



August 3, 2021

5825 Murtle Lake Road
Blue River BC V0E 1J0

Dear Tyron McCabe,

RE: Evaluation of Drinking Water Source: Blue River Community Water System

I am sending this source assessment letter in response to the recent application to replace the unused filtration system with sodium hypochlorite injector for Blue River Community Water System (0660206). I have reviewed the Phase 2 GARP Assessment prepared by Western Water Associates Ltd. to help determine if this source of water is potable. This source assessment letter references the BC *Drinking Water Protection Act*, BC *Drinking Water Protection Regulation*, BC *Water Sustainability Act*, BC *Groundwater Protection Regulation* and BC *Health Hazards Regulation*.

Blue River Community Water System is north of Blue River, BC along Highway 5. This water system operates year round and has 133 connections to the distribution system. There are multiple other Interior Health permitted facilities connected to this water system.

The facility is required to conduct bacteriological sampling on at least 4 times per month as per the *Drinking Water Protection Regulation*. There have been 416 samples submitted to date. The results have been acceptable with zero total coliform and E.coli bacteria except for one sample on September 05, 2017, which contained 1 Total Coliform.

The latest chemical analysis on file was sampled on January 15, 2009 and groundwater chemistry completed during the Phase 2 GARP Assessment (2018-2019). None of the health-based parameters exceeded the Maximum Acceptable Concentrations (MAC) in the *Guidelines for Canadian Drinking Water Quality*.

A *Well Construction Report* was assessed for the wells (WTN 95040 and WTN 95042) located in Blue River Community Water System. This well was drilled in May 1995 and June 1997, respectively. The lithology for both wells includes sand/gravel, silt/clay, sand, gravel, and bedrock. The following table is a summary of the report

Well tag number:	95040	95042
Depth of well:	81 ft	100 ft
Screen depth:	71 ft	95 ft
Type of well:	Drilled	Drilled
Static water level:	9 ft	32 ft
Well cap:	Sanitary	Sanitary
Stick-up length:	unknown	unknown
Surface seal:	None	Unknown (assumed none)

The B.C Ministry of Environment has classified this aquifer #825 (IIIA) with a size of 8.5 km². This aquifer is described as glaciofluvial sand and gravel deposits located near the Blue River. It has been classified as an

unconsolidated aquifer, partially confined with a clay layer with potentially high vulnerability to contamination. The Ministry of Environment has reported the aquifer is shallow with moderate productivity.

The wells are located ~60m from the Blue River. It is possible that this well is hydraulically influenced by the river and nearby tributaries but is mostly recharged by precipitation according to The Ministry of Environment. Karst bedrock is very unlikely in this area.

The sewage system was assessed on the Thompson Nicola Regional District “myRegionView” map. This map showed the well (WTN 95040 and WTN 95042) are >300 m from the community sewerage system. This sewerage system is not within 300m from the groundwater well, so there is a low risk for small pathogens such as viruses being transported into the well according to the BC Guidance Document for Determining Ground Water at Risk of Containing Pathogens (GARP) document.

In my evaluation, I have considered the *Drinking Water Treatment Objectives (Microbiological) for Ground Water Supplies in British Columbia* and Section 8 of the *Health Hazards Regulation*. From the information provided, it appears that your water source is located such that the minimum setbacks listed in the *Health Hazards Regulation* have been met.

I have also considered Version 3 (Sept. 2017) of the *BC Guidance Document for Determining Ground Water at Risk of Containing Pathogens (GARP)* and the requirements of the *Groundwater Protection Regulation* under the *Water Sustainability Act*.

In my opinion, the ground water appears to be at low risk of containing **pathogens** based on the Phase 2 GARP Determination from Western Water Associates Ltd. If new information becomes available concerning the water source, we will assess the new information and provide a revised response regarding the evaluation of the drinking water source and the required treatment objectives.

The water source is, in my opinion, acceptable provided 4 log reduction of viruses is achieved. Interior Health agrees with the determination and recommendations from Western Water Associated Ltd. The following recommendations from Western Water Associates Ltd. should be taken into consideration:

1. Chlorination disinfection is recommended for the potential risk of viruses. A construction permit is required for any construction, installation, alteration (including the addition of disinfection treatment systems), repair or extension of a water supply system. This does not include parts that are “like for like” or emergency repairs.
2. Install adequate surface seals based on the *Groundwater Protection Regulation*.

If you have any questions, please contact me.

Sincerely,



Keyana Bjornson
Environmental Health Officer

Cc: Rob Birtles, Team Leader, Drinking Water Program, Environmental Public Health, Interior