northern health
the northern way of caring

Public Health Protection, Environmental Health
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Table 1. Required Water Quality Parameters

Core Parameters	*Guideline*
☐ **E. Coli**	***[none detected]***
☐ **Total Coliforms**	***[none detected]***
☐ HPC[1]	[~ 100-500 CFU/mL]
☐ Alkalinity	[~ 30-500 mg/L]
☐ Chloride	[250 mg/L]
☐ Colour	[15 TCU]
☐ Electrical Conductivity	[~ 800 µS/cm]
☐ **Fluoride**	**[1.5 mg/L]**
☐ Hardness	[~ 250 mg/L]
☐ Langelier Saturation Index	[~ -2 to +2]
☐ **Metals Scan**	**[varies][2]**
☐ Nitrogen species:[3]	
☐ Ammonia - N	[~ 1.5 mg/L]
☐ Organic N	[~ 0.15 mg/L]
☐ **Nitrate - N**	**[10 mg/L]**
☐ **Nitrite - N**	**[1 mg/L]**
☐ pH	[6.5 – 8.5]
☐ Sulphate	[500 mg/L]
☐ Total Dissolved Solids (TDS)	[~ 500 mg/L]
☐ Total Organic Carbon (TOC)	[2.5 mg/L]
☐ **Turbidity**	**[~ 1 NTU]**
☐ Odour	[describe]
☐ _____	
☐ _____	
☐ _____	

May require …	*Guideline*
☐ UV Transmittance (UVT)[4]	[80%]
☐ **Disinfection By-Products (DBPs)[5]**	
☐ **Trihalomethanes (THMs)**	**[0.100 mg/L]**
☐ **Haloacetic Acids (HAAs)**	**[0.080 mg/L]**
☐ Bromide	[0.050 mg/L]
☐ Tannins & Lignin[6]	[~ 0.400 mg/L]
☐ Iron & Sulphate Bacteria[7]	[presence]
☐ Sulphide[8]	[0.050 mg/L]
☐ **Hydrocarbons[9]**	
☐ **Benzene**	**[0.005 mg/L]**
☐ Toluene	[0.024 mg/L]
☐ Ethylbenzene	[0.002 mg/L]
☐ Xylenes	[0.300 mg/L]

Colors: **red → health parameter**, violet → aesthetic, black → treatment options

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General Comments

- The sampler must make arrangements for receiving and shipping of chemical/physical sample bottles and coolers with an accredited private lab. *Northern Health* may accept bacteriological samples only.
- Analysis of additional parameters may be required based on the results of the initial analysis and on potential impact by nearby sources of contamination. The required parameters should be confirmed with Northern Health before sampling.
- The analytical detection limit must be l*ess than 10% of the Guideline for Canadian Drinking Water Quality* where applicable. Other analyses must provide sufficient information to reasonably assess the water suitability for domestic use and to determine what, if any, treatment might be needed. Analyses must be conducted in accordance with the methods prescribed in *Standard Methods* (latest edition).
- Analyses should be for total or closely equivalent concentrations, to represent potential quality problems.
- A copy of all analytical results must be sent to the *Northern Health* Officer responsible for the water system.

Notes

1. May be omitted if bacterial growth is not found during Total Coliform test – lab to note "*Other bacterial growth not present*".
2. *Total metals* required. *Dissolved metals* optional, but recommended if turbidity is elevated. Scan to include both highand low level metals: Aluminum (if coagulant used), **Antimony(0.006)**, **Arsenic (0.010)**, **Barium (1), Boron (5), Cadmium(0.005)**, Calcium (~ 100), **Chromium (0.050)**, Copper **(2,** 1), Iron(0.300), **Lead (0.005)**, Magnesium (~ 30), **Manganese (0.12;**0.02), Phosphorus (~ 0.100), Potassium (~ 400), **Selenium(0.010)**, Sodium (20-200; **1000**), Zinc (5), **Uranium (0.020)** [expand scan if zone is mineralised to include **Mercury (0.001)**].
   *For the most up-to-date limits, refer to the Guidelines for Canadian Drinking Water Quality
3. Required for source water characterisation. If all are less than 1 mg/L as N, later samples may be analyzed for **Total N** only.
4. Required if UV disinfection is being considered as part of the water treatment process. The test must be conducted on a RAW, UNFILTERED water sample. [Modified version of *Standard Method 5910B* where the sample is not filtered or pH adjusted.]
5. Required if chlorination is used or proposed and TOC greater than 2.5 mg/L. For new sources, specify "*DBP **formation potential***". Different DBPs are required for **chlorine dioxide** or ozone disinfection.
6. Required for TOC greater than 2.5 mg/L and/or color greater than 15 TCU.
7. Required if bacterial regrowth is suspected in well or distribution piping. Contact laboratory for sampling procedure.
8. Required if unsatisfactory odor is suspected. Analyse on site or preserve sample. Contact laboratory for sampling procedure.
9. Required if hydrocarbon/gasoline type contamination is suspected. Contact laboratory for sampling procedure.