

Operational Guideline for Manitoba Water Suppliers

Residential Lead Monitoring Program

Purpose

This guideline has been established to ensure public and semi-public drinking water suppliers throughout Manitoba meet their regulatory requirements regarding monitoring for lead exposure at the tap.

Guidelines for Canadian Drinking Water Quality

Health Canada established a new guideline for lead in drinking water in 2019. The maximum acceptable concentration (MAC) for total lead in drinking water is 0.005 mg/L (5 µg/L) based on a sample of water taken at the consumer's tap using the appropriate sampling protocol for the type of building being sampled.

Legislation

Section 3 of The Drinking Water Safety Act states that every public and semi-public water supplier must comply with the drinking water quality standards specified in the regulations.

The Drinking Water Quality Standards Regulation requires that all water supplies meet the standards specified in the operating licence for the water system.

Operating Licence

Table 2 - Monitoring Requirements, which outlines monitoring requirements for all public water and semi-public water systems in operating licenses, states that the monitoring requirement for lead is **as per the instructions of the Drinking Water Officer (DWO)**.

Lead in Manitoba Water Supplies

Lead is not natural to Manitoba source waters, nor is it found in water entering distribution systems. Lead is introduced into drinking water through the corrosion of lead-bearing materials in service lines to homes and other buildings, and in plumbing systems and fixtures.

When a water supply is corrosive or aggressive, leaching of lead from premise plumbing systems increases. The impact of corrosive water cannot be determined without tap water quality monitoring. As such, the Health Canada guideline for lead in

drinking water clearly identifies the monitoring point for lead as the consumer's tap.

Lead Sampling Requirement

Public and semi-public water suppliers will follow the monitoring requirements identified in their Operating Licence for testing for lead in the raw source water, the treated water entering the distribution system, and within the distribution system.

Monitoring for lead at the tap will be phased in. Your regional drinking water officer will advise you when you are required to implement tap water quality monitoring. Initial priority will be given to older, larger water systems with known or suspected lead services and surface water sources, and water systems planning process changes with potential to increase corrosivity.

Health Canada recommends that all schools, childcare centres, and home-based childcare providers sample for lead at the tap. Schools and childcare centres are sampling under a different program. Home-based childcare providers in your community may be willing to participate in a community-based tap water quality monitoring program. Contact your regional drinking water officer for more information on contacting home-based childcare providers.

Information for home and building owners, tenants, schools, and childcare facility owners is available on the Office of Drinking Water website under the *Lead in Drinking Water* section.

Lead Monitoring Program

Components of the monitoring plan will vary depending on the size of the water system.

Priority Sampling Locations

Water suppliers are to identify priority sampling locations, focusing on:

- 1) High Risk: Residential homes with known or suspected lead service lines, including partial lead service lines.
- 2) Medium Risk: Residential homes providing services to infants, pregnant people, or young children less than 6 years old, such as



home-based childcare facilities, and homes that may have been built between 1975 and 1990.

3) Low Risk: Homes built after 1990.

Sampling locations can be divided into zones supplied by different water sources or separate pressure zones. Large water suppliers serving more than 50,000 people should identify representative zones where tap water quality is expected to be similar. A zone should have no more than 50,000 people.

Sampling Plan

Water samples should be collected throughout the year, with at least two thirds of the samples collected between June and October.

Samples can be collected by water system operators or owner representatives, or water system owners can develop a voluntary program where homeowners collect the samples themselves. The sample collection protocol is simple, making homeowner sample collection programs a viable option.

The minimum number of samples to be collected by your water system can be found in the Table at the end of this document.

Communication Plan

A communication plan needs to be developed and include the following:

1. A method to communicate to your community that a lead sampling program will be occurring.
2. A strategy for retesting homes with elevated results.
3. Method to communicate information to the broader community, or to targeted areas with similar risks to homes tested.

Various communication templates are available through the [Office of Drinking Water website](#) under the *Lead in Drinking Water* section.

Laboratory

Once sampling and communication plans are in place and the number of samples has been determined, contact a laboratory directly for cost estimates and/or to obtain sample bottles, sample submission forms, and additional information on sampling.

Water system owners may want to consider testing for other parameters at the same time as lead. Let the laboratory know if you will be testing other parameters.

There are three laboratories in Manitoba accredited to test for lead in drinking water that have committed to following the analytical recommendations in the national guideline.

ALS Environmental

12-1329 Niakwa Road East, Winnipeg MB R2J 3T4
Phone: 204-255-9720 (Toll Free: 1-800-607-7555)
Email: alswpclientservices@alsglobal.com

Horizon Lab LTD

4055 Portage Ave., Winnipeg MB R3K 2E8
Phone: 204-488-2035
horizonlab.ca

Bureau Veritas Canada (2019) Inc.

Unit D, 675 Berry St., Winnipeg MB R3H 1A7
Phone: 204-772-7676 (Toll Free: 1-866-800-6208)
<https://www.bvna.com/>

Test Methods

Manitoba water suppliers will use the Random Daytime (RDT) sampling method.

Water samples for total lead analysis are collected in 1-litre wide-mouth sample bottles from the cold water tap in the kitchen or other tap that is commonly used for drinking or preparing food.

RDT sampling instructions for residential dwellings, including home-based childcare providers:

One 1-litre sample of cold water is collected randomly during the day from at a drinking water tap.

No additional steps are needed prior to sample collection. Do not remove the tap aerator or screen. Do not run the water or flush the tap immediately prior to collecting the sample.



No preservatives are required to be added to collected samples.

Follow-up testing for elevated results:

All elevated RDT results are to be resampled using the 30-Minute Stagnation (30MS) test method.

Water systems can choose to collect a 30MS sample at the same time as RDT samples are taken. In this case, if the results of the 30MS tests are below the standard, resampling is not required.

The 30MS sampling method provides additional information to determine if flushing the tap (running the tap for 5 minutes) will reduce lead concentrations below the guideline limit or if additional actions are required. The results of the 30MS test may inform the water system of a broader community communication strategy.

30MS sampling instructions: Prior to sampling, the tap should be flushed for 5 minutes, then allowed to stand for 30 minutes. No water should be drawn in the home during the stagnation period (including toilet flushing).

Collect two 1-litre samples immediately one after the other from the cold water tap in the kitchen at a medium-to-high flow rate. Do not remove the tap aerator or screen.

RDT and 30MS sampling: In areas where elevated lead results are expected water systems should consider collecting both RDT and 30MS samples at the same time. This will reduce time going back to resample if the RDT sample is elevated.

Reporting Sample Results

Regardless of the results, all sample results are provided to the homeowner, tenant, or home-based childcare provider locations that were sampled.

If results are elevated, that location should be provided with the following information on lead:

1. A copy of the provincial fact sheet for homeowners and home-based child care providers: [Lead in Drinking Water: Information for Manitoba Homeowners and Home-based Child Care Providers](#)

2. Information on purchasing NSF-53 certified point-of-use treatment devices in your community; and
3. Information on lead service line replacement programs in your community, if applicable.

Water system owners are required to provide Regional Drinking Water Officers with a summary of all testing results in one excel document following the completion of testing each year. Any 30MS results above the maximum acceptable concentration of 0.005mg/L are to be reported upon immediately to the regional drinking water officer.

Your regional drinking water officer will connect with Manitoba Public Health to facilitate a community-wide or targeted communication to locations with elevated results affected residents if needed. Testing results are also required to be included in the water system's Annual Report (if applicable).

Reducing lead

Reducing Lead at the Tap

Low-cost pitcher-type filters or point-of-use filters installed on the kitchen tap are available that are NSF-53 certified to reduce lead to acceptable levels.

For older homes with lead service lines, the best option to permanently reduce lead concentrations at the tap is to replace the service line. Municipal water systems with known lead service lines in their distribution system should develop proactive lead service line replacement programs.

Residents may also choose to use bottled water for drinking.

Lead Control at the Water Treatment Plant

Larger communities with extensive lead service lines throughout or test results that indicate elevated levels of lead throughout the community should consider developing a corrosion-control program.

Any lead-control method that incorporates chemical addition, including pH adjustments, should be designed, pilot-tested, and approved by the Office of Drinking Water prior to implementation.

Since water age can be a significant factor, flushing programs focusing on dead ends should be considered.



A comprehensive lead strategy includes programs to control corrosion, replace lead service lines, facilitate lead testing and installation of faucet filters where needed, and educate the public on reducing lead exposure.

Additional Information

For additional information, please see:

[Guidelines for Canadian Drinking Water Quality – National Guideline for Lead in Drinking Water](#)

[Guidance on Controlling Corrosion in Drinking Water Distribution Systems](#)

manitoba.ca/sd/water/drinking-water/lead/

Communication Templates:

<https://www.gov.mb.ca/sd/water/drinking-water/lead/residential-lead.html>

Office of Drinking Water

Regional [Drinking Water Officers](#) are available for operational and monitoring advice and to provide technical assistance.

After hours, please call the Environmental Emergency Response line at 204-944-4888 and ask for the on-call Drinking Water Officer.

For more information related to Manitoba’s drinking water and how it is regulated visit: manitoba.ca/drinkingwater

Minimum Number of Random Daytime (RDT) Samples per System

System Size (Population Served)	Number of Sites (Annual Monitoring)	Number of Sites* (Reduced Monitoring)
> 50,000	40 sites per zone, 5 zones per year, where each zone serves a maximum of 50,000 people	20 sites per zone, 5 zones per year, where each zone serves a maximum of 50,000 people
10,001 – 50,000	40 sites per year	20 sites per year
5,001 – 10,000	30 sites per year	15 sites per year
501 – 5,000	20 sites per year	10 sites every two years
101 – 500	10 sites per year	5 sites every three year
≤ 100	5 sites per year	2 sites every three years

*Requires approval