorate - 28 days; Chlorite - 14 days.	NOTES Field filtration is recommended for dissolved parameters (preserve after filtration). HOLDING TIME 28 days	NOTES Dissolved Sulfide: AlCl₃ field flocculation kit is provided with instructions. Sulfide should not be filtered due to oxidation risk. HOLDING TIME 7 days
GHS – Warning Irritant	GHS – Danger Corrosive	GHS – Danger Corrosive & Environmental hazard
BEIGE	PURPLE	PINK

WATER	WATER	WATER
CYANATE	CYANIDE	THIOCYANATE
SAMPLE CONTAINER 2 x 145 mL hdpe (NaOH)	SAMPLE CONTAINER 60 mL opaque hdpe (NaOH)	SAMPLE CONTAINER 60 mL hdpe (HNO3)
PRESERVATION Sodium hydroxide Chill to ≤10°C	PRESERVATION Sodium hydroxide Chill to ≤10°C	PRESERVATION Nitric acid Chill to ≤10°C
TEST PARAMETER(S) Cyanate Tick the applicable test(s)	<b>TEST PARAMETER(S)</b> Cyanide, Total/SAD, WAD, Free	TEST PARAMETER(S) Thiocyanate
on the label.	Protect from light during sampling. Tick the applicable test(s) on the label. NOTES	NOTES
HOLDING TIME 14 days	HOLDING TIME 14 days	HOLDING TIME 14 days
GHS – Danger Corrosive	GHS – Danger Corrosive	GHS – Danger Corrosive
DARK GREEN	DARK GREEN	RED

WATER	WATER	WATER
METALS & MAJOR CATIONS	METALS & MAJOR CATIONS (Lab-Preserved)	MERCURY (Lab-Preserved)
SAMPLE CONTAINER 60 or 125 mL hdpe (HNO <sub>3</sub> )	SAMPLE CONTAINER 60 or 125 mL hdpe	SAMPLE CONTAINER Routine – 40 mL glass Low & Trace – 60 or 125 mL glass
PRESERVATION Nitric acid	PRESERVATION Nil	PRESERVATION Nil
TEST PARAMETER(S) Metals and Major Cations, Total <u>or</u> Dissolved (field- filtered). Tick the applicable test on the label. Tick the 'Field-Filtered' checkbox if applicable.	<b>TEST PARAMETER(S)</b> Metals and Major Cations (lab-preserved), Total <u>or</u> Dissolved (field-filtered). Required for Low Metals. Not applicable in Ontario. Tick the applicable test on the label. Tick the 'Field-Filtered' checkbox if applicable.	TEST PARAMETER(S)Mercury (lab-preserved), Total <u>or</u> Dissolved (field- filtered). Not applicable in Ontario.Tick the applicable test on the label. Tick the 'Field-Filtered' checkbox if applicable.
NOTES Field filtration is required for Dissolved Metals (pre-charged or field- preserved). Lab-Preserved container is required for Low Chromium.	NOTES Field filtration is strongly recommended for dissolved parameters. Field preservation is recommended for rush testing.	NOTES Field filtration is strongly recommended for dissolved parameters. Field preservation is recommended for rush testing.
HOLDING TIME 180 days, 60 days (ON), 30 days (ON-MISA).	HOLDING TIME 180 days, lab preserve within 14 days.	HOLDING TIME 28 days
GHS – Danger Corrosive		

### RED

RED/GREEN

# **RED/GREEN**

WATER	WATER	WATER
MERCURY	METHYL MERCURY	FERROUS IRON
SAMPLE CONTAINER 40 mL glass (HCl)	SAMPLE CONTAINER 250 mL amber glass (HCl) – freshwater <u>or</u> (H2SO4) – seawater	SAMPLE CONTAINER 60 mL opaque hdpe (HCI)
PRESERVATION Hydrochloric acid	PRESERVATION Hydrochloric acid <u>or</u> Sulfuric acid Chill to ≤10°C	PRESERVATION Hydrochloric acid Chill to ≤10°C
<b>TEST PARAMETER(S)</b> Mercury, Total <u>or</u> Dissolved (field-filtered)	TEST PARAMETER(S) Methyl Mercury, Total <u>or</u> Dissolved (field-filtered)	TEST PARAMETER(S) Dissolved Ferrous Iron (field-filtered)
Tick the applicable test on the label. Tick the 'Field-Filtered' checkbox if applicable.	Tick the applicable test on the label. Tick the 'Field-Filtered' checkbox if applicable.	
NOTES Field filtration is required for Dissolved Mercury (pre- charged). Lab-Preserved container is required for Low and Trace Mercury. HOLDING TIME 28 days	NOTES Field filtration is strongly recommended for dissolved parameters. <i>Freshwaters:</i> Preserve with hydrochloric acid. <i>Seawaters:</i> (>500 ppm chloride or >1 ‰ salinity); Preserve with sulfuric acid. HOLDING TIME 180 days	NOTES Field filtration is required. HOLDING TIME 7 days – if field-filtered using 0.45 μm filters.
GHS – Danger Corrosive & Irritant	GHS – Danger Corrosive & Irritant	GHS – Danger Corrosive & Irritant
YELLOW	YELLOW	YELLOW

WATER	WATER	WATER
SELENIUM SPECIATION (Non-Volatile)	VOLATILE SELENIUM SPECIES	ARSENIC SPECIATION
SAMPLE CONTAINER 60 mL opaque hdpe	SAMPLE CONTAINER 2 x 40 mL amber glass (HNO3)	SAMPLE CONTAINER 60 mL opaque hdpe (EDTA/Acetic acid)
PRESERVATION Nil Chill to ≤10°C Store in the dark	PRESERVATION Nitric acid Chill to ≤10°C	PRESERVATION EDTA + Acetic acid Chill to ≤10°C
TEST PARAMETER(S) Speciated Selenium (non-volatile), Dissolved (field-filtered) Tick the 'Field-Filtered' checkbox if applicable.	TEST PARAMETER(S) Volatile Selenium Species	TEST PARAMETER(S) Speciated Arsenic, Dissolved (field-filtered) Tick the 'Field-Filtered' checkbox if applicable.
NOTES Field filtration (0.2 µm) is required for dissolved parameters. HOLDING TIME 30 days	NOTES Fill with zero headspace. HOLDING TIME 7 days	<b>NOTES</b> Field filtration is required. Fill bottle (contains EDTA) with sample, then add Acetic acid preservative from separate vial provided. <b>HOLDING TIME</b> 28 days
	GHS – Danger Corrosive	GHS – Danger Corrosive & Irritant
GREEN	RED	CHERRY

WATER	WATER	WATER
HEXAVALENT CHROMIUM	HEXAVALENT CHROMIUM (Ontario only)	TETRAETHYL LEAD
SAMPLE CONTAINER 60 mL hdpe (NaOH)	SAMPLE CONTAINER 60 mL hdpe [NaOH/(NH4)2SO4/ NH4OH]	SAMPLE CONTAINER 2 x 100 mL amber glass (NaOH)
PRESERVATION Sodium hydroxide Chill to ≤10°C	PRESERVATION Sodium hydroxide + Ammonium sulfate + Ammonium hydroxide Chill to ≤10°C	PRESERVATION Sodium hydroxide Chill to ≤10°C
TEST PARAMETER(S) Hexavalent Chromium, Total <u>or</u> Dissolved (field- filtered)	TEST PARAMETER(S) Hexavalent Chromium, Total <u>or</u> Dissolved (field- filtered)	TEST PARAMETER(S) Tetraethyl lead
Tick the 'Field-Filtered' checkbox if applicable.	Tick the 'Field-Filtered' checkbox if applicable.	
NOTES Field filtration is required for Dissolved Hexavalent Chromium (pre-charged container).	NOTES Field filtration is required for Dissolved Hexavalent Chromium (pre-charged container).	NOTES Fill with zero headspace.
HOLDING TIME 28 days	HOLDING TIME 28 days	HOLDING TIME 14 days
GHS – Danger Corrosive	GHS – Danger Corrosive, Irritant & Environmental hazard	GHS – Danger Corrosive
V DARK GREEN	DARK GREEN	V DARK <u>GREEN</u>

WATER	WATER	WATER
RADIOCHEMISTRY	ORGANOTINS	CHLORO- PHYLL A
SAMPLE CONTAINER 250 mL hdpe (HNO3) <u>or</u> 1 L hdpe (HNO3)	SAMPLE CONTAINER 250 mL opaque hdpe (Na2S2O3)	<b>SAMPLE CONTAINER</b> 15 mL opaque tube (filters) 250 mL opaque hdpe
PRESERVATION Nitric acid Ambient temperature	PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C Freeze filters
TEST PARAMETER(S) Gross alpha/beta Radium 226, Gamma, Isotopes (Th, U, Pb, Sr, Po, Pu)	TEST PARAMETER(S) Organotins (MBT, DBT, TBT)	TEST PARAMETER(S) Chlorophyll a
NOTES 250 mL - Gross alpha/beta 1 L - Ra 226, gamma <u>or</u> isotopes (+ extra 1 L per listed isotope). HOLDING TIME 180 days	NOTES Leave 10% headspace to allow for expansion if frozen. Protect from light. HOLDING TIME 3 days - unpreserved, <u>or</u> freeze within 3 days; 28 days - frozen.	NOTES Field filter minimum 250 mL sample. Place filter(s) in tube & record filtered volume on CoC. Freeze before shipping to the lab. For lab filtration, ship immediately to the lab. Protect from light during sampling. HOLDING TIME 48 hours (lab-filtered), 28 days (field-filtered, frozen).
Corrosive	RI ACK	BLACK-
		DLACK

WATER	WATER	WATER
OIL & GREASE	ALDEHYDES	RESIN & FATTY ACIDS
SAMPLE CONTAINER 2 × 250 mL <u>or</u> 2 × 100 mL amber glass (HCI)	SAMPLE CONTAINER 2 × 40 mL glass vials (NH4Cl+CuSO4)	SAMPLE CONTAINER 2 ×100 mL amber glass (C6H8O6+NaOH)
PRESERVATION Hydrochloric acid Chill to ≤10°C	PRESERVATION Ammonium Chloride + Copper sulfate Chill to ≤10°C	PRESERVATION Ascorbic acid + Sodium hydroxide Chill to ≤10°C
TEST PARAMETER(S) Total Oil+Grease <u>and</u> Mineral Oil+Grease <u>or</u> Oil+Grease (FTIR)	TEST PARAMETER(S) Formaldehyde	TEST PARAMETER(S) Resin and Fatty Acids
NOTES 2 x 250 mL - Gravimetric; 2 x 100 mL - FTIR.	NOTES Fill with zero headspace.	NOTES
HOLDING TIME 28 days	HOLDING TIME 7 days	HOLDING TIME 14 days
GHS – Danger Corrosive & Irritant	GHS – Warning Irritant	GHS – Danger Corrosive
YELLOW	BROWN	DARK BLUE

WATER	WATER	WATER
VOCs	HYDROCARBONS / PAHs	PHENOLICS
SAMPLE CONTAINER	SAMPLE CONTAINER	SAMPLE CONTAINER
2 × 40 mL glass vials (NaHSO₄)	2 ×100 mL amber glass (NaHSO₄)	2 × 100 mL amber glass (NaHSO4)
PRESERVATION	PRESERVATION	PRESERVATION
Sodium bisulfate Chill to ≤10°C	Sodium bisulfate (+ Sodium thiosulfate for NTA) Chill to ≤10°C	Sodium bisulfate Chill to ≤10°C
TEST PARAMETER(S)	TEST PARAMETER(S)	TEST PARAMETER(S)
BTEX/VOCs/THMs, F1, VH/ VPH (BC & RBCA), VFAs (discrete substances), 1,4-Dioxane, Chlorinated Aliphatics, C1-C5 Gases	F2-F4, EPH (BC & RBCA), LEPH/HEPH, PAHs, <u>or</u> Alkylated PAHs, <u>or</u> NTA	Phenolics, Chlorinated and Non-chlorinated
NOTES	NOTES	NOTES
Fill with zero headspace. For chlorinated water (except C1-C5 gases), use sodium thiosulfate preservative (light blue label).	RBCA TPH analysis requires Hydrocarbon & VOC containers. If sample volume is limited, VOC tests may use this bottle (zero headspace and lab potification required)	Contact lab for sampling requirements for hydroxyphenols (catechol, resorcinol, hydroquinone).
HOLDING TIME	HOLDING TIME	HOLDING TIME
14 days	14 days	14 days
GHS – Danger	GHS – Danger	GHS – Danger
Corrosive	Corrosive	Corrosive
		W E
BLUE	BLUE	BLUE

WATER	WATER	WATER
ALCOHOLS/ GLYCOLS	NAPHTHENIC ACIDS	PCBs (Trace)
SAMPLE CONTAINER 2 × 40 mL glass vials	SAMPLE CONTAINER 100 mL amber glass	SAMPLE CONTAINER 2 x 500 mL amber glass narrow mouth, septa cap
PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C
TEST PARAMETER(S) Alcohols and Glycols	TEST PARAMETER(S) Naphthenic Acids	TEST PARAMETER(S) PCBs (Trace)
NOTES	NOTES	NOTES
HOLDING TIME	HOLDING TIME	HOLDING TIME
7 days	14 days	1 year, 14 days (ON)
ORANGE	ORANGE	ORANGE

WATER	WATER	WATER
SEMI-VOL ORGANICS (Routine or Low)	SPECIALTY ORGANICS	ALKANOLAMINES/ BISPHENOL A/ NPEs/SULFOLANE
SAMPLE CONTAINER 2 x 100 mL amber glass (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	SAMPLE CONTAINER 2 × 1L amber glass	SAMPLE CONTAINER 100 mL amber glass
PRESERVATION Sodium thiosulfate Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C
TEST PARAMETER(S) BNAs (excluding PAHs) <u>or</u> OCPs/PCBs/Toxaphene (Routine or Low)	TEST PARAMETER(S) Dioxins/PCB Congeners <u>or</u> PBDEs/PBBs <u>or</u> Chlorinated Alkanes/Paraffins	TEST PARAMETER(S) Alkanolamines (MEA, DEA, DIPA), Nonylphenol and Nonylphenol Ethoxylates (NPEs), Sulfolane, Bisphenol A
NOTES	NOTES	NOTES
HOLDING TIME PCBs - 1 year, 14 days (ON); BNAs/OCPs/Toxaphene - 7 days, 14 days (ON).	HOLDING TIME 1 year	HOLDING TIME 7 days
ORANGE	ORANGE	GREY

WATER	WATER	WATER
ENERGETICS	HALOACETIC ACIDS	NDMA/ NITROSAMINES
SAMPLE CONTAINER 2 x 1 L amber glass	SAMPLE CONTAINER 40 mL amber glass (NH4Cl)	SAMPLE CONTAINER 100 mL amber glass <u>or</u> 2 X 500 mL amber glass (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )
PRESERVATION Nil Chill to ≤10°C	PRESERVATION Ammonium Chloride Chill to ≤10°C	PRESERVATION Sodium thiosulfate Chill to ≤10°C
TEST PARAMETER(S) Energetics (Explosives)	TEST PARAMETER(S) Haloacetic Acids	TEST PARAMETER(S) NDMA/Nitrosamines
NOTES	NOTES	NOTES Routine - 100 mL amber glass Low or Trace - 2 x 500 mL amber glass
HOLDING TIME 7 days	HOLDING TIME 14 days GHS – Warning Irritant	HOLDING TIME 14 days
GREY	GREY	GREY

WATER	WATER	WATER	
PESTICIDES (LC/MS/MS)	PFAS	6-PPD-QUINONE	
SAMPLE CONTAINER 60 mL hdpe <u>or</u> 1-3 x 100 mL amber glass (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> )	SAMPLE CONTAINER 60 mL hdpe (no liner) <u>or</u> 2-3 x 250 mL hdpe, no liner (Trizma if chlorinated)	SAMPLE CONTAINER 2 x 100 mL amber glass	
PRESERVATION Sodium thiosulfate Chill to ≤10°C	PRESERVATION Trizma if chlorinated Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C	
TEST PARAMETER(S) Pesticide Scans 1 & 2, <u>or</u> Diquat/Paraquat, Glyphosate/AMPA <u>or</u> Phenoxy Herbicides.	TEST PARAMETER(S) PFAS	<b>TEST PARAMETER(S)</b> 6-PPD-Quinone	
NOTES 60 mL hdpe - Diquat/ Paraquat, Glyphosate/ AMPA; 100 mL amber glass - Pesticide Scans 1 & 2 (Routine), Phenoxy Herbicides. 3 x 100 mL amber glass - Pesticide Scans 1 & 2 (Low) <u>or</u> Trace Phenoxy Herbicides. <b>HOLDING TIME</b> Diquat/Paraquat - 7 days; Glyphosate/AMPA - 14 days; Phenoxy Herbicides - 7 days; Pesticide Scans 1 & 2 - 7 days.	NOTESRoutine - 60 mL hdpeTrace - 2 x 250 mL hdpe &60 mL hdpe (TSS &screening)Drinking Water - 3 x 250mL hdpe (Trizma)Avoid "blue ice" andexposure to Teflon™.HOLDING TIME28 days	NOTES HOLDING TIME 14 days	
GREY	GREY	GREY	

WATER	WATER	WATER	
CRYPTO/ GIARDIA	MICROTOX	RAINBOW TROUT/ DAPHNIA MAGNA	
SAMPLE CONTAINER 10 L pail or carboy, no liner	SAMPLE CONTAINER 100 mL amber glass	SAMPLE CONTAINER 2-4 x 10 L pails or carboys (Rainbow Trout) 1-2 x 1 L hdpe (Daphnia)	
PRESERVATION Nil Chill to ≤10°C, Do Not Freeze	PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Do Not Freeze	
TEST PARAMETER(S) Cryptosporidium/Giardia	TEST PARAMETER(S) Microtox	TEST PARAMETER(S) Rainbow trout: LC50 <u>or</u> Pass/Fail (standard <u>or</u> pH- stabilized)	
		Daphnia magna: LC50 <u>or</u> Pass/Fail	
NOTES	NOTES	NOTES	
Fill with zero headspace. Field filtration may be used to sample larger volumes.	Minimize headspace, store in the dark.	Rainbow trout: LC50 (4x10L), <u>or</u> Pass/Fail (2x10L) Daphnia magna: LC50 (2x1L), <u>or</u> Pass/Fail (1x1L) Fill with zero headspace. Volume requirements are the same for the pH- stabilized trout tests. Control temperature to 1-8°C if transport time > 2 days or ambient	
4 days	3 days	1-30°C. HOLDING TIME 5 days	
GREY	GREY	GREY	

WATER	SOIL/SOLID/SEDIMENT	SOIL/SOLID/SEDIMENT
MICROBIOLOGY	PFAS/ ORGANOTINS	VOLATILES
SAMPLE CONTAINER	SAMPLE CONTAINER	SAMPLE CONTAINER
250 mL sterile hdpe (Na2S2O3)	120 mL hdpe jar (Teflon™ free)	2 × 40 mL glass vials (5g Soil corer/Methanol) <u>or</u> 2 × Hermetic samplers
PRESERVATION	PRESERVATION	PRESERVATION
Sodium thiosulfate Chill to <10°C, Do Not Freeze	Nil Chill to ≤10°C	Methanol Chill to ≤10°C
TEST PARAMETER(S)	TEST PARAMETER(S)	TEST PARAMETER(S)
E.coli/Fecal/Total Coliforms <u>or</u> Pseudomonas aeruginosa and Enterococcus, <u>or</u> Legionella, <u>and</u> HPC	PFAS and Organotins	BTEX/VOCs, F1, VH/ VPH (BC & RBCA), Cl-Aromatics, VFAs, 1,4-Dioxane
NOTES	NOTES	NOTES
Submit immediately to the lab. HPC can be sub-sampled from another sterile Microbiology sample bottle.	PFAS: Avoid "blue ice" and exposure to Teflon™.	Additional 120 mL glass jar required for moisture. Verify methanol is at 10 mL fill line before use. Use 2 soil plugs per sample for peat/muskeg. Store in VOC-free area. Trip Blank recommended.
		HOLDING TIME
HOLDING TIME E.coli/coliforms – 30 hours, 48 hours (ON); HPC – 24 hours, 48 hours (ON); Pseudomonas/ Enterococcus - 30 hours, 48 hours (ON);	HOLDING TIME 28 days	Field Methanol – 40 days, 14 days (ON), 28 days (RBCA); Hermetic Samplers – 48 hours, 7 days (frozen). GHS – Danger Flammable, Toxic & Health hazard.
Light BLUE	ORANGE	

## **GENERAL PARAMETERS**

#### SAMPLE CONTAINER

Organics tests\*: 1 x 120 mL glass jar

<u>Specialty Organics tests</u>\*: 1 x 250 mL amber glass jar (Dioxins/PBBs/PBDEs/CI-Paraffins) <u>Inorganics/Metals tests</u>\*: 1 x 120 mL glass jar (Ontario: 1 x 250 mL)

\*Double recommended amounts for high moisture sediment, sludge, gravel, rocky soil, peat/muskeg, or low density solids (e.g. fly ash).

<u>TCLP, SPLP, mSPLP (ON), MLEP (BC), Corrosivity, Flashpoint+Paint Filter</u>: 1 x 250 mL glass jar per test or test group (includes leachate VOCs/ZHE) + extra 250 mL jar if dioxins by TCLP is required.

<u>BC LSP (Liquid-Solid Partitioning):</u> 2 x 500 mL glass jar (Metals/SVOCs), 1 x 250 mL glass jar, zero headspace (VOCs).

SAR/Salinity (sat. paste): 1 L ALS Idpe bag (may include metals).

<u>Particle Size</u>: 1 x 250 mL glass jar (typical soils), <u>or</u> 1 L ALS ldpe bag (coarse materials), or from SAR/Salinity soil bag.

<u>Asbestos</u>: Double-bag bulk material/soil in 1 L ALS ldpe bags. Label with "may contain asbestos". Concrete/asphalt samples must be submitted as pieces <25 mm in diameter.

#### PRESERVATION

Nil

Chill to ≤10°C Cr(VI) must be stored in the dark (ON).

#### TEST PARAMETER(S)

All parameters except volatiles, PFAS, organotins

#### NOTES

For Flashpoint, Sulfide (AVS), Leachate VOCs (TCLP/SPLP/MLEP/BC LSP), and Tetraethyl lead, fill with zero headspace.

RBCA TPH requires soil jar and VOC containers (methanol).

Submit samples for nutrient testing to the lab immediately.

#### HOLDING TIME

Cl, Cr(Vl), EC, pH, PSA – 30 days (CCME); Nutrients (NO3, NO2, NH3) – <mark>3 days</mark> ; Metals – 180 days; Mercury, Methyl Mercury, TN, TOC/FOC – 28 days;	SVOCs, EPH (BC and RBCA), LEPH/HEPH, F2-F4, Glycols, PAHs, OCPs, OPPs, CPs, Cyanide, Sulfide (AVS) - 14 days; SVOCs, CPs, OCPs, OPPs, PAHs - 60 days (ON); pH N P K+S TOC/EOC - unlimited if dried:
Dioxins, PCBs, PBBs, PBDEs, Chlorinated Paraffins - 1 year; Asbestos (bulk materials) - unlimited;	BC LSP test - VOCs <mark>48 hours</mark> , SVOCs 14 days, Metals/pH/ORP 180 days; Flashpoint - 7 days; Tetraethyl lead - 14 days

### ORANGE

AIR	AIR	AIR	
AMBIENT/ INDOOR AIR	DUSTFALLS	INDUSTRIAL HYGIENE	
SAMPLE CONTAINER	SAMPLE CONTAINER	SAMPLE CONTAINER	
Primarily 6 L Canisters Sampling times: 1, 4, 8, 12, 24 hours TWA	2L hdpe	Filters, Tubes, Pre-Treated Cr(VI) Filters	
		PRESERVATION	
PRESERVATION Nil	PRESERVATION Isopropanol <u>or</u> algaecide Chill to ≤10°C	Nil Chill to ≤10°C, method-dependent; Cr(VI) Freeze to ≤-18°C	
TEST PARAMETER(S)	TEST PARAMETER(S)	TEST PARAMETER(S)	
VOCs (60+ compounds TO15), F1-F2, Aliphatic/ Aromatic Fractionation, BTEX+Naphthalene, C1-C5 Hydrocarbons, Fixed Gases, Reduced Sulfur Compounds, Chlorinated Degradation Compounds	Dustfalls - All tests	PAH, PCBs, VOCs, Dioxins, Aldehydes/ Formaldehyde, Metals, Isocyanates, Asbestos Filters, Particulates, Metals, Mercury, Cr(VI) Ambient Air Filters	
NOTES	NOTES	NOTES	
Canisters should not be held >30 days prior to sampling. Check Canister pressure before deployment. 1 L or 1.4 L Canisters may be used for sampling events ≤ 60 mins.	Use isopropanol (if sampling below freezing point) <u>or</u> algaecide (if sampling above freezing point).	Shipping and storage temperatures are dependent on the test and method required. Contact the lab for specific guidance.	
VOCs including BTEX (TO15), F1-F2 – 30 days Reduced Sulfur Compounds – 7 days Fixed Gases – 30 days (Canisters), <mark>3 days</mark> (Tedlar bag). Confirm Tedlar bag samples with lab before submission.	Metals, particulates - 6 months; Mercury - 28 days.	PAHs/Aldehydes/ Formaldehyde – 14 days; Asbestos/Particulates – unlimited; Isocyanate filters – 15 days; Dioxins/ PCBs – 7 days; Metals – 180 days; Mercury – 28 days; Cr(VI) – 10 days.	
NAVY BLUE	NAVY BLUE	NAVY BLUE	

AIR	AIR	AIR	
SOIL VAPOUR (CANISTERS)	SOIL VAPOUR (THERMAL DESORPTION)	STACK & STATIONARY SOURCE TESTING	
SAMPLE CONTAINER	SAMPLE CONTAINER	SAMPLE CONTAINER	
Primarily 1.4 L Canisters Sampling times: 4, 10, 20, 60 mins	Thermal desorption tube	PUF, Impingers, Filters, XAD Traps	
PRESERVATION Nil	PRESERVATION Nil Chill to ≤10°C	PRESERVATION Nil Chill to ≤10°C, method-dependent	
TEST PARAMETER(S) VOCs (60+ compounds TO15), F1-F2, Aliphatic/ Aromatic Fractionation, BTEX+Naphthalene, C1-C5 Hydrocarbons, Fixed Gases, Reduced Sulfur Compounds	TEST PARAMETER(S) BTEX/VOCs, F1, VHv/ VPHv, Dry Cleaning Solvents, Fuels	TEST PARAMETER(S) PAHs, PCBs, Dioxins, Aldehydes, Isocyanates, Particulates, Hexavalent Chromium, Metals, Mercury, VOCs	
NOTES	NOTES	NOTES	
Canisters should not be held > 30 days prior to sampling. Check Canister pressure before deployment.	BC CSR recommended sampling: 5 mins @ 100 mL/min (500 mL) with calibrated pump Contact ALS for safe sampling volumes by compound for higher volumes.	Shipping and storage temperatures are dependent on the test and method required. Contact the lab for specific recommendations.	
HOLDING TIME VOCs including BTEX (TO15), F1-F2 – 30 days Reduced Sulfur Compounds – 7 days.	HOLDING TIME 30 days.	HOLDING TIME PAHs/VOCs (VOST), Aldehydes/Formaldehyde – 14 days; Dioxins/PCBs – 7 days to 1 year; Cr(VI) – 30 days; Metals – 180 days; Mercury – 28 days; Isocyanate Impingers – 30 days.	
NAVY BLUE	NAVY BLUE	NAVY BLUE	

Lo	cations		<b>V</b> TOLL FREE 1-800-668-9878
British Columbia / Yukon	Vancouver	604-253-4188	8081 Lougheed Hwy, Burnaby, BC. V5A 1W9
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	Kamloops	250-372-3588	2B-1445 McGill Rd, Kamloops, BC. V2C 6K7
	Victoria	250-415-9556	550-2950 Douglas St, Victoria, BC. V8T 4N4
	Terrace	250-615-7089	Unit 103, 4910 Greig Avenue, Terrace BC. V8G 1N4
	Whitehorse	867-668-6689	12-151 Industrial Rd, Whitehorse, YT. Y1A 2V3
Prairies / NWT	Calgary	403-407-1800	2559-29 St NE, Calgary, AB. T1Y 7B5
	Edmonton	780-413-5227	9450-17 Ave NW, Edmonton, AB. T6N 1M9
	Fort McMurray	780-791-1524	Bay 4, 340 MacAlpine Crescent, Fort McMurray, AB. T9H 4A8
	Grande Prairie	780-539-5196	9505-111 St, Grande Prairie, AB. T8V 5W1
	Saskatoon	306-668-8370	819-58 St East, Saskatoon, SK. S7K 6X5
	Regina	306-525-0970	1119 Osler St, Regina SK. S4R 8R4
	Winnipeg	204-255-9720	Unit 12, 1329 Niakwa Rd East, Winnipeg, MB. R2J 3T4
	Yellowknife	867-873-5593	116-314 Old Airport Rd, Yellowknife, NT. X1A 3T3
Ont	Waterloo	519-886-6910	Unit 1, 60 Northland Rd, Waterloo, ON. N2V 2B8
tario	Burlington	905-331-3111	Unit 1, 1435 Norjohn Ct, Burlington, ON. L7L 0E6
	Thunder Bay	807-623-6463	1081 Barton St, Thunder Bay, ON. P7B 5N3
	London	519-652-6044	Unit 29, 309 Exeter Rd, London, ON. N6L 1C1
	Markham	905 881 9887	Unit 9, 20 Amber St, Markham, ON. L3R 5P4
	Mississauga	905-507-6910	Unit 30, 5730 Coopers Ave, Mississauga, ON. L4Z 2E9
	Ottawa	613-225-8279	Unit 7, 190 Colonnade Rd, Nepean, ON. K2E 7J5
	Sudbury	705-560-7225	Unit 1, 1351-B Kelly Lake Rd, Sudbury, ON. P3E 5P5
Maritin	Halifax	902-707-4888	13-100 Wright Ave, Dartmouth, NS. B2B 1L3
	Fredericton	506-497-6463	17-900 Hanwell Rd, Fredericton, NB. E3B 6A2

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