Appendix B: Minimum Untreated Source Water Quality Parameters to Be Analyzed, Ground Water (Shallow Wells, Deep Wells, Springs)

MICROBIOLOGICAL[1]

Total Coliform	*Escherichia coli*
Non-coliform Bacteria	Iron and Sulphur Bacteria (deep wells)
Heterotrophic Plate Counts	

PHYSICAL/CHEMICAL

Alkalinity	Fluoride	Selenium
Ammonia	Hardness	Sulphate
Arsenic	Metals Scan[6]	Sulphide (as hydrogen sulphide)[4]
Chloride	Nitrite	Total Dissolved Solids
Colour	Nitrate	Total Organic Carbon[5, 8]
Conductivity[2]	Organic Nitrogen	Turbidity
Corrosiveness[3]	pH	UVT[7]

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 analyse for most likely indicator parameters. If petroleum pollution is suspected (underground fuel storage), analyse for alkyl benzene compounds. If parasitic pollution is suspected, *Giardia lamblia* and/or *cryptosporidium* analysis may be required.
C. Analyses must be sufficiently accurate so that the minimum detectable concentration is less than 10% of Guidelines for Canadian Drinking Water Quality, the Drinking Water Protection Act or the Drinking Water Protection Regulation where applicable. Other analysis 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 procedure.

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1. Bacterial analysis must be conducted at an approved laboratory (PHO Approved Laboratory List available on BCCDC's webpage)
2. Conductance/Specific Conductance
3. Calcium Carbonate saturation/Langelier's index
4. For deep wells: Analyze on site or preserve sample. Required if unsatisfactory odour is suspected.
5. If Turbidity is less than 1.0 mg/L, Dissolved Organic Carbon may be used as an alternative to Total Organic Carbon.
6. At least: aluminum, antimony, barium, boron, cadmium, calcium, chromium, copper, iron, lead, magnesium, manganese, molybdenum, nickel, phosphorous, potassium, silver, sodium, zinc (expand if mineralized to include mercury).
7. Where UV is being considered as part of the water treatment process, %UVT
8. If TOC is greater than 2.5 and chlorine is being considered as part of the water treatment process.