



# WATER QUALITY FREQUENTLY ASKED QUESTIONS

## **What do I need to know about lead and drinking water in Prince Rupert?**

The City's water supply is tested regularly for a number of potential contaminants, including lead, at sampling stations throughout the community. The City's **community water supply falls well below the Maximum Allowable Concentration (legal limit) for lead**, however once water reaches your home or business it is possible that it makes contact with lead plumbing components. Like many coastal communities, our water has a slightly lower pH, which means that it has corrosive properties. Water with lower pH sitting idle in plumbing with lead over an extended period of time (more than a few hours) is more likely to contain lead. If you don't know what it is in your home plumbing, to protect yourself and your family from exposure it is recommended to run your taps until they are cold every time that water is used for consumption or food preparation. This will ensure you are getting a fresh source of water from beyond the home.

In the long term, the City has recently been awarded \$22 million in grant funds to complete a new state of the art water treatment facility. However it should be noted that so long as lead components are present in your home or commercial plumbing, some risk of leaching will exist. It is recommended that, where possible, plumbing components containing lead be replaced with lead-free certified components, or that residents to continue to flush until cold any time that water sits.

## **What is the maximum acceptable concentration of lead in drinking water?**

The current guideline for lead in drinking water has recently been reduced to a Maximum Acceptable Concentration of 0.005 mg/L (5 parts per billion). As previously noted, lead levels in drinking water in Prince Rupert are well below the Guidelines for Canadian Drinking Water Quality standards, and these test results are available at: [https://www.healthspace.ca/Clients/NHA/NHA\\_Website.nsf](https://www.healthspace.ca/Clients/NHA/NHA_Website.nsf)

## **What is the Provincial guideline re: lead in drinking water in B.C. communities?**

Relatively recent media coverage of concerns about lead levels in drinking water in some B.C. communities has raised the profile of guidelines that recommend flushing taps until the water runs cold. The concerns have arisen from 'first flush' tap water – the water which stagnates in a home or building's plumbing pipes or fixtures for extended periods. These concerns have been noted in both B.C.'s South Coast and in Northern B.C., and as a result, schools and daycares, as well as homes and businesses containing lead components in plumbing are being reminded to follow a 'flush until cold' guideline and/or encouraged to replace lead plumbing altogether.

## **What is the "Flush until cold" guideline?**

To flush water, let your cold water tap run for 1 to 5 minutes or until the water turns colder. You should do this before drinking or cooking first thing in the morning or any other time the plumbing system has not been used for several hours. "Flushing until cold" will remove stagnant water within building plumbing to ensure fresh water is being drawn to the tap from the municipal water supply, therefore eliminating any concern of elevated metal levels in water.

The 'flush until cold' protocol is good practice if you do not know the make-up of your home or commercial plumbing infrastructure, especially for homes with pregnant women and young children. Homeowners can also take additional measures by replacing any piping and fixtures, especially in older homes, with certified lead-free products.

## **Does the age of my home mean there's a greater likelihood of lead leaching into my drinking water?**

Lead levels may be elevated in older homes (pre-1975), especially older homes with few renovations or upgrades that may still contain leaded pipes and plumbing fixtures. If you are uncertain as to whether or not lead exists in your pipes, the best practice is to "flush until cold" after water has been stagnant for a few hours or overnight.





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## **What should I be looking for in my home to indicate that my pipes or plumbing fixtures may contain lead?**

Lead is a soft, greyish-black metal that can sometimes be identified by easy indentation when scraped with a knife. The age of the fixture can also be an indicator of lead presence as it was commonly used prior to the 1990's. If you suspect a presence of lead fixtures in your home the best practice is to flush until cold. If you are unsure, contact a professional.

## **What type of plumbing fixtures contain lead and are they still readily available to purchase?**

Lead is typically found in jointing compounds, soldered joints and brass fixtures. Even though lead is not permitted in pipes and solder, it can be present up to 0.25% in fixtures that are still available for purchase. When purchasing new fixtures, look for lead-free certification on the packaging.

## **Can I treat or test my water at home?**

It is your choice to obtain and use water filters and treatment devices to remove lead from drinking water. Carbon-based, reverse osmosis and distillation type filters that are certified to the NSF International standard for removing lead are effective. For best results, install these filters and devices at the tap that is used for drinking water the most, such as the kitchen tap. Make sure to maintain them according to the manufacturer's instructions. To learn more about the different types of treatment devices visit the [Health Canada's Water Treatment Devices page](#).

Water can be tested through a professional laboratory, like Norlabs on 3rd Avenue West in Prince Rupert, which is the local lab that conducts the vast majority of City water supply testing.

## **My home uses PVC water pipes. Should I be concerned?**

Water supply approved PVC pipes are not known to contain lead contaminants although can sometimes have a 'plastic taste' when they are first used which goes away with use. If you are uncertain, the best recommendation is to "flush until cold" after water has been stagnant for a few hours.

## **Does Prince Rupert's water infrastructure include lead service lines?**

The City does not have lead service lines within municipal infrastructure. The City is not responsible for water service infrastructure on private property, but has not observed lead service lines when private water services have been encountered.

## **How does the City track materials used in its public drinking water infrastructure?**

The City keeps records of the materials used in its drinking water infrastructure through service requests and purchasing documents that are generated when work is performed on the system. Recently, the City has gathered this information into a centralized mapping (Geographical Information) system which allows for more detailed information on the infrastructure to be kept, and all new infrastructure is being recorded in this system going forward.

## **What water testing does the City of Prince Rupert do on a regular basis, and how is it reported?**

Regular testing and monitoring of our water system is ongoing (daily/hourly) and includes disinfection, flows, reservoir levels, pump operation and more. Weekly bacterial testing is completed at eleven sampling stations throughout the community for E.coli & Total Coliforms. At the direction of Northern Health, samples are collected and tested for chemical and physical properties including lead, colour, pH and turbidity to measure drinking water quality against the Federal Guidelines for Canadian Drinking Water Quality (Health Canada). Test results and reports are available on the Northern Health website at: [https://www.healthspace.ca/Clients/NHA/NHA\\_Website.nsf](https://www.healthspace.ca/Clients/NHA/NHA_Website.nsf) These results are additionally compiled into an Annual Water Report available on the City's website at <http://princerupert.ca/drinkingwater>





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## **What does the City currently use for water treatment?**

As a barrier of defence against the incidence of waterborne disease, the municipality maintains an enduring chlorine residual throughout the water distribution system. Chlorine is the most reliable and widely used drinking water disinfectant in North America. A “residual” is the trace amount of chlorine left in the drinking water after initial disinfection has taken place. As long as a trace of chlorine or residual can be detected, the line is still subject to active disinfection.

For greater public safety and adequate contact time, chlorine is added before the water reaches Kaien Island. Chlorine dosage must be constantly trimmed and balanced to maximize disinfection but minimize the production of disinfection by-products (DBPs), such as Trihalomethanes (THMs) and Haloacetic Acids (HAAs). Residual levels are therefore monitored on a constant basis throughout the municipality. To further check that the chlorination process is working properly and that the water system has not been otherwise compromised, various types of water quality samples are taken daily, weekly, or at other regular intervals as prescribed by Northern Health, the regulator. The results of the Water Quality Testing Program are reported to the Provincial Ministry of Health and are available on the Northern Health Authority’s Public Health Protection website at: <http://www.healthspace.ca/nha>

## **What features will the proposed water treatment facility have?**

Now that we have received grant funding, we will now be exploring the best form of multi-barrier treatment for the facility, given the chemical make-up of our community water supply.

## **How will the City fund our portion of the costs to implement water treatment?**

To cover our financial portion of the project, the City intends to allocate new revenue streams and obtain debt to cover the balance of the municipal contribution required.

## **What are chlorination byproducts, and what measures has the city taken to address them?**

Chlorination is the City’s only current method of disinfection, which protects our population against serious waterborne disease. The formation of disinfection by-products such as trihalomethanes result from the interaction of chlorine with organic material present in a raw water supply. These issues have been closely monitored, and the City and Northern Health as our regulator work together to ensure that the primary goal of adequate disinfection is achieved at all times while generating as few disinfection by-products as possible in the process.

Health Canada acknowledges that, “the health risks from disinfection by-products, including trihalomethanes, are much less than the risks from consuming water that has not been disinfected.” As the presence of organic materials (small particles) in the source water is currently outside of the City’s control, this is generally achieved by restricting the use of chlorine to the minimum amount required to ensure that water is adequately disinfected in all circumstances. Notably, with recent grant funding for water treatment, we can now build a facility that will enable the removal of organic materials, and address the presence of chlorination byproducts over the long term. In the interim, the City must continue to use our existing system of chlorination to adequately disinfect the water and protect the population against waterborne disease.





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## **Why were additional treatment barriers not implemented sooner?**

With new municipal sources of revenue, since 2014 the City's main priority has been replacement of critical water infrastructure—which began with access to and replacement of the 100 year old dam, and has now moved into water treatment. Securing the safety and reliability of the supply was an immediate need, and is paving the way for the City to implement additional improvements to water quality.

Major overhaul of water supply infrastructure cannot happen overnight, however the City has been working diligently on continuing to monitor water quality and conduct public outreach as needed. When new Federal and Provincial grant funding became available, the City applied, and are now happy to say that we were successful in achieving \$22 million in funding to implement multiple barriers of treatment.

## **Why does the water have a yellowish tinge to it? And what is the City doing to address issues related to turbidity and colour of the water?**

Use of our secondary source at Shawatlan during construction of our new water supply line and now dam project has had notable impact on colour and turbidity. Although it may not look appealing, colour is a result of natural tannins occurring in our above ground source of water, and by itself does not directly impact the safety of the water for drinking.

That being said, recently obtained funding for a water treatment system will virtually eliminate above noted quality and colour concerns. The design of the facility will specifically address these issues through a proposed system of multiple treatment barriers.

## **How does the City inform the community about water quality?**

As the water operator, the City's chief responsibility is to provide drinking water to residents that meets provincial and federal health standards to the greatest degree possible. Where potential health risks exist in relation to drinking water in the community, the City as the operator and Northern Health as the regulator work collaboratively to ensure that residents are aware of those risks and can take appropriate steps to protect their health.

The City conducted a community-wide mail out in Spring of 2018 to educate the public on the risks of home-source lead. The City will also continue to inform the public of the state of its water system through the annual reports which are made public each year, the City's recent At Home Water Quality Testing Program, and through public outreach like the campaign currently occurring.

## **Have more questions about water quality in Prince Rupert?**

Contact Veronika Stewart, Communications Manager at the City of Prince Rupert for additional information.

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