



Appendix A: Minimum Untreated Source Water Quality Parameters to Be Analyzed, Surface Water

MICROBIOLOGICAL¹

Total Coliform	<i>Escherichia coli</i> ^{1,1}
Non-coliform (background) bacteria	Heterotrophic Plate Count

PHYSICAL/CHEMICAL

Alkalinity	Hardness	Total Dissolved Solids
Ammonia	Metals Scan ⁵	Total Organic Carbon ⁴
Arsenic	UVT ⁶	Turbidity
Chloride	Nitrate	pH
Colour	Nitrite	Selenium
Conductivity ²	Sulphate	Tannins and Lignins ⁷
Corrosiveness ³	Organic Nitrogen	THM and HAA Formation Potential ⁸
Fluoride		

- A. Sample must be from the untreated source water, prior to ANY treatment or disinfection.
- B. Analysis of additional parameters may be required based on the results of initial analysis and on potential impact by nearby sources of contamination or polluting sources. If industrial, agricultural or pesticide pollution is suspected, identify what chemicals may have been used and analyze for most likely indicator parameters. If petroleum pollution is suspected (underground fuel storage) analyze for alkyl benzene compounds.
- C. In a surface supply, it is expected that protozoan cysts may be present, at different concentrations depending on the time of year (mammalian birthing season, usually in the spring); activities in the watershed including agricultural grazing leases, known cervidae territories; and the presence of beavers and humans. If heavy concentrations of protozoan cysts are anticipated, testing may be required, or a higher level of parasite reduction beyond 3 log may be required.
- D. Analyses must be sufficiently accurate so that the minimum detectable concentration is less than 10% of Drinking Water Protection Act, the Drinking Water Protection Regulation or the Guidelines for Canadian Drinking Water Quality where applicable. Other analyses must provide sufficient information to reasonably assess the water suitability for drinking purposes and to determine what, if any, treatment might be needed. Analyses must be conducted in accordance with methods prescribed in "Standard Methods for the Examination of Water and Wastewater" (latest edition) or other acceptable procedures.

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1. Bacterial analysis must be conducted at an approved laboratory (PHO Approved Laboratory List available on BCCDC's webpage)
 - 1.1 Enterococci should be monitored in untreated, seawater sources.
 2. Conductance/Specific Conductance
 3. Calcium Carbonate Saturation/ Langelier's Index
 4. If Turbidity less than 1.0 mg/L Dissolved Organic Carbon may be used as an alternative to Total Organic Carbon. Total Organic Carbon must be included for rainwater sources.
 5. At a minimum: aluminum, barium, boron, cadmium, calcium, chromium, copper, iron, lead, magnesium, manganese, molybdenum, nickel, phosphorous, potassium, silver, sodium, zinc (expand if mineralized to include mercury)
 6. Where UV is being considered as part of the water treatment process, %UVT.
 7. If TOC is greater than 2.5 or the proposed source water is rainwater and/or if Colour is >15 TCU.
 8. If TOC is greater than 2.5 and chlorine is being considered as part of the water treatment process.